# Synergy Audit Methodology

## For organisations in the start-up and management phase of EMS work

© Kristina Thelin., *Horses running free in Bökenäs*, Sweden 2012.



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## Introduction

The Synergy Audit Project (2019-2022)[1] is a transnational project collaboration between One Planet, CARDET, Comune di Ravenna, CRES, EcoFellows, Provincia di Parma and SERN which have been made possible by EU funding from ERASMUS+. The reason for the collaboration has been to develop an interdisciplinary environmental audit methodology tool for the help for a multidisciplinary set of organisations in the effort at planning and managing environmental work. Focus on objectives and fulfilment of law compliance by the activities involved in an environmental management system[2] (hereinafter referred to as EMS) have further been part of the mission at integrating an understanding about EMS, and on how internal environmental audit can help in this effort. The guideline is created with learnings/readings who introduce elaborated methods (see the Annex section for further information) which serve as purpose for organisations to assess the learnings practically when reading the guideline and thereby simultaneously get the chance to start up the work with and/or develop an already existing, EMS and internal environmental audits.

Organisations in general want to work in a strategic and effective way toward the decrease of environmental impact from their activities. Obstacles for fulfilling this wish are many times related to scarcity of variable kinds of resources, e.g., lack of work staff, time, and knowledge resources for carrying through with creating and upholding an EMS.[3]
Also, organisations generally want to be able to become environmentally certified by integrating an environmental standard to follow in the EMS. It's often related to the positive contributions a certification can bring in the shape of, beyond reduced negative environmental impact, a favourable position amongst possible stakeholders and interests and thereby also economic gain.[4]
To become certified gives an organisation a knowledgeable help in carrying out a strategic and effective EMS work because it makes the organisation take usage of environmental standards in setting up and carrying out the EMS work.
However, the struggle in planning, integrating and managing an EMS work which follows an environmental standard is oftentimes even more of a resource obstacle because of e.g., economic cost for managing such an endeavour.

The guideline is to the length of our capacity written for a global audience of private, public and non-governmental organisations. Awareness of varied situations for organisations by e.g., variety of ability to access and use digital techniques and/or possibilities for learnings/studies in the organisation have put a focus on trying to create ideas that could bridge possible resource hindrances in the EMS work for organisations. For further examples of how organisations could bridge possible resource hindrances when establishing EMS work and,

[1] *Synergy Audit ERASMUS+ KA2 Professional Partnership* 2019-1-SE01-KA202-060482 is a partnership project 2019-2022 which consists of CARDET Ltd. (Cyprus), CRES (Greece), Comune di Ravenna (Italy), EcoFellows Ltd. (Finland), One Planet (Sweden), Provincia di Parma (Italy) and SERN (Italy)
[2] *Environmental management system*. (1999) European Commission, Brussels. European Environment Agency, 2022. [online] Available at: https://www.eea.europa.eu/help/glossary/eea-glossary/environmental-management-system [Accessed 14 July 2022]
[3] The information has been given by a multidisciplinary set of organisations in Europe within the best practices phase of the *Synergy Audit Professional Partnership ERASMUS+ KA2 Project*. (2019-2022)
[4] Information gathered by the best practices phase of the Synergy Audit ERASMUS+ KA2 Project.



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within it, internal environmental audits see the digital booklet: *Practical Implementation of Synergy Audit. A guidance for organisations with resource hindrances*[5].

Two of the most used environmental standards on global level is the ISO 14001 standard[6] and the EMAS standard.[7] They have both been integrated into the methodology guideline for ability to support organisations to establish and uphold EMS and IEAs within it, as close as possible as if the organisation was certified.
The ISO 14001 and EMAS standards are to a large part similar. However, because they sometimes use e.g., different concepts for similar activities there can be occasions where either EMAS or ISO vocabulary have been used for both standards, in the guideline. The reason has been to try to give an idea about both standards for the chance for organisations to get familiar with them and thereby have a chance to choose which to possibly focus at becoming certified toward.

In environmentally certified organisations who conduct EMS usually a so-called Plan-Do-Check-Act[8] (hereinafter referred to as PDCA) management method for conducting processes, is performed. Within the PDCA the third out of four steps, the Check-step, involve the performance of environmental audits.
Environmental audit is a tool in help of pointing out, managing and thereby decreasing omissions which consist of activities which do not follow legal- and internal environmental requirements e.g., non-compliance toward the implementation of the EMS. Therefore, the environmental audit is assessing the environmental performance of the organisation.[9]
The purpose of Synergy Audit has further been to elaborate on education of the C-step[10] and the internal environmental audit (hereinafter referred to as IEA) within the EMS so that it, beyond teaching about how to follow the necessary steps in environmental audits, also can increase the understanding and support of implementing and carrying out EMS work on an overall perspective. Therefore, the reason has been to furthermore strengthen the support for the organisation in getting ready for becoming environmentally certified.

Law, directives and guidelines on local, regional, national, EU and global level calls for a drastic decrease of negative environmental- and climate impact by e.g., decrease of greenhouse gas. The guideline is further created with the wish for organisations to integrate

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[5] For examples on how to reduce possible resource hindrances while integrating an EMS into the organisation see: *Practical Implementation of Synergy Audit. A guidance for organisations with resource hindrances* (2022) Synergy Audit Professional Partnership ERASMUS+ KA2 Project. (2019-2022) [online] Available at:... [Accessed 31 August 2022]
[6] *ISO 14000 family – Environmental management*. (2022) ISO. [online] Available at: https://www.iso.org/iso-14001-environmental-management.html [Accessed 14 July 2022]

[7] *What is EMAS?* (2022) European Commission Website. [online] Available at: https://ec.europa.eu/environment/emas/index_en.htm [Accessed 14 July 2022]
[8] *PDCA (plan do check act) – Continually improving, in a methodical way*. (2022). Mind Tools. [online] Available at: https://www.mindtools.com/pages/article/newPPM_89.htm [Accessed 14 July 2022]
[9] *What is the process for an environmental audit?* (2020) National Registry of Environmental Professionals, Illinois. [online] Available at: https://www.nrep.org/blog/environmental-audit [Accessed 14 July 2022]
[10] *Check - Step 5: Check the effectiveness of your Environmental Management System through an internal environmental audit*. (2022) European Commission. [online] Available at: https://ec.europa.eu/environment/emas/join_emas/how_does_it_work_step5_en.htm [Accessed 14 July 2022]



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global sustainability and climate agreements effectively and strategically in the environmental management and internal environmental audits even if these documents have not yet reached law obligation. The reason for this is the assessment that time is running out for organisations to wait for law conformity, and instead to simply start acting toward the agreements before they might reach the law books. The main reason for this is simple, existential and scary, climate change is happening[11], and persons in and beyond organisations therefore need to move quicker and deeper than toward law conformity for the chance to decrease the speed of global warming. The guideline therefore further involves methods on how to implement e.g., the Paris agreement and the 17 Sustainable Development Goals into the environmental management and audits work for organisations (see section about global and EU agreements together with Annex 3 and 5 for further information).

The multidisciplinary approach in the Synergy Audit project has been a red thread along the methodology building process with e.g., collection of perspectives on both obstacles and advantages in conducting EMS and within it, IEA, from public, private and non-governmental organisations, aiming as far as possible to create a guideline for any kind of organisation. Small and medium enterprises (SMEs) have further been given focus beyond the guideline by suggestions on how to integrate the Synergy Audit methodology in organisations that usually have a minor number of staff and/or economic resources. For further information see the digital booklet: *How to integrate Synergy Audit in a Small and Medium Enterprise? A guidance for SMEs*.

Along with a multidisciplinary focus also interdisciplinarity has been an aim to integrate in the methodology because of its help in creating a more holistic understanding about EMS and IEA and thereby, for the chance to try to clarify the reasons for the work in organisations. An historical understanding of the environmental movement for a comprehension of the varied views on e.g., nature is thereby placed in the beginning of the guideline which could open for a hermeneutic and self-reflective understanding about the present work toward e.g., law compliance in EMS. Practical knowledge involved in conducting EMS and IEA work are parts together with an introduction of energy audits due to that energy usage is understood as the main greenhouse gas emission contributor on global level[12]. A brief understanding about climate change due to the necessity of usage for organisations for e.g., climate change mitigation[13], are furthermore part of the methodology guideline as well as circular economy.

Also, the need for circular sharing of knowledge among persons and organisations globally

[11] Skea, Jim et al. (2022) *IPCC intergovernmental panel on climate change. Climate change 2022 – Mitigation of climate change*. Working group III contribution to the sixth assessment report of the intergovernmental panel on climate change, IPCC, WMO and UNEP 2022. [online] Available at: https://www.ipcc.ch/report/ar6/wg3/ [Accessed 14 July 2022]

[12] Skea, Jim et al. (2022) *IPCC intergovernmental panel on climate change. Climate change 2022 – Mitigation of climate change*. Working group III contribution to the sixth assessment report of the intergovernmental panel on climate change, IPCC, WMO and UNEP 2022. [online] Available at: https://www.ipcc.ch/report/ar6/wg3/ [Accessed 14 July 2022]

[13] Skea, Jim et al. (2022) *IPCC intergovernmental panel on climate change. Climate change 2022 – Mitigation of climate change*. Working group III contribution to the sixth assessment report of the intergovernmental panel on climate change, p. 102 Box TS.12, IPCC, WMO and UNEP 2022. [online] Available at: https://www.ipcc.ch/report/ar6/wg3/ [Accessed 14 July 2022]



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within sustainability is of imminent need because of the risk of not having had acted in time[14] for solving the environmental and climatic challenges that in several regards humans have caused this planet and its living beings. Therefore, the Synergy Audit methodology and all tools elaborated in the project are of free access and free of charge usage for any organisation in the world from which to take help.
For example, an e-learning tool consisting of two games have been elaborated as a learning tool about how to perform IEA for free usage by anyone.
Teaching pedagogics is for this reason also part of the methodology for the sake of trying to support ways of sharing knowledge about EMS and IEA to persons and organisations by e.g., networking when having read the methodology and assessed its methods (see Annex 9 for further information). The teaching pedagogics in the guideline thereby suggest tools of usage when sharing further the content toward staff in the home organisation and/or other organisations.
The Synergy Audit Network (see end of the guideline for further information) is furthermore created with open access and free of charge. It carries the wish to support persons and organisations who work within and/or are interested in IEA and EMS. The reason for the network is for a chance for people globally to get in contact, share and exchange knowledge between a multidisciplinary set of organisations and therefore, for network cooperation within the sustainability area for organisations anywhere on Earth.

Furthermore, we are thankful for the opportunity to share the content of the guideline and wish anyone to feel free to share it further in an open access and free of charge manner. However, we are not responsible for consequences of usage of the guideline of any sort. The responsibility for how the guideline is used and with what possible effect, lays solely on the user of the guideline.
We would very much like to see the guideline as a living document and therefore welcomes comments and ideas which could be of improvement for the guideline. To contact comments and ideas, please see contact information in the end of the guideline.

It is our wish that the Synergy Audit Methodology will work as both an inspiration and practical guideline for the help of organisations in conducting EMS and IEA work and that it will inspire an interest in further and deepened knowledge and collaboration between organisations about ways to reduce negative environmental and climate impact..

[14] Thunberg Greta. (2019) *'You did not act in time'*: Greta Thunberg's full speech to MPs. The Guardian. [online] Available at: https://www.theguardian.com/environment/2019/apr/23/greta-thunberg-full-speech-to-mps-you-did-not-act-in-time [Accessed 14 July 2022]



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Finally, we wish you the best of luck with this important endeavour.

/The project partners of Synergy Audit.

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If you wish to contact authors see contact information at the end of the guideline for further information.



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## Concepts that can be of relevance to know in the EMS and IEA work

**Carbon Audit** is a check-up on greenhouse gas emission which can be focused on a variety of areas e.g., at organisational, product, supply chain and on process level.[15]

**Circular Economy** involves the possibility to increase the usage time of resources, materials and products.[16] Tools for reaching a circular economy involve recycling, reduction, reuse and recovery of resources, materials and products.[17]

**Climate Change** is when the climate transforms globally causing changes of temperature, wind and precipitation because of increase of heat-trapping gases in the atmosphere on Earth due to e.g., human actions among which fossil fuel burning. Effects of changing the weather conditions on Earth are a multitude e.g., ecosystem changes, sea level rise and more which threatens the existence of living beings on Earth e.g., trees, humans and horses.[18]

**Continuous improvement** is an activity which states that e.g., the EMS from implementation toward on-going state is upheld by a process thinking in which the idea of systematic capacity for improvement of the EMS is a red thread within each section of the EMS work. It means that the EMS cannot be all settled and finalised at a certain point within an organisation. Instead, the EMS could always be improved by e.g., planning and implementation and by further development. If an organisation is ISO 14001 or EMAS certified, for example internal environmental audits are used to check whether continuous improvement takes place and is strategically monitored, in the EMS of the organisation.[19]

**EMAS** is a management tool in support of environmental performance improvement for organisations. The EMAS Scheme has been created by the European Commission.[20]

**Energy Audit** is a systematic procedure with the purpose of obtaining adequate knowledge concerning the energy consumption profile of a building or group of buildings, an industrial or commercial operation or installation, or a private or public service, and it is identifying and quantifying cost-effective energy saving opportunities and reports the findings.[21]

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[15] Csutora Maria et al. (2017) Twenty years of carbon accounting and auditing – a review and outlook, *Society and Economy*, Vol. 39, Issue 4, pp. 459-480, p. 459. [online] Available at :https://www.researchgate.net/publication/321441073_Twenty_years_of_carbon_accounting_and_auditing_-_A_review_and_outlook [Accessed 14 July 2022]

[16] Gregson Nicky et al. (2015) Interrogating the circular economy: The moral economy of resource recovery in the EU, *Economy and Society*, Vol. 44, Issue 2, pp. 1-34, p. 3-4.

[17] Kristensen Heidi Simone et al. (2020) A review of micro level indicators for a circular economy – moving away from the three dimensions of sustainability? *Journal of Cleaner Production*, Vol. 243, Introduction.

[18] *Climate change: Meaning, definition, causes, examples and consequences*. (2020) youmatter. [online] Available at: https://youmatter.world/en/definition/climate-change-meaning-definition-causes-and-consequences/ [Accessed 14 July 2022]

[19] *Continual improvement ISO 14001:2015* (2022) The 14000 Store. [online] Available at: https://14000store.com/iso-14000-2015-requirements/iso-14001-2015-improvement/iso-14001-2015-continual-improvement/ [Accessed 14 July 2022]

[20] *What is EMAS?* (2022) European Commission Website. [online] Available at: https://ec.europa.eu/environment/emas/index_en.htm [Accessed 14 July 2022]

[21] *Energy Auditing*. (2020) energypedia. [online] Available at: https://energypedia.info/wiki/Energy_Auditing [Accessed 14 July 2022]



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**Energy Efficiency**, according to the definition used in the frame of the EU Energy Efficiency Directive, is described as "*the ratio of output of performance, service, goods or energy, to input of energy*."[22]

**Environmental Aspect** is anything that an organisation does that can have an impact on the environment e.g., land, water, air, vegetation and the interchange between human beings and nature. These aspects are gathered and measured by most negative and positive impact in relation to the overall amount of environmental impact from the organisation.[23]

**Environmental certification/registration** is a way for an organisation who have been subject to an external environmental audit by an accredited body in which the organisation is controlled according to standard requirements, to show that it is approved toward the environmental standard and thereby certified toward it. This procedure is for EMAS called registration[24] and for ISO 14001 it is named certification[25].

**Environmental Controller** is a job title of a person in an organisation who is the caretaker for the work involved with implementing the environmental management system and who is usually within the task planning, coordinating and making the necessary follow-up on the EMS process. These activities usually also have the job title sustainability controller/officer.[26]

**Environmental Objectives and Action Plan** is a document where the objectives elaborated from the previously made environmental policy (see below) are established for the coming year(s) in the organisation (called Environmental programme in EMAS[27]). Each objective needs an activity plan for its fulfilment and the action plan involves the necessary activity steps to reach fulfilment of the objective. The environmental objectives shall cover the areas where it has been proven that most negative impact is produced from the activities of the organisation, by a previous environmental aspect and impact assessment (see below). The activity plan shall further include what shall be done, how, when, by who and necessary resources involved for accomplishing the objective.[28]

**Environmental impact** is the impact of an organisation's environmental aspects (see above) on the environment and/or people. It is further investigated by significance and the

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[22] *Proposal for a directive of the European Parliament and of the Council on energy efficiency (recast)*. (2021) Document 52021PC0558, COM/2021/558 final, European Commission 2021/0203(COD), EUR-Lex. [online] Available at: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52021PC0558 [Accessed 14 July 2022]

[23] *What are environmental aspects & impacts?* (2022) The 14000 Store. [online] Available at: https://14000store.com/articles/what-is-an-environmental-aspect/ [Accessed 14 July 2022]

[24] *EMAS registration*. (2022) Your Europe, European Union [online] Available at: https://europa.eu/youreurope/business/running-business/developing-business/emas-registration/index_en.htm [Accessed 14 July 2022]

[25] *Certification & conformity – Certification*. (2022) ISO. [online] Available at: https://www.iso.org/certification.html [Accessed 14 July 2022]

[26] The information is based on experiences of the partner organisations involved in the *Synergy Audit Professional Partnership ERASMUS+ KA2 Project.* (2019-2022)

[27] *PLAN Step 3: Structure your environmental management system (EMS) by defining an environmental policy and an environmental programme*. (2022) European Commission [online] Available at: https://ec.europa.eu/environment/emas/join_emas/how_does_it_work_step3_en.htm [Accessed 14 July 2022]

[28] Keen Richard. (2022) *6.2 Environmental objectives and planning to achieve them [ISO 14001 procedure template]. 6.2.1 Environmental objectives for ISO 14001*. Endeavour Technical limited, London, United Kingdom. [online] Available at: https://www.iso-9001-checklist.co.uk/ISO-14001/6.2-environmental-objectives-and-planning-to-achieve-them.htm [Accessed 14 July 2022]



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Environmental Objectives and Action Plan will operate toward reduction of significant negative impact.[29] The environment shall here be interpreted as not solely the effect on the internal environment of the organisation, but instead also the effect on the external environment from the organisation. The environmental aspects of the organisation produce an outcome in environmental impact.

**Environmental Policy** is a document that communicates the development plan for the organisation's environmental performance for the coming time in a way that is visionary together with an overall perspective, toward both an internal and external audience of the organisation. The environmental policy shall further, among other things, be focused on structuring objectives and target orientation, communicate legal compliance, its continuous improvement activity and activities related toward decrease of pollution. Further, it should be focused on managing the outcome of the environmental impact assessment on areas which produce the most negative environmental impact from the activities in the organisation have been assessed.[30] An organisation who are environmentally certified by for example an ISO 14001 or EMAS standard need to renew the environmental policy in accordance with the standard requirements so that the policy is up to date.

**Internal requirement** is a demand that the organisation which implements and uphold an EMS is working toward fulfilment of, by usage of a continuous improvement approach (see above). The list of internal requirements varies and is controlled by the EMS which the organisation is implementing. The more frequently used EMS standards for example ISO 14001[31] and EMAS[32], involve a list of internal requirements which consist of e.g., documentation, communication, competence, training and resources. These requirements are together establishing the foundation for the EMS in the organisation.

**Internal Environmental Audit (IEA) Report** is a report which presents, among other areas involved in the environmental performance, the result of the law compliance in the audited department/area for the leadership and other areas of the organisation.[33] The IEA report consists of sections, for example section for details about the standard and legal requirements that are controlled in the IEA, information about the department of the auditee with information about name of the department and contact information to persons involved in the IEA, information about the reason for the IEA, result list with omissions and notices, a longer section with comments about omissions and notices that have been found during the

[29] *Learn about environmental management systems*. (2021) EPA – United States Environmental Protection Agency. [online] Available at: https://www.epa.gov/ems/learn-about-environmental-management-systems [Accessed 14 July 2022]

[30] *PLAN Step 3: Structure your environmental management system (EMS) by defining an environmental policy and an environmental programme*. (2022) European Commission [online] Available at: https://ec.europa.eu/environment/emas/join_emas/how_does_it_work_step3_en.htm [Accessed 14 July 2022]

[31] Hammar, Mark (2022) *ISO 14001 requirements and structure*. Advisera Expert Solutions Ltd. [online] Available at: https://advisera.com/14001academy/knowledgebase/iso-14001-requirements-and-structure/ [Accessed 14 July 2022]

[32] *EMAS registration*. (2022) Your Europe, European Union [online] Available at: https://europa.eu/youreurope/business/running-business/developing-business/emas-registration/index_en.htm [Accessed 14 July 2022]

[33] Buckley Ralf. (1990) Environmental audit: Review and Guidelines. *Environmental Planning Law Journal*, Vol. 7 , pp. 127-141. [online] Available at: https://www.researchgate.net/profile/Ralf-Buckley/publication/279915922_Environmental_audit_Review_and_guidelines/links/559deafa08aeb45d1715de89/Environmental-audit-Review-and-guidelines.pdf [Accessed 14 July 2022]



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IEA together with a conclusion and a signature by the IEA leader. Furthermore, an annex with an omission list which explain legal requirements which each omission is a consequence of, the reason in words for the omission, whether it is a big or small omission or rather a notice and finally, the department, which is responsible for the omission, is part of the IEA report. When finalised, the report needs to be sent to the leadership of the organisation and simultaneously be archived. It is highly advised to save the IEA report digitally if possible, due to easy access for staff who need to find information about the report and against the vulnerability of losing the information.[34]

**Legal requirement** is a requirement which is based on a law, directive or any other sort of ruling legal document which needs to be complied with by an organisation. The EMS involves legal requirement and compliance and is therefore a support for the organisation in following legal requirements and thereby consequentially trying to avoid legal violations and the consequences of it.[35] In organisations that are certified toward environmental standards there are tools of usage for law compliance and an upheld monitoring of the EMS involves follow-up on legal requirements continuously e.g., in ISO 14001[36] or EMAS[37].

**Life Cycle Perspective** is a perspective in which environmental impact (see above) from environmental aspects (see above) is considered from all stages of a products, service or process lifetime. A cradle-to-grave[38] or cradle-to-cradle[39] analysis can be made to assess the environmental impact for the processes in which the product appears during its lifetime. A product lifetime could for example assess the environmental impact from the extraction all the way toward its waste management along with all necessary transportation in between its production, usage and waste states. The life cycle perspective is used in ISO 14001[40] and EMAS[41] standards and an organisation which is certified toward any of these standards would therefore need to use it as a tool to assess environmental aspects. The full life cycle assessment is not of necessity to apply on each area which brings environmental impact, instead the organisation needs to consider it in its EMS work. An organisation will therefore need to assess whether for example transportation, waste management and/or usage could be

[34] The example is based on experiences of the partner organisations involved in the *Synergy Audit Professional Partnership ERASMUS+ KA2 Project.* (2019-2022)

[35] *The role of legal requirements in environmental management system*. (2014) Professional Evaluation and Certification Board. Montreal, Canada. [online] Available at: https://pecb.com/article/the-role-of-legal-requirements-in-environmental-management-system [Accessed 14 July 2022]

[36] The certification committee. (2017) *Legal compliance as a part of accredited ISO 14001:2015 certification. EA – European Accreditation*. [online] Available at: https://european-accreditation.org/wp-content/uploads/2018/10/ea-7-04-m-rev03-may-2017-2.pdf [Accessed 14 July 2022]

[37] *Legal compliance*. (2022) European Commission. [online] Available at: https://ec.europa.eu/environment/emas/emas_for_you/premium_benefits_through_emas/legal_compliance_en.htm [Accessed 14 July 2022]

[38] *Cradle to grave*. (2022) European Environment Agency, Copenhagen, Denmark. [online] Available at: https://www.eea.europa.eu/help/glossary/eea-glossary/cradle-to-grave [Accessed 14 July 2022]

[39] Sherratt Andrew. (2020) *Cradle to cradle*. Encyclopedia of Corporate Social Responsibility. 2013 Edition. Editors: Idowu O. Samuel, Capaldi Nicholas, Zu Liangrong, Das Gupta Ananda. Springer Nature Switzerland AG. [online] Available at: https://link.springer.com/referenceworkentry/10.1007/978-3-642-28036-8_165 [Accessed 14 July 2022]

[40] *Life cycle perspective – what ISO 14001 includes*. (2022) ISO/TC 207/SC 1 – Environmental management systems, ISO. [online] Available at: https://committee.iso.org/sites/tc207sc1/home/projects/published/iso-14001---environmental-manage/life-cycle.html [Accessed 14 July 2022]

[41] *On the road to EMAS. Step 2: Perform the environmental review of your organisation*. (2022). European Commission. [online] Available at: https://ec.europa.eu/environment/emas/join_emas/how_does_it_work_step2_en.htm [Accessed 14 July 2022



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changed within for example an activity or a product to decrease negative environmental impact from its life cycle in the organisation.

**Omission** is in the context of IEA referred to as something that has caused a situation where legal or non-legal ( e.g., internal) requirements have not been met in the EMS work of the organisation during an IEA. There are three types of omissions used in the IEA and that is "Big omission," "Small omission" and "notice/regard." The omissions are reported as part of the IEA Report.
Big omission is a type of omission where a legal requirement has been offended while small omission is a type of omission where a requirement on e.g., local organisational level has been offended e.g., a requirement in the Environmental objectives- and Action Plan in case the organisation is not environmentally certified. Finally, notice/regard is something that does not offend a legal or internal requirement but could instead be something that, in case its activity continues, could develop to a small or big omission.[42]



[42] The information is based on experiences of the partner organisations involved in the *Synergy Audit Professional Partnership ERASMUS+ KA2 Project.* (2019-2022)

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© Lowa., *Birds flying with the clouds in Malmö*, Sweden 2021.

## Starting with knowledge

The concept of climate change[43] is familiar and possibly also the effects in problematics with turning toward possible tipping points[44], in which the Earth system could be changed at no return. Knowledge about the absolute necessity to hinder the possibility for greenhouse gas emissions to collect and store heat in the atmosphere have made the activity of performing EMS work in organisations even more of a necessity than before. Therefore, it is requested to take active steps toward the decrease of production of greenhouse gas emissions within the organisation's activities[45]. It is further requested to do this by usage of a life cycle perspective

[43] Anderson R. Thomas et al. (2016) $CO_2$, the greenhouse effect and global warming: from the pioneering work of Arrhenius and Callendar to today's Earth System Models. *Endeavour*, Vol. 40, Issue 3, pp. 178-187. [online] Available at: https://www.sciencedirect.com/science/article/pii/S0160932716300308 [Accessed 14 July 2022]
[44] van Nes H. Egbert et al. (2016) What Do You Mean, 'Tipping Point'? *Trends in Ecology & Evolution*, Vol. 31, Issue 12, pp. 902-904.
[45] Lewandowska Anna. (2011) Environmental life cycle assessment as a tool for identification and assessment of environmental aspects in environmental management systems (EMS) part 1: methodology. *The International Journal of Life Cycle Assessment*, Vol. 16, Issue 3, pp. 178-186. [online] Available at: https://link.springer.com/article/10.1007/s11367-011-0253-2 [Accessed 14 July 2022]



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(see above) for environmentally certified organisations that follow an ISO 14001[46] or EMAS[47] standard. A starting step when establishing an EMS in the organisation could therefore be to gain sufficient knowledge about the reasons for an active EMS work in the organisation. A zoom out perspective for gaining general knowledge about focal concepts, for example about *climate change, global warming, fossil fuel, energy efficiency, waste management, circularity, life cycle assessment, life cycle perspective* and more could be a rewarding start on this journey. The knowledge that is gained could beneficially start off the EMS work and thereby assure that the following steps in building up the activity carry rooted knowledge about the cause and reason of EMS in the organisation by ensuring that a holistic understanding and aim to reduce most negative environmental and climatic impact in the EMS activities always is set on focal matters.

Information about central concepts in the climate- and environmental work is easily found on the internet by usage of search motors, and it is not necessary to read the latest IPCC Report[48] (even if it would be highly suggested and equally rewarding) to get an essential understanding about the reason for the EMS work in the organisation.
It could further be an idea within an organisation to let the staff who are planned to conduct the EMS work get the chance in time to increase the knowledge. Furthermore, it is important that also the leadership of an organisation have at least a general knowledge about the above-mentioned concepts and the critical duty to perform toward a decrease of climatic greenhouse gas emissions.

Also, knowledge about the reason for why for example EMS and IEA have reached regulatory state from a historical understanding can be both an interesting and perspective opening way of understanding why the work is performed, and how it possibly could be performed, in present time.

**From environmental consciousness to environmental law**

Synergy Audit (hereinafter referred to as SYAT) includes a holistic perspective to the matter of audit. It does so by focusing on the history of the relationship between humankind, its environment, and nature. It is by investigating this relationship that activities for mitigating environmental impact and, more in general, the ontological position of humankind on Earth take salience in the age of Anthropocene. The power of history, as a discipline, remains in crafting compelling narratives able to sensitise the general audience on the consequences of

[46] *Life cycle perspective – what ISO 14001 includes*. (2022) ISO/TC 207/SC 1 – Environmental management systems, ISO. [online] Available at: https://committee.iso.org/sites/tc207sc1/home/projects/published/iso-14001---environmental-manage/life-cycle.html [Accessed 14 July 2022]
[47] *On the road to EMAS. Step 2: Perform the environmental review of your organisation*. (2022). European Commission. [online] Available at: https://ec.europa.eu/environment/emas/join_emas/how_does_it_work_step2_en.htm [Accessed 14 July 2022]
[48] Skea, Jim et al. (2022) *IPCC intergovernmental panel on climate change. Climate change 2022 – Mitigation of climate change*. Working group III contribution to the sixth assessment report of the intergovernmental panel on climate change, IPCC, WMO and UNEP 2022. [online] Available at: https://www.ipcc.ch/report/ar6/wg3/ [Accessed 14 July 2022]



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shaping the environment.[49] Among the general audience, experts from the most different scientific and scholarly fields, and professionals from the public and private sectors are included. During the two educational courses held by SYAT[50] participants were introduced to a brief history of this relationship, which spanned chronologically from the Middle Ages to the present days, and which was entitled "From environmental consciousness to environmental law."

Point of departure for this inquiry is the understanding that humankind is associated with nature in pre-modern times. This differed in each civilization. In Europe, nature was read through theology and metaphors associated with human activities. The sacred scriptures worked as instruments for making sense of otherwise unexplainable phenomena, which made sense in what theology presented as the divine order, which had humankind as its metaphysical centre.[51] Explorations and global trade contributed respectively to mystify the European colonies as ideal landscapes but at the same time at shaping the first ideas on the limits of resources.[52] The systematic erosion of metaphysics by scientific methods set ideas regarding the limits of natural resources beside new hypotheses of harmonious coexistence with nature.[53] These vast and contradictory range of ideas have been foundational for establishing an eco-centred ethic in the modern times. By the mid-twentieth century, invocations for an ecological consciousness existed either as literary products, as appeals of local conservationist societies, or as inaccessible scientific papers. Communicating and debating publicly the limitedness of resources and the consequence of changing the face of the Earth, scientists and engaged intellectuals succeeded in mobilising civil society and in setting environmental protection on the agenda of national and international organisations.[54]

Keeping a dualist view between civil society and governments, and therefore between environmental activism and governmental politics, is a necessary heuristic simplification in order to condense the general trend which had been followed in redefining the humankind-environment-nature nexus since the 1970s on a global scale, in a series of transnational and entangled processes of mediation across culturally and politically distinct spaces. The United Nations (UN) Conference on the Human Environment, held in Stockholm in 1972, remains the most important result of environmental activism in terms of impact upon the

[49] Sörlin Sverker (2011) The contemporaneity of environmental history: negotiating scholarship, useful history, and the new human conditions, in: *Journal of Contemporary History*, Vol. 46(3) pp. 610-630 [online] Available at: https://journals.sagepub.com/doi/pdf/10.1177/0022009411403298 [Accessed 14 July 2022]
[50] SYAT train-the-trainer course was held in March (pilot) and June (finalised) 2002 and the course content in PDF shape can be found here in English, Finnish, Greek and Italian: *Synergy Audit Online Education* (2022) Synergy Audit Professional Partnership ERASMUS+ KA2 Project. (2019-2022) [online] Available at:... [Accessed 31 August 2022]
[51] Aberth, John (2013) *An Environmental History of the Middle Ages: The Crucible of Nature* (London: Routledge); Page, Sophie (2002) *Astrology in Medieval Manuscripts* (Toronto: University of Toronto Press); Kristeller, Paul Oskar (1961) *Renaissance Thought: The Classic, Scholastic, and Humanist Strains* (New York, NY: Harper Torchbooks); Debus, Allen G. (1991) *Man and Nature in the Renaissance* (New York, NY: Cambridge University Press).
[52] Grove, Richard (1990) ùThe Origins of Environmentalism' Nature 345: 11-14, available at https://doi.org/10.1038/345011a0; Grove, Richard (1997) *Ecology, Climate and Empire: Colonialism and Global Environmental History, 1400-1940* (Winwick: White Horse Press).
[53] Pepper, David (2002) *Modern Environmentalism: An Introduction* (London: Routledge); Wall, Derek (2003) *Green History: a Reader in Environmental Literature, Philosophy and Politics* (London: Routledge); Cosgrove, Denis (2012) *Geography and Vision: Seeing, Imagining and Representing the World*. (London: Bloomsbury Publishing).
[54] Jamison, Andrew (1996) 'The shaping of the global environmental agenda: the role of non-governmental organisations' in Scott M. Lash, Brian Wynne and Bronislaw Szerszynski, eds., *Risk, Environment and Modernity. Towards a New Ecology* (London: Sage), pp. 224-245; Hussey, Stephen, and Paul Thompson (eds.), *The Roots of Environmental Consciousness: Popular Tradition and Personal Experience* (London: Routledge); Devall, Bill (2001) 'The Deep, Long-Range Ecology Movement 1960–2000—A Review' *Ethics and the Environment* 6(1): 18-41; Jasanoff, Sheila (2012) *Science and Public Reason* (London: Routledge);



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governments' agendas. Since then, the environmental movements, whose impact was limited in some countries and none in others, fragmented into clusters of specialised organisations whose mobilisation ranged from participatory to coercive strategies. In some cases, as it is for nuclear power energy, they succeeded in influencing national policies with their warnings. Climate change activism, in recent times, communicates the risks pointed out by scientists, just as it was in the late 1960s.[55]

The UN, which already before 1972 had called for balanced approaches to natural resources, on the usage of atomic energy, against oil pollution, and in defence of the wetlands, in Stockholm called for comprehensive policies for managing the environment by an Action plan that established a principle of international responsibility and conceptualised the relationship between international organisations. The UN actions continued in the following years, sided in the 1980s by the ones established by the European Community. A theoretical shift in facing the problem came on the impulse of the UN: the World Commission on Environment and Development published in 1987 its conclusions, which pointed out that treating the issues of energy, agriculture, trade and the areas of economic, social issues and the environment as separate was misleading and unproductive. Since all issues of development are interconnected, they should be treated as one, towards a sustainable development, the Brundtland Report concluded. The more recent global attempts to establish the SDG globally passed also through the setting of instruments like the EIA as binding.[56]

The focus on sustainable development is further dependent on managing to reduce the effects of climate change and therefore an understanding about climate change is essential.

**Climate Change: Why do we perform audits?**

Most of us are aware of the climate changes now apparent throughout the world. The United Nations defines climate change as "*(…) a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods*."[57]

Climate change has been established as one of the UN 17 sustainable development goals, since, as the United Nations describes it, it is "*(…) one of the greatest challenges of our time and its adverse impacts undermine the ability of all countries to achieve sustainable development. Increases in global temperature, sea level rise, ocean acidification and other*

[55] Guha, Ramachandra (2014) *Environmentalism: A Global History* (London: Penguin); Haq, Gary, and Alistair Paul (2013) *Environmentalism since 1945* (London: Routledge); Uekotter, Frank (2017) *The Greenest Nation?: A New History of German Environmentalism* (Cambridge, MA: Mit Press); DeVries, Scott M. (2013) *A History of Ecology and Environmentalism in Spanish American Literature* (London: Rowman & Littlefield); Stoll, Steven (2016) *U. S. Environmentalism since 1945: A Brief History with Documents* (London: Palgrave MacMillan); Roser-Renouf, Connie, et al. (2014) 'The genesis of climate change activism: From key beliefs to political action' *Climatic change* 125(2): 163-178; Moser, Susanne C. (2010) 'Communicating climate change: history, challenges, process and future directions' *Wiley Interdisciplinary Reviews: Climate Change* 1(1): 31-53; Mycio, Mary (2005) *Wormwood Forest: A Natural History of Chernobyl* (Washington, DC: National Academies Press); Plokhy, Serhii (2018) *Chernobyl: History of a Tragedy* (London: Penguin UK); Walker, J. Samuel (2004) *Three Mile Island: A Nuclear Crisis in Historical Perspective* (Berkeley, CA: University of California Press).

[56] Lazarus, Richard J. (2008) *The Making of Environmental Law* (Chicago: University of Chicago Press); Sánchez, Luis E., and Peter Croal (2012) 'Environmental impact assessment, from Rio-92 to Rio+ 20 and beyond' *Ambiente & Sociedade* 15: 41-54; Sands, Philippe, and Jacqueline Peel (2012) *Principles of International Environmental Law* (Cambridge: Cambridge University Press);

[57] *United nations framework convention on climate change*. (1992) Article 7, United Nations, p. 7. [online] Available at: https://unfccc.int/files/essential_background/background_publications_htmlpdf/application/pdf/conveng.pdf [Accessed 14 July 2022]



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*climate change impacts are seriously affecting coastal areas and low-lying coastal countries, including many least developed countries and small island developing States. The survival of many societies, and of the biological support systems of the planet, is at risk.*"[58]

In other words, the negative consequences are of an enormous nature and the necessity to act imperative. Such consequences can be mapped and foreseen according to **tipping points**, defined as occurring when a small, forced change within a climate system triggers a response which has large, long-term consequences, "*(...) qualitatively changing its future state*"[59] and leading to extreme events. It is a "*(...) critical threshold*"[60] and a change in the climate may occur immediately after such an occurrence or much later. Human impact can potentially cause several climate systems to reach such a point.[61]

Amongst numerable other areas of life, climate change has revealed itself through the dramatic loss of **biodiversity** throughout the world. According to experts of the United Nations, "*(...) biodiversity loss and climate change are both driven by human economic activities and mutually reinforce each other, and neither will be successfully resolved unless both are tackled together*."[62] Climate change diminishes and threatens biodiversity while *"(...) changes in biodiversity, in turn, affect climate, especially through impacts on nitrogen, carbon and water cycles*".[63] The loss of biodiversity loss is therefore "*(...) moving ecological systems ever closer to a tipping point beyond which they will no longer be able to fulfil their vital functions*"[64].

The capacity and possibility to deal with climate change varies from both places to place, and fluctuates from each state, company, organisation, and group down to every individual. The warnings that tipping points can lend will most likely not occur early enough for us to reverse the effects, and therefore the possibility of faster intervention methods is needed. However, "*(...) deliberate efforts to counter tipping points*"[65] should not be dismissed.

Certain strategies have been lifted and accentuated by, amongst others, the United Nations, as critical in confronting climate change. **Adaptation** is an "*(...) adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects, which*

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[58] *Transforming our world: the 2030 agenda for sustainable development*. (2022) Department of economic and social affairs, United Nations. [online] Available at: https://sustainable development goalss.un.org/2030agenda [Accessed 14 July 2022]

[59] Lenton Timothy M. (2011) Early warning of climate tipping points, *Nature Climate Change*, Vol. 1, Issue 4, pp. 201-209, p.201.
[60] Lenton Timothy M. (2011) Early warning of climate tipping points, *Nature Climate Change*, Vol. 1, Issue. 4, pp. 201-209, p.202.
[61] Lenton Timothy M. (2011) Early warning of climate tipping points, *Nature Climate Change*, Vol. 1, Issue. 4, pp. 201-209.
[62] *Tackling biodiversity & climate crises together and their combined social impacts*. (2021) Sustainable development goals, United Nations. [online] Available at: https://www.un.org/sustainabledevelopment/blog/2021/06/tackling-biodiversity-climate-crises-together-and-their-combined-social-impacts/ [Accessed 14 July 2022]
[63] *Tackling biodiversity & climate crises together and their combined social impacts*. (2021) Sustainable development goals, United Nations. [online] Available at: https://www.un.org/sustainabledevelopment/blog/2021/06/tackling-biodiversity-climate-crises-together-and-their-combined-social-impacts/ [Accessed 14 July 2022
[64] *Biodiversity loss brings ecological systems closer to a tipping point, Ban says*. (2010) Un News – Global perspective human stories, United Nations. [online] Available at: https://news.un.org/en/story/2010/05/339392-biodiversity-loss-brings-ecological-systems-closer-tipping-point-ban-says [Accessed 14 July 2022]
[65] Lenton Timothy M. (2011) Early warning of climate tipping points, *Nature Climate Change*, nr. 1, vol. 4, pp. 201-209, p.208.



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*moderates harm or exploits beneficial opportunities*."[66] As a risk management manoeuvre, this can for instance refer to such coping mechanisms such as flood proof houses or the use of less water during drought.[67]

**Mitigation**, on the other hand, is specifically the effort to reduce or prevent emission of greenhouse gases, in order to hinder and decrease the risks so that hopefully adaptation no longer is necessary. It could be a matter of "*(…) using new technologies and renewable energies, making older equipment more energy efficient, or changing management practices or consumer behaviour. It can be as complex as a plan for a new city, or as simple as improvements to a cook stove design*."[68] For instance, a potential efficiency could be in focusing on the mitigation of radiative forcing agents rather than long-lived greenhouse gases when dealing with the reversal of tipping points. It could further be wise to prioritise the minimization of the impact which depends on the extent to which the threshold has been breached.[69]

Another vital concept is that of **resilience** , which the United Nations describe as, "*(…) the ability of a social or ecological system to absorb disturbances while retaining the same basic structure and ways of functioning, the capacity for self-organisation, and the capacity to adapt to stress and change*."[70]

This concept entails not only the adaptation of humans in reaction to the magnifying impacts of climate change but ensures that fundamental values and structures are preserved. Although a widely used concept within both research and legislation, it has also been questioned and an attempt to broaden the concept has been made. The notion has for example been criticised for its failure to consider politics and power relations, and further accused of being innately conservative, as it is assumed that a system should persist. Another common criticism is that resilience infers that there is a consensus on a desired state of a system, or that this desired state even exists. Critics have found there to be "*(…) underlying conceptual contradictions*"[71] amongst them being that it lies upon an assumption of a mechanical equilibrium, inferring that social and ecological systems essentially are similar. It has furthermore been used to support the status quo, accentuating recovery rather than fundamental change. The

[66] *Fact sheet: The need for adaptation*, United Nations Framework Convention on Climate Change (UNFCCC), p. 1. [online] Available at: https://unfccc.int/files/press/backgrounders/application/pdf/press_factsh_adaptation.pdf [Accessed 14 July 2022]

[67] *Fact sheet: The need for adaptation*, United Nations Framework Convention on Climate Change (UNFCCC), p. 1. [online] Available at: https://unfccc.int/files/press/backgrounders/application/pdf/press_factsh_adaptation.pdf [Accessed 14 July 2022]

[68] *Mitigation*, United Nation environment programme. (2022) [online] Available at: https://www.unep.org/explore-topics/climate-action/what-we-do/mitigation [Accessed 14 July 2022]

[69] Lenton Timothy M. (2011) Early warning of climate tipping points, *Nature Climate Change*, Vol. 1, Issue. 4, pp. 201-209.

[70] *Fact sheet: The need for adaptation*, United Nations Framework Convention on Climate Change (UNFCCC), p. 1. [online] Available at: https://unfccc.int/files/press/backgrounders/application/pdf/press_factsh_adaptation.pdf [Accessed 14 July 2022]

[71] Brown Katrina. (2014) Global environmental change I: A social turn for resilience? *Progress in Human Geography*, Vol. 38, Issue 1, pp. 1-11, p. 3.



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multifaceted aspect of the concept lends it a richness however, which can lead to a broader discussion, thus also functioning as a bridging concept.[72]

One key topic which has broadened the concept is **transformation,** a notion that both emphasises the momentous change enforced upon us by climate change and the normative need for profound, planned change to avoid the impacts, which also means the implementation of sustainability. Scholars have separated the notions of adaptive resilience and transformative resilience, seeing resilience more as a property applicable to different views on adaptation, considering the context.[73]

Environmental audits are a meaningful contribution in the struggle towards transformation and sustainable societies. When both conducting and being the recipient of audits, as well as teaching others to both perform them and instruct others in the process, one needs to keep in mind the significance of one's task. This can not only serve as a powerful motivator but also a guide, steering one's actions towards a shared vision. Especially important in this process are the concepts of adaptation, resilience, and transformation, since decisions constantly need to be made while dealing with and respecting both the complex systems of an organisation or company, as well as the boundaries set by our planet Earth.

The transformance toward sustainable societies needs a transformance of the economic system and therefore a transformance of how we as humans view, value and understand the economy.

**Circular Economy**

The circular economy is an economic model with the main goal to conserve natural resources and use all materials in a sustainable and efficient way. At the same time, it tackles global crises, e.g., global warming, over consumption of natural resources, pollution, and biodiversity loss. On the other hand, a circular economy increases global competences, advances sustainable economic growth, and creates new sustainable jobs. The shifting from the common linear economy of take - make - use - dispose to the circular economy of reduce - reuse - recycle - renew is the most important change we humans must make.

The European Commission has already adopted two circular economy action plans, the latter in 2020. It is the basis for the European agenda of sustainable growth, the European Green Deal.[74] The action plan involves reducing the usage of natural resources and creating new

[72] Brown Katrina. (2014) Global environmental change I: A social turn for resilience? *Progress in Human Geography*, Vol. 38, Issue 1, pp. 1-11.
[73] Brown Katrina. (2014) Global environmental change I: A social turn for resilience? *Progress in Human Geography*, Vol. 38, Issue 1, pp. 1-11, p. 7.
[74] *A European green deal. Striving to be the first climate-neutral continent.* (2022) European Commission. [online] Available at: https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal_en [Accessed 14 July 2022]



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jobs and is an important instrument when achieving the climate targets and halting biodiversity loss. It targets how products should be designed, promotes circular processes, encourages sustainable consumption, and waste prevention. Further, it introduces legislative and non-legislative measures.

The need for circularity is obvious when considering the amount of waste produced: In the EU on average five tons of waste are produced per capita a year, and each citizen produces on average nearly half a ton of municipal waste. Because up to 80 % of products' environmental impacts are determined at the design stage it is necessary to stress the influence of design. The EU has established sustainability principles for the entire lifecycle of products in the new Circular Economy Action Plan For a cleaner and more competitive Europe[75], such as for example, improving product durability, reusability, reparability, increasing recycled content in products, reducing environmental footprints, and incentivizing product-as-a-service.[76]

Circular economy business can be divided into five business models:

1) renewability
2) sharing platforms
3) product as a service
4) product-life extension
5) resource efficiency and recycling.

Also, circular economy business requires a new kind of cooperation between companies, between companies and the public sector, and between companies and people. Digitalization is for example an important tool enabling circular economy approaches in business.[77]

The sharing economy is an economic model based on activity of acquiring and providing or sharing access to goods and services. It is often facilitated by a digital platform connecting buyers and sellers and expands the use of idle assets and services, and it is one way of implementing a circular economy. This economy is rapidly growing but it has had challenges concerning abuses and restricting regulations have been necessary.

[75] *Communication from the Commission to the European Parliament, the Council, the European economic and social Committee and the Committee of the Regions. A new circular economy action plan – For a cleaner and more competitive Europe*. (2020) European Commission, Brussels, 11.3.2020, COM (2020) 98 final. [online] Available at: https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:52020DC0098&from=EN [Accessed 14 July 2022]
[76] *Circular economy action plan. For a cleaner and more competitive Europe.* (2020) European Union. [online] Available at: https://ec.europa.eu/environment/pdf/circular-economy/new_circular_economy_action_plan.pdf [Accessed 14 July 2022]
[77] Hofmann Florian, Jokinen Tapani, Marwede Max. (2017*) Circular business models*. Hållbarhetsguiden, EcoDesign Circle, SVID – Stiftelsen Svensk Industridesign 2018, Interreg Baltic Sea Region, European Union. [online] Available at: https://sustainabilityguide.eu/methods/circular-business-models/ [Accessed 14 July 2022]



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Along with all types of organisations globally, municipalities have a big role in supporting and steering the transition to the circular economy because it has public policies that are linked to circular economy activities, such as waste management, zoning, and urban planning. Therefore, municipalities can have a significant impact on creating markets for circular products and services through public procurement and are key players in the local economy creating and coordinating networks and local and regional innovation systems.

An historical understanding and present climate change challenge together with the need for a transformation of the economic system toward a sharing economy are needed perspectives and knowledge areas to carry further into the establishment of EMS work in the organisation.



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© Lowa., *Birds flying with the fog in Malmö*, Sweden 2012.

## Environmental management

An organisation who has implemented and is working with EMS, whether with help of an environmental standard[78] or not, is usually performing activities in a process driven by the motor of continuous improvement. Therefore, the EMS work can never really be said to be so much improved so that its tasks are ending. Instead, there are always ways to improve the EMS work and therefore result in further decrease of negative environmental impact from the activities within organisations.

[78] Gulacsi Andreea (2020) *Standards for the environment*. CEN – European Committee for Standardization & CENELEC – European Committee for Electrotechnical Standardization. [online] Available at: https://www.cencenelec.eu/media/CEN-CENELEC/Areas%20of%20Work/CENELEC%20sectors/Accumulators,%20Primary%20cells%20and%20Primary%20Batteries/Documents/standardsfortheenvironment.pdf [Accessed 14 July 2022]



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**Why do we perform EMS in organisations?**

The wish by SYAT is that anyone working with IEA should have an understanding about EMS to thereby grasp IEA in the best possible way. It means for example that to be able to perform IEA and understand about the EMS holistically in the organisation is highly advised for the outcome of the IEA performance, and its possibilities for increased benefits for the organisation.

EMS is a tool for managing the environmental work in an organisation in a strategic and effective way.[79] It takes a list of activities to start an EMS in an organisation of which for example[80]:

**The EMS in brief**

1. Leadership decision about integration of EMS into the organisation.
2. Planning of an EMS organisation in which responsibility is clarified within each activity area.
3. Knowledge about the reason for EMS work and the tool as such.
4. Communication plan for the EMS work.
5. Environmental investigation which consists of a review of environmental aspects created by the organisation with an assessment of environmental impact from the activities within the organisation and toward the surrounding society. The assessment needs to be performed in a quantitative and qualitative manner (usually updated every 5th year in accordance with obligations from the ISO 14001 and EMAS standards).
6. Elaboration of an environmental policy for the organisation for communication internally in the organisations and toward the surrounding society, for example toward stakeholders and interests.
7. Planning of an Environmental Objectives and Action Plan (usually updated every 3rd year in accordance with obligations from the ISO 14001 and EMAS standards).
8. Planning and management of EMS documentation.
9. Planning and management of routines in support of the EMS.
10. Communication support of the EMS works toward each person in the organisation.
11. Educative support linked to the EMS works toward each person in the organisation.
12. Follow-up on the EMS work in the organisation.
13. Organisation- and management of environmental audits.
14. Organisation – and management of a yearly management review.
15. Analysis of the EMS work with a management review for development of the EMS and therefore continuous improvement.

[79] *Learn About Environmental Management Systems*. (2021) EPA – United States Environmental Protection Agency. [online] Available at: https://www.epa.gov/ems/learn-about-environmental-management-systems [Accessed 14 July 2022]

[80] The activity example list has been elaborated based on experiences of the partner organisations involved in the *Synergy Audit Professional Partnership ERASMUS+ KA2 Project.* (2019-2022)



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16. Budget organisation and management for the coming years EMS work, at yearly occasions.

**The Plan-Do-Check-Act methodology**

The PDCA[81] is a methodology for managing process development within an organisation. It is integrated and successfully used as a method within the EMS due to the driving force of continuous improvement within it.

Above list on EMS activities are all sorted under either plan, do, check or act activities in its methodology and are beneficially used already in the planning stage of the overall EMS establishment.

The activities in the list above could be organised in the following way by a PDCA method[82]:

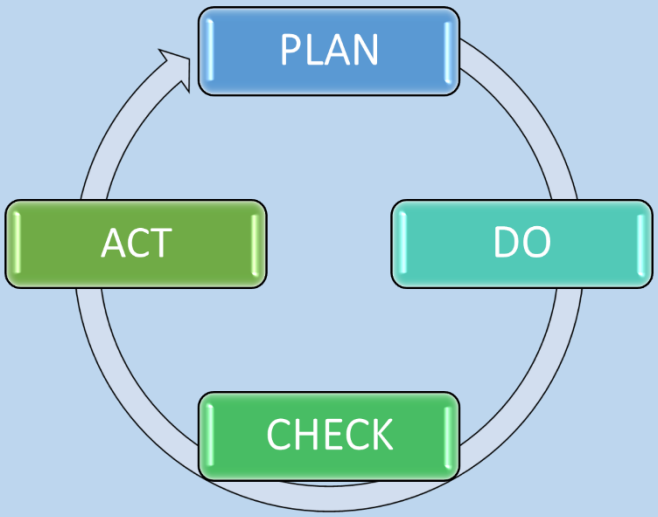


Figure 1: The PDCA Cycle in the PDCA method, made by One Planet, feel free to use and reuse the figure.

[81] *PDCA (plan do check act) – Continually improving, in a methodical way*. (2022). Mind Tools. [online] Available at: https://www.mindtools.com/pages/article/newPPM_89.htm [Accessed 14 July 2022]

[82] The example list has been elaborated based on experiences of the partner organisations involved in the *Synergy Audit Professional Partnership ERASMUS+ KA2 Project.* (2019-2022)



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**Plan**

1. Leadership decision about integration of EMS into the organisation.
2. Planning of an EMS organisation in which responsibility is clarified within each activity area.
3. Knowledge intake about reasons for EMS work and the tool as such.
4. Communication plan for the EMS work.

**Do**

5. Environmental investigation which consists of a review of environmental aspects produced by the organisation with assessment of environmental impact from the activities within the organisation and toward the surrounding society. The assessment needs to be performed in a quantitative and qualitative manner (usually updated every 5$^{th}$ year in accordance with obligations from ISO 14001 and EMAS standards).
6. Elaboration of an environmental policy for the organisation for communication internally in the organisations and toward the surrounding society, for example stakeholders and interests.
7. Planning of an Environmental Objectives and Action Plan (usually updated yearly in accordance with obligations from ISO 14001 and EMAS standards).
8. Planning and management of EMS documentation.
9. Planning and management of routines in support of the EMS.
10. Communication support of the EMS work to each person in the organisation.
11. Educative support about the EMS works toward each person in the organisation.
12. Follow-up on the EMS work in the organisation.

**Check**

13. Organisation- and management of environmental audits.

**Act**

14. Organisation – and management of a yearly management review.
15. Analysis of the EMS work with a management review for further development of the EMS and therefore continuous improvement.
16. Budget organisation and management at yearly occasions.



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**The ISO 14001:2015 Standard**

The ISO 14001:2015 standard is a guideline which supports environmental management in organisations by usage of requirements and guiding advice in the starting up- and management- of EMS.[83] It is used in all kinds of organisations on a global level and is one of the most used environmental standards in the world.[84]

It takes resources in the shape of time, knowledge and economy for an organisation to become certified by the standard, but it also comes with great advantages.

The standard helps the organisation to, beyond other things, make a strategic and effective EMS work, decrease waste and usage of material, make the business processes more sustainable along with a strengthened ability to win procurements.

An important reason for an organisation in becoming certified is further to look good on the market in front of possible stakeholders and customers. To be certified increases the status of the organisation by highlighting its seriousness to ensure environmental improvement.[85]

More information about how to integrate the ISO 14001 environmental standard in the organisation.

**The EMAS Standard**

In similarity to the ISO14001:2015 standard the EMAS III standard is a management tool in support of organisations in their EMS work.[86] EMAS was created by the European Commission in 2009 and falls under the European Regulation (EC) No 1221/2009.[87]

EMAS and ISO 14001 are very similar in an overall perspective, for example are both standards globally applicable and of a voluntary kind.

There are however areas in which they differ. While the EMAS standard requires full legal compliance, the ISO 14001 standard does only entail compliance with appropriate legal requirements. Also, an EMAS certified organisation is obliged to conduct a transparent

[83] *Introduction to ISO 14001:2015*. (2015) International Organization for standardization, ISO Central Secretariat, Geneva, Switzerland. [online] Available at: https://www.iso.org/files/live/sites/isoorg/files/store/en/PUB100371.pdf [Accessed 14 July 2022]

[84] *ISO 14000 family – Environmental management*. (2022) ISO. [online] Available at: https://www.iso.org/iso-14001-environmental-management.html [Accessed 14 July 2022]

[85] *ISO 14001 Key benefits*. (2015) International Organization for standardization, ISO Central Secretariat, Geneva, Switzerland. [online] Available at: https://www.iso.org/files/live/sites/isoorg/files/store/en/PUB100372.pdf [Accessed 14 July 2022]

[86] *What is EMAS?* (2022) European Commission. [online] Available at: https://ec.europa.eu/environment/emas/index_en.htm [Accessed 14 July 2022]

[87] *Regulation (EC) No 1221/2009 of the European Parliament and of the Council of 25 November 2009 on the voluntary participation by organisations in a community eco-management and audit scheme (EMAS), repealing Regulation (EC) No 761/2001 and Commission Decisions 2001/681/EC and 2006/193/EC*. (2009) European Commission. [online] Available at: https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32009R1221 [Accessed 14 July 2022]



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communication externally of the full EMS work while this is not obliged to do by an ISO 14001 certified organisation.[88]

More information about how to integrate the EMAS environmental standard in the organisation.[89]

[88] Martins Florinda et al. (2018) Comparison between eco-management and audit scheme and ISO 14001:2015. *Energy Procedia*, Vol. 153, pp. 450-454, Figure 1. p. 453. [online] Available at: https://www.researchgate.net/publication/328894357_Comparison_between_eco-management_and_audit_scheme_and_ISO_140012015 [Accessed 14 July 2022]

[89] *Regulation (EC) No 1221/2009 of the European Parliament and of the Council of 25 November 2009 on the voluntary participation by organisations in a Community eco-management and audit scheme (EMAS), repealing Regulation (EC) No 761/2001 and Commission Decisions 2001/681/EC and 2006/193/EC*, Regulation (EC) No 1221/2009 EMAS (III), European Union, Lexparency.org.



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© Kristina Thelin., *A tree embraced by a lake in Bökenäs*, Sweden 2014.

**Suggestions and positive reasons for getting ready for an environmental standard certification from collection of best practises in SYAT**

As seen above, there are a number of activities that need to be in place in an organisation for it to be ready for certification toward an environmental standard.
Positive experience on how to get ready for a certification and for upholding an EMS work has been collected in the SYAT project from a multidisciplinary set of organisations for the reason of spreading and highlighting suggestions and ideas toward organisations.

For an organisation to prepare for becoming certified it is of gain to start, elaborate on and proceed with an EMS in which the PDCA management methodology (see above) is integrated from the beginning. The ISO 14001- and the EMAS III standard is built up by using that same methodology and therefore it will make it easier for an organisation to move



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from a non-certified EMS toward an ISO or EMAS Certified EMS.[90]

Further, there is of great gain to already in the preparatory phase of the EMS integration to try to structure it so that as much as possible of the EMS is built up and carried out as if it was following a standard already. This means that knowledge about e.g., the ISO 14001 and EMAS standards are of great gain when preparing the EMS work.[91] The standard of usage can help to make the EMS work perform with careful monitoring of legislative compliance. It further carries within it the chance at not risking violating the law and therefore function as a risk buffer for the organisation against possible sufferance from punishment of legal sort.[92]

Another suggestion in the work toward becoming certified is for the organisation to reach out to- and take an impression from already certified organisations in the geographical near area or from an organisation which shares similarities with the home organisation. In that way the non-certified organisation can gain support of key importance in the teachings on how to best prepare for a certification and on-going work by the help of an already certified organisation.[93]

Furthermore, planning of possible needs in time and resources in relation to the resources available in the organisation is necessary for the organisation for ability to assess needed preparation in the shape of resources and usually therefore also in the shape of needed time, to get ready for certification.[94]
It is viewed as positive to become certified and thereby integrate environmental standards in the organisation because of its help to beyond environmental management also have a synergetic ability to improve the overall management of the organisation and create continuous improvement of the organisation overall.[95]

Finally, ease in finding possible errors in the processes within the organisations is viewed as a positive synergy that is increased within the organisation by its work with integrated environmental standards.[96]

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[90] The information has been given by a multidisciplinary set of organisations in Europe within the best practices phase of the *Synergy Audit Professional Partnership ERASMUS+ KA2 Project.* (2019-2022)

[91] The information has been given by a multidisciplinary set of organisations in Europe within the best practices phase of the *Synergy Audit Professional Partnership ERASMUS+ KA2 Project.* (2019-2022)

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[93] The information has been given by a multidisciplinary set of organisations in Europe within the best practices phase of the *Synergy Audit Professional Partnership ERASMUS+ KA2 Project.* (2019-2022)

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**Possible challenging situations when performing EMS work from a multidisciplinary perspective**

By studying challenging situations that can appear in the EMS work, a chance for learning and thereby having the possibility to prepare ways of limiting demanding situations can be given "before it happens" in the start-up of EMS work in the organisation. Challenging experience from a multidisciplinary set of organisations has been collected in the SYAT project for this reason.

For governmental agencies and small and big non-governmental agencies (hereinafter referred to as NGO) absence of resources in time and budget for the ability to carry on further work have been reviewed as a main challenge in the overall EMS work, and therefore also in the environmental audits work.[97] Therefore, possible resource hindrances makes it relevant to prepare tools already in the planning state of the EMS for a chance to decrease challenges.[98] There can be different reasons for absence of resources depending on organisation. A small NGO could for example be hindered from employing necessary staff for starting and upholding an EMS work while a big NGO and governmental agency might not have absence of resources in staff but instead a leadership who do not prioritise planning of budget resources for upholding EMS work.[99]

Further, an organisational leadership who does not prioritise certification toward an environmental standard have been understood as a challenge in the possibility for improvement of the EMS work in governmental agencies.[100] This could be reviewed as a hindrance which could have to do with the fact that the staff involved in the EMS work understand the necessity and positive generation that certification would give to the organisation in an overall perspective, while the leadership does not support it.

For a small medium organisation (hereinafter referred to as SME) a challenge in the EMS and audits work could be an uninterest from employees to take part in this area of activities in the organisation.[101] Here a hindrance could be found in that SMEs usually have smaller groups of employees and therefore depend more on the interest from the staff in ability to manage and improve EMS work in the organisation. Without a shared interest and/or responsibility internally for environmental improvement within the SME it might be a considerable uphill task in taking on EMS work for the organisation. Therefore, it could be of help to improve

[97] The information has been given by a multidisciplinary set of organisations in Europe within the best practices phase of the *Synergy Audit Professional Partnership ERASMUS+ KA2 Project.* (2019-2022)

[98] For examples on how to reduce possible resource hindrances while integrating an EMS into the organisation see: *Practical Implementation of Synergy Audit. A guidance for organisations with resource hindrances* (2022) Synergy Audit Professional Partnership ERASMUS+ KA2 Project. (2019-2022) [online] Available at:... [Accessed 31 August 2022]

[99] The information has been given by a multidisciplinary set of organisations in Europe within the best practices phase of the *Synergy Audit Professional Partnership ERASMUS+ KA2 Project.* (2019-2022)

[100] The information has been given by a multidisciplinary set of organisations in Europe within the best practices phase of the *Synergy Audit Professional Partnership ERASMUS+ KA2 Project.* (2019-2022)

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the chances for EMS work in SMEs by for example subsidies, inspirational lectures and other helping tools.[102]

Municipalities have communicated challenges related to the possibility to instead of EMS, choose to work toward Covenant of Mayors[103] which could come with the effect that common procedures in the EMS work toward a standard which is not part of the Covenant of Mayors activities, goes missing.[104] It could therefore be of relevance in the Covenant of Mayors work to try to integrate EMS standard procedures and/or be open for taking the next step as a municipality after having started with Covenant of Mayors work, by moving forward toward becoming environmentally certified.

Step by step in the integration of the EMS in the organisation new tasks come into play and an important activity is the establishment of internal environmental audits which have a role to check and thereby improve the EMS work in the organisation.

[102] The information has been given by a multidisciplinary set of organisations in Europe within the best practices phase of the *Synergy Audit Professional Partnership ERASMUS+ KA2 Project.* (2019-2022)

[103] Covenant of Mayors for Climate and Energy (2022) [online] Available at: https://www.covenantofmayors.eu/en/ [Accessed 14 July 2022]

[104] The information has been given by a multidisciplinary set of organisations in Europe within the best practices phase of the *Synergy Audit Professional Partnership ERASMUS+ KA2 Project.* (2019-2022)



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© Eveline Olsson., *An ice asks water if it can remain ice nearby Svalbard,* Arctic Ocean, 2012.

## Environmental audits

Internal environmental audit[105] (hereinafter referred to as IEA) is found in the Check phase within the PDCA (see above) and it is the tool of usage in the EMS which assess if and how the organisation is following the legal and internal requirements that it is obliged to within the environmental area. Thereby, the IEA is the tool which by assessing compliance toward requirements also stresses the need for action to change and thereby develop the organisation toward compliance for the leadership in the organisation. This is communicated in report shape by focus on omissions toward compliance.[106]

[105] Buckley Ralf. (1990) Environmental audit: Review and Guidelines. *Environmental Planning Law Journal*, Vol. 7 , pp. 127-141. [online] Available at: https://www.researchgate.net/profile/Ralf-Buckley/publication/279915922_Environmental_audit_Review_and_guidelines/links/559deafa08aeb45d1715de89/Environmental-audit-Review-and-guidelines.pdf [Accessed 14 July 2022]

[106] The information has been elaborated based on experiences of the partner organisations involved in the *Synergy Audit Professional Partnership ERASMUS+ KA2 Project.* (2019-2022)



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The IEA, like the overall EMS, is not in itself a legal requirement in all countries globally to perform toward. Instead, national requirements vary from country to country and depend on the shape of organisation in relation to for example volume of production, number of employees or type of organisation. However, if the organisation has as a set goal to become ISO 14001 or EMAS certified, it is obliged to perform IEA as part of the standard requirements yearly.[107]

**Areas involved in the IEA**

When the organisation has reached the point of planning and shaping the IEA team, usually by asking a group of colleagues in the organisation to take on the responsibility of forming an internal IEA team, the IEA needs to be organised. To organise the IEA work takes knowledge about the activities involved in the IEA.

The IEA keeps within it several steps and, depending on how one looks at it, a set of phases. In this presentation the choice has been to distinguish three phases consisting of a: pre-audit-, on-site audit-, and post-audit phase.

In short the three audit IEA phases can be presented like the following:

### The pre-state before the audit day

In this state the following activities could be taking place:

1. The leadership in the organisation takes the decision to establish a group of internal environmental auditors in the organisation.
2. The audit team of preferably minimum four persons in which one is appointed as team leader, is established.
3. A 3-years' time- and activity plan in which all areas of the organisation shall be audited within, with audits at minimum once per year, is created by the audit team, in agreement with the leadership of the organisation.
4. The leader of the first area/department of the organisation to be audited (hereinafter referred to as the auditee) get contacted by the audit team at least two months before the coming audit for preparatory information about the coming audit by mentioning e.g., what an audit is, how it will take place, and for choosing a coming date for the audit to take place on within the auditee area. Key persons that need to participate in the coming audit interviews from the auditee area are booked in for coming meetings and suitable meeting rooms are booked by the auditee organisation as a preparation for the audit day. The leader in the auditee area preferably keeps the day(s) for the audit free for joining the audit team during the audit as much as possible.

[107] *Check - Step 5: Check the effectiveness of your Environmental Management System through an internal environmental audit*. (2022) European Commission. [online] Available at: https://ec.europa.eu/environment/emas/join_emas/how_does_it_work_step5_en.htm [Accessed 14 July 2022]



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5. When a date/date has been decided for the coming audit the auditees, if certified by for example ISO 14001:2015 or EMAS III standard, looks through the previous audit omissions in case they have been externally or internally audited before, together with the requirements linked to the environmental standard along with law- and regulation list fulfilments. It is a vast amount of information to dig into so time for preparation for the auditees is required.
6. A checklist (see Annex 1-2 for further information) with questions is elaborated on by the audit team for the coming audit with help of a law and regulation list together with possible internal and external ISO or EMAS requirements for the auditee area. This is a time-consuming work, which needs to make sure that all necessary questions are prepared for the right person among the auditees to respond to. For further examples on how checklist questions can be formulated see Annex 2.
7. A day/day's schedule which mentions persons that will participate in the coming audit from the auditee area and further, physical areas that needs to be checked during the audit, e.g., waste room and office environments, is sent to the leader of the auditee area from the audit team at least two weeks before the audit takes place. The schedule also gives information about staff members from the auditee area who need to be present at the different parts of the coming audit day/days.

### The audit day

In this state the following activities could be taking place:

8. At the audit team visit to the auditee area key persons that previously have been booked in for interviews with the audit team are meeting the auditors and should be prepared to answer any question asked by the audit team in an honest manner. Further, any kind of written information should be easily accessed and available to show the audit team on request at the meetings throughout the audit day/days. The leader of the auditee area together with possible other key persons from the staff in the auditee area who might take part in the round tour in the physical area by the audit team, could do well in noticing any kinds of possible omissions that the audit team points out along the audit day/days. This could serve as a preparation for managing the omissions in a possibly needed quick phase after the end of the audit day/days.
9. At the end of the audit, the leader of the auditee area preferably take part in a short meeting with the audit team to hear brief information about coming possible areas of omissions that will be part of a coming environmental audit report (see Annex 3 for further information) that will be prepared by the audit team to the leader of the auditee area.



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### The finalisation-state

In this state the following activities could be taking place:

10. A draft of an environmental audit report is elaborated on by the audit team and thereafter sent by the team to the leader of the auditee area. It should beneficially be read by the leader of the auditee area in a quick phase. If the leader finds information in the environmental audit report that is wrong the leader needs to contact the audits team and signal this in a quick phase. See an example of how an environmental audit report can look like in Annex 3.
11. A finalised environmental audits report which is signed by the leader of the audit team is sent in digital shape to the management of the organisation with a paper copy to the leader of the auditee area. If the organisation does not have computer access it can be sent further in paper shape.
12. The leader of the auditee area thereafter needs to check the omission list in the environmental audit report and create a management plan for solving the omissions that are told in the report to be managed and solved in the auditee area of the organisation. The omissions that other areas/departments in the organisation are responsible for should not be managed and solved by the audited area. The environmental audit report will clarify the organisational responsibility for each omission in the omissions list in the report.
13. The audit procedure is officially ended when all omissions in the environmental audit report have been managed and therefore, solved.
14. If the auditee area of the previous audit is EMAS certified the environmental audit report needs to be managed with transparency both inwardly in the auditee area by e.g., area/department meetings in which it is discussed, and further toward external interests by for example getting uploaded internally and externally on the webpage of the organisation, or spread by paper shape internally and externally by the organisation.

Now the environmental audit is officially completed.[108]

## Activities in the Pre-Audit Phase

### Organising the IEA team

It can be necessary to learn more about the activities in the three phases of the internal environmental audit and thereby look a bit closer at the details involved in each of the phases for managing the audit teamwork in the organisation. The activities for the audit team start in the pre-audit phase.

Initially, there needs to be an intention within the leadership of the organisation to implement

[108] The phase example list has been elaborated based on experiences of the partner organisations involved in the *Synergy Audit Professional Partnership ERASMUS+ KA2 Project.* (2019-2022)



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an EMS in the organisation and therefore to also set up an internal environmental audit team for this purpose.

The auditors in the internal environmental audit team (hereinafter referred to as IEA team) could beneficially be chosen from several areas in the organisation, if possible. This could increase the chance for the IEA team to make audits in areas where they are not usually working, and therefore increase the chance for unbiased audits.

It is further an idea to choose a leader for the IEA team for the chance to settle an organisational efficiency and clarifying responsibility within the team and toward the organisation. It furthermore increases the chance for the IEA team to work fully independent toward the rest of the organisation which means for example to caretake for budget- and IEA report responsibility independently, and therefore autonomously and unbiased toward the organisation.

When the IEA team has been settled a budget for the IEA work needs to be set together with a plan for coming audits in the organisation. There is no golden rule for how much the budget for the IEA work should be set to in time and economy. However, some advice could be to let each person in the IEA team use 10 percent of a full-time job for working toward the IEA besides the other duties in the organisation. This possibility surely depends on the size of the organisation who would need the IEA to be performed and on the number of persons who take part in the IEA team. Nevertheless, it is of importance to establish budgeted time for the IEA work for usage of the employees who take part in the IEA team.
Also, it is crucial to simultaneously decrease the usual workload of the employee with the amount of time that the employee needs to work toward the IEA team. This secures the chance for everyone who works in the IEA team the work performance does not become an extra work, beyond the usual everyday work in the organisation. Therefore, it safeguards a possibility for a professional management of the IEA tasks in the organisation. Furthermore, it could ensure a better chance to uphold a sustainable and balanced workday overall. Finally, it signals both for an internal and an external audience that the IEA work is managed with seriousness by the leadership of the organisation who thereby guarantee that the IEA work is not just an “extra hobby” beyond the usual work duties.

If the organisation is ISO 14001 or EMAS certified an IEA plan should be made in which audits are performed at minimum once per year in the organisation. An idea could be to elaborate on an IEA plan also within organisations that are not yet ISO 14001 or EMAS certified. The reason for this could be to already at the start of the IEA formation in the organisation build a work procedure in which it will be as effortless as possible to change from a non-certified toward a certified EMS for the organisation in case such a decision will be taken by the management of the organisation later on.
Also, if the organisation decides to create an IEA organisation by following the requirements from for example an ISO 14001 or EMAS standard it could increase the chance for the IEA



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to be performed in a strategic and effective manner by check of legal compliance.

When the year's plan for the IEA is settled with a signature from the team leader of the IEA along with a signature from the responsible in the management of the organisation, the come about of a phase for knowledge intake about IEA work is highly suggested in the IEA team. Learnings could be organised by for example chances to join courses in EMS and IEA given by higher education and/or companies, visits to organisations of similar sort and size as the organisation should be audited, that already have experience in performing IEA and to thereby learn about IEA from previous experience. Reading up on/listening to audio media about legal requirements together with knowledge about the environment and climatic is furthermore suggested and needed. Time needed for learning about the work will come with the ability to settle a coming well performed IEA work in the organisation.

Also, the IEA work needs to be organised so that all essential parts of generated work material can be saved in an easily accessible way for everyone in the IEA team to take hold of. Furthermore, in a manner where it is protected from open access by other persons beyond the IEA team, in the organisation. A digital map system on the intranet webpage of the organisation could be a sufficient way to organise and store relevant material in the IEA work, which could consist of for example the IEA years plan, budget decision for the coming year, IEA team organisation and routines. If there is a chance to save the information digitally in the organisation it would be advisable for easy access whenever something needs to be changed and/or updated within the material. Irrespective of if the organisation has a digital or paper system it is of importance to save any material of relevance for the chance to easily fill the knowledge gap for new IEA team members when necessary.[109]

### Preparing for the first IEA

When the IEA team is organised and has adequate knowledge to perform the first steps of the IEA year plan the auditee area of the organisation which has been chosen for the first internal environmental audit needs to be contacted. The IEA team leader beneficially authors an email for connection with the leader of the auditee area and asks for setting a date for a coming IEA visit. It is advised to write the message some months before the visit takes place so that there will be a higher possibility for both the leader and necessary colleagues in the staff of the auditee area to book time in the calendar for the coming IEA. It is further advised to ask the leader of the auditee area to book the full day(s) of the coming audit for increasing the chance to take part as much as possible in the IEA, if possible. To take part in the audit beyond the necessary interview with the leader, could give the leader of the auditee area a further ability to get to acquaintance with the IEA work and thereby expand the understanding on the status of the EMS work in the auditee area. Therefore, it could be a chance for the leader to get knowledge about where possible omissions are hiding, for what reasons, and more.

[109] The examples of activities have been elaborated based on experiences of the partner organisations involved in the *Synergy Audit Professional Partnership ERASMUS+ KA2 Project.* (2019-2022)



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Assessment of needed time for the audit e.g., 1 or 2 days, depends on how big the physical auditee area is, what activities the area involves, and the amount of people who need to be interviewed during the audit.

In the communication to the leader of the auditee area the reason for the coming IEA and the meaning of the work should preferably be communicated short and sufficiently.
Further, requests for necessary information about the auditee area together with documentation about previous and coming years activity plans, possible EMS routines and documentation that is part of the EMS work and other relevant information should be asked for by the audit team. The documentation will be of necessity for the IEA team to read and consider when preparing the checklist for the coming audit (see Annex 2-3 for further information).

When the communication toward the auditee area is made and a date for the coming IEA have been settled the IEA team needs to make the preparatory work for the coming IEA. Necessary global, EU, national and possible regional and local environmental and climate requirements need to be considered together with internal requirements within the organisations along with relevant documentation which is part of the EMS work e.g., the latest environmental investigation, environmental policy and environmental objectives- and activity plan. If the organisation in which the coming IEA takes place is ISO 14001 or EMAS certified the requirements of the environmental standard needs to be taken into consideration, also.

An extra effort, beyond collection and reading of other necessary material (see above) needs to be considered before the audit with focus at the activities that take place in the physical auditee area. If the coming IEA for example will take place in an auditee area which involves chemical laboratory activity, legal requirements within the activity area needs to be considered in the preparatory work. Further, if the coming auditee performs educational activities legal requirements within that field needs to be considered, along with the rest of the necessary material (see above). Furthermore, if possible previous IEA have been taking place in the auditee area the outcome of these needs to be considered. A follow-up on possible previous omissions and notices in the auditee area has therefore to be considered within the preparations of the coming IEA.
Overall, the information to read up on for the IEA team is most likely considerable. Therefore, it is necessary to have time for studying the material and getting familiar with the auditee area.

In the reading phase another key area within the preparatory IEA work that needs consideration is the elaboration of a checklist for the coming IEA. The checklist is a list of questions to ask on the coming audit (see Annex 1 for further information). It involves interview sections with questions to each of the key persons who have been chosen from the auditee area to take part in the audit, together with sections of questions and information



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about physical areas to check during the audit (see Annex 2 for further information). Furthermore, it involves a section of open questions to be asked toward persons in the auditee area randomly during the audit day for a chance to gather information about the performance of the EMS work. Unlike the interviews with key persons from the auditee area, the open questions should not be planned and scheduled to be responded to before the audit. Instead, the open questions should be asked spontaneously toward randomly targeted persons in the auditee area when an opportunity arises during for example a round tour during the audit.

It is advised to make sure that each question in the checklist has a specific note which explains the reason for controlling the specific area by asking the specific question or for controlling needed physical area, during the audit. The note should relate directly to a legal or internal requirement together with a standard requirement in case the auditee area is environmentally certified. The note information is highly advised to have in the checklist because of the possibility to thereby be able to give direct and clarifying answers to why a specific physical area or specific question is controlled and asked about during the audit. Therefore, the notes offer an opportunity to beyond educating the persons from the auditee area about the reasons for the audit, furthermore, to prove that the IEA team is aware of its work duties and that the team is focused on the targets for the IEA. An extra bonus in preparing notes for the IEA team is furthermore that written down notes in the checklist allow the IEA team to not have to memorise the exact legal or non-legal reason for each question and physical check-up. Thereby, the notes can offer calm and clarity to the IEA team members, not the least during the very first ever performance of an IEA. An example of how a checklist can be organised can be found in Annex 1 and an example of how checklist questions and notes can look like is found in Annex 2.

A day(s) schedule could be organised for the coming audit day(s) which inform about for example meeting location, interview room, time-schedule for interviews and physical locations in the auditee area that needs to be checked during the audit. The key persons involved in the interviews and the round tour from the auditee area could also be mentioned. A finalised audit schedule could further be sent to the leader of the auditee area some time before the audit takes place. That would give some room for the leader of the auditee area to arrange for e.g., necessary interview rooms to be booked for the audit day and other necessary matters.

The audit team needs to, beyond reading in on all the material to get sufficient knowledge about the auditee organisation, the EMS in the organisation and any legal and internal requirements (see above), organise their team effort before the audit. Auditors in the IEA team who shall perform the IEA need to be chosen. It is suggested that at least two persons, and if possible more team members if it is the first ever performed IEA, could take part in the audit from the IEA team. In this way the activities can be split between two persons so that for example one auditor interviews while the other auditor concentrates on taking notes and gathering other information by techniques like photos (for example a mobile phone). The two



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(or more) auditors could preferably switch activity roles throughout the audit day(s).

Furthermore, when picking auditors for the audit in the IEA team a good rule is to choose team members that are working in other areas in their everyday work in the organisation, than the location for the coming audit. It could decrease the chance for biased performance during the audit and further minimise the chances for unwanted and possibly unmanageable situations caused by problematic power relationships. If for example an auditor is interviewing the leader or co-worker whom the auditor is working with daily with other roles it could possibly be problematic for the leader or co-worker to distinguish between the everyday work roles and the role as an auditor that the usual everyday colleague suddenly has. Therefore, it is advised to try to arrange for audit situations where the auditors have as little to do with the auditee area in the everyday work beyond the IEA work, if possible.

Finally, practical equipment is of necessary usage during the audit. If it is possible to use a laptop it is ideal to use for the auditor when gathering notes throughout the audit. If not possible, a set of pens and pencils could be used together with a notebook. The checklist with interview questions, round tour information and notes about legal or internal requirements related to interview questions or physical areas for checks during the round tour, also needs to be brought to the audit. A camera, possibly a mobile phone, for taking photos could further be part of the equipment. If an auditor ends up alone from the audit team on the audit for any unplanned reason there is always a particularly good help, if possible, to have a dictaphone to use during the audit. It would allow the ability to perform interviews and simultaneously gather notes by the collection of the dictaphone more freely for the auditor. Thereby the auditor does not have to focus on asking questions, receiving responses, writing notes from the response and producing new questions in relation to the response given, simultaneously. Also, if laptop usage is not possible instead a folder with legal- and internal requirements together with the internal material about the organisation gathered from the auditee area could be of gain to have present for the audit team. It could for example feel extra assuring to bring along these materials for the IEA team on the very first ever performed audit in the organisation.[110]

## Activities in the On-site Audit Phase

### Executing the audit day

It could be a promising idea for the IEA team to show up at the auditee area a bit before the time schedule for a chance to arrange the day's tasks within the IEA team and to have a chance to get ready.
The audit day(s) are usually busy, and it is therefore important to remember to take breaks

[110] The examples of activities have been elaborated based on experiences of the partner organisations involved in the *Synergy Audit Professional Partnership ERASMUS+ KA2 Project.* (2019-2022)



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here and there along the day, not the least for a chance to sort and write out fair notes and material that is continuously collected.
Usually the audit is set off with an interview meeting between the IEA team and the leader of the auditee area. During the meeting, the chance to discuss the coming day schedule can come handy.

Continuous audit interviews with key persons from the auditee area usually follow thereafter. Key persons who have been asked to take part in interviews are persons with functions that are necessary to get information about, to thereby evaluate internal and legal regulation toward, for the evaluation of the EMS performance.
Interviews can take part individually and in group shape when that is found more suitable. Suitability for a group meeting where several key persons from different sections in the auditee area take part could for example be seen as beneficial when the IEA team can see synergetic positive outcome from that the key persons have an opportunity to meet each other and discuss. Therefore, group interviews could give a chance to share varied information, with focus at the EMS and the audit.
In contrast, it could be an advantage to perform individual interviews, for example with the leader of the auditee area without other staff from the auditee area taking part. Staff members might feel uncomfortable talking freely with the IEA team when there is a work leader in the room. This does not have to be the situation in organisations, and in the cases it is not, it is just to congratulate a good organisational management. However, it might instead be the case, and it is not unusual and could therefore be an idea to be considered for the IEA team when interviews are planned.

Also, it is an idea for the IEA team to start each interview by telling the interviewee about the reason for the IEA interview and therefore, about the importance in being honest in each response instead of for example trying to give a “brighter picture” than what reality tells. To gain honest response from the auditee is of key importance for successful audits and will most likely result in that sufficient information is collected in the audit and thereby, necessary tools and activities in the continuous improvement of the EMS are being focused at by the management of the organisation when assessing the data from the IEA report. Therefore, an atmosphere with possibility for non-judgemental free speech by the auditee toward the audit team during IEA interviews is highly valued.

During the round tour in the auditee area, it is suggested to perform spontaneous interviews with persons that pass by in the area and to thereby collect random samples response by questions which can assess the EMS toward internal and legal requirements. Further, it is of importance, if possible, to use a camera (possibly a mobile phone) during the round tour for collection of information and possible evidence e.g., of violation toward legal or internal requirements in the organisation.

If the IEA team is in an event during the audit where situations appear that can, or possibly



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already do, cause injury to humans and/or the environment it must be alarmed about immediately. A possible handling of such a case, if there is no possibility of getting injured, is to stop the IEA event directly and instead take care of the situation to reduce harm. If caretaking of the situation in any way could cause injury of any kind toward the IEA team or other persons around it should under **no** circumstances be acted upon. Instead, the IEA should be stopped immediately and communication to the possible security and safety staff or similar in the organisation should be performed directly for a chance to stop the harmful activity immediately. Thereafter, the IEA can start up again and continue as planned.
After the end of the IEA day(s) the IEA team leader should contact the leadership of the auditee area directly and inform about the situation which could cause or is causing injury to humans and/or the environment in the auditee area, to thereby highlight that the activity needs to be stopped without restart of it, and that information about the necessary stop of the activity to all persons in the auditee area needs to be given immediately. It is necessary to also state the importance of stopped activity in legal terms by communicating the regulatory violation that the activity of harm for humans and/or the environment is causing or could lead to. Situations like the ones explained could in worst case scenarios create both stress and irritation toward the IEA team from for example managers in the organisation. Therefore, it is suggested for the IEA team to communicate in a clear, concise, effective and respectful manner toward the auditee area and other staff in situations like these. Thereby, the chance for a quick handling of the harmful activity could increase.

At the end of the audits day(s) it is suggested to meet up with the leader of the auditee area before leaving the auditee area. The meeting could offer a short resume of the performed audit day(s) by the IEA team and briefly talk about possible areas in which omissions have been found during the audit. Also, an idea could be to tell the leader of the auditee area that the omissions that have been found during the audit will be considered in the coming internal environmental audits report (hereinafter referred to as IEA report) which would give the leader of the auditee area a preparative chance to get an idea about the audit's outcome, already at the end of the audit.

Furthermore, the date in time that the IEA report draft will be communicated to the leader for a short read-through before it is finalised and is sent further to the management of the organisation, should be given to the leader of the auditee area by the IEA team before leaving the auditee area. The draft of the IEA report could be sent to the leader of the auditee area, if possible, some weeks before the final date for the finalisation of the IEA report which would give the leader a fair chance to read it.

Finally, a suggestion is to ask the leader of the auditee area at the ending meeting if there is any comment that the leader would want to send further to the management of the organisation as part of the audit. It could for example be information that the leader of the auditee area has reviewed as needed to get extra support from for upholding the EMS work during the audit. Therefore, a chance for improved management of the EMS work within the



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auditee area, could be highlighted by the chance for opinions from staff of the auditee area. Possible suggestions from the leader could be communicated as a so-called recommendation which is part of the IEA report (see Annex 3 for further information).[111]

## Activities in the Post Audit Phase

### The finalising stage of the audit

When the IEA team has ended an audit it is advised that the team gather with the IEA team leader and discuss the previously performed audit, make an organisational plan about activities that needs to be managed for the finalisation of the IEA report and clarify areas of responsibility for each of the activities, between the team members.
IEA teams can consist of individuals who favour collaboration in group shape when taking on tasks or teams of individuals who rather prefer to work individually, or a mixture of both options. Independent of preferences of work style in the IEA team it is suggested to let each of the IEA team members have the possibility to work in the way, and with the activity, that each team member favours. Furthermore, it is highly suggested that the IEA team consists of members with a diverse set of previous knowledge and experiences because it will come as an asset for the variety of work tasks involved in IEA work. Also, not the least when it comes to the organisation of picking tasks within the team for the elaboration of the IEA report.

There are some distinct sections in an IEA report (see Annex 3 for further information), and they are in brief:

- Information about time, date and location of the audit together with names of auditee staff that have been taking part in the audit.
- Legal and internal requirements together with a statement about the reason for the audit.
- Concluded comment in an explanatory bread text shape which explains the found omissions and their reasons toward law and other requirements.
- Conclusion which sums up the performance of the auditee area and which gives a visionary view on activities to work further toward for the auditee area and for the organisation as such for increased law compliance.
- Annex with found omissions.
- Section with possible recommendation (can be suggested actions to decrease negative environmental impact and for increasing positive environmental impact).

All collected data from the audit in the shape of interview response, photos, notes and observations needs to be analysed in relation to the legal- and internal requirements of the

[111] The examples of activities have been elaborated based on experiences of the partner organisations involved in the *Synergy Audit Professional Partnership ERASMUS+ KA2 Project.* (2019-2022)



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auditee area. The analysis further needs to sort each of the omissions that have been found during the IEA into big omissions, small omissions and notices (see Annex 3 for further information). Information from the audit that does not fit into the omissions and notices areas (see concept descriptions above) could become possible recommendations (see Annex 3 for further information) and furthermore be sorted into a recommendation section in the IEA report.

It is usual that a battery of omissions is found during audits and therefore picking of most important omissions to bring forth in the IEA report, could be necessary to perform for the IEA team. If all found omissions during an audit could be part of the IEA report there will in many cases end up in an extensive list of omissions. Too many omissions could create a problem for the receiver of the IEA report in knowing how to assess where to start the omissions management (solving each of the omissions). An excessive list of for example big omissions could make it a challenge for the management of the organisation to choose between which of the big omissions that would need to be solved immediately and which that instead could wait before solving. This is much in line with what the proword says when "one stops seeing the tree for the forest."
Therefore, it could be an idea to set a rule for how many big, small and notices that the IEA report could involve for it to be more communicatively beneficial to manage and thereby, solve. An idea could for example be to choose a maximum of 15-18 big omissions and among the big omissions, choose the most important ones in the sense most possible to make the quickest and biggest human and/or environmental damage if not solved.
Recommendations could instead be as many as possible found and analysed from the collected data from the audit. The recommendations are usually seen with a positive eye both by staff in the auditee area and by the management of the organisation because of their ability to be of practical guidance in the continuous improvement of the EMS.

Legal- and internal requirements need to be part of the analysis of collected data from the audit for a needed check that each found omission and notice fall into the right section (big omission, small omission and notice).
When each of the sections in the IEA report are elaborated it could furthermore be an idea to ask someone in the IEA team who did not take part in the previous audit, to read through the IEA report draft. It could help clarify whether the IEA report is communicated clearly and logically so that anyone who did not take part in the audit could easily understand it, or if it needs more refinement. Also, language- and spelling checks need to be performed because the document will be communicated widely to areas and functions in the organisation and possibly, if the organisation of the audit is EMAS certified, also externally outside the organisation to anyone interested with full transparency.

Regardless of whether the organisation is certified toward an environmental standard that forces full transparency of all documentation involved in the EMS work or not, it is advantageous for organisations to strive for full transparency. Sharing of for example IEA



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reports to other organisations, stakeholders and interests could give organisations credibility of honesty and seriousness in the efforts of improving the environmental performance of the organisation. However, sometimes it could instead be a wish from for example the management of an organisation to try to hide omissions from the organisation and therefore to hide the IEA reports. The possible tactics in not sharing IEA reports might however not be the most profound way to achieve trustworthiness from e.g., interests and stakeholders. Usually in EMS work transparency is equal to trust and possible effects of collaboration by sharing of EMS information could be rewarding for the organisation. Information sharing could for example improve the chance for possibilities of exchange of knowledge between organisations within the EMS area with further ability for business collaboration for the organisations involved.

When the IEA report draft is ready it should be sent to the leader of the performed audit at the date that was communicated on the audit (see above) for a possible read-through by the leader of the auditee area before the IEA report is sent further in finalised shape to the management of the organisation. The leader of the auditee area should be given at least some days for the read-through check and for the chance to thereafter respond with possible wishes for change in the IEA report, to the IEA team. Possible informational errors could in the best-case scenario be swiftly communicated from the leader toward the IEA team.

Sometimes (and it happen possibly more often than one could guess) e.g., leaders from a previous audit are communicating disappointment with content in the IEA report draft and with its omissions and could start a discussion on whether it is relevant to let e.g., certain omissions take part in the IEA report. These events are never especially pleasant for the IEA team, but they should however be managed, preferably by the IEA team. The team leader could beneficially be responsible for the communication with the auditee area leader in events like these and it is necessary that the IEA team leader clarifies for the leader of the auditee area that any information in the IEA report draft that involve omissions, notes and explanations of their presence in the report, should be present, instead of becoming withdrawn from the IEA report draft. The IEA report needs to give a fully unbiased and correct presentation of the performed audit. Therefore, it is of equal relevance that the communication from the IEA team leader toward the leader of the auditee area is calm, clear and respectfully focused on this issue. Extra kindness in communication usually goes a long way in these situations.

When the IEA report has reached a finalisation it needs a signature from the responsible for the content in the IEA report which beneficially is the leader of the IEA team. Further, it should be archived digitally if possible, and otherwise in paper shape, in the organisation. Thereafter, the signed and finalised IEA report needs to be sent further to the management of the organisation.

If the organisation in which the audit has been performed is certified toward an ISO 14001 or



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EMAS standard a management plan for solving the found omissions during the audit needs to be performed by help of the IEA report. Sometimes, it is the IEA team who take care of the omission management and sometimes the task is delegated to other staff in the organisation. ISO 14001 or EMAS certified organisations most probably have a paper or more commonly digital omission management system to take help from in the organisation. The system consists of, beyond a list of the omissions, information about when the omission should be solved, by whom, where and in what way. Time management is of importance because for example big omissions could have a chance to create harm for humans and/or the environment and would therefore need to be solved rapidly.

Omission management therefore involves risk assessment analysis where the found omissions need to be judged in accordance with seriousness in relation to possible damage to humans and/or the environment. Necessary time management for solving the omissions is thereby judged.
Integration of an omission management plan is highly recommended in the EMS work also for organisations that are not yet environmentally certified. It could be created in document shape and organised toward a fulfilment plan in the same way as explained above in accordance with environmental standards (see Annex 4 for further information).

When the omissions from the IEA report have been judged and given adequate information about for coming management they need to be communicated toward each area in the organisation with responsibility for solving the issues behind each of the omissions. It could be an idea to send both the IEA report as an explanation of the omission together with the omission management plan when communicating the needed work to the relevant areas in the organisation. Usually, an IEA report involves omissions from more than one area within an organisation, which consequently means that the communication of the omission management responsibility often needs to be performed toward more than one area within an organisation. Therefore, it could be sufficient to build up and maintain the omission management plan in a digital shape, not the least for the convenience to thereby share the omission management planning from the same source with several leaders of sometimes several areas in bigger organisations, simultaneously.
When the omissions are reported to have been solved a check-up needs to be performed by the IEA team where each omission that is clarified as solved will, after check of handling, be reported in the omission management plan as solved.

The audit procedure could be said to be officially ended first when all found omissions from the IEA report are solved by the areas responsible for the omissions, and thereby checked and reported as solved by the IEA team.
If the area of an audit is EMAS certified the IEA report and the omission management plan needs to be communicated with transparency both inwardly in the organisation by e.g., area meetings in which they are discussed and by possible intranet information, and further toward external interests by e.g., uploading and sharing of the IEA report and the omission



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management plan on the external webpage of the organisation.

First at this point the audit could be viewed as officially completed.
There are omissions that will be given a longer time span for the ability to oversee. During the following audit at the previously audited auditee area the previous IEA report and omission management plan therefore would need to be controlled, for a follow up on management of omissions that might remain unsolved.[112]

**Continuous tasks involved in the IEA work**
Regardless of if it has been decided that it is the IEA team leader that is responsible for organisational matters and strategies within the IEA teams work or not, these matters need to be solved continuously in the IEA work for the chance at upholding a professional development of the work in the organisation. Therefore, it is advised that the IEA team members have time set aside for conducting necessary tasks in the IEA work throughout the year so that the IEA team continues to uphold a necessary amount of team members throughout the yearly cycles, and thereby could withstand the risk of suddenly becoming short of team members. Consequently, the budget for e.g., education for new team members needs to be organised yearly to ensure a steady IEA team in the organisation throughout the year.

It is both necessary and beneficial for the IEA work and therefore for the organisation as such, to make room for time to plan and develop the IEA work every now and then by for example upcoming idea sharing events about IEA work improvement. Conference events in which the IEA team has the chance to improve the collaboration among the team members along with activities for development of the work might come with benefits. Planning of work, possible implementation of new ways to perform IEA and /or education within beneficial areas for the work and lectures and seminars for knowledge expansion could be part of such events.
Furthermore, it is suggested to continuously increase knowledge within areas of relevance for the IEA work for the IEA team. Multiple fields of knowledge involved in the IEA work from for example environmental law, communication technique and management, data collection and assessment, environmental management, EMS standards and certification processes, environmental impact assessment, climate assessment could be areas to expand the knowledge about for the team members.

Opportunities to join EMS and IEA networks and similar collaboration platforms could,

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beyond other learnings[113], be a great chance to increase knowledge and simultaneously create opportunities for knowledge exchange. Possibility for network collaboration between organisations within EMS and IEA work could create synergetic chances for organisations to exchange and thereby develop their EMS works and other related areas in the organisation.

Finally, to have an IEA team in the organisation which consists of persons from a multitude of previous experiences and knowledge fields is a rich opportunity which most certainly will contribute to the possibility for development of the IEA work and create an opportunity for ideas that will be of benefit for the development of the IEA work, and for the organisation on a general level.[114]

**IEA communication**

One of the more crucial factors for conducting a successful IEA work is the possibility to communicate and collaborate with a relatively large group of people from a wide array of professions and experiences. In the IEA work it is necessary to make sure to communicate with all groups of people in bigger and smaller organisations and to manage a clear and understandable communication toward everyone. Further, the IEA team members need to create and uphold trust toward the persons in the organisation in the obligations within the IEA work.

Eminent communication and an ability to build trust is possibly sometimes not something that comes without practice. People in general could feel nervous and uneasy when hearing that an audit will take place and that they will take part as the auditees. It could be easy to see in front of oneself an auditor with a professional skill at finding omissions (errors!) which for the organisations could evolve into fines to pay or stronger penalties on a legal level. This understanding could make most people try to close the communication toward the auditor to thereby decrease the chance for possible omissions to be found. Upon this is the stigma for an organisation to be reviewed as an environmentally untrustworthy organisation which could influence a domino effect in losses of interests, stakeholders, customers and therefore also be of damage on an economic level.
Simultaneously a substantial amount of the necessary data that is collected during audits is gathered by communication with persons in organisations. Therefore, communication insufficiency and absence of trust toward the IEA team could seriously affect the IEA work in the organisation. Consequences could be a shortage of necessary information from the audits and therefore also in a longer perspective, creation of a wrong picture about the organisation's EMS work capacity. Effects could generate a weakened EMS where the

[113] For examples on how to gather knowledge while integrating an EMS and IEA into the organisation see: *Practical Implementation of Synergy Audit. A guidance for organisations with resource hindrances* (2022) Synergy Audit Professional Partnership ERASMUS+ KA2 Project. (2019-2022) [online] Available at:... [Accessed 31 August 2022]

[114] The example has been elaborated based on experiences of the partner organisations involved in the *Synergy Audit Professional Partnership ERASMUS+ KA2 Project.* (2019-2022)



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continuous improvement of the EMS could take the wrong paths and in the worst case, lead to uncorrected big omissions and therefore, generate environmental and/or human suffering in a worst-case scenario.

How could an IEA team try to increase the chance to communicate well, gain trust and therefore create and uphold a successful collaboration with all persons in the organisation? An effective way to gain trust is by following the logic, to be trustworthy.
In IEA work it is for example important to remember to communicate why audits have given a told result in found omissions during an audit and therefore, to make sure that the auditee understand the reason for omissions and notices. Further, communication about reasons for performing IEA in an overall perspective with an emphasis on the role of each person involved in the auditee group for a positive development of the EMS work in the organisation, usually improves the chance for a collaborative atmosphere between auditor and auditee. The IEA team members could for example communicate to the auditee that an IEA will be performed because omissions and responsibility for them needs to be addressed. However, a possibly more sympathetic and equally true way of communicating the same understanding toward the auditee could instead be to explain the reason for the IEA as a means of collecting data based on reality and therefore to make the auditee become an important collaborator in the work with improvement of the EMS of the organisation, by collaboration with the auditor. If the auditees view themselves as collaborators for a greater purpose than solely carrying out the responsibility for possible omissions, it might gain a greater assurance that a truthful picture will be given by the auditees, during the audit. Furthermore, it is suggested to talk about responsibility toward the auditee in a clear manner. For example, in ISO 14001 or EMAS certified organisations the management of the organisation is responsible for the EMS. This could be important to clarify communicatively toward the auditee of an area of an organisation to therefore give for example the leader of an area in the organisation a justified chance to not take an overall responsibility because of its placement in the overall organisational management. An example could be the economy section whose activity usually is an active part of each area of an organisation and therefore generally also part of audits. However, the economic management decision making is usually found on a seat in the organisation which usually are not directly located to a specific area of the audit. Accordingly, clarified limits of responsibility during audits is suggested to limit the chance for unnecessary stress on auditees.

Also, IEA team members should consistently lead by full transparency and concomitantly perform unbiased audits. Transparency has usually a winning tendency to create trust for the IEA team among the members of the organisation. Equally, IEA team members should without exception live after the obligation of professional secrecy of communication with auditees. An idea could be to start every audit interview with reminding the auditees about this and that chances for possible retribution from taking part in the interview by e.g., spreading rumours will spread about what has been said in the room, therefore will not occur. Consequently, auditees will know that there is no risk of becoming possible scapegoats in



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front of the organisation because of participation in the audit. Professional secrecy is one of the more important aspects of establishing an audits ethics among the members of an organisation and it would most certainly both create and build trust in a longer perspective between the IEA team members and the auditees in the organisation.

Finally, upholding a friendly, professional, open minded and non-judgemental approach toward auditees is usually of gain for the IEA work. Especially considering that this is an audit procedure, trying to ease up the spirit during the audit by a respectful but also cheerful attitude from the IEA team members toward the auditees, is usually valuable. Remembrance of, and communication by the IEA team toward the auditees in that everyone makes mistakes and that it is a wonderful way of understanding how to improve a situation, could also be favourable![115]

**Communication tools for data collection**

As seen above, communication is a well-used tool for data collection in audits which can appear by interviews of varied kinds. As discussed earlier (see above) the tool can consist of deeper interviews with key persons of an auditee area and random sample interviews with the purpose to collect a briefer understanding about on what level the EMS is conducted in the organisation.

Performance of interviews needs preparation both for the IEA team and for the auditees. As previously discussed, the situation for an interviewee in an audit scenario can be experienced as stressful. Therefore, for an IEA team member it helps to be humble and self-aware of the possibly stressful situation that the audit interview can generate for the auditee before and while conducting the interview. Thereby, for trying to reduce unnecessary stress involved in the interview performance.
Ways to minimise the chance for stress for the auditees in the interview room can be of practical sorts and others within the more mental realm.

By choosing a quiet room where there is a possibility to close the door behind and where no other people are around except for the auditors and the auditees during the interview, a chance for the auditees to feel left out in front of a bigger audience might not appear. Therefore, it could increase the wish for the auditees to speak more freely within the walls of the interview room.

Further, elaboration on the audit questions for an easily understood and clear communication is important for a correct apprehension by the auditees. Therefore, it could be favourable to not rattle around law paragraphs, which might become quite abstract for many and instead

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focusing the language on needed information to decrease possible abstractions. Before an interview it could therefore be an idea to evaluate the interview question by evaluating them on someone that has no previous experience of EMS and IEA and thereby assess the ability to apprehend them correctly.

Also, remembering to take more than one pen to the interview in case pen and paper is used during the interview, could reduce the chance that the pen stops working suddenly during the interview performance. If a laptop is used for taking notes or possibly a dictaphone for collection of data it could be suggested to remember to control that batteries are sufficient, and that the technique is working before the interview.

Finally, making sure to come in time for the interview meeting will improve the chance to collect all necessary data within the time frame of the interview. Auditees might have a strict schedule and therefore the usage of the planned time of the audit will generate the data that will be necessary for further judgement of possible omissions and notices thereafter.

By moving forward to the more mental horizon when performing audit interviews some lessons could be learned about beneficial communication. Like previously discussed, a suggestion is to at the beginning of the interview mention for the auditee that there will be no risk to become externally judged on an individual level by what is said during the interview. Further, reminding about the positive outcome in possible continuous improvement of the EMS of the organisation by telling things as they are instead of for example giving a so-called “brighter picture,” could benefit the possibility to get the right sort of data from the interview.

Persons can be highly capable of changing a subject of discussion almost invisibly during an interview and thereby have the chance to get away with responding to a question. When an auditee might have this capacity the interview time can end without the chance for the IEA team to gather the needed data. To reduce the chance for such happening, the IEA team member (the interviewer in this situation) needs to keep a leading role within the interview and cut the discussion in a sympathetic but still straightforward way whenever an auditee goes further into other directions without responding to the question at hand. IEA team members as interviewers have the responsibility to collect necessary data during the time of the interview. Therefore, the team member needs to be strict but still sympathetic timewise and keep check of time available during the interview performance.

Other times the auditee might be a person who might feel shy to talk and in a situation like this it might instead be a challenge to get any information from the auditee. It could in this occasion be a help to flip the attention back to the interviewing auditor here and there during the interview by exemplifying situations when the auditor has been interviewed, to thereby give a compassionate and emphatic atmosphere to the auditee during the interview session.



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Another idea could be for the auditor to give examples of situations that could give a more living picture about the question to try to get away from the more questioning atmosphere in the room.
Oftentimes the work as an auditor can feel close to being like a psychologist because of the fact that the auditor needs to create a situation in which the auditee wants to talk freely in a situation which can be mentally stressful.

Sometimes auditees can spontaneously open for new and relevant topics within the area of the interview. At these occasions, the interviewing auditor needs to be trained in the ability to create relevant impromptu questions that can build forward on the new topic for a chance at getting relevant information from the auditee with focus on the audit. Therefore, the auditor constantly needs to leave a door open for going beyond the script of the prepared questions and also have the ability to produce spontaneous questions that suits the talk, and especially, that gives further relevant information to the audit.

To perform audit interviews needs practice and in the SYAT training methodology a practice method on how to prepare for and manage to lead interviews both as an interviewer and in the role of an auditee can be exercised (see Annex 8 for further information).[116]

**Positive effects of performing internal environmental audits in a multidisciplinary perspective**

Positive experience within IEA work from a multidisciplinary set of organisations has been collected in the SYAT project for the reason of highlighting and spreading further suggestions and ideas that could be of help for a multidisciplinary set of organisations.

There are several reasons for an organisation to perform audits within the EMS work although it is not yet certified toward an environmental standard and therefore might not be required to perform audits. Available resources in budget and time within the organisation can for example be highlighted by audits performance.[117] Therefore, audits can serve as a preparatory tool of measurement for the organisation in assessing how far and in what direction the organisation should move toward preparation for becoming environmentally certified.[118]

In an employee perspective, the IEA team work could be a training opportunity in which both the employees who are chosen to work with auditing and the organisation as such could expand the knowledge and therefore the development of the organisation in general.

[116] The examples have been elaborated based on experiences of the partner organisations involved in the *Synergy Audit Professional Partnership ERASMUS+ KA2 Project.* (2019-2022)
[117] The information has been given by a multidisciplinary set of organisations in Europe within the best practices phase of the *Synergy Audit Professional Partnership ERASMUS+ KA2 Project.* (2019-2022)
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Further, audits help to improve the overall EMS work and thereby also the general objectives of the organisation.[119] In governmental agencies it has for example been found that audits could serve as a chance for growing relationships toward service providers.[120]

Within SME audits have been reviewed as an important tool in disseminating best practices, finding improvement capacity and progress, and in optimising staff training in the organisation before serious mistakes which can be of harm for humans and/or the environment might happen.[121]

Also, SMEs have pointed out the audit as a helpful tool by the IEA reporting which allows to detect, organise, manage and communicate environmental data by usage of easily performed IEA.[122]

In municipalities EMS training the IEA practices have proven helpful in bringing together different sectors and thereby synergistically creating knowledge about other sectors within the boundaries of the municipality.[123]

Ability for finding errors in the processes with the help of audits is further viewed as an important effect of the IEA work by big industry and bigger business organisations.[124]

**Possible challenging situations when performing internal environmental audits in a multidisciplinary perspective**

By studying challenging situations that can appear in the IEA work, a chance for learning and thereby having the possibility to prepare ways of limiting demanding situations can be given "before it happens" in the start-up of IEA work in the organisation. Challenging experience from a multidisciplinary set of organisations has for this reason been collected in the SYAT project.

Governmental agencies, small and big NGOs and SMEs point at the challenge in possible absence of resources in time and budget for the ability to carry on IEA work.[125] SMEs are for example highlighting heavy workload as a consequence for internal environmental auditors

[119] The information has been given by a multidisciplinary set of organisations in Europe within the best practices phase of the *Synergy Audit Professional Partnership ERASMUS+ KA2 Project.* (2019-2022)
[120] The information has been given by a multidisciplinary set of organisations in Europe within the best practices phase of the *Synergy Audit Professional Partnership ERASMUS+ KA2 Project.* (2019-2022)
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[122] The information has been given by a multidisciplinary set of organisations in Europe within the best practices phase of the *Synergy Audit Professional Partnership ERASMUS+ KA2 Project.* (2019-2022)
[123] The information has been given by a multidisciplinary set of organisations in Europe within the best practices phase of the *Synergy Audit Professional Partnership ERASMUS+ KA2 Project.* (2019-2022)
[124] The information has been given by a multidisciplinary set of organisations in Europe within the best practices phase of the *Synergy Audit Professional Partnership ERASMUS+ KA2 Project.* (2019-2022)
[125] The information has been given by a multidisciplinary set of organisations in Europe within the best practices phase of the *Synergy Audit Professional Partnership ERASMUS+ KA2 Project.* (2019-2022)



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because of a shortage of resources which would give the effect of extra work for managing IEA work, beyond other obligations in the SME.[126] Related to this challenge it can also be a burden to host an external environmental audit when the organisation is environmentally certified because of the excessive workload this brings for the SME.[127]
The challenge with resource hindrances manifested in for example shortage of time for performing audits shows the necessity for possible measures by for example subsidies which on a societal level could ease these challenges in EMS and IEA performance for organisations.

SMEs are furthermore lifting that it can be hard to remain objective and unbiased when performing IEA in smaller organisations.[128] The IE should be performed unbiased and therefore possible avoidance in performing audits in the area in the organisation where an auditor is usually working could be unworkable in a SME with only a few employees and possibly one single activity area in the organisation. In this situation it could be of gain to use collaborative tools between for example SMEs in the physical near area where staff from one SME could perform audits on another SME and vice versa. Collaboration and exchange of knowledge and practises could here be of true support for bridging challenges.

Furthermore, SMEs have been pointing at the challenge of internal conflicts which might arise when audits are performed because of the chance for staff to feel pointed at when non-compliance appears.[129] This demanding situation is always lingering when performing audits and possible suggestions on how to solve such issues can be found above in the discussion about communication tools and ethics.

Finally, needed planning capacity for audits work have been targeted as a possible challenge by governmental agencies.[130] It points at the necessity of knowledge expansion regarding the planning of audits so that they could be workable throughout the phases of an audit. Suggestions on how to fill knowledge gaps related to planning are discussed above by looking closer at the pre audit phase.

[126] For examples on how to reduce possible resource hindrances while integrating an EMS into the organisation see: *Practical Implementation of Synergy Audit. A guidance for organisations with resource hindrances* (2022) Synergy Audit Professional Partnership ERASMUS+ KA2 Project. (2019-2022) [online] Available at:... [Accessed 31 August 2022]
[127] The information has been given by a multidisciplinary set of organisations in Europe within the best practices phase of the *Synergy Audit Professional Partnership ERASMUS+ KA2 Project.* (2019-2022)
[128] The information has been given by a multidisciplinary set of organisations in Europe within the best practices phase of the *Synergy Audit Professional Partnership ERASMUS+ KA2 Project.* (2019-2022)
[129] The information has been given by a multidisciplinary set of organisations in Europe within the best practices phase of the *Synergy Audit Professional Partnership ERASMUS+ KA2 Project.* (2019-2022)
[130] The information has been given by a multidisciplinary set of organisations in Europe within the best practices phase of the *Synergy Audit Professional Partnership ERASMUS+ KA2 Project.* (2019-2022)



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© Kristina Thelin, *Forest trees in friendship with moss in Bökenäs*, Sweden 2012.



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## Global and EU Directives in SYAT IEA

### The Paris Agreement[131]

The Paris Agreement is manifested by the urgent necessity to manage climate change under a 2 centigrade temperature increase on Earth in a way that safeguards the life of the species on the planet and where the responsibility is upheld by each country on Earth.[132] After the COP 26 UN Climate Change Conference in Glasgow (2021) the agreement among the countries is to try to manage climate change up to a maximum of a 1,5 centigrade temperature increase.

One of the activities in the agreement is to put attention on matters of the Paris Agreement by for example public access to information, training and education.
In SYAT for example unrestricted and therefore open access together with free of charge knowledge about key areas within climate change, by highlighting climate change together with climate resilience, mitigation and adaptation is part of the IEA education. Organisations of all sorts and shape could use information, training and education as tools to spread e.g., information about the Paris Agreement as part of the EMS work of the organisation.

The Paris Agreement could further be used as an international agreement to perform IEA from by usage of data collection and assessment tools in IEA where Carbon Dioxide Equivalents (hereinafter referred to as $CO_2e$) could be assessed for any organisation and in for example life cycle perspective assessments for ISO 14001 or EMAS certified organisations. The calculation could increase the chance to assess in which processes of an organisation most $CO_2e$ is produced to thereby manage to assess ways to change the processes to consequentially limit the production of $CO_2e$ in the organisation.
Carbon Audit (see concept description above) could further be of usage as a complementary activity to the environmental audit in which Carbon is assessed in the organisation.

### Transforming our world: The 2030 agenda for sustainable development[133]

The 2030 Agenda is a plan and universal agenda for global operationality which points at 17 focus areas (the UN 17 sustainable development goals, hereinafter referred to as SDGs) and their 169 targets on how to sustain a healthy living for all beings on the planet with the

[131] *Paris Agreement*. (2015) United Nations, New York. [online] Available at: http://unfccc.int/files/essential_background/convention/application/pdf/english_paris_agreement.pdf [Accessed 14 July 2022]
[132] *Paris Agreement*. (2015) United Nations, New York, p. 1-3. [online] Available at: http://unfccc.int/files/essential_background/convention/application/pdf/english_paris_agreement.pdf [Accessed 14 July 2022]

[133] *Transforming our world: The 2030 agenda for sustainable development. A/RES/70/1*. (2015) United Nations, New York. [online] Available at: https://sustainabledevelopment.un.org/content/documents/21252030%20Agenda%20for%20Sustainable%20Development%20web.pdf [Accessed 14 July 2022]



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ambition of global peace.[134]
Agenda 2030 is thought of as being approached in the same way as international law. There are governmental agencies on the national level that have been chosen to manage specific goal(s) and beyond that responsibility there is no clear and communicated methodology until this date on how to work toward them in an organisation environment.

In SYAT focus on the UN 17 SDG are part of teaching activities in SYAT training by focus on work-shop elaboration on how to audit toward the UN 17 SDG, within the SYAT methodology training where the 2030 Agenda could be used in the EMS to assess certain goals to work toward in the EMS work of the organisation. Thereby, the goals and needed activities for goal fulfilment could further be audited upon in the coming IEA. (See example in Annex 5).

**Energy Roadmap 2050**[135]
Energy Roadmap 2050 is a way to open for thinking, and thereby creation of activities throughout the EU in how to make it possible to transform the energy sector to depend on mostly renewable energy sources in a 2050 EU, and to thereby uphold a sustainable living.[136] The greatest part of the greenhouse gas (hereinafter referred to as GHG) emissions globally come from the energy sector and therefore a transformation of the usage of non GHG sources affects all parts of the energy systems.[137]

A main target in the necessary energy transformation in the EU should be on increased energy efficiency, with focus at both new and already existing buildings.[138]
In SYAT an extra effort is focused on signalling the necessity of auditing energy usage in organisations, within the SYAT training. The concept of energy efficiency (see concept description above) is therefore part of the SYAT e-education by addressing the scenario: "Increase energy efficiency in buildings and how to audit toward the scenario."
The concept of energy efficiency and a goal orientation toward it within the EMS work could be integrated and therefore available to check up on by IEA.

[134] *Transforming our world: The 2030 agenda for sustainable development. A/RES/70/1*. (2015) United Nations, New York, p. 3. [online] Available at: https://sustainabledevelopment.un.org/content/documents/21252030%20Agenda%20for%20Sustainable%20Development%20web.pdf [Accessed 14 July 2022]
[135] *Energy roadmap 2050*. (2012) European Union, Luxembourg. [online] Available at: https://ec.europa.eu/energy/sites/ener/files/documents/2012_energy_roadmap_2050_en_0.pdf [Accessed 14 July 2022]
[136] *Energy roadmap 2050*. (2012) European Union, Luxembourg, p. 2. [online] Available at: https://ec.europa.eu/energy/sites/ener/files/documents/2012_energy_roadmap_2050_en_0.pdf [Accessed 14 July 2022]
[137] *Energy roadmap 2050*. (2012) European Union, Luxembourg, p. 6. [online] Available at: https://ec.europa.eu/energy/sites/ener/files/documents/2012_energy_roadmap_2050_en_0.pdf [Accessed 14 July 2022]
[138] *Energy roadmap 2050*. (2012) European Union, Luxembourg, p. 10. [online] Available at: https://ec.europa.eu/energy/sites/ener/files/documents/2012_energy_roadmap_2050_en_0.pdf [Accessed 14 July 2022]



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**Closing the loop – An EU action plan for the Circular Economy**[139]
The EU action plan for circular economy has as its purpose to address matters involved in the necessary transition toward a circular economy in the EU. Focus on a prolonged "*value of products*" and waste reduction are crucial.[140]
Also, product design, production processes, consumption, waste management and reuse are of focused relevance in the transition.[141]
The SYAT training methodology is using the action plan by focusing on waste management, reusage strategies and estimates in compliance and those could be integrated with objectives and targets in the EMS of the organisation and thereafter followed up by IEA.

**The EU Waste Framework Directive**[142]
The EU waste framework directive consists of a set of principles on waste management for countries within the EU. The principles are focused on waste management in which reduction of damage toward the environment, human health and areas of specific interest together with rural areas, are addressed.
The framework consists of goals to increase re-usage and recycling of material, and a "from the cradle to the grave" assessment and monitoring of hazardous waste, assessment on possible environmental damage by by-products and criterion where waste becoming products is explained by an End-of-waste criteria.

Furthermore, a waste hierarchy is explained in which management of waste and guidance on how it should be assessed, is presented.[143]

For organisations in the EU both the waste hierarchy and a "from the cradle to the grave" monitoring of hazardous waste needs to be assessed within the EMS and therefore checked up on by the IEA.
In the SYAT training methodology the waste hierarchy is explained and a practice on how to perform IEA toward organisations with usage of the waste hierarchy is practised (See Annex

[139] *Communication from the commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions. Closing the loop – An EU action plan for the Circular Economy*. (2015) European Commission, Brussels. [online] Available at: (Document 1): https://eur-lex.europa.eu/resource.html?uri=cellar:8a8ef5e8-99a0-11e5-b3b7-01aa75ed71a1.0012.02/DOC_1&format=PDF and at (Document 2 Annex Part): https://eur-lex.europa.eu/resource.html?uri=cellar:8a8ef5e8-99a0-11e5-b3b7-01aa75ed71a1.0012.02/DOC_2&format=PDF [Accessed 14 July 2022]
[140] *Communication from the commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions. Closing the loop – An EU action plan for the Circular Economy*. (2015) European Commission, Brussels, p. 2. [online] Available at: (Document 1): https://eur-lex.europa.eu/resource.html?uri=cellar:8a8ef5e8-99a0-11e5-b3b7-01aa75ed71a1.0012.02/DOC_1&format=PDF and at (Document 2 Annex Part): https://eur-lex.europa.eu/resource.html?uri=cellar:8a8ef5e8-99a0-11e5-b3b7-01aa75ed71a1.0012.02/DOC_2&format=PDF [Accessed 14 July 2022]
[141] *Communication from the commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions. Closing the loop – An EU action plan for the Circular Economy*. (2015) European Commission, Brussels, p. 3-12. [online] Available at: (Document 1): https://eur-lex.europa.eu/resource.html?uri=cellar:8a8ef5e8-99a0-11e5-b3b7-01aa75ed71a1.0012.02/DOC_1&format=PDF and at (Document 2 Annex Part): https://eur-lex.europa.eu/resource.html?uri=cellar:8a8ef5e8-99a0-11e5-b3b7-01aa75ed71a1.0012.02/DOC_2&format=PDF [Accessed 14 July 2022]

[142] *Directive 2008/98/EC of the European parliament and of the council of 19 November 2008 on waste and repealing certain directives.* (2018) European Commission, Brussels. [online] Available at: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A02008L0098-20180705 [Accessed 14 July 2022]

[143] *Directive 2008/98/EC of the European parliament and of the council of 19 November 2008 on waste and repealing certain directives.* (2018) European Commission, Brussels. [online] Available at: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A02008L0098-20180705 [Accessed 14 July 2022]



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6 for further information).

Furthermore, a “from the cradle to the grave” monitoring of hazardous waste is described together with a work-shop practise within the SYAT training methodology where the participant is performing an IEA toward monitoring of hazardous waste in organisations (See Annex 7 for further information).


Figure 2: The Waste Hierarchy in the EU Waste Framework Directive, made by One Planet, feel free to use and reuse the figure.



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**Introduction to Energy Audits**

In any private, public and NGO organisation that wants to establish EMS and IEA, energy will be a probable objective to work toward decrease in usage because of its position as the biggest contributor to greenhouse gas emissions due to human usage.[144]
In SYAT an introduction to energy audits takes place because of the chance to therefore open the eyes toward the area of energy efficiency and thereby gain an impression when working with IEA. Therefore, here follows a short introduction to energy audits with a wish that it will bring ideas on how to manage energy consumption and/or usage in a more sustainable way in organisations and as an opening for further interest to learn more about energy audits.

An energy audit consists of an entire and detailed procedure in which energy consumption of buildings of organisations, e.g,. of one or more buildings, commercial or industrial operation or installation, is identified and thereafter assessed to find ways to decrease energy input into the system/energy usage, without harmful effect on the output(s) and simultaneously save economic cost.[145]

There are different types of energy audits, and the so-called standard audit involves a review and assessment of e.g., systems and equipment by quantification of used and lost energy. Testing and at location measures of energy efficiency can be part of the audit and calculations by energy engineering standards are made by usage of change scenarios where possible improvements are calculated to view the cost and energy savings arising from improvements. Furthermore, an economic assessment is part of the standard audit with suggestions on energy conservation options.[146]

Just like IEA, energy audits involve a process whose preparatory, on-site and finalisation phase are parts. However, the activities involved in each of the parts differ from the ones of an IEA.

During the preparatory phase several activities take place for getting an understanding of the energy systems of the audited building e.g., gathering and assessment of utility energy data from two years to thereby have the chance to assess patterns in energy usage and identify e.g., where possible energy savings can appear with the optimum result.[147]
The following phases involves an at location visit to the building where a group of activities takes place for gathering and checking of the energy usage, also including an extended discussion/meeting with the manager of the building where the auditor has a chance to e.g., post a series of questions based on the review that have been made in the preparatory phase and other relevant questions about planned actions in the future that could impact energy

[144] Skea, Jim et al. (2022) *IPCC intergovernmental panel on climate change. Climate change 2022 – Mitigation of climate change*. Working group III contribution to the sixth assessment report of the intergovernmental panel on climate change, p. 102 Box TS.12, IPCC, WMO and UNEP 2022. [online] Available at: https://www.ipcc.ch/report/ar6/wg3/ [Accessed 14 July 2022]
[145] *Energy Auditing*. (2020) energypedia. [online] Available at: https://energypedia.info/wiki/Energy_Auditing [Accessed 14 July 2022]
[146] Trumann Albert, Younger J. William, *Handbook of energy audits*. (2008) Seventh edition, Chapter 1 – Energy Audits Basics, p. 2, The Fairmont Press inc., United States of America.
[147] Trumann Albert, Younger J. William, *Handbook of energy audits*. (2008) Seventh edition, Chapter 1 – Energy Audits Basics, p. 4, The Fairmont Press inc., United States of America.



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consumption.[148]

In the finalisation phase an energy audit report is elaborated on just like in the case of the IEA. However, the energy audit report is communicating e.g., possible measures for energy savings along with possible improvements for energy efficiency toward the audience of the report which usually is a group of e.g., CEO, plant managers and engineers, maintenance and operations staff.[149]

The relevance of how to increase energy efficiency as a result of the energy audit findings is beyond effects on reduction of greenhouse gas emissions and therefore, reduced development of global warming further turned toward each one of us because of the building perspective. Most humans live and/or work in buildings and therefore spend a distinctive amount of their lifetime inside the buildings. Buildings further stand for 40% of the consumed energy in the EU among which 75% of the buildings do not live up to energy efficiency standards.[150] Therefore, homes and public buildings will by the EU Green Deal be obliged to increase usage of renewable energy during renovations and to increase energy efficiency.[151]

Beyond freestanding energy audits, energy management systems which involve energy audits within its system, can be present in organisations activities aiming at energy efficiency improvement. The management system can be defined as a "*set of interrelated or interacting elements of a plan which sets an energy efficiency objective and a strategy to achieve that objective*."[152] Energy management system is like the EMS in that it, with help of the PDCA method, works in a strategic and systematic manner towards a long-term improvement of the energy usage in the organisation. Therefore, the management system works continuously with energy efficiency improvements and therefore also with savings of energy.[153]

When assessing where energy efficiency potential usually is found by usage of energy audits it has been found that for example insulation, lighting and air sealing often are areas pointed at for energy efficiency improvements.[154] Several of the areas in a building can be checked in home environments and/or in organisations that don't use energy audits and/or have not yet implemented energy management systems, before an energy auditor arrives for a professional

[148] Trumann Albert, Younger J. William, *Handbook of energy audits*. (2008) Seventh edition, Chapter 1 – Energy Audits Basics, p. 8, The Fairmont Press inc., United States of America.
[149] Trumann Albert, Younger J. William, *Handbook of energy audits*. (2008) Seventh edition, Chapter 1 – Energy Audits Basics, p. 9-10 The Fairmont Press inc., United States of America.
[150] *Making our homes and buildings fit for a greener future*. (2021) European Union. [online] Available at: https://ec.europa.eu/commission/presscorner/detail/en/fs_21_6691 [Accessed 14 July 2022]
[151] *Delivering the European green deal*. (2022) European Commission. [online] Available at: https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal/delivering-european-green-deal_en#cleaning-our-energy-system [Accessed 14 July 2022]
[152] *Directive 2012/27/EU of the European Parliament and of the Council of 25 October 2012 on energy efficiency, amending Directives 2009/125/EC and 2012/30/EU and repealing Directives 2004/8/EC and 2006/32/EC, OJ L 315*, 14.11.2012, Art.2.
[153] Hirzel Simon et al. (2016) *A study on energy efficiency in enterprises: Energy audits and energy management systems. Report on the fulfillment of obligations upon large enterprises, the encouragement of small- and medium-sized companies and on good-practise*. Competence Center Energy Technology and Energy Systems, Fraunhofer Institute for Systems and Innovation research ISI, Karlsruhe, Germany, p. 203. European Commission. [online] Available at: https://www.energimyndigheten.se/globalassets/energieffektivisering_/lagar-och-krav/ekl/a-study-on-energy-efficiency-in-enterprises-energy-audits-and-energy-management-systems.pdf [Accessed 14 July 2022]
[154] *Most common ECMs recommended in an energy audit*. (2019) SEF Blog, Sustainable Energy Fund, Schnecksville, PA, 2022. [online] Available at: https://thesef.org/most-common-ecms-recommended-in-an-energy-audit/ [Accessed 14 July 2022]



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assessment. However, the improvement without help from energy audits would not be feasible without the full thorough and professionality that an energy audit promises.[155]

In SYAT, a wish is that all organisations and furthermore home environments could start working on energy efficiency improvements and therefore herein follows a list on how to conduct an energy audit with the contribution of members in the organisation which address areas that can be improved by energy savings (Energy Saver, U.S. Department of Energy, 2022[156]):

1. Preparation of a checklist where information about findings/omissions and areas that have been checked are noted.
2. Control of possibilities for air leaks in the building: these may be caused by e.g., doors, windows, electrical outlets, switches and more. Thereafter, the air leaks can be sealed.
3. **Control of ventilation when sealing areas of the home to not risk air pollution and combustion appliance backdraft!**
4. Control of insulation on e.g., ceiling, floor and walls.
5. Control of  tools for cooling and heating
6. Control of the lighting.
7. Control of electronics and appliances.
8. Elaboration on a plan for the building by asking questions about energy loss and energy costs.
9. Contact a professional energy auditor and keep the checklist information as a help for the auditor for assessment of the building.[157]

For further detailed information on how to conduct the activities in the above list see: Do-it-yourself home energy assessment. Energy Saver, U.S. Department of Energy, 2022[158] at: https://www.energy.gov/energysaver/do-it-yourself-home-energy-assessments

[155] *Do-it-yourself home energy assessments*. (2022) Energy Saver, U.S. Department of Energy, Washington, DC. [online] Available at: https://www.energy.gov/energysaver/do-it-yourself-home-energy-assessments [Accessed 14 July 2022]
[156] *Do-it-yourself home energy assessments*. (2022) Energy Saver, U.S. Department of Energy, Washington, DC. [online] Available at: https://www.energy.gov/energysaver/do-it-yourself-home-energy-assessments [Accessed 14 July 2022]
[157] *Do-it-yourself home energy assessments*. (2022) Energy Saver, U.S. Department of Energy, Washington, DC. [online] Available at: https://www.energy.gov/energysaver/do-it-yourself-home-energy-assessments [Accessed 14 July 2022]
[158] *Do-it-yourself home energy assessments*. (2022) Energy Saver, U.S. Department of Energy, Washington, DC. [online] Available at: https://www.energy.gov/energysaver/do-it-yourself-home-energy-assessments [Accessed 14 July 2022]



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## Ways to inspire colleagues to start up EMS and IEA

A wished-for aim in SYAT is to find ways to continue spreading of knowledge further from reader/learner toward work organisations of the reader/learner, and thereby also possible stakeholders and interests.
Therefore, tools on how to bring forward topics in the guideline within the wish for the reader/learner to set up an EMS with IEAs in organisations could be beneficial.
Sometimes, the leadership of an organisation needs to become inspired toward change which this work continuously involves, before taking the decision to start up an EMS in the organisation. Other times, when the EMS is already set up, a team of work colleagues within the organisation instead needs information about IEA to get an interest thereby possibly in taking part in an IEA team, within the organisation's EMS.
Here follows therefore a short instruction about teaching pedagogics together with tools of usage when trying to communicate an interest to the workplace about starting up EMS and IEA work.

### Teaching pedagogics

There are certain underlying principles that one can take into consideration when teaching participants how to perform e.g., audits or instructing them how to, in their turn, pass the knowledge on, whether it be knowledge on audits or teaching methods. These principles are of a general pedagogical nature but are also marked by the focus on sustainability.

First, whether the participants themselves have chosen to take part of their own accord or not, will determine the extent of their motivation, which is an essential element of the learning process. Optimally, participants are fully on board and motivated to both learn and put in the effort needed. All involved therefore need to experience themselves to be active participants, which demands that they are aware of the goals set and feel an incentive, especially as their attitudes will affect the development. This in turn requires that the participants continuously reflect upon their learning and the process and are given adequate orientation and input. The focus can therefore never only be on what actions are to be taken. Educators need to ensure that participants both grasp and agree with the aim of the course and recognize the importance of it. This cannot be done solely in lecture form but always needs to start with recognizing and giving space to the expression of the participants' own attitudes towards the subject matter, namely the environment and climate change, and the human relationship and responsibility towards it.

A recommendation could be to start in a workshop shape and in this manner, allowing the participants to express their experiences and views on the matter, and thereby finding out what previous attitudes, knowledge and habits the participants have about the environmental themes at hand. This can be done through a series of reflective questions and discussion but also through an experiential exercise. (See annex 9 for further suggestions).



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Often an exercise, perhaps reconnecting the participants with their relationship to nature, can evoke reactions based on a present experience, not only influenced by memories of the past and present notions. It can also bring the participants into a state that is not exclusively of an intellectual nature. The human relationship to nature and the importance given to it, is often of an emotional, and even ethereal, nature rather than of an intellectual. So, for participants to encounter their personal sentiment towards nature, and see the importance of an environmental venture, it is of benefit to create an experience that will appeal to other sides of the participants' characters.

Such exercises can then be followed by input on the subject at hand. This input can be both factual, relating to scientific, technical, and societal aspects of sustainability and the UN 17 SDG: s (See annex 9 for further suggestions), and conceptual, relaying discourses behind the facts and ideas presented. Important in the presentation of this material is that it is on a level of understanding that the participants can comprehend and appreciate. As an educator, as mentioned before, awareness of the participants' previous knowledge and lack thereof needs to be present. It is therefore suggested to start this part of the workshop with a series of questions, shedding light on the participants' knowledge base on environmental matters. (See Annex 9 for suggestions on relevant questions). After such a session, a mapping of further proceeds and where to put the focus, can be made.

Central discursive notions to touch upon, besides those commonly related to sustainability such as climate change, tipping points, resilience, and transformation, are human concepts of the environment. Six paradigms of conceptions of the environment could be presented among which: environment as nature, resource, problem, place to live, biosphere and community project. Under each archetypal paradigm a certain social representation of the environment could be found and a combination of elements from more than one paradigm can enrich the human perspective. They can also be viewed diachronically, as different dominating paradigms have been adopted during history.[159]

Also, an environmental education could consider each vision, and see them as complementary, questioning how well the participant regards a global, holistic aspect, and whether the participant favours a certain perspective. To give a holistic perspective and raise awareness of the environmental paradigms conveyed, participants could be asked to ponder upon which concept lies closest to them, and which they think will be apparent during this education, and during the following audits. Participants can also be involved in expressing their vision, relating these to the conceptions demonstrated.[160]

[159] Sauvé Lucie (1996) Environmental Education and Sustainable Development: A Further Appraisal, in: *Canadian Journal of Environmental Education*, Vol. 1 pp. 7-34 [online] Available at: https://files.eric.ed.gov/fulltext/EJ540073.pdf [Accessed 14 July 2022]
[160] Sauvé Lucie (1996) Environmental Education and Sustainable Development: A Further Appraisal, in: *Canadian Journal of Environmental Education*, Vol. 1 pp. 7-34 [online] Available at: https://files.eric.ed.gov/fulltext/EJ540073.pdf [Accessed 14 July 2022]



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As stated earlier, the active participation of each participant is vital in motivating them and in supporting the learning process. A study on environmental education showed the value of the participants' concentration on solving authentic problems rather than being given direct instructions. In other words, participants will likely learn more by doing and applying the material in an authentic situation, rather than just listening and speculating. In doing so, as the above-mentioned study also found, the focus should lie on the cause of these problems, rather than on remedying the symptoms. The environment of the organisation, working place or school, can be used as a forum for performing these practical tasks and serve as a basic teaching resource. Preferably the work will focus on issues in which the participants could intervene with directly and bring about changes.[161]

This practical approach could also, as have been mentioned before, be interspersed with and followed up by occasions for reflection, so that the focus is not only on action, but also on learning from the tasks through contemplation. A certain stressed aspect in the study on environmental education mentioned earlier, is a systematic perspective, viewing environmental issues as multifaceted and the setting to be audited/analysed as a complex system.[162] Therefore, when supervising such discussions, an endeavour to inspire and apply a systematic perspective, encouraging the participants to see the environment (both that of nature in general and the current physical environment that is analysed) as a complex system of needs and boundaries, could be suggested. References to the knowledge presented earlier which urge the participants to put their new insights into a larger perspective, could be given.

Easily forgotten and often underemphasized are the social aspects of both sustainability and of the learning process of a group. In the study on environmental education, the origin of the apparent motivation in the participants and imperative for the development of a desire to act was: " *(..) the social interaction produced by sharing emotions within a group framework*."[163] Giving attention to social aspects can, in other words, act as a strong motivator, but it can also promote the learning process and build a foundation for future work together. Certain exercises, and time spent together not solely focused on the work at hand, can help to strengthen the group (See Annex 9 for suggestions on exercises). It could be especially critical to give importance to the social dimension of this process, since the interaction between members of a consolidated group bears such a heavy influence on their motivation

[161] Conde Del Carmen Maria et al. (2010) The school curriculum and environmental education: A school environmental audit experience, in: *International Journal of Environmental & Science Education*, Vol. 5, No. 4, p. 487 [online] Available at: https://files.eric.ed.gov/fulltext/EJ908944.pdf [Accessed 14 July 2022]
[162] Conde Del Carmen Maria et al. (2010) The school curriculum and environmental education: A school environmental audit experience, in: *International Journal of Environmental & Science Education*, Vol. 5, No. 4, p. 487 [online] Available at: https://files.eric.ed.gov/fulltext/EJ908944.pdf [Accessed 14 July 2022]
[163] Conde Del Carmen Maria et al. (2010) The school curriculum and environmental education: A school environmental audit experience, in: *International Journal of Environmental & Science Education*, Vol. 5, No. 4, p. 487 [online] Available at: https://files.eric.ed.gov/fulltext/EJ908944.pdf [Accessed 14 July 2022]



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and willingness to act. Additionally, regarding sustainability on a larger scale, the importance of stable, equal social structures and healthy relationships for our general wellbeing and for working towards a more sustainable society, cannot be stressed enough, and they have therefore also been included in the UN 17 sustainable development goals. The social aspects, the roles and needs of all the people involved, is furthermore an important perspective to consider in upcoming environmental audits.

Finally, the workshop could be concluded with the opportunity for the participants to both share their findings and insights and give feedback on the course given. That will both give a sense of closure and convey that the input and experience is valuable, for the participants.

© Eveline Olsson., *Grass, stone and water converse nearby Svalbard*, Arctic Ocean 2012.



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**IEA training practise example**

Chances for practice training in which new IEA team members can assess various parts of the IEA process work have been an aim to create in SYAT. It could be a beneficial way to get introduced to the IEA work. Practice could be available in course shape given by e.g., higher education and enterprises. However, taking part in for example courses can have an economic cost that might not be an option for all organisations. Therefore, an idea could be to look for training practice that could be arranged by available means for the organisation.
An IEA team in need for training in an organisation could for example contact an ISO 14001 or EMAS certified organisation for a study visit geographically nearby (or by web in case the organisation has internet access) for the opportunity to create an IEA practise event in collaboration with the certified organisation. Such an event could further take place in the home organisation of the IEA team. However, if the organisation is unfamiliar with the audit procedure it could be a challenging task to perform the training solitary.

A training procedure would need previous theoretical knowledge within certain fields where for example environmental law and environmental management should be part for it to teach a necessary understanding about the work. If the organisation does not have resources for sending off staff to external education opportunities it however needs to make sure to provide the staff with other chances for knowledge. The learnings could be gained by knowledge in the shape of readings of written material and study visits to organisations who can share their experiences of the work. If the organisation is planning, or has as a vision, to become environmentally certified it could further be an idea to support the IEA staff with a copy of the environmental standard of requirements that the organisation wants to be certified toward.

Here follows an example that could be of support for arrangement of an IEA practice training. The practise training could be performed fully online if internet access is available, by hybrid shape or fully at location, in the following way:

**1. Elaboration of checklist**

A training session could consist of elaboration of a checklist where the participant gets training in how to create e.g., questions and how to collect necessary data at a coming audit. In this session it could be necessary to choose an auditee area to be practised upon. The chosen auditee area could be within the organisation, an organisation geographically nearby, or if performed by web, in any organisation with internet access. Documents about the auditee area and the organisations EMS together with knowledge about the physical areas at the auditee area could further be collected. Law and relevant regulations in the shape of e.g., global sustainability and climate directives, EU regulations and internal regulations in the organisation is further of importance for the participant to have access to and awareness of, for conducting the practice. The mentioned information is necessary for the participant to use for elaboration of the checklist (See Annex 2-3 for further information).

**2. Communication tools**

A training session about communication tools of usage in the IEA performance and



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knowledge about what could be called an ethical communication performance during IEAs would be favourable to perform for the participant for the ability to gain learning strategies about how to collect necessary data and keep a professional attitude throughout the audit. Learning material about performance of interviews could be used with help of literature and, if possible, by sharing of experience from persons that have experience of IEA performance. The session could for example involve role games where one part of the participatory group plays the IEA team members, and another group plays the auditee team (See Annex 8 for further suggestions).

**3. Real-case IEA**

When the participant has practised how to elaborate on a checklist and gotten familiar with communication tools in IEA the participant could be ready to perform an audit as if it was real by visiting the previously chosen auditee area within the organisation (see above). During the visit, the previously elaborated checklist with interview- and sample interview questions and a tour in the physical environment of the auditee area could be parts of the training event. Such an event could beneficially take place in an ISO 14001 or EMAS certified organisation. The real case training audit could involve all kinds of activities that belong to a so-called real IEA and therefore could practise of choosing interviewer and note writer, collectors of physical evidence by help of e.g., photos (e.g., a mobile phone) and sample interviews in the IEA team, be activities. Therefore, practise not only related to the practical tasks of the audit (see above) but further involving overall planning and performance activities, could be part. See section: *Areas involved in the IEA* above for further information.

**4. Elaboration of IEA report**

When the audit performance is finalised an analysis of collected data from the audit event could be practised in the shape of elaboration of an IEA report. This practice could further involve a training practice for the IEA team in team organisation. Participants could for example choose responsibility areas for each team member in the elaboration of the IEA report. Here analysis of omissions and types of omissions, notes and recommendations from collected data at previous training event (see above), analysis of collected data by elaboration into a bread text shaped concluded comment where each found omission and notice are explained in relation to compliance toward law or standard and internal requirements, and finally, management of an introductory section where facts about the auditee area, its participants and the reason for the audit is part together with a short conclusion of the audit in terms of outcome of the audit where also a visionary view on matters of need for improved legal and/or regulatory compliance, could be parts.

**5. Presentation of the IEA**

It could be an idea to finalise the IEA training practise with a presentation of the performed practise. It could e.g., involve a presentation about the overall experience of the IEA training together with a discussion about questions that have come up during the training day(s). A presentation of the previously elaborated IEA report (see above) result could also be



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presented by each of the participatory training teams and a check-up on possible correctness in managing the collected data by analysis into omissions, notices and recommendation could be part of the presentation. However, this part would need to involve a trainer which has previous knowledge and/or experience of IEA for possibility for adequate feedback on the IEA report.
Furter, a kind of oral examination in group discussion shape and/or a written examination could take part for assessing the understanding of the IEA of the participant. Focus could be on the most critical areas of knowledge involved in the IEA where questions from an overall perspective point at the understanding of the reasons for different practices within the IEA work. An example could be to ask a question about the reason for checking the Objectives- and action plan in the organisation during an audit instead of solely asking for example what the objectives- and action plan involve.

**6. Teaching pedagogics training (SYAT view)**

In the Synergy Audit project an IEA learning, teaching and training activity has been elaborated, piloted and finalised for participants in a multidisciplinary set of organisations throughout Europe. Among other areas beyond the above mentioned, the activity involves a teacher-training practice with knowledge about teaching pedagogics by usage of teaching methods. The teachers training part of the IEA training practice has as aim to increase the chance for the participant to learn methods for teaching further the content of the IEA training toward colleagues in the home organisation, after the completion of the IEA training practice. This possibility could create a bridge over possible resource hindrances within an organisation in assuring training for a group of IEA team members in the organisation when new IEA team members need to be educated in performing IEA work, within the organisation. Therefore, it could be beneficial to also involve training in tools and methods of usage for teaching when performing the IEA practice. This would however need a teacher with knowledge in teaching pedagogics and, if possible, also in environmental science.

**7. The importance of networking**

In Synergy Audit a network model has been established in which anyone who has taken part in the learning, teaching and training IEA practice (for example by reading and practising methods in the guideline), stakeholders and interests in EMS and anyone who has an interest in EMS and IEA is welcome to join. The Synergy Audit Network is an unrestricted access free of charge digital network for persons with the interest to join from anywhere on earth with English as language of usage.
After for example an ended IEA training practise (see above) a suggestion could be to collect the newly gained knowledge into a network which could consist of participants from the training practise and other persons from the home organisation of the participant, with interest in the subject. It is highly recommended that a practitioner after the end of an audit training has the chance to join a network because of the supporting role that the network can fill for a recently educated audit practitioner. Exchange of knowledge, ideas and experiences within EMS and IEA work and possibilities for collaboration between organisations involved in the network could be further part of the network's possibilities. The knowledge increase



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which is gained by networking will most surely increase the chance for the newly educated auditor to feel less alone and more supported within the new work area.
For auditors with previous years of experience of audit work it could be beneficial to take part in a network for the chance at gaining new experiences of IEA work from other organisations around the world along with sharing and exchanging experiences and take part in collaboration with an increased network of organisations globally.
For more information about the Synergy Audit Network and on how to join it see contact information at the end of the guideline.[164]

© Kristina Thelin., *A cow is contemplating over a human in Bökenäs*, Sweden 2015.

[164] The training practise examples have been elaborated based on previous experiences of the partner organisations and elaboration of teaching training activities in the *Synergy Audit Professional Partnership ERASMUS+ KA2 Project.* (2019-2022)

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## Annex 1: Example of parts in a SYAT Checklist

SYAT have made an example of areas that could be part of a checklist by integration of, beyond necessary legal and ISO 14001: 2015 or EMAS requirements, compliance within the EMS of the organisation toward the UN 17 SDGs, the Paris Agreement, the Energy Roadmap 2050 and toward Closing the loop - An EU action plan for the Circular Economy.
The parts of the checklist can be used as a guidance of relevant areas to address when preparing a checklist by any organisation that have or not yet have an EMS.

### Documentation

- If existing in the country of the organisation, national regulation about environmental audits in governmental agencies, and/or businesses and/or municipalities.
- If existing in the country of the organisation, the Environmental Code.
- REACH regulation (Registration, Evaluation, Authorisation and Restriction of Chemicals).
- Energy Roadmap 2050
- Closing the loop – An EU action plan for the Circular Economy
- The EU Waste Framework Directive
- The Paris Agreement
- Transforming our world: The 2030 agenda for sustainable development
- If the organisation is environmentally certified, the environmental standard requirements.
- Internal requirements of the organisation.

### Choosing questions in relation to work responsibility area

Examples of questions toward the management of the organisation:

- Does the organisation have an environmental management system?
- Does the organisation have a significant environmental impact?
- Has the organisation assessed environmental aspects?

### Choosing questions in relation to variety of documentation with example of interviews and sample interview with staff

Example of questions toward staff based on the EU Waste Framework Directive:

- Do you know where to throw old batteries after usage in the organisation?
- Do you know how to separate at source the material that you use in your work in the organisation?

Example of questions toward staff based on REACH:

- How do you manage chemicals in your work in the organisation?



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- From what information/instructions do you know how to manage chemicals in your work at the organisation?

Example of questions toward staff based on the ISO 14001 or EMAS standard:

- Can you explain what an environmental management system is and how you work toward it during your work in the organisation?
- Have you gotten any information about environmental management by the organisation in which you work?
- Which environmental and climate policies do you follow in your work in the organisation?
- How did you find out about the existing environmental policies at the organisation in which you work?

Example of questions based on internal regulations within an organisation (they can vary between organisations):

- Are you performing double-sided copying as a standard in your work at the organisation?
- What is the policy regarding electricity e.g., usage of lighting and computers at the organisation and what do you do to follow the policy?
- What is the policy regarding travel in the organisation and what do you do to follow the policy?

**Round tour in the physical area of the Internal Environmental Audit (IEA)**
Control of the physical area of the audit based on the documentation that is mentioned above, for example:

- Checking how it looks in the separation at source vessels, are there e.g., separation at source vessels in the organisation?, are they used in accordance with the regulations?, is there information available next to the vessels which tells how to use the vessels? and, are the vessels possible to use and not damaged?
- Which kinds of chemicals are available at the workplace? How are the chemicals managed?, and how are the chemicals stored?
- Is there hazardous waste available at the workplace? Due to which regulation(s) are they managed?, and how are they stored?
- Are the lamps on in locations where staff are not around or where there is enough outdoor light to not have to use indoor lighting?
- Is electrical technique turned on when it is not being used?



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## Annex 2: Example of questions in a SYAT Checklist

### Checklist Standard Questions, from direct and indirect environmental impact

SYAT have made an example of how questions in a checklist could look like by integration of, beyond necessary legal and ISO 14001 or EMAS requirements, compliance within the EMS of the organisation toward the UN 17 SDGs, the Paris Agreement, the Energy Roadmap 2050 and toward Closing the loop - An EU action plan for the Circular Economy.
The SYAT checklist can be off usage by any organisation that has or not yet have an EMS.

**Example**
Previous knowledge about the organisation for the IEA:

“
Organisation: One Planet.
About One Planet: Small NGO in the EU, no income related work, activities are performed from home environment, no employees, only activities within project budget, no membership fees, no environmental certification, have started environmental management system (hereinafter referred to as EMS) work within the organisation as if the organisation was environmentally certified by the EMAS standard.
”

**Questions to the management of the organisation:**

Does One Planet have an EMS?
(Question based on the ISO 14001 or EMAS standard requirements)

Does One Planet have a significant environmental impact?
If yes, how and why?
(Question based on the ISO 14001 or EMAS standard requirements)

Has an assessment of environmental aspects been performed in One Planet?
(Question based on the ISO 14001 or EMAS standard requirements)

Has an evaluation about the direct and the indirect environmental impact of the external and internal activities of One Planet been identified?
(Question based on the ISO 14001 or EMAS standard requirements)

Does One Planet have an environmental policy that goes in line with the vision to minimise environmental impact, based on the result of the assessment of positive and negative environmental aspects in One Planet?
(Question based on the ISO 14001 or EMAS standard requirements)

Does One Planet have an Environmental objectives and activity plan for the coming years whose content is based on the outcome of the assessment of positive and negative environmental aspects in One Planet?



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If yes, when was the plan updated the last time?
If yes, does the activity plan beyond other areas also point out budget and responsibility for each management of each of the activities in the plan?
(Question based on the ISO 14001 or EMAS standard requirements)

How does One Planet communicate the IEA internally in the organisation and externally toward the surrounding society?
(Question based on the ISO 14001 or EMAS standard requirements)

How does One Planet coordinate the waste plan?
(Question based on the EU Waste Framework Directive)

**Questions to anyone in the staff:**

What is your main work responsibility area within One Planet?

Have you received information about the EMS of One Planet?
If yes, have you received information about your role in the EMS?
(Question based on the ISO 14001 or EMAS standard requirements)

Do you know about the present Environmental objectives – and activity plan of One Planet?
If yes, do you know about your duties within the plan?
(Question based on the ISO 14001 or EMAS standard requirements)

Do you know if One Planet has an energy policy and other policies related to decrease of environmental impact within the organisation?
If yes, do you know where to find the information?
If yes, do you know what you shall do according to the policy(es)?
(Question based on the ISO 14001 or EMAS standard requirements)

Have you received information about the Environmental policy of One Planet?
If yes, do you know where to find it?
(Question based on the ISO 14001 or EMAS standard requirements)

Is there communication yearly within your department of One Planet where the activities at the department within the Environmental objectives and activity plan is presented?
(Question based on the ISO 14001 or EMAS standard requirements)

Does One Planet have an environmental coordinator/manager?
(Question based on the ISO 14001 or EMAS standard requirements)

Do you know about the UN 17 SDGs?
(The SYAT Method for IEA toward the UN 17 SDGs)

Do you know which goal(s) One Planet is committed to work toward?
(The SYAT Method for IEA toward the UN 17 SDGs)



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Do you know what you need to do within your work duties toward the UN 17 SDG goal(s) of One Planet?
(The SYAT Method for IEA toward the UN 17 SDGs)

Have you heard about the life cycle perspective in EMS?
If yes, do you know how it is fulfilled at present in One Planet?
(Question based on the ISO 14001 or EMAS standard requirements)

What do you do if you have a battery at work that has ended?
(Question based on the EU Waste Framework Directive)

Do you know where to find separating at source vessels in One Planet?
If yes, do you know how to use them?
(Question based on the EU Waste Framework Directive)

Do you know the policy for reuse of material at One Planet before recycling or destruction of material?
If yes, how do you use it in your daily workdays?
(Question based on the Waste hierarchy in the EU Waste Framework Directive)

If you are managing chemicals and/or other hazardous waste in your workdays in One Planet, do you know how to manage them during usage and during waste management?
If yes, how do you do?
(Question based on REACH and the EU Waste Framework Directive)

Have you heard about the concept of a circular economy within your work in One Planet?
If yes, do you know how to manage it within your work duties?
(The SYAT Method for IEA toward the Closing the loop – An EU action plan for the Circular Economy)

Do you know how One Planet works with and follows up on decreasing greenhouse gas emissions in the organisation, toward the surrounding society?
(The SYAT Method for IEA toward the Paris Agreement and EU Energy Roadmap 2050)

Have you heard about the concept of energy efficiency within your work in One Planet?
If yes, do you know how One Planet works toward it?
(The SYAT Method for IEA toward the EU Energy Roadmap 2050)

**Random sample questions toward staff:**

Do you know what an EMS is and how One Planet works with implementing the EMS?
(Question based on the ISO 14001 or EMAS standard requirements)

Do you know about the Environmental policy of One Planet and how to find information about it?
(Question based on the ISO 14001 or EMAS standard requirements)



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If you have a non-working battery in your work toward One Planet, do you know what to do with it?
(Question based on the ISO 14001 or EMAS standard requirements, REACH and the EU Waste Framework Directive)

Have you received information about the concept life cycle perspective within your work at One Planet?
(The SYAT Method for IEA toward Closing the loop – An EU action plan for the Circular Economy and on the ISO 14001 or EMAS standard requirements)

Have you received information about the UN 17 SDGs within your work at One Planet? If yes, do you know which of the SDGs that One Planet is working toward at present?
(The SYAT Method for IEA toward the UN 17 SDGs)



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## Annex 3: Example of an IEA SYAT Report

SYAT have elaborated on an example of how an Internal Environmental Audit (hereinafter referred to as IEA) Report (hereinafter referred to as IEA report) could look like by integration of, beyond necessary legal and ISO 14001 or EMAS standard requirements, compliance within the EMS of the organisation toward the UN 17 SDGs, the Paris Agreement, the Energy Roadmap 2050 and toward Closing the loop - An EU action plan for the Circular Economy.
The SYAT IEA can be performed by any organisation that has or yet not have an EMS.

“

**Internal Environmental Audit Report for One Planet**
Registration number: 2022-08-31-0001
Date: 2022-08-31

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One Planet and its EMS activity in short:
One Planet, based in Sweden and therefore part of the European Union, is a non-win driven NGO with a few volunteer members who take an active part in the organisation. The activity is based at least 80% toward the support of spreading of methods and creation of new methods in support of the climate and environment. The remaining activities sum up to support the health of humans and other living beings on Earth, eg., what is usually called nature. Project activity by economic support from funds covers the cost of the activities in the organisation. The focus is collaboration on a global scale with a multidisciplinary and interdisciplinary approach.
The organisation was established in 2017 and has been ongoing since then. It has a head, an economically responsible, a secretary and a communication manager.
In the end of 2020, the organisation decided to initiate an EMS within One Planet with the wish to make it come as close to an EMS of an environmentally certified organisation (ISO 14001 or EMAS) as possible.
The organisation therefore started to study EMS and IEA by joining university courses and reading free access literature from mainly academic journals and businesses in the field, about EMS and IEA.
Further, the organisation decided to, beyond the ISO 14001 or EMAS standard requirements,



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also try to involve the globally directed Paris Agreement due to inspiration from the global movement Fridays for Future, and furthermore the UN 17 SDGs as part of the EMS. Because of the location of One Planet within the EU the organisation decided to try to integrate the Energy Roadmap 2050 and the EU action plan for circular economy into the EMS of the organisation.
The secretary of the organisation was chosen to take part as the environmental coordinator for the organisation from the 1st of January 2021.

Supportive documents:
The Paris Agreement (Global)
Transforming our world: The 2030 agenda for sustainable development (Global)
The EU Eco-Management and Audit Scheme (Global)
The ISO 14001:2015 Standard (Global)
Energy Roadmap 2050 (EU)
Closing the loop – An EU action plan for the Circular Economy (EU)
The EU Waste Framework Directive (EU)
REACH regulation - Registration, Evaluation, Authorisation and Restriction of Chemicals (EU)
The Environmental Code (Sweden)
The Waste Ordinance (Sweden)
Regulation (2009:907) on environmental management in governmental agencies (Sweden)
The Environmental Investigation 2021 (One Planet, Internal EMS document)
The Environmental Policy 2021-2023 (One Planet, Internal EMS document)
The Environmental objectives – and activity plan 2021-2023 (One Planet internal EMS document, ISO 14001 or EMAS standard)
Travel and Meeting Policy (One Planet, Internal EMS document)
Energy Policy (One Planet, Internal EMS document)
Sustainability Policy (One Planet, Internal EMS document)
Materials Policy (One Planet, Internal EMS document)

IEA Scope:
The scope of the IEA is to check the EMS activity during the first year of working toward the environmental management system in One Planet along with the management of the activity areas in relation to the requirements.

Reason for the IEA:
The reason to perform an IEA of One Planet is based on checking the requirements toward ISO 14001 or The EU Eco-Management and Audit Scheme (EMAS) together with further requirements for One Planet (see the above list: Supportive documents).

IEA performance:
The IEA took place during 1 full day (8 hours) on the 1st of July 2022 by a web meeting. The



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reason for the web meeting is due to meeting restrictions because of a global pandemic. Further, One Planet does not have an official office and therefore most activities take place in a home office environment.
During the IEA day individual interviews have taken place together with filming of the home office environment. Random samples and therefore unprepared interviews have also taken place during the day with help of a mobile phone and the web meeting room.
Previous preparations for the IEA have involved document access from One planet toward the IEA team by email and involve the following documents:

The Environmental Investigation 2021 (Internal EMS document)
The Environmental Policy 2021-2023 (Internal EMS document)
The Environmental objectives – and activity plan 2021-2023 (Internal EMS document)
Travel and Meeting Policy (Internal EMS document)
Energy Policy (Internal EMS document)
Sustainability Policy (Internal EMS document)
Materials Policy (Internal EMS document)
The One Planet Annual Report 2021
The One Planet Yearly Report 2021
The One Planet Financial Statement 2021
The One Planet Yearly Meeting 2021

**IEA Result**

| | |
|---|---|
| Number of bigger omissions | 18 |
| Number of smaller omissions | 2 |
| Number of notes | 1 |
| Number of recommendations | 5 |

The full list of omissions is found in Annex 1.
The full list of recommendations is found at the end of the IEA report One Planet.

**Comments and conclusion**
During the first performed internal environmental audit of One Planet it can be concluded that the organisation has knowledge about the environmental field. However, there are knowledge fields both concerning how to integrate an environmental management system organisationally and on how to perform the tasks involved in the environmental management system that needs improvement.
The following areas of needed improvement are organisation, communication, documentation, and knowledge.



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The Environmental aspect assessment was performed during the year 2021 and therefore follows the ISO 14001 or EMAS standard requirements. However, only negative environmental aspects have been identified in the investigation and it does not involve mapping of necessary environmental legal requirements. A list of legal requirements is therefore also unavailable.
Also, a decision on criteria for assessment on the environmental aspect's significance is missing.
Finally, routines for identifying and managing possible emergencies and accidents which could have an impact on the environment are missing in the investigation.
In accordance with the ISO 14001 or EMAS standard requirement the environmental aspect assessment should involve both negative and positive environmental aspects together with a list of legal requirements which are linked to the environmental impact assessed by the investigation and should be performed for possibility of law fulfilment toward environmental requirements. Furthermore, due to the ISO 14001 or EMAS requirements, criteria for how the judgement of the significance of the environmental aspects should be performed together with routines for assessment and handling of possible emergencies and accidents toward the environment should be present.

The environmental policy was made during the year 2021 and therefore follows the ISO 14001 or EMAS standard requirements. However, it does not involve a commitment of undertaking pertinent law and other requirements linked to the activities and the environmental aspects in the organisation.
Further, the policy is not communicated to all members of the organisation and is not communicated externally toward the surrounding society.
In accordance with the ISO 14001 or EMAS standard requirement the environmental policy should involve legal requirements related to the environmental aspects and it should be based on the outcome of the environmental aspect assessment of the organisation. Furthermore, due to the ISO 14001 or EMAS requirements the environmental policy should be communicated both internally and externally (EMAS) toward the surrounding society.

The negative environmental aspects have been chosen for the organisation; however, they have not been assessed in a scale which maps most negative environmental impact.
Therefore, analysis of the aspects related toward environmental negative potential and legal requirements are missing.
Also, elaboration, implementation and upholding of routines to identify the environmental aspects caused by the organisation and the environmental aspects that can be affected by the environmental management system is missing.
Thereby, up to date information in documented shape is further missing.
In accordance with the ISO 14001 or EMAS standard requirement an assessment of most negative environmental impact of the environmental aspects should be performed, together with assessment of legal requirements related toward the environmental aspects. Further, the ISO 14001 or EMAS standard requires routines that assess the activities, products and



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services which carry the causes of the environmental aspects. Also, this information should be documented and kept up to date in the organisation in accordance with the requirements.

The environmental objectives and activity plan performed during the last year 2021 involve a three-year plan, and therefore follow the ISO 14001 or EMAS standard requirements.
Further, the plan goes in line with the environmental policy and involves the current environmental aspects for the organisation, which goes in line with the ISO 14001 or EMAS standard requirements.
However, the environmental aspects have not been assessed toward its significance and therefore do not follow the ISO 14001 or EMAS standard requirements.
The objectives are both of general and detailed kind in line with the ISO 14001 or EMAS standard requirements, nevertheless measurability and commitment toward legal requirements are unavailable together with commitment toward constant improvement.

The activity plan is elaborated on, implemented and maintained; however, it does not involve information about resources and time-plan for fulfilment of the activities linked to the objectives.
In accordance with the ISO 14001 or EMAS standard requirement objectives in support of the environmental management system should have a basis in the environmental policy together with significant environmental aspects of the environmental investigation.
Further, in accordance with the ISO 14001 or EMAS standard requirement the objectives should involve measurability and links toward legal requirements together with a constant improvement of the environmental management system.
Finally, the ISO 14001 or EMAS standard requires that a time-plan for goal fulfilment and resources for its management are specified.

Routines for management of the environmental management system are not available in the organisation and therefore goes against the ISO 14001 or EMAS standard requirements.
In accordance with the ISO 14001 or EMAS standard requirement communication about activity toward law fulfilment should be performed and in accordance with the EU waste framework directive organisations in the EU should follow the waste hierarchy.
In compliance with the ISO 14001 or EMAS standard requirement routines in support of the environmental management system and therefore in support of legal compliance, should be available and communication toward the members of the organisation.

The organisation has made sustainability- and environmental policies to support a decrease of negative environmental impact involving a travel and meeting policy, an energy policy, a sustainability policy and a materials policy. This is ambitious and shows an interest in limiting negative environmental impact on activity level within the organisation.
However, there is no direct link between the content of the policies and the overall process of the environmental management system which therefore could make the activity toward the policies become confusing and non-workable toward the support of the overall management



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system.
Furthermore, the members of the organisation do not know that the policies are available and therefore lack knowledge about activities for how to follow them.
In accordance with the ISO 14001 or EMAS standard requirement routines should carry content which goes in line with an overall support of the environmental management process and communication about activities within the environmental management system should be offered to each member of the organisation.
The members of the organisation have heard about the UN 17 sustainable development goals and started an assessment to choose goals that could be suitable as goals in the overall environmental management system activities. So far there is no goal chosen for the organisation to assess its effort toward and therefore the organisation does not have any objectives and activity plan for it. In accordance with the SYAT method and therefore with transforming our world: The 2030 agenda for sustainable development organisations should work toward goal fulfilment.

Climate impact by greenhouse gas emissions has not been assessed as part of the environmental management system with focus on impact made by the activities of the organisation. In accordance with the SYAT method and therefore with the Paris Agreement climate impact should be assessed and decreased in organisations.

Also, every member of the organisation is performing separation at source when handling waste articles and knows how to manage both non-hazardous and hazardous waste. However, knowledge about waste management has not been given by One Planet and an overall knowledge about how to follow the waste hierarchy is not present in the organisation. In accordance with the ISO 14001 or the EMAS standard requirement communication about activity toward law fulfilment should be performed and in accordance with the EU waste framework directive organisations should follow the waste hierarchy.

Finally, the organisation has as its aim to conduct an environmental management system in compliance with an ISO 14001 or EMAS standard. For the chance to do so all requirements involved in such standards need to be complied with. Therefore, the IEA team will come back to the organisation in one year from now to evaluate the compliance of the environmental management system in the organisation toward the environmental standards.

**Recommendations**
The members of the organisation have a strong wish to perform toward the decrease of most negative environmental impact in the activities of the organisation. To do so it is suggested that all members of the organisation receive necessary knowledge to prepare, build up and manage an environmental management system in accordance with the ISO 14001 or EMAS standard.

The main documents and concepts that contribute to the foundation of an environmental



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management system in compliance with the ISO 14001 or EMAS standard are not in line with the requirements of the ISO 14001 or EMAS standard in the organisation. It is suggested that the members after having had the chance for knowledge increase about the ISO 14001 or EMAS standard requirements go through the following documents and improve them in line with the ISO 14001 or EMAS standard requirements, by starting with the environmental investigation with aspect assessment, the environmental policy, the environmental impact assessment, routines for the environmental management system and the environmental objectives and activity plan.

Knowledge about communication is part of the expertise within the member group of the organisation and could be used with strategic gain for the activities involved in the environmental management system. It is suggested that a communication plan of the EMS with focus at the internal and the external audience of the organisation is prepared and implemented within the environmental management system of the organisation, in accordance with the needs of the ISO 14001 or EMAS standard.

Knowledge about the UN 17 sustainable development goals is of necessity for the chance to assess and work toward goal fulfilment in the organisation. It is suggested that members of the organisation get increased knowledge about the UN 17 sustainable development goals to thereby have the chance to assess objectives performance toward one or more goals within the activities in the organisation.

Knowledge about the climate and on how to assess negative climatic impact is of necessity for having the chance to assess possible changes within the activities in the organisation to thereby decrease most negative climatic impact from greenhouse gas emissions generated by the activities in the organisation. Therefore, it is suggested that members of the organisation get the necessary knowledge to make a climate assessment and further, elaborate on goals/objectives toward decrease of climate impact in the activities of the organisation.

Signature of the environmental audit leader

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**Annex 1: List of omissions**

Type: B = Big omission, S = Small omission, N = Note

| Requirement element | Omission | Type | Responsible department | Omission management |
|---|---|---|---|---|
| The EU Eco-Management and Audit Scheme (EMAS) and ISO 14001:2015 | The environmental investigation does not involve positive environmental aspects | B | Management, One Planet | The environmental investigation needs to be updated with positive environmental aspects latest in 6 months from now |
| The EU Eco-Management and Audit Scheme (EMAS) and ISO 14001:2015 | The environmental investigation does not involve legal requirements linked to the environmental aspects | B | Management, One Planet | The environmental investigation needs to be updated with legal requirements linked to the environmental aspects latest in 6 months from now |
| The EU Eco-Management and Audit Scheme (EMAS) and ISO 14001:2015 | The EMS does not involve a law list | B | Management, One Planet | The EMS needs to be updated with a law list latest in 7 months from now |
| The EU Eco-Management and Audit Scheme (EMAS) and ISO 14001:2015 | Criteria for assessment on the environmental aspect's significance is missing in the environmental investigation | B | Management, One Planet | The environmental investigation needs to be updated with criteria for assessment on the environmental aspect's significance latest in 6 months from now |



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| | | | | |
|---|---|---|---|---|
| The EU Eco-Management and Audit Scheme (EMAS) and ISO 14001:2015 | Routines for identifying and handling of possible emergency and accidents which could have impact on humans and/or the environment are missing in the environmental investigation | B | Management, One Planet | The environmental investigation needs to be updated with routines for identifying and handling of possible emergency and accidents which could have impact on humans and/or the environment latest in 7 months from now |
| The EU Eco-Management and Audit Scheme (EMAS) and ISO 14001:2015 | The environmental policy does not involve a commitment of undertaking pertinent law and other requirements linked to the activities and the environmental aspects | B | Management, One Planet | The environmental policy investigation needs to be updated with commitment of undertaking pertinent law and other requirements linked to the activities and the environmental aspects latest in 8 months from now |
| The EU Eco-Management and Audit Scheme (EMAS) and ISO 14001:2015 | The environmental policy is not communicated to all members of the organisation and is not communicated externally toward the surrounding society (EMAS) | B | Management, One Planet | The environmental policy needs to be communicated to all members of the organisation and externally toward the surrounding society latest in 10 months from now |



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| | | | | |
|---|---|---|---|---|
| The EU Eco-Management and Audit Scheme (EMAS) and ISO 14001:2015 | The environmental aspects have not been assessed in a scale which map most negative environmental impact | B | Management, One Planet | The environmental aspects need to be assessed in a scale which map most negative environmental impact latest in 7 months from now |
| The EU Eco-Management and Audit Scheme (EMAS) and ISO 14001:2015 | Routines to identify the environmental aspects caused by the organisation and the environmental aspects that can be affected by the EMS is missing | B | Management, One Planet | Routines to identify the environmental aspects caused by the organisation and the environmental aspects that can be affected by the EMS need to be made latest in 10 months from now |
| The EU Eco-Management and Audit Scheme (EMAS) and ISO 14001:2015 | The environmental objectives do not involve environmental aspects that have been assessed toward its significance | B | Management, One Planet | The environmental objectives need to be updated with environmental aspects that have been assessed toward its significance latest in 9 months from now |
| The EU Eco-Management and Audit Scheme (EMAS) and ISO 14001:2015 | The environmental objectives lack of measurability and commitment toward legal requirements | B | Management, One Planet | The environmental objectives need to be updated with measurability and commitment toward legal requirements latest in 9 months from now |
| The EU Eco-Management and Audit Scheme | The environmental objectives do not | B | Management, One Planet | The environmental objectives need to |



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| | | | | |
|---|---|---|---|---|
| (EMAS) and ISO 14001:2015 | involve commitment toward constant improvement | | | be updated with commitment toward constant improvement latest in 9 months from now |
| The EU Eco-Management and Audit Scheme (EMAS) and ISO 14001:2015 | The activity plan does not involve information about resources and time-plan for fulfilment of the objectives | B | Management, One Planet | The activity plan needs to be updated with information about resources and time-plan for fulfilment of the objectives latest in 9 months from now |
| The EU Eco-Management and Audit Scheme (EMAS) and ISO 14001:2015 | Routines for management is not available in the EMS | B | Management, One Planet | Routines for management needs to be made latest 10 months from now |
| The EU Eco-Management and Audit Scheme (EMAS) and ISO 14001:2015 | An EMS organisation is missing | B | Management, One Planet | An EMS organisation needs to be made latest 1 month from now |
| Transforming our world: The 2030 agenda for sustainable development | The organisation does not have any goal and activity plan for it | B | Management, One Planet | A goal and activity plan for managing objective(s) for minimum 1 of the UN 17 SDGs needs to be made latest 10 month from now |
| The Paris Agreement | Climate impact have not been assessed as part of the EMS | B | Management, One Planet | A climate impact assessment of the environmental aspects needs to be made latest 7 month from now |
| The EU waste framework directive | Knowledge about how to follow the waste | B | Management, One Planet | Knowledge about how to follow the waste hierarchy needs to be |



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| | | | | |
|---|---|---|---|---|
| | hierarchy is missing | | | communicated toward all members of the organisation latest 1 month from now |
| The travel and meeting policy, the energy policy, the sustainability policy and the materials policy | Knowledge about the sustainability policies is missing | S | Management, One Planet | Knowledge about the sustainability policies in the organisation needs to be communicated toward all members of the organisation latest 1 month from now |
| The travel and meeting policy, the energy policy, the sustainability policy and the materials policy | The policy documents in the organisation are not followed | S | Management, One Planet | Knowledge about how to follow the policies in the organisation needs to be communicated toward all members of the organisation latest 1 month from now |
| The energy policy | Energy waste might happen regularly due to missing information | N | Management, One Planet | Knowledge about the energy policy needs to be communicated toward all members of the organisation latest 1 month from now |

”

**End of the Annex 3 example of an IEA SYAT Report.**



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## Annex 4: Example of a SYAT Omission Management Plan

SYAT have elaborated on an example of how an omission management plan could look like after performance of the SYAT audit. See the result of the audit in the IEA SYAT Report above in Annex 3, which the following omission management plan is elaborated from, and which also has a column to the right in the IEA SYAT Report. The method for the omission management plan could be used by organisations that do not have a digital omission management system for following up omission management from IEAs.

“

### SYAT Omission Management Plan

| | |
|---|---|
| **Omission area: Environmental investigation/environmental aspect assessment** | The environmental investigation does not involve:<br>- positive environmental aspects<br>- legal requirements linked to the environmental aspects<br>- criteria for assessment on the environmental aspect’s significance<br>- routines for identifying and handling of possible emergency and accidents which could have impact on the environment<br>- assessment which map most negative environmental impact<br>- routines to identify the environmental aspects caused by the organisation and the environmental aspects that can be affected by the EMS |
| **Timeframe** | 1st September 2022 – 1st April 2023 |
| **Responsible** | Management, One Planet |
| **Managed the omission area** | Environmental coordinator, One Planet |
| **Location** | Management, One Planet |
| **Activity** | A renewed version of the environmental investigation needs to be made which involves an assessment of positive environmental aspects, legal requirements linked to the environmental aspects found by the investigation and criteria for assessment on the environmental aspect’s significance, which have been found in the investigation. Finally, routines for identifying and managing possible emergencies and accidents which could have an impact on humans and/or the environment have to be mapped and assessed. |



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| | |
|---|---|
| **Budgeted time** | 3,25 months half time work |

| | |
|---|---|
| **Omission area: Environmental policy** | The environmental policy does not involve:<br>- commitment of undertaking pertinent law and other requirements linked to the activities and the environmental aspects |
| **Timeframe** | 1st April – 10th April 2023 |
| **Responsible** | Management, One Planet |
| **Managed the omission area** | Environmental coordinator, One Planet |
| **Location** | Management, One Planet |
| **Activity** | The environmental policy needs to involve information about law compliance and compliance toward required activities in the EMS. |
| **Budgeted time** | 2 hours |

| | |
|---|---|
| **Omission area: Environmental objectives and activity plan** | The environmental objectives and activity plan does not involve:<br>- environmental aspects that have been assessed toward its significance<br>- measurability and commitment toward legal requirements<br>- commitment toward constant improvement<br>- information about resources and time-plan for fulfilment of activities for each objective |
| **Timeframe** | 11th April – 11th May 2023 |
| **Responsible** | Management, One Planet |
| **Managed the omission area** | Environmental coordinator, One Planet |
| **Location** | Management, One Planet |
| **Activity** | The environmental objectives and activity plan needs to elaborate on objectives and activities from previously assessed environmental aspects in the environmental investigation. Further, measurability and commitment toward legal requirements and commitment toward constant improvement needs to be part of the objectives and activity plan. Finally, information about resources and time-plan for fulfilment of the objectives needs to be part of the document. |
| **Budgeted time** | 1 month half time work |



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| | |
|---|---|
| **Omission area: The EMS** | The EMS does not involve:<br>- a law list derived from the environmental investigation<br>- routines for management of the EMS<br>- an EMS organisation<br>- climate impact assessed as part of the EMS<br>- objectives and activity plan for management of minimum 1 of the UN 17 SDGs<br>- knowledge about how to follow the waste hierarchy<br>- knowledge about the sustainability policies |
| **Timeframe** | 1st September 2022 – 15th of June 2023 |
| **Responsible** | Management, One Planet |
| **Managed the omission area** | Environmental coordinator, One Planet |
| **Location** | Management, One Planet |
| **Activity** | The environmental management system needs to elaborate on a law list derived from the environmental investigation. Further, the EMS needs to elaborate on and implement routines for management of the requirements for the EMS and an organisation of the EMS in an overall organisational, and detailed perspective where roles and responsibility is clarified. Furthermore, climate impact from the environmental investigation assessment needs to be made and documented in a quantitative manner which secures the possibility for yearly comparative analysis. Also, an objectives and activity plan for management of minimum 1 of the UN 17 SDGs for the organisation needs to be made and implemented.<br>Finally, knowledge about the EMS in general and of its obligations in the shape of e.g., policy documents and legal requirements needs to be communicated to the members of the organisation. |
| **Budgeted time** | 5 months half time work |

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## Annex 5: SYAT Training Method for IEA toward the UN 17 SDGs

This method has been elaborated by SYAT for a chance to integrate compliance toward the UN 17 SDGs into the EMS of the organisation. Also, organisations who do not have an EMS yet can perform this method within the management of the organisation.
Here follows an example on how the UN 17 SDGs could be integrated and compiled toward in the organisation.

### Step 1. Mapping of suitable goal(s) for the organisation to target.

Task 1: Map the goal(s) that could be most relevant to work toward in the organisation. To do that, use the facts about the organisation and its objectives, outputs, processes and whether it has or is preparing to have an EMS.

Example: In the following example One Planet, a small NGO has been used to show how this can be made.

“

About One Planet:
One Planet, based in Sweden and therefore within the European Union, is a non-win driven NGO with volunteer members who take an active part in the organisation. The activity is based at least 80% toward the support of spreading already made methods and creating new methods in support of the climate and environment and the rest of the activities sums up to support for health for humans and/or the environment. Project activity by economic support from funds covers the cost of the activities in the organisation. The focus is collaboration on a global scale with a multidisciplinary and interdisciplinary approach.
The organisation was established in 2017 and has been ongoing since then. It has a head, responsible for the economy, a secretary and a communication manager.
In the end of 2020, the organisation decided to integrate an EMS within One Planet with the wish to make it come as close to an EMS of an environmentally certified organisation (ISO 14001 or EMAS) as possible.
The organisation therefore started to study EMS and IEA by joining university courses and reading free access literature from mainly academic journals and business organisations within the area, about EMS and IEA.
Further, the organisation decided to also try to involve the globally directed Paris Agreement due to inspiration from the global movement Fridays for Future and the UN 17 SDGs as part of the EMS. Because of the location of One Planet within the EU the organisation furthermore decided to try to integrate the Energy Roadmap 2050 and the EU action plan for circular economy into the EMS.
The secretary was chosen to take part as the environmental coordinator for the organisation from the 1st of January 2021.

”



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One Planet has as its main objective, processes and output accomplishment to target goal 13 Climate Action. Among the target areas of goal 13 target *13.2 Integrate climate change measures into policies and planning* and target *13.3 Build knowledge and capacity to meet climate change* seem closest to the activity span in the organisation.

**Step 2. Assessment of specific goal(s) and activity plan for reaching the goal(s)**

Task 2: Assess specific goal(s) from the chosen SDG goal(s). If the organisation in which the goal(s) are planned to be implemented already has an EMS it is beneficial to integrate the SDG goal(s) in the Environmental objectives and activity plan of the EMS.

Example: One Planet already has an EMS and therefore the following goals/objectives and activities have been integrated into the three-year Environmental objectives and activity plan of the EMS.

Chosen objectives of One Planet

**Objective 1**: Reused material should be the first choice to consider as a product if products are needed in the organisation. If there is no reusable choice the products should be eco-friendly and recycled.

**Objective 2**: Most of the energy usage should consist of energy from renewable sources and the energy usage should lower with 10% within the coming three years.

**Objective 3**: Travel free events should always be considered the main choice when planning for project events. The greenhouse gas emissions from travel should decrease by 50% with the last year before Covid19 (2019) as baseline from which to decrease the emissions within the coming three years.

**Objective 4**: Projects should always involve either spreading of technical solutions for decreased impact of global warming and/or educative tools about climate change and on how to decrease global warming.

**Step 3. Assessment of specific activity plan for reaching the goal(s)**

Task 3: Elaborate on activities for reaching the objective(s). If the organisation which elaborates on activities for reaching the objective(s) already has an EMS it is beneficial to integrate the activities in the Environmental objectives and activity plan of the EMS.

Example: Activities to manage objective 1 of One Planet:

- 0% usage and consumption of disposable items.
- 0% waste of functioning objects.



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- When buying an object reused material should be the first choice and if it cannot be found the material needs to live up to a minimum of a recycled and eco-friendly material to be able to be considered buying and using.
- 100% of used material that can no longer be used needs to be recycled.

Responsible for the objective and activities: Everyone in One Planet.
Follow-up activity: Calculation on amount of bought reused, recycled and eco-friendly, and new objects in the organisation in comparison to the baseline year 2020.
Budget for managing the objective and activities: Project activity budget.
Resources for managing the objective and activities: Activity from members of One Planet.
Timeframe: 2022-2024.

Example: Activities to manage objective 2 of One Planet:

- The energy companies for usage of energy in the organisation needs to be checked considering the energy mix and companies that do not have minimum 80% of energy from renewable energy sources needs to be changed toward companies that can fulfil a minimum 80% of energy from renewable energy sources.
- All electric tools that are not used should be turned off when not in use.
- All lamps in rooms that are not used should be turned off when not in use and when there is enough outdoor light to light up the rooms.
- In hot temperatures blankets and other suitable materials should be used to cover heated areas in the room for cooling effects before usage of possible air conditioners starts.

Responsible for the objective and activities: Everyone in One Planet.
Follow-up activity: Calculation on decrease of energy usage in the organisation in comparison to the baseline year 2020.
Budget for managing the objective and activities: Project activity budget.
Resources for managing the objective and activities: Activity from members of One Planet.
Timeframe: 2022-2024.

Example: Activities to manage objective 3 of One Planet:

- Within all planned activity travel free options should always be considered the main priority before activities that need travel.
- If travel is of necessity travel options that can safeguard a safe, non-time consuming and as low as possible increase of greenhouse gas emissions should be considered.

Responsible for the objective and activities: Everyone in One Planet.
Follow-up activity: Calculating the effective change in $CO_2e$ by life cycle assessment from



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previous baseline calculation of year 2019 (the year before the Covid19 pandemics).
Budget for managing the objective and activities: Project activity budget.
Resources for managing the objective and activities: Activity from members of One Planet.
Timeframe: 2022-2024.

Example: Activities to manage objective 4 of One Planet:

- In each of the projects/activities that the organisation will be involved in either spreading of technical solutions for decreased impact of global warming and/or educative tools about climate change and on how to decrease global warming should be part of the project activity.
- Minimum 1 project proposal shall be elaborated by the organisation with the main objective to either spread technical solutions for decreased impact of global warming and/or elaborate on/spread educational tools about climate change and on how to decrease global warming.

Responsible for the objective and activities: Everyone on One Planet.
Follow-up activity: Check-up on amounts of projects/activities of the organisation in relation to amounts of projects/activities which consider effective decrease of global warming and/or spreading of educative tools about climate change and on how to decrease global warming.
Budget for managing the objective and activities: Project activity budget.
Resources for managing the objective and activities: Activity from members of One Planet.
Timeframe: 2022-2024.

**Step 4. Internal environmental audit toward the SDG objectives and activities**

Task 4: Elaborate on questions that might need to be asked during an audit to be able to assess possible fulfilment toward the objective(s) of the organisation.

Example of questions that could be asked One Planet during a coming IEA:

1. Have you heard about the UN 17 SDGs?

2. Do you know which UN 17 SDG(s) that the organisation that you work in have assessed as necessary to work toward?
If yes, which are the UN 17 SDG(s)?

3. Do you know which objective(s) from the chosen UN 17 SDG(s) that the organisation that you work in have assessed as necessary to work toward?
If yes, which are the objective(s)?



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4. Do you know the activity(is) that the organisation that you work in have assessed as necessary to work toward?
If yes, which are the activities?

5. When an object is breaking at work and you need to buy in a new object, what do you do?

6. What do you do to reduce the usage of energy at work?

7. How do you promote reduction of global warming in your project activities?

8. When you are planning for a coming event in the organisation what do you do when you for example have gotten a suggestion to plan for a coming trip?

9. Are there documents covering a baseline calculation on the amount of reused, recycled, eco-friendly and new objects that are not bought reused in the organisation for the year 2020?
If yes, could you show the information?

10. Are there documents covering a baseline calculation on energy usage in the organisation for the year 2020?
If yes, could you show the information?

11. Is there documents covering a baseline calculation on $CO_2e$ from travels in the organisation for the year 2019?
If yes, could you show the information?

12. Are there documents covering a baseline calculation on the number of events and/or activities with the possibility to decrease global warming and/or educate about climate change in the project(s) of the organisation for the year 2020?
If yes, could you show the information?

13. Is there yearly follow up documentation on materials that are bought, energy usage, travels and focus of activities within project work(s) in the organisation?
If yes, could you show the information?

**Step 5: Assessment of omissions from an IEA of the SDGs**

Task 5: Analyse the possible omissions and whether they should have big, small or notice status in a coming IEA report.

Examples of possible omissions from an IEA on One Planet:

2 big omissions.
Omission 1: There is no documentation about the energy usage for the year 2020 for the organisation.
Omission 2: Tools of usage for reduced global warming are not promoted in project activity.



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**Step 6: Assessment of recommended omission management**

Task 6: Analyse possible needed omission management recommendations for a coming IEA report.

Examples of possible recommendations based on the 2 omissions from the IEA of One Planet:

Type: B = Big omission, S = Small omission, N = Note

| Requirement element | Omission | Type | Responsible department | Omission management |
|---|---|---|---|---|
| Transforming our world: The 2030 agenda for sustainable development | There is no documentation about the energy usage for year 2020 for the organisation | B | Management, One Planet | An assessment of the energy usage in the organisation for year 2020 needs to be made at latest in 2 months from now |
| Transforming our world: The 2030 agenda for sustainable development | Tools of usage for reduced global warming is not promoted in project activity | B | Management, One Planet | A routine involving instruments for elaboration of tools for reduced global warming in each of the coming projects of the organisation needs to be made at latest within 2 weeks from now |

**Step 7. Elaboration of an IEA report**

Task 7: Fit the audit of the SDGs into the already prepared IEA report of the organisation, in case such a report already exists. Otherwise, elaborate on a report for the SDGs (see Annex 3 for further information).

Example from the IEA report toward One Planet (see Annex 3 for further information):



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“ Energy usage has not been assessed as part of the environmental management system with focus at total usage for the baseline year 2020. In accordance with the internal requirements for the 13th of the UN 1 SDGs total energy usage should be assessed for the year 2020, for the ability to assess the coming required decrease of energy usage. “

“ Tools for reduction of global warming are not part of each project of the organisation. In accordance with the internal requirements for the 13th of the UN 17 SDGs each project that the organisation takes part in should involve activity related toward the possibility for reduced global warming. “

**Step 8. Elaboration of an omission management plan for the SDGs**

Task 8: Fit the SDGs into the already prepared omission management plan of the EMS of the organisation, , in case such a report already exists. Otherwise, elaborate on a plan for the SDGs (see Annex 4 for further information).

Example: Example from the Omission management plan of One Planet (see Annex 4 for further information):

| | |
|---|---|
| **Omission area: Environmental investigation/environmental aspect assessment** | The environmental investigation does not involve:<br>- baseline data about total energy usage for year 2020 in the organisation |
| **Timeframe** | 1st September – 1st November 2022 |
| **Responsible** | Management, One Planet |
| **Managed the omission area** | Environmental coordinator, One Planet |
| **Location** | Management, One Planet |
| **Activity** | The environmental investigation needs to be updated with an assessment of the total energy usage in the organisation for the year 2020. |
| **Budgeted time** | 1-week full time work |

| | |
|---|---|
| **Omission area: The EMS** | The EMS does not involve:<br>- routines for management of goal 13 of the UN 17 SDGs |
| **Timeframe** | 1st September – 15th September 2022 |
| **Responsible** | Management, One Planet |
| **Managed the omission area** | Environmental coordinator, One Planet |
| **Location** | Management, One Planet |
| **Activity** | The environmental management system needs to elaborate on routines for |



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| | |
|---|---|
| | management of goal 13 of the UN 17 SDGs, which involve a plan for how to incorporate knowledge about instruments for reduction of global warming in each of the coming projects of the organisation. |
| **Budgeted time** | 2 days half time work |



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**Annex 6: SYAT Training Method for IEA toward the waste hierarchy**

This method has been made by SYAT for a chance to integrate compliance toward the Waste hierarchy in the EU Waste Framework Directive into the EMS of the organisation. Also, organisations who do not have an EMS yet can perform this method within the waste management of the organisation.
Here follows an example on how the Waste hierarchy could be integrated and compiled toward in organisations.

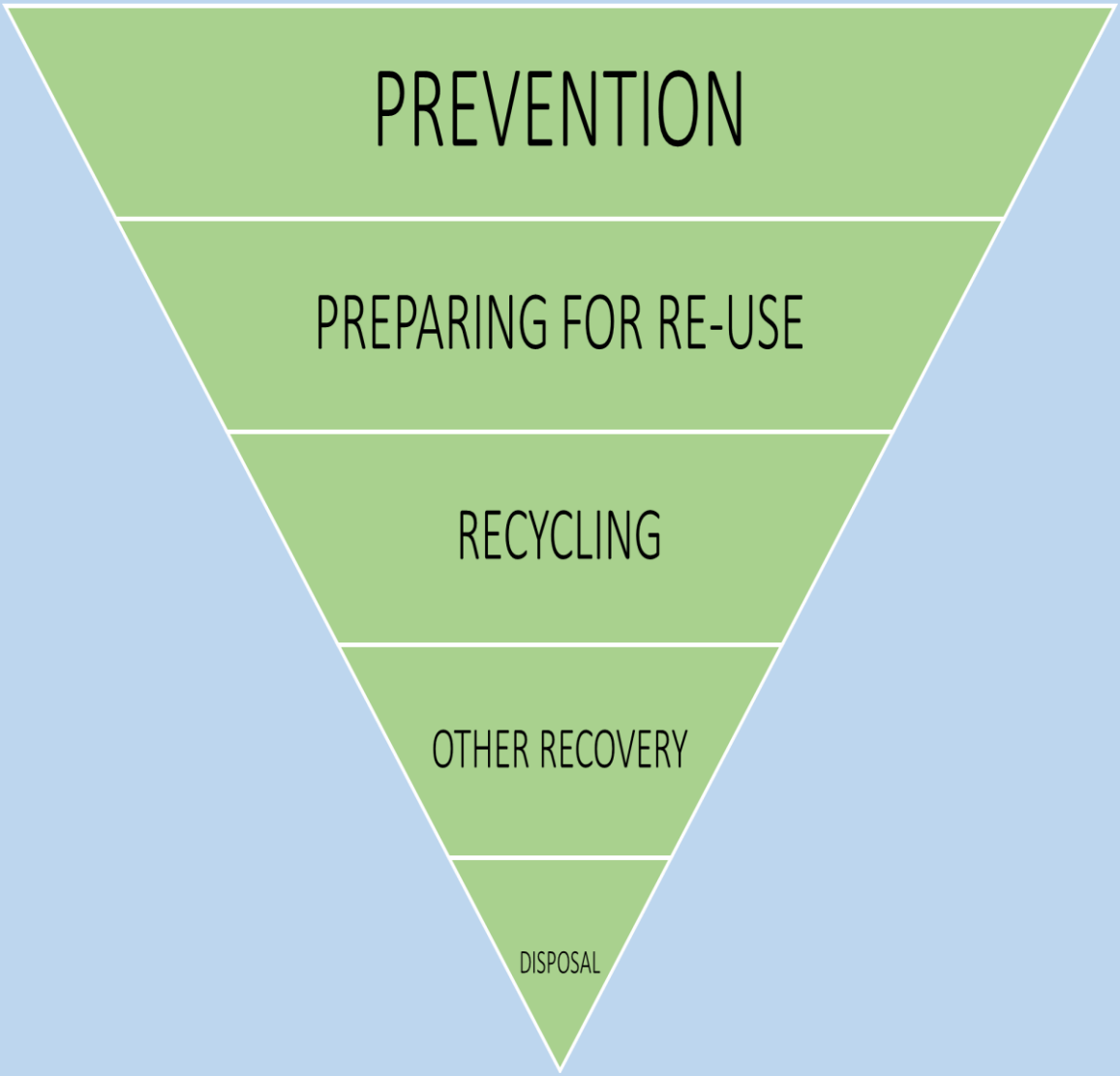


Figure 3: The Waste Hierarchy in the EU Waste Framework Directive, made by One Planet, feel free to use and reuse the figure.



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**Step 1: Investigation of material usage and waste management**

1. Create a list of the materials that are mentioned and given the status of most negative environmental impact from assessment of environmental aspects in the organisation. If the organisation has not made an approximation on most negative environmental impact from materials, instead make a list of the 3-5 materials that are mostly used in the organisation.

2. After having chosen 3-5 materials e.g., plastic, paper, paper, steel, metal, electronics, wood, chemicals (e.g., in cleaning powder), food leftovers and/or anything else, assess how the outcome for the material after end usage is performed in the organisation by choosing from the following categories in the waste hierarchy:

   1. Prevention of usage
   2. Preparing for reuse
   3. Recycling
   4. Recovery
   5. Disposal

3. Study the list and see if there is any material in the above list that could take a step up on the list, within the present waste management in the organisation.

   Example: " An assessment has been made which shows that the organisation is throwing away food leftovers in the lunchroom in a plastic bag, and that the food leftovers therefore daily is treated as residual waste, in the organisation.
   Could changes in food usage and possible food waste be performed in the organisation so that possible, if any, food leftovers could be treated in another way higher up on the waste hierarchy than becoming residual waste? "

**Step 2: Assessment of possible waste management changes**

1. Make a list of the found and chosen materials in the organisation and see if and how they could take a step up on the waste hierarchy within a renewed waste management plan. If yes, prepare for a renewed waste management plan (see further information below).

2. When the renewed list of materials is created with a possible renewed waste management outcome try to assess if there are materials, if any, now present in the organisation that are not of usage in the activities of the organisation. If yes, could these materials be categorised and managed as "prevention of usage" in the Waste hierarchy within the waste management of the organisation?



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3. If there are materials of non-usage in the organisation, assess the possibility of treating them as “preparing for reuse” in the Waste hierarchy for persons outside of the organisation that might need to use them by e.g., donations to people in need.

4. Look at the full remade waste list and try to assess the amount of work within the organisation and outside of it measured in trips, which could be prevented by following the remade waste list, within a renewed waste management plan in the organisation by comparison to a baseline trip assessment from previous waste management of the chosen materials.

**Step 3: Internal environmental audit toward material management**

1. Create questions about the chosen material and prepare a round tour for checking the waste management for a coming internal environmental audit, where questions about how and if the materials are used, if the material is treated as waste material and how it is treated after its end usage, could be parts.

2. Integrate the questions in the next environmental audit of the organisation and make sure to ask them to the responsible for materials usage and waste management in the organisation.

3. When assessing the response from the internal environmental audit, use the waste hierarchy and the previously remade list in step 2, question 1-4, to assess possible omissions from the renewed material usage and waste management plan of the organisation. Remember that an omission that does not comply with the Waste hierarchy and thereby does not comply with the Framework Directive, should be treated as a big omission in the following IEA report.

4. Integrate suggestions for how to manage and thereby solve possible omissions from the remade list in step 2, question 1-4, in the shape of recommendations in a recommendation list in the internal environmental audit report.

**Step 4: Omission management**

Fit the possible found omissions from the audit into the omission management plan of the EMS of the organisation. See Annex 4 for further information.



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## Annex 7: SYAT Training Method for IEA toward management of hazardous waste

This method has been elaborated by SYAT for a chance to integrate compliance toward the EU toxic-free hierarchy within Chemical management in the EU Waste Framework Directive into the EMS of the organisation. Also, organisations who do not have an EMS yet can perform this method within the chemical management of the organisation.
Here follows an example on how the EU toxic-free hierarchy could be integrated and compiled toward in organisations.

### Step 1: Overview of hazardous waste

1. Study Chapter III Waste Management under *Article 15-22* and Annex III Properties of waste which render it hazardous, in the EU Waste Framework Directive.

2. Assess possible hazardous waste in the organisation in which you work.

3. Make a list of hazardous waste in the organisation.

4. Assess the amount/volume of each category of hazardous waste in the organisation.

5. If the organisation involves chemical laboratory activity and/or other activity involving chemical material, assess the necessary needs for waste management in line with Reach regulation - Registration, Evaluation, Authorisation and Restriction of Chemicals (EU).

### Step 2: Planned changes in chemical management

1. Study the hazardous waste list of the organisation (Step 1 number 3-5) and assess whether quantities of categories of hazardous waste and/or entire categories of hazardous waste could be prevented from usage in the organisation, without negative impact for the organisation.

2. Plan step-by-step programmes for reduction and/or full deletion of usage of possible categories of hazardous waste in the organisation.



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**Step 3: Internal environmental audit toward material management**

1. Prepare questions about the management of hazardous material before it becomes waste, and the collection and management of the hazardous waste after end usage in the organisation. Furthermore, prepare for a round tour to look at the management of hazardous material and the collection and treatment of hazardous waste, in the organisation. This should be prepared as usage for a coming internal environmental audit.

2. Integrate questions about the usage and waste management of hazardous waste in the organisation in a coming environmental audit of the organisation and make sure to ask the questions to all areas/departments in the organisation who are responsible for usage of hazardous material and/or collect and manage hazardous waste, in the organisation.

3. When assessing the response from the internal environmental audit, use the waste hierarchy and Article 15 together with Annex III in the Waste Framework Directive and Reach regulation - Registration, Evaluation, Authorisation and Restriction of Chemicals (EU). Remember that an omission that does not comply with the Waste Framework Directive and Reach regulation, should be treated as a big omission and managed and thereby solved with a quick phase!

4. Integrate suggestions for how to manage possible omissions from the step-by-step programme in Step 2, number 2, in the shape of recommendations in a recommendation list in the internal environmental audit report.

**Step 4: Omission management**

Fit the possible found omissions into the omission management plan of the EMS of the organisation. See Annex 4 for further information.



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## Annex 8: SYAT Training Method for usage of communication tools in IEA

SYAT has created a method on how usage of communication tools in the IEA performance could be practised before an audit takes place. The training focuses on interview performance in meeting shape. This practice can be performed by any organisation that has or not yet have an EMS.

### Practise 1

### Preparation

Try to practise this training method before the first internal environmental audit takes place to learn how to get more familiar with communication in the interview performance. The practice needs at least two persons, of which one person performs the auditor and asks questions in the interview and the other person is the auditee that responds to questions. Thereafter, a role switch can be made for the next practice for a chance to assess both roles.

First, the trainees need to agree on whether the interview should be held as if the organisation for the IEA would be ISO 14001 or EMAs certified, or not. Further, an agreement on areas of the organisation that should be audited in the practise needs to be made. Should it e.g., be a waste area, a chemical laboratory department, an office environment or maybe an outdoor building construction site? This agreement will set the focus toward legal requirements and possible standard requirements that need to be considered before the interview takes place.

The person who will perform the interview (hereinafter referred to as the auditor) can start by elaborating on twelve checklist questions linked to necessary requirements to check during the audit. It could be questions related toward any subject but preferably about the environmental work in the organisation of the interviewed person (hereinafter referred to as the auditee). If it is difficult to produce audit questions in the beginning inspiration can be held by looking at example questions in Annex 2 in the guideline.

The person who will perform the respondent toward the interview questions, the auditee, can start by reading up briefly on the environmental management work of the organisation. If the auditee is not working in any organisation any organisation can be chosen for this practise. Further, if it is difficult to know what to focus on when reading up on EMS information about the organisation, inspiration can be held by looking at example questions in Annex 1 in the guideline.

The preparatory work for the auditor and the auditee can be assessed to 4 hours in this practice. A reminder is that this is a practice, so it does not have to come with a professional audit result, but it could be an idea to go as close towards an IEA as if it was real, within the given practice.



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**Interview performance**

The interview in the practice could be performed within a period of 30 minutes. A distinctive amount of information might need to be collected during this period. Therefore, be sure to choose a quiet and calm area for the interview. The interview could be performed online by web or at location in a physical room environment.

The auditor would need to start the interview by asking the first question and the auditee would start by responding to it. In case a dictaphone is not used and in the case the auditor team consists of solely one person, the auditor will need to take notes simultaneously as questions are asked. For further preparation regarding what to think about during interview performance see section: *IEA communication* and *Communication tools for data collection*.

**Evaluation of performance**

In this practice the time has come for evaluating the previously performed interview (see above) by discussing the previous interview event.

How did the interview go?

A response to the following questions could be performed with the help of the auditor and the auditee. If it is needed to respond with a NO on any of the following questions, it could be suggested to practise the interview performance once more before the real IEA takes place.

1. Did the auditor have enough time to explain and get a response from the auditee on each of the interview questions before the interview time ended?


2. Did the auditee have enough time to understand and respond to each of the interview questions before the interview time ended?




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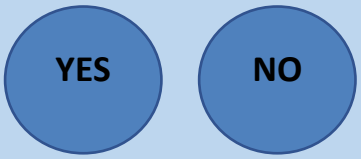
3. Did the auditor have enough time to gather the necessary notes from the response of the auditee on each of the questions before the interview time ended?




**Analysis for improvement**
If any of the above questions had to be responded to with a NO it is suggested to analyse what could have caused the response NO during the interview performance.

For example: Did the time for asking all questions run out because the auditor had a tough time keeping up with writing notes simultaneously as asking and receiving responses on questions?
Was the time instead running out because the auditee took a long time to respond to questions and/or performed long responses to questions?
Or rather, was it that the auditee started talking about other issues than responding to the auditor's questions during the interview that made the time run out?
Could it instead be that the auditor explained the content of the questions in a too complex way so that it took excessive time to create an understanding of what to respond toward for the auditee during the interview time?
Or further, was there something completely different that was the possible cause, or rather a mixture of two or more of the above-mentioned examples?

No matter what the cause was during the interview, an analysis of the response to the three YES or NO questions above could be a help in assessing areas of improvement that would need extra practice and consideration before the first real time internal environmental audit interview.

In the end of Practise 1 the most important parts to improve for the auditor and for the auditee could be noted together with assessed options for improvement before moving forward to Practise 2 (see below).

**Practise 2**
Now the person who has previously performed the auditor and the person who has previously performed the auditee could switch roles and perform the interview again so that the previous auditor can practise the role of an auditee and vice versa. It is suggested follow the full practice 1 (see above) so that the new auditor could practise on e.g., preparing checklist questions for the interview and the new auditee could practise on reading up on the EMS of



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the organisation. This further means that a decision on the area of the coming audit needs to be taken by the trainers. Should the new audit for example focus on another area of the same organisation that the practise has been performed toward in Practise 1 or should instead an entirely new organisation to perform the audit on, be chosen for the coming audit?

After the interview has been performed and the 3 YES or NO questions in Practice 1 have been responded to and followed up with possible analysis of options for improvement if one or more questions were answered with a NO, the performance is finalised.

Depending on how the interview went the practise have given a chance to assess how it would be like to interview and to be interviewed in an audit and therefore, if could give a chance to assess a coming real time interview from both angles, to thereby have a fuller understanding about the auditor and auditee role in the real time audit.



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## Annex 9: SYAT Training Method for train-the-trainer teaching that target sustainability

SYAT has elaborated on methods for usage in the situation that information about IEA needs to be taught toward more persons in the organisation. It could e.g., be situations where an organisation has the chance to send away one employee instead of a whole IEA team on an IEA training course, or where the organisation does not have resources for economic payment for knowledge within the areas. In these occasions it could be of help to grasp pedagogical methods on how to teach forward knowledge from a variety of sources among which the guideline, toward a group of possible coming IEA team members in the organisation. This practice can be performed by any organisation that has or not yet have an EMS.

### Reflective questions to find out what previous attitudes, knowledge and habits the participants have about the environmental themes at hand

Can preferably first be discussed in smaller groups, to ensure that everyone expresses their views. During these discussions, the facilitator could walk around the room, listening to the participants' views and ascertaining their knowledge base:

- What do you consider to be the biggest problems humans are facing right now? And what do you think will be the biggest challenges for the next generation?
- What do you know about climate change? Other environmental issues?
- What do you think are the causes of these problems?
- What can individuals/states/companies do to resolve these issues?
- Is it important to deal with these issues?
- Do you think these individuals/states/companies are doing enough? Will these issues be resolved within the near future, in your opinion?
- What do you know about environmental audits? Have you ever performed or witnessed an environmental audit? Have you ever been environmentally audited?
- Do you think environmental audits are important? Why? /Why not?

One format for a whole-group discussion, after the smaller groups have discussed, is that the participants are placed in a ring, with one empty chair. After that, a series of statements are read aloud by the facilitator. The above questions can be changed into statements, such as: Environmental issues are not so important. It is only the states' fault that there is climate change. Those who agree with the statement change seats. After the participants have moved, the facilitator asks one of the participants why they stayed/changed seats. The other



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participants need to wait to be called upon to speak. Make sure that all participants are heard at least once.

**Experiential exercises to reconnect with nature:**
Everyone goes out for a 10–15-minute walk in the surroundings, within a certain perimeter. They need to find something from nature, a leaf, a stone. They can choose to walk or find a place to sit and contemplate. The walk needs to take place in silence and alone, without other participants. Preferably mobile phones are also switched off. The facilitator says a time that they need to return, or, if the participants do not have watches, has a bell and calls on them when the time is up. When the participants return, they show the natural object they have found and talk about why they chose it, and what they thought about during the walk.

If the workshop is held in a very urban environment or the weather does not allow it, the facilitator can also bring a certain number of objects from nature to the workshop. These are then placed together, and the participants can choose an object that attracts them. They can then sit in a spot alone in the workshop room for around 10-15 minutes. They bring with them paper and pen and write down their thoughts on the object they chose.

In a smaller group, the sharing can be performed within the whole group. A larger group will split into smaller groups that the participants share within.

- The participants are asked to quietly reflect on their own about how they encounter nature today. The facilitator asks aloud, slowly: What have they touched, used, lived in, consumed today that came from nature? Choose one object. How did that thing come to you, from its source/sources to your hands? Perhaps it is a mixture of different things. Then choose one of the constituents. Think of all the steps in the process and what happened along the way. Where on Earth did it come from? What parts of nature were involved? Any animals? Which people were involved? What did they do? What happened?

After the participants have quietly reflected upon these questions, they take a pen and paper and write for around 10 minutes on the subject. Then they share with the other participants. Either in smaller groups or the whole group, depending on the size of the group.

- The participants are asked to close their eyes and quietly remember a place in nature they have liked, either in their childhood, another part of their past or now. What did it look like? What was there? What did it sound like? Were there animal sounds? The sound of wind? The sound of water? What smells were there? What could you touch? What did it feel like to touch these things? What did the ground feel like? Did you lie down, sit down or stand up there? What did you do there? How did you feel when you were there? How did you feel when you left that place?

After the participants have used time for remembering, they are given a larger piece of paper



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and crayons/colored pens. In silence they draw the place they remembered. Afterwards, they show their drawing to a small group of other participants. Every participant gets the chance to share while the others quietly listen. If it is not possible for them to draw, the participants can share directly.

- The participants lie/sit down on the floor. The facilitator plays relaxing sounds of nature, no music, just sounds of nature. The facilitator asks the participants to imagine the place they are in, based on the sounds, and ask the same questions as in the exercise above. Afterwards the participants share their experience.

**Exercises to strengthen the group**

Besides activities of a more reflective nature, such as the ones above, games and non-serious joint activities can help the participants to get to know each other in a new way, strengthening the group and bringing about a sense of community. One needs to be careful not to ask too much of the group though, because individuals could be sensitive to what can be seen as silly or embarrassing activities. Here are examples of exercises that are usually not so controversial:

**Speed-dating:** The participants are placed in two rows facing each other, preferably sitting on chairs. If there are not an equal number of participants, the facilitator can also join. The facilitator will then set a watch for 2 minutes. During those 2 minutes one side of participants will pepper the participant across with questions. These questions should be respectful but of a more personal nature. The first question asked is always dictated by the facilitator. The facilitator can change the questions along the way or stick to the same question for all participants. The questions all relate to nature. Here follows examples of questions:

- If you were an animal, which animal would you be? Why?
- If you could do something that only nature could do, what would you be able to do? Why?
- If you could visit any nature in the world, where would you like to go? Why?
- If you would live in the ocean or in space, what would you choose? Why?
- If you had wings or gills, what would you rather have? Why?

After the two minutes have passed, the opposite participant gets to ask questions to the one who was formerly asking questions. After another 2 minutes, every participant takes a step to the right and the procedure is repeated. If the facilitator notices that the group cannot think of questions, give the participants more questions that they can ask.

**Everybody who:** Place all the participants in a ring, sitting on chairs. The facilitator goes in the middle of the circle and says a sentence starting with “Everybody who...,” for instance:



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“Everybody who has white socks on today” or “Everybody who likes ice cream.” Then, everybody who agrees with the statement needs to change their seat. The participants are not allowed to only change to the chair on their left or right and need to be careful not to bump into other participants when they change seats. The facilitator then also finds a seat, whereupon a new person will be standing in the middle without a seat. Then this new person has to say a new sentence starting with “Everybody who...,” and the procedure is repeated.



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© Kristina Thelin., *A stone says ciao to a fog in Skåne*, Sweden 2016.

**Welcome to join the Synergy Audit Global Network**
After this information about EMS and IEA in organisations we hope for the feeling of more readiness to take on the work in organisations.

Whether the environmental management and audits field is new or not it can always be a gain to collaborate with other persons and exchange and thereby develop valuable ideas on a global level. The Synergy Audit Network is available for anyone who are working with environmental management and/or environmental audits or have interests in learning more about it and sharing ideas.
Also, the network serves as a meeting point for the possibility to contact and uptake collaboration within the sustainability field, with organisations of similar interest on a global level.

**How do I join the Synergy Audit Network?**
Feel free to send an email to One Planet NGO (see contact information below) with



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information about your first name, surname, activity/study/work position and name of your home organisation, if relevant, in the email.

By providing One Planet with the above information, **you have approved** to share the above information on the Synergy Audit Network Webpage in line with the **GDPR** directive. **Your contact information will be available and shared on the webpage** toward network members and anyone who visits the network webpage.



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164. The training practise examples have been elaborated based on previous experiences of



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the partner organisations and elaboration of teaching training activities in the *Synergy Audit Professional Partnership ERASMUS+ KA2 Project.* (2019-2022)

**Pictures**



**Figures**





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© Kristina Thelin., *A tree is contemplating over a leaf in Bökenäs*, Sweden 2013.

**More information**

The Synergy Audit Project (2019-2022) is an ERASMUS+ KA2 transnational project funded collaboration between One Planet (project leader) together with CARDET, Comune di Ravenna, CRES, EcoFellows, Provincia di Parma and SERN.
A multidisciplinary and interdisciplinary audit methodology tool for the help for organisations in the environmental management system work have been developed and piloted in the project.
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