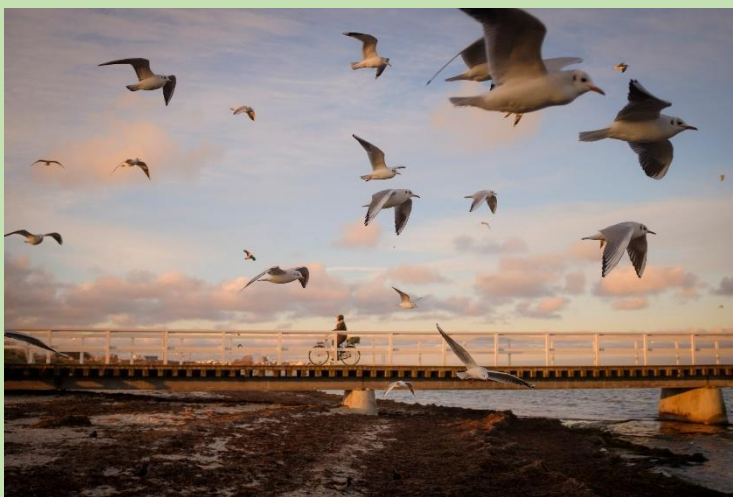


# How to integrate Synergy Audit in a Small and Medium Enterprise? A guidance for SMEs



© Lowa., *Birds flying free together with a biker in Malmö, Sweden*  
2021.



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## **What is a Synergy Audit?**

Many organisations among which small and medium enterprises (hereinafter referred to as SMEs) want to work strategically and effectively to decrease negative environmental impact from their activities because of the positive contributions it can give to lessen negative environmental impact.

Also, many SMEs want to become environmentally certified. Beyond environmental benefit the SME thereby also increases the chance for a favourable position amongst possible stakeholders and interests, which could result in e.g., economic gain.

The Synergy Audit SME Booklet aims to work as an inspiration and practical guideline for help toward SME organisation in conducting environmental management system work with emphasis on the environmental audits in the management system, for decrease of negative environmental impact from the SME. It further wants to inspire towards an interdisciplinary approach in this endeavour by reaching beyond environmental management as a gain for the management work.

We wish you the best of luck with this important endeavour.

*/The project partners of Synergy Audit.*



## Why performing environmental audits in SMEs?

Climate change is now apparent throughout the world and is by the United Nations defined 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.”*<sup>1</sup>

It is further one of the UN 17 sustainable development goals, and 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 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.”*<sup>2</sup>

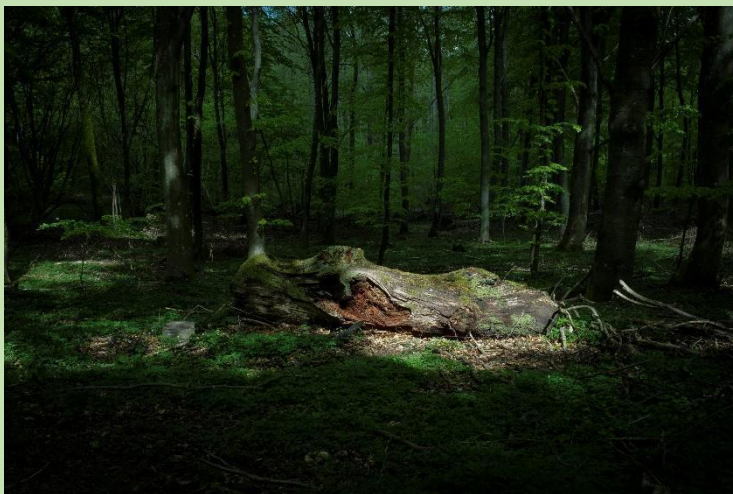
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<sup>1</sup>United nations framework convention on climate change. (1992) Article 7, United Nations, p. 7. [online] Available at: [https://unfccc.int/files/essential\\_background/background\\_publications\\_htmlpdf/application/pdf/conveng.pdf](https://unfccc.int/files/essential_background/background_publications_htmlpdf/application/pdf/conveng.pdf) [Accessed 14 July 2022]

<sup>2</sup>Transforming our world: the 2030 agenda for sustainable development. (2022) Department of economic and social affairs, United Nations. [online] Available at: <https://sustainabledevelopmentgoals.un.org/2030agenda> [Accessed 14 July 2022]

In other words, the negative consequences are of an enormous nature and the necessity to act individually, in SMEs and on a societal level is imperative.

Amongst numerable other areas of life on Earth, climate change has revealed itself through the dramatic loss of **biodiversity** throughout the world.



© Lova., *A forest that is allowed to be as a forest* in Skåne County, Sweden 2021.



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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.”*<sup>3</sup> Climate change diminishes and threatens biodiversity while *“changes in biodiversity, in turn, affect climate, especially through impacts on nitrogen, carbon and water cycles”*<sup>4</sup> The 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,”*<sup>5</sup> former UN Secretary-General Ban Ki-moon states.

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

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<sup>3</sup> *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]

<sup>4</sup> *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]

<sup>5</sup> *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]

## What can SMEs do about circular economy?

**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 the 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 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.<sup>6</sup> Its target is how products should be designed and it promotes circular processes, encourages sustainable consumption along with waste prevention. Further, it introduces legislative and non-legislative measures.

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<sup>6</sup> *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](https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal_en) [Accessed 14 July 2022]



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To get a perspective on how an SME can involve the holistic change of thinking that circular economy is, in its environmental management work, **circular economy business** can serve as an opening by its five business models:

- 1) Renewability
- 2) Sharing platforms
- 3) Product as a service
- 4) Product-life extension
- 5) Resource efficiency and recycling

Circular economy business **requires a new kind of cooperation** between companies, between companies and the public sector and between companies and people. Digitalization is an important tool that enables circular economy approaches in business.<sup>7</sup>

This kind of **sharing economy** is an economic model based on the activity of acquiring and providing or sharing access to goods and services. It is often facilitated by a digital platform connecting buyers and sellers.

The sharing economy expands the use of idle assets and

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<sup>7</sup> 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]



services, and it is one way of implementing a circular economy. This economy is rapidly growing ...

However, an SME will need to initiate an environmental management system<sup>8</sup> (hereinafter referred to as EMS) in the company in which circular economy can be part and therefore some basic EMS methods need to be assessed.

## Environmental management system

### The Plan-Do-Check-Act<sup>9</sup> methodology

When an SME wants to establish an EMS in the company, Plan-Do-Check-Act (hereinafter referred to as PDCA) could be of great gain.

PDCA is 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 the EMS work.

Here follows a list (see below) where EMS activities are sorted under either plan, do, check or act activities as a

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<sup>8</sup> *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]

<sup>9</sup> *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](https://www.mindtools.com/pages/article/newPPM_89.htm) [Accessed 14 July 2022]

help for the SME in the setup of the EMS organisation. Therefore, the PDCA method is beneficially used already in the planning stage of the overall EMS establishment.

The EMS activities could be organised in the following way by a PDCA method<sup>10</sup>:

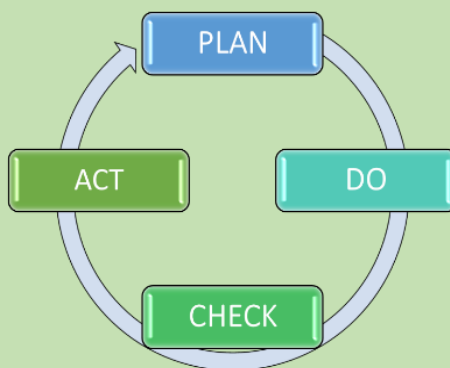


Figure 1: The PDCA Cycle in the PDCA method, made by One Planet, feel free to use and reuse the figure.

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<sup>10</sup> 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)

## Plan

1. Management 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<sup>th</sup> 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.

### **Environmental standards and certifications of the EMS**

There are environmental standards elaborated for the help for e.g., an SME to set up a strategic and effective EMS in the company.

If the SME is planning to get environmentally certified with the help of an environmental standard it is strongly recommended for the SME to read up on environmental standards already before starting to build and integrate the EMS in the organisation. It is a huge gain for the SME to have set up an EMS that goes in line with the requirements in the environmental standard that it wants to get certified toward, already in the initiation phase of the EMS.

### **The ISO 14001 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.<sup>11</sup> It is used in all kinds of

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<sup>11</sup> *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]



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organisations on a global level and is one of the most used environmental standards in the world.<sup>12</sup> 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.<sup>13</sup>

[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

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<sup>12</sup> *ISO 14000 family – Environmental management*. (2022) ISO. [online] Available at: <https://www.iso.org/iso-14001-environmental-management.html> [Accessed 14 July 2022]

<sup>13</sup> *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]



organisations in their EMS work.<sup>14</sup> EMAS was created by the European Commission in 2009 and falls under the European Regulation (EC) No 1221/2009.<sup>15</sup>

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 communication externally of the full EMS work while this is not obliged to do by an ISO 14001 certified organisation.<sup>16</sup>

[More information](#) about how to integrate the EMAS environmental standard in the organisation.<sup>17</sup>

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

<sup>15</sup> *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]

<sup>16</sup> 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](https://www.researchgate.net/publication/328894357_Comparison_between_eco-management_and_audit_scheme_and_ISO_140012015) [Accessed 14 July 2022]

<sup>17</sup> *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*





© Lowa., *A bee is saying hello to a flower* in Vellinge, Sweden 2021.

## Environmental audits in SMEs

When the SME has established an EMS and is reaching toward the CHECK phase of the PDCA it is necessary for the EMS to have an internal environmental audit<sup>18</sup> (hereinafter referred to as IEA) team ready to take on the

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*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 [online] Available at: <https://lexporency.org/eu/32009R1221/PRE/> [Accessed 14 July 2022]

<sup>18</sup> 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](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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tasks within the EMS.

IEA is the tool of usage in the EMS which assesses if and how the SME is following the legal and internal requirements that it is obliged to, within the environmental management work.

IEA is therefore the tool which by assessing compliance toward requirements also stresses the need for action to change toward compliance for the management in the SME.

This is communicated in an IEA Report shape by focusing on omissions toward compliance.

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.<sup>19</sup>

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<sup>19</sup> *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](https://ec.europa.eu/environment/emas/join_emas/how_does_it_work_step5_en.htm) [Accessed 14 July 2022]



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## **Areas involved in the IEA**

When the SME has reached the point of planning and shaping the IEA team, usually by asking a group of colleagues in the SME 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 management 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 management 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.
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.

### **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.



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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.<sup>20</sup>

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<sup>20</sup> 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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© Lova., *Leaves from a variety of trees rest together* in Malmö, Sweden 2021.

## **External and internal omissions in IEA**

The IEA report focuses on finding possible omissions within the EMS organisation in the SME.

There are two kinds of omissions:

**Big omission** = Anything that goes against legal requirements and, if the SME is certified, anything that





goes against the environmental standard requirements toward which the SME is certified.

**Small omission** = Anything that goes against internal requirements and therefore, if the SME is not certified, anything that goes against the EMS requirements.

There is also something called **Notes** that can take part in an IEA report, and it is an activity that is neither a small or a big omission but instead could lead to a small or big omission if not managed, and thereby solved.

**Recommendations** are also given in IEA reports, and they could consist of anything that the IEA team picks up on that could be of help in e.g., solving an omission or a note, within the activities of the IEA.

Most of the knowledge within the IEA works comes from legal requirements. Therefore, the IEA team needs to read up on the existing legal requirements that affect the SME and further, on requirements from the environmental standard, if certified.

Because of the necessity to put global climate and sustainability agreements in action for trying to reduce climate change by keeping down the speed of the global warming, Synergy Audit have chosen to assess it as a necessity to get familiar with, and work toward also global agreements which have not yet reached law



obligation within the EMS, and thereby also in the IEA work.

Here follows therefore short information about some of the global and EU agreements of today of which some have already reached law obligation, and some not, but whose content is of equal importance to integrate in the EMS work.

## **Global and EU directives and IEA**

**The Paris Agreement**<sup>21</sup> is manifested by the urgent necessity to manage climate change under a 2C temperature increase in a way that safeguards the life of the species on the planet and where the responsibility is upheld by each country on Earth.<sup>22</sup>

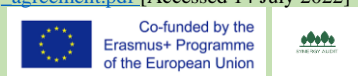
After the COP 26 UN Climate Change Conference in Glasgow (Oct-Nov 2021) the agreement among the countries is to try to manage climate change up to a maximum of a 1,5C temperature increase.

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

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<sup>21</sup> *Paris Agreement*. (2015) United Nations, New York. [online] Available at: [http://unfccc.int/files/essential\\_background/convention/application/pdf/english\\_paris\\_agreement.pdf](http://unfccc.int/files/essential_background/convention/application/pdf/english_paris_agreement.pdf) [Accessed 14 July 2022]

<sup>22</sup> *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](http://unfccc.int/files/essential_background/convention/application/pdf/english_paris_agreement.pdf) [Accessed 14 July 2022]



Carbon Dioxide Equivalents (hereinafter referred to as CO<sub>2e</sub>) 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<sub>2e</sub> is produced to thereby manage to assess ways to change the processes to consequentially limit the production of CO<sub>2e</sub> in the organisation.

Carbon Audit<sup>23</sup> could furthermore be of usage as a complementary activity to the environmental audit in which greenhouse gas emissions are assessed in the organisation.

**Transforming our world: The 2030 agenda for sustainable development**<sup>24</sup> is a plan/universal agenda for global operationality which points at 17 focus areas (the 17 sustainable development goals) and their 169 targets in how to sustain a healthy living for all beings on the planet with the ambition of global peace.<sup>25</sup>

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<sup>23</sup> 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](https://www.researchgate.net/publication/321441073_Twenty_years_of_carbon_accounting_and_auditing_-_A_review_and_outlook) [Accessed 14 July 2022]

<sup>24</sup> *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]

<sup>25</sup> *Transforming our world: The 2030 agenda for sustainable development. A/RES/70/1*. (2015) United Nations, New York, p. 3. [online] Available at:



Agenda 2030 is thought of as being approached toward in the same way as international law.

The 2030 Agenda could be used in the EMS to assess certain goals in it to work toward in the EMS work of the SME. Therefore, these goals and their needed activities for goal fulfilment could further on be audited upon in the coming IEA.<sup>26</sup>

**Energy Roadmap 2050**<sup>27</sup> 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 lean on mostly renewable energy sources in a 2050 EU, and to thereby uphold a sustainable living.<sup>28</sup> 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.<sup>29</sup>

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<https://sustainabledevelopment.un.org/content/documents/21252030%20Agenda%20for%20Sustainable%20Development%20web.pdf> [Accessed 14 July 2022]

<sup>26</sup> For examples on how to integration the UN 17 SDGs in the EMS of the organisation see: *Synergy Audit Methodology. For organisations in the start-up and management phase of EMS work*. Annex 5: SYAT Training Method for IEA toward the UN 17 SDGs. (2022) Synergy Audit Professional Partnership ERASMUS+ KA2 Project. (2019-2022) [online] Available at:... [Accessed 31 August 2022]

<sup>27</sup> *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](https://ec.europa.eu/energy/sites/ener/files/documents/2012_energy_roadmap_2050_en_0.pdf) [Accessed 14 July 2022]

<sup>28</sup> *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](https://ec.europa.eu/energy/sites/ener/files/documents/2012_energy_roadmap_2050_en_0.pdf) [Accessed 14 July 2022]

<sup>29</sup> *Energy roadmap 2050*. (2012) European Union, Luxembourg, p. 6. [online] Available at:



<sup>26</sup>The European Commission's support for the production of this publication does not constitute an endorsement of the contents, which reflect the views only of the authors, and the Commission cannot be held responsible for any use which may be made of the information contained therein.

A main target in the energy transformation in the EU is on increased energy efficiency, with the main focus at both new and already existing buildings.<sup>30</sup>

The concept of energy efficiency is part of the open access and free of charge SYAT e-education by addressing the scenario: “Increase energy efficiency in buildings and how to audit toward the scenario.<sup>31</sup>”

Energy efficiency and a goal orientation toward it within the EMS work could be integrated and therefore available to check up on by IEA.

**Closing the loop – An EU action plan for the Circular Economy**<sup>32</sup> is the EU action plan for circular economy which purpose is to focus matters involved in the transition toward a circular economy in the EU.

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[https://ec.europa.eu/energy/sites/ener/files/documents/2012\\_energy\\_roadmap\\_2050\\_en\\_0.pdf](https://ec.europa.eu/energy/sites/ener/files/documents/2012_energy_roadmap_2050_en_0.pdf) [Accessed 14 July 2022]

<sup>30</sup> *Energy roadmap 2050*. (2012) European Union, Luxembourg, p. 10. [online] Available at:

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<sup>31</sup> For playing the E-learning games made by CARDET Ltd. in collaboration with the partners of Synergy Audit Professional Partnership ERASMUS+ KA2 Project. (2019-2022) see: [online] Available at:... [Accessed 31 August 2022]

<sup>32</sup> *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](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](https://eur-lex.europa.eu/resource.html?uri=cellar:8a8ef5e8-99a0-11e5-b3b7-01aa75ed71a1.0012.02/DOC_2&format=PDF) [Accessed 14 July 2022]



Prolonged “*value of products*” and waste reduction are crucial topics.<sup>33</sup> Also, product design, production processes, consumption, waste management and reuse are of focused relevance in the transition.<sup>34</sup>

Waste management, reuse strategies and their estimates in compliance could be integrated within objectives and targets in the EMS of the SME and thereafter followed up by the IEA.

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<sup>33</sup> *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](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](https://eur-lex.europa.eu/resource.html?uri=cellar:8a8ef5e8-99a0-11e5-b3b7-01aa75ed71a1.0012.02/DOC_2&format=PDF) [Accessed 14 July 2022]

<sup>34</sup> *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](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](https://eur-lex.europa.eu/resource.html?uri=cellar:8a8ef5e8-99a0-11e5-b3b7-01aa75ed71a1.0012.02/DOC_2&format=PDF) [Accessed 14 July 2022]



**The EU waste framework directive**<sup>35</sup> consist 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 kept.

The framework consists of goals to increase re-usage and recycling of material, a “from the cradle to the grave” assessment and monitoring of hazardous waste, assessment on possible environmental damage by by-products and a 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 how it should be viewed, is presented.

For SMEs 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. Synergy Audit have elaborated on methods for how to involve these.<sup>36</sup>

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<sup>35</sup> 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]

<sup>36</sup> For examples on how to integrate and check compliance toward the Waste hierarchy and toward the SDGs in the EMS of the organisation see: *Synergy Audit Methodology. For organisations in the start-up and management phase of EMS work.* Annex 6: SYAT Training Method for IEA toward the waste hierarchy, and Annex 7: SYAT Training Method for IEA toward management of hazardous waste. (2022) Synergy Audit Professional Partnership ERASMUS+ KA2 Project. (2019-2022) [online] Available at:... [Accessed 31 August 2022]





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

In Synergy Audit a wished-for aim is to find ways to continue the sharing of knowledge further from the reader of this booklet toward the work organisation of the reader, and possible stakeholders and interests. Therefore, tools on how to bring forward topics with the wish to set up an EMS with IEAs in the SME could be beneficial.

Often the management 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 SME. Other times, when the EMS is already set up, a team of work colleagues within the SME needs to get information about IEA and thereby have the chance to get an interest in taking part in an IEA team, within the EMS.

Here follows therefore a short instruction to teaching pedagogics and some tools of usage when trying to communicate an interest about starting up EMS and IEA work in the organisation.

## **Teaching pedagogics tools**

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).

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, relating 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



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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.<sup>37</sup>

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<sup>37</sup> Sauv  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]



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.<sup>38</sup>

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,

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<sup>38</sup> Sauv  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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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.<sup>39</sup>

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.*"<sup>40</sup>

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

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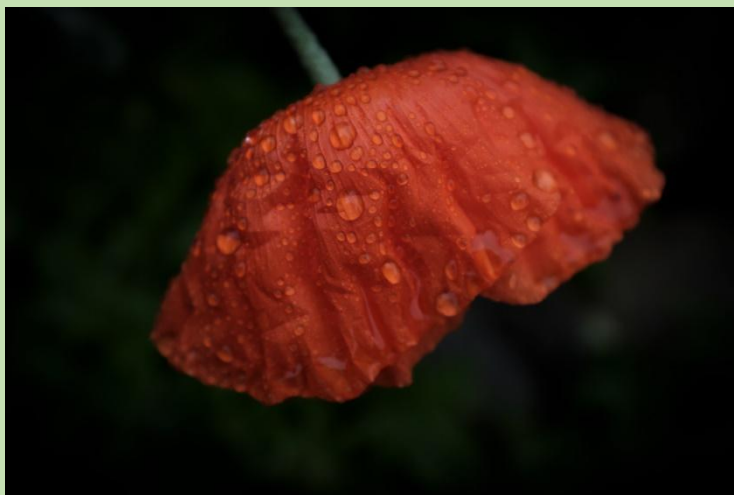
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importance to the social dimension of this process, since the interaction between members of a consolidated group bears such a heavy influence on their motivation and willingness to act. Additionally, regarding sustainability on a larger scale, the 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.





© Lova., *A flower says hi to some raindrops in Vellinge, Sweden*  
2021

## **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



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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 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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## **Pictures**

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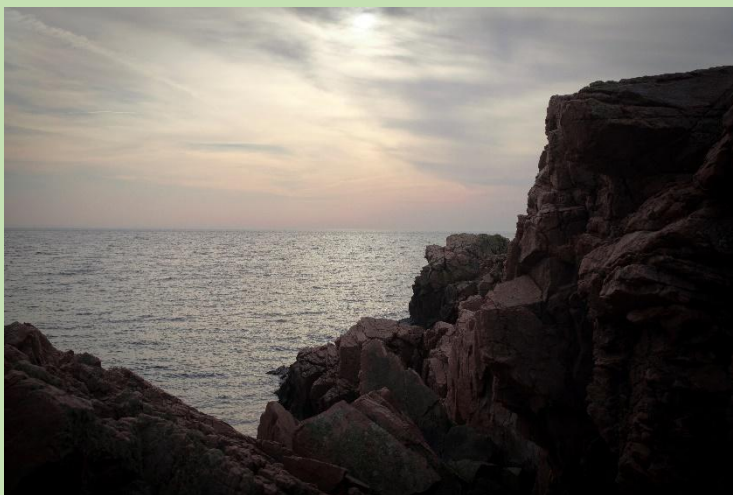
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## **Figures**

Figure 1: The PDCA Cycle in the PDCA method, made by One Planet, feel free to use and reuse the figure. Page 10

Figure 2: The Waste Hierarchy in the EU Waste Framework Directive, made by One Planet, feel free to use and reuse the figure. Page 32





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### **More information**

The Synergy Audit Project (2019-2022) is an ERASMUS+ KA2 transnational project funded collaboration between One Planet 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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