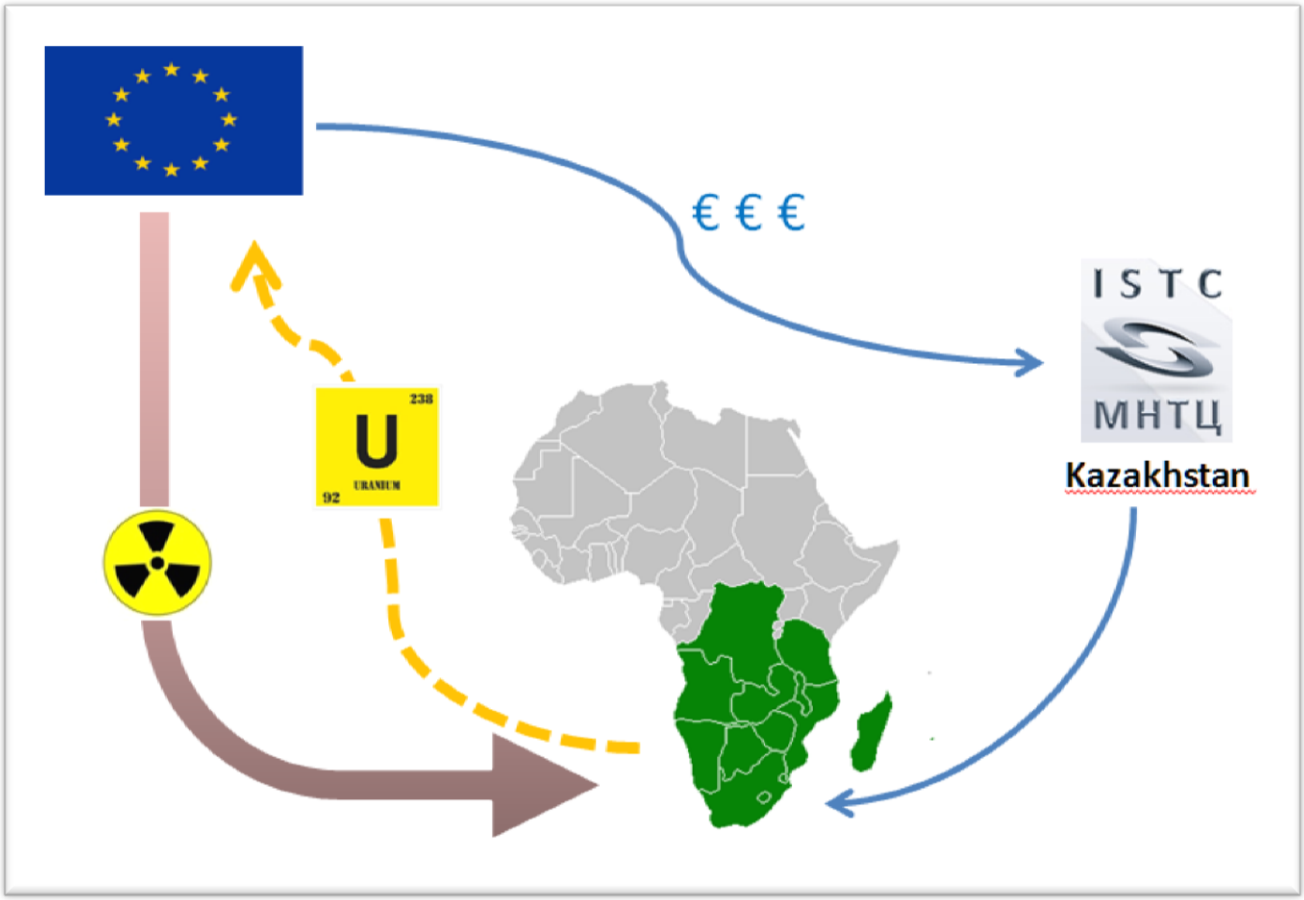
Involvement of the EU in Africa in Nuclear Matters

and

the 'Greening' of Uranium and aligning U mining and Nuclear Power with SDGs



1. Introduction: Uranium in Tanzania, the EU and its 'Nuclear Safety Programme', the UN Economic Commission for Europe (UN ECE) and 'green' Uranium

In 2008/ 2009, the price of uranium skyrocketed for reasons not really known, to the seven-fold, up to US$ 140/pound. Uranium companies from all over the world flocked into Africa 'to leave no stone unturned' to find uranium.
One of them, **Mantra Tanzania Ltd**, a subsidiary of Australian Mantra Resources Ltd., became lucky: The company located a major uranium deposit at Mkuju River near Songea, Southwest Tanzania. Unfortunately, the deposit was inside a World Heritage site – Selous Game Reserve (SGR), Africa's largest World Heritage site. The company – like others – had used a loophole in Tanzanian legislation which allows exploration in a protected site – although the UNESCO's World Heritage Committee upholds that mining is incompatible with the World Heritage Status of a site.

The problem would soon be dealt with: The authors of the Environmental and Social Impact Assessment (ESIA) suggested to cut out the mining area from the World Heritage site – and thus, mining would become possible.

In the meantime, Russia's **ROSATOM**, through its **ARMZ** Uranium Holding Company, had acquired the deposit. Mantra's shareholders sacked a magnificent profit – they received in June 2011 A$ 6.87 for a share which had in 2008 / 2009 averaged under or around A$ 2 – a profit approx. 3,5 times their investment in two years; so far, they were the only uranium investors in Africa who got lucky. Many others just lost money – but that is another tale.

Later on in 2012, **UraniumOne**, a company which had just left South Africa, leaving behind disaster at DRUM – Dominion Reefs Uranium Project, firing all workers, leaving a grave environmental legacy, and then selling the property, got involved with Mkuju River Project.

Environmental and conservation organizations were not pleased with a uranium mine project in a World Heritage site: **WWF** staged protests, as well as **Rainforest Action Network** and others against the infringement on a World Heritage Site.

Solution was near – although in another way than NGOs had hoped for: In 2012, the UNESCO's World Heritage Committee's session took place in Moscow. Remember, Mkuju River deposit was by then owned by Russian ROSATOM. The government of Tanzania applied for "**a minor boundary change" of Selous Game Reserve** – which was granted " … in an exceptional and unique manner" [WHC Decision 36 COM 8B43] – violating the World Heritage Committee's own standard that mining would be incompatible with the World Heritage status of a site. But this would be dealt with soon, too.

By 2014, the World Heritage Committee put Selous Game Reserve on the list of **World Heritage Sites in Danger** – mainly due to rampant poaching – and the site remains on the "in danger"-list to date. Exploration activities had contributed to some extent, making inroads to the site which was otherwise difficult to access.

NGOs continued to protest, local people were partially opposing, partially lured into believing in promises of jobs and prosperity to come; houses were "X-ed" – to be soon demolished for a uranium transportation route from Likuyu, the village closest to the mine site, via Songea to Dar es Salaam.

By 2016, the project began dragging its feet. In 2017, years after boastful promises of prosperity and tax revenues for Tanzania, UraniumOne applied for a **postponement** of Mkuju River Project "due to the depressed price of uranium".
The owners and operators of Mkuju River Project also announced the possibility of a change from originally planned open-pit mining to in-situ leaching – although the original ESIA discouraged the use of this method.

Testing for ISL was conducted anyway up to 2016.
Of course, the jobs did not materialize, nor did the uranium road: years later, people are still not allowed to repair or improve their X-ed houses – and they can't move away either since they have not received any compensation yet. **No jobs, no prosperity, no tax revenues …**

After some years with little activity around the project, the issue of mining in area which used to be a World Heritage Site – and which is still completely surrounded by it – was dealt with by President Magafuli (in office since Nov 2015) in an unconventional way: after repeatedly treating the UNESCO's World Heritage Committee with contempt, he ordered not only to build a major dam right inside the World Heritage Site, at Stiegeler's Gorge.
In 2019, President Magafuli also ordered to **split up the World Heritage Site Selous Game Reserve** and 'create a new National Park' (which is actually approx. 2/3 of the former World Heritage site SGR).

The term World Heritage Site and any reference to its protection status was completely dropped from public statements – obviously unaware or negligent of the fact that the World Heritage status of a site is not simply ending when a President decides so – it takes a decision of the UNESCO's World Heritage Committee to delist a site.
So far, only two sites have ever been delisted from the list UNESCO's World Heritage sites since its creation in 1976.

In the meantime, the **lobbyists of nuclear power realized that 'sustainability' had become the call of the hour**, and launched several studies via the UN Economic Council for Europe (UNECE) – which, astonishingly and notwithstanding its name, comprises besides European countries also the US, Canada and a number of Central Asian countries, thus including the 4 major nuclear weapons states as well as the main users of nuclear power.

Out came a number of publications, in UN ECE Energy Series, introducing a scheme that nuclear power and uranium mining would be 'sustainable' (under a UN Framework Classification) and compatible with SDG 7 - Affordable and Clean Energy.
UN ECE Energy Series Report No. 57 completed the effort (for now): amazingly, it singles out Mkuju River Project in Africa as the one (and in the Report only) example for sustainable mining – by in-situ leaching (ISL), and Small Modular Reactors (SMRs) to generate electricity.

Finally, the UN ECE Report No. 57 states: "*So, when at the end of life, the Mjuku River project site was returned to within the boundaries of the Selous National Park it would be hard or impossible to tell there had been a mine at all."*

On **June 6, 2020**, Tanzanian major media outlet IPP Media published an article "**Uranium mining firm to use safe, eco-friendly technology** – Uranium Mining firm Mantra Tanzania is set to use the environmental friendly in-situ recovery (ISR) mining method in the Mkuju River Project as it increases economic potential of the project and make it even safer for the environment" (IPP Media, 06 June 2020) - an interesting orchestration and attempt to push Mkuju River Uranium Project.

The World Heritage Committee had urged for a new Environmental and Social Impact Assessment (ESIA) in case in-situ leaching should be used at Mkuju River. With the contempt displayed by current Tanzanian government towards the World Heritage Committee and the possibility that the property might lose its protected status, the call for a new ESIA might easily be void.

What is the EU's role in all this?

When uranium was first discovered in Tanzania, the country – like many other African states – was ill prepared for exploration and exploitation of the radioactive element. Competing regulations and authorities – mainly Tanzania Atomic Energy Commission (TAEC) and the then Ministry of Energy and Minerals (MEM) did not help either.

In 2015, the IAEA, after a Visit to Tanzania, slashed the unclear delineation between the authorities and called for improvement.

Help was near – **Tanzania solicited the EU's Nuclear Safety Programme's support** which was happy to cooperate, and was on location as early as 2013.
By 2016, the EU had created a program to "support Southern African States in Nuclear Safety and Safeguards" (**EU Project MC5.01/15B**), and extended 2,5 Mio € to Kazakh **International Science and Technology Center (ISTC**), an institution which the EU had co-founded earlier.
ISTC went ahead, and promotes 'nuclear safety and security' in southern African states with over 40 workshops, conferences, visits, and the creation of a African Young Generation in Nuclear (AYGN), among others, in an area with hardly any nuclear power plants (except two in South Africa) and no active uranium mines or other commercial nuclear installations.

Interestingly, the ISTC's project, funded by the EU, also worked on securing a **transport route** for "radioactive materials" from Southwest Tanzania (or Malawi) 3600km all the way across the African continent through Zambia to Walvis Bay, Namibia – although there is no active uranium mine in the area where the route starts: Kayelekera mine in Malawi had been put on 'care and maintenance' in 2014, and is not likely to be re-started any time soon; Mkuju River uranium project had been postponed until after 2020, more likely 2022.

Arise some questions in regard to the EU funded activities of ISTC:

What is the aim of EU-funded project MC 5.01/15B, implemented by Kazakh ISTC ?
Promoting 'nuclear safety and security' in Southern Africa – with no nuclear power plants (except two in S.A.) – or is it all about promoting nuclear power in those countries via conferences, workshops etc.?

What is it good for to prepare, a route for the 'safe and secure' transport of uranium / yellowcake from closed down or not yet existing uranium mines to Walvis Bay, Namibia, for further shipping?

Why is the EU supporting Tanzania to mine uranium 'safely' – when the mine at Mkuju River belongs to Russia's ROSATOM?
Or is the UN ECE's attempt to greenwash uranium and to depict nuclear power as 'sustainable' the motivation?

Some answer is provided from another side: In the above-mentioned UN Economic Commission for Europe (UNECE)'s Energy Series, a several reports were published (No. 46, 49, 55), leading up to No. 57 named "**Redesigning the Uranium Resource Pathway"** [1] - which ends up defining uranium as a potential source for 'sustainable development', claiming uranium could be mined and handled in a 'sustainable' way.

The UNECE Report No 57 names Mkuju River Uranium Project – far away from UN ECE countries – explicitly and solely as a source of uranium – and in-situ-leaching as the method of choice for exploiting it [2], the method considered by MRP's owners. No other uranium deposit in the world is mentioned.

Conclusion
The EU Nuclear Safety Programme promotes nuclear power and uranium mining in Southern African countries (although there are hardly any nuclear installations) and runs a simulation for a transport route for uranium from Southwest Tanzania with possibly a future uranium mine at Mkuju River – in former World Heritage Site Selous Game Reserve.

[1] UNECE Energy Series No. 57 Redesigning the Uranium Resource Pathway
www.unece.org/fileadmin/DAM/energy/se/pdfs/UNFC/publ/E_ECE_ENERGY_124.pdf
[2] Ibid, page 62 – 64

UN ECE Reports depict uranium mining as a 'sustainable' energy resource (although mining is never sustainable), ISL as an environmentally friendly exploitation method (although it is not) and thus the method of choice for Mkuju River, naming ROSATOM's Mkuju River Uranium Project as the source for uranium – and advertising Small Modular Reactors (SMRs) as a future way for nuclear power (notwithstanding the fact that there are no functioning SMRs are available).

Is it a 'house of cards' which will collapse soon – wasting EU taxpayers' money – or might the attempt to paint uranium 'green' and nuclear as 'sustainable' become successful – nost probably at the expense of African countries?

In the following chapters, several lines are explored:

- First of all, the European Commission Nuclear Safety Programme's activities in Tanzania, basically 'helping' Tanzania in regard to future exploitation of a uranium deposit owned by Russian ROSATOM

- The start and activities of EU's project MC5.01/15B, implemented by Kazakh ISTC in southern African countries, promoting nuclear in general and 'docking' with the SADC – Southern African Development Community's secretariat

- Another line explores the attempts to greenwash uranium, starting with Namibia and following these lines to the UN Economic Commission for Europe (UN ECE) Reports trying to 'Redesign[ing] the Uranium Resource Pathway" and to create "A new uranium narrative".
  These activities should be seen in a wider context of attempts of some states to revitalized nuclear power.

For **more details on the developments around Mkuju River Project** in / enclosed by World Heritage Site Selous Game Reserve and the conflict between World Heritage site and planned mining, please see:

Tanzania: Selous Game Reserve at Risk Through Unsustainable Developments
World Heritage Watch Report **2017**, page 39
(http://world-heritage-watch.de/wp-content/uploads/2018/06/2017-WHW-Report-Krakov.pdf)

Tanzania: Selous Game Reserve – Still Under Threat
World Heritage Watch Report **2018**, page 34
(http://world-heritage-watch.de/wp-content/uploads/2018/06/2018-Report-WHW.pdf)

Tanzania: Selous Game Reserve on Endangered List for four years by 2018 … and counting
World Heritage Watch Report **2019**, page 31
(https://world-heritage-watch.org/wp-content/uploads/2019/06/World-Heritage-Watch-Report-2019.pdf)

Tanzania: Selous Game Reserve … losing its status?
World Heritage Watch Report **2020**, page 44
(https://world-heritage-watch.org/wp-content/uploads/2020/06/WHW-Report-2020.pdf)

2. *The details of the EU involvement …*

European (and other industrialized) countries were always interested in Africa's resources.

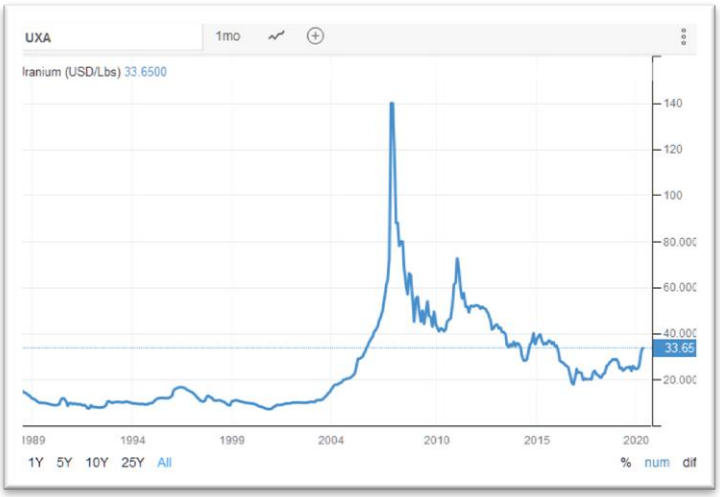
By **2008**, the fuel for nuclear power plants (and nuclear bombs), uranium, was exploited in Niger, Namibia and, to a small extent, in South Africa. By 2010, approx. 15% of the world uranium production came out of Africa.

In **2008 / 2009**, with a sharp rise of the price of uranium, companies from many parts of the world flocked into Africa, searching for uranium.

African countries were ill prepared for the exploration activities of uranium companies:

* There were no specific laws and regulations in place governing exploration, exploitation and transport of uranium, a radioactive material, and

* National atomic energy commissions, in most cases, had little or no experience with uranium exploitation; mostly, they had to deal with controlling X-ray machines and medical applications of radionuclides.



from: https://tradingeconomics.com/commodity/uranium

Only a few of the many exploration companies which flocked into Africa succeeded in locating an ore deposit worth mining. One of them was MANTRA Tanzania Ltd, subsidiary of MANTRA Resources Ltd, Perth / Australia.
In **2009**, **MANTRA Tanzania Ltd**., **identified the Mkuju River Uranium deposit** in southwest Tanzania (near Songea), inside World Heritage Site Selous Game Reserve.[3]

The 'loophole': Tanzanian laws allow exploration even in a protected site – but would not allow actual mining; the inconsistency of this regulation was also pointed out by the WHC-IUCN-Mission Reports on SGR.
Once a valuable deposit was discovered, there would be enormous pressure on the government to allow mining by some exception due to the big investment made by the company which had identified the deposit and the promise of economic development and prosperity.

In **2012**, the IAEA held a "regional training course on sustainable uranium resources development" in Tanzania, hosted by the then Ministry of Energy and Minerals (MEM) and Tanzania Atomic Energy Commission (TAEC).
TAEC then requested an IAEA Uranium Production Site Appraisal Team (UPSAT) review of the operations and regulation of the proposed exploration and mining projects." [4]

(*NOTE the term 'sustainable' in the title of the training. 'Uranium resources development', i.e. uranium mining, is, like any other mining, per se not a sustainable activity.*)
Later In **2012** (October), Mantra Tanzania Ltd. was granted an 'environmental impact assessment certificate', the first of a number of licenses needed to start mining.[5]

[3] WISE Uranium Project, https://www.wise-uranium.org/uptz.html#MKUJUR
[4] IAEA, Fuel Cycle and Waste Newsletter, Volume 9, Number 2, September 2013
www.iaea.org/publications/10636/fuel-cycle-and-waste-newsletter-vol-9-no-2-september-2013
[5] WISE Uranium Project, https://www.wise-uranium.org/uptz.html#MKUJUR

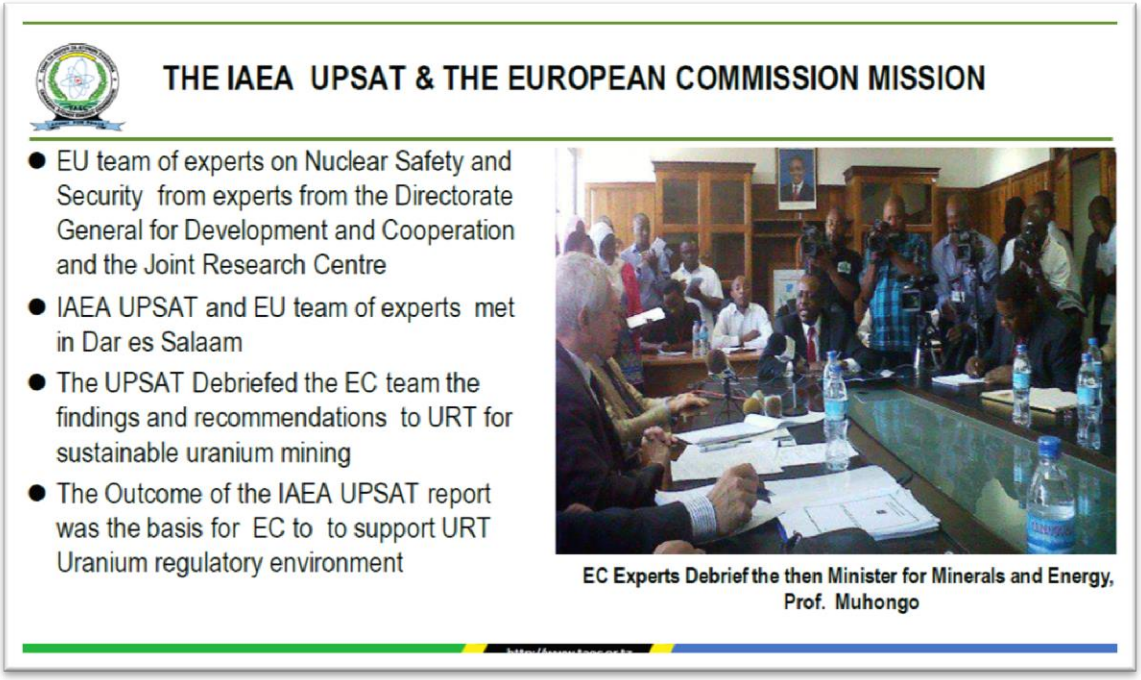
In June **2013**, the then Tanzanian Minister of Energy and Minerals visited Brussels and made a country request for support in regard to the mining of uranium. The request was registered.

Members of the European Commission Nuclear Safety Programme visited Tanzania from *4 - 7 June 2013*.

The aim of these visits was to get a preliminary needs assessment to identify the scope for a possible program of assistance for Tanzania.[6]
The European Commission Nuclear Safety Programme also met with the Ministry of Energy and Minerals (MEM), the National Environmental Management Council (NEMC) [7], and the Tanzania Atomic Energy Commission (TAEC)
EU participant: Vesselina Ranguelova (European Commission, Nuclear Safety and Security Coordination). [8]

The visit of the European Commission Nuclear Safety Programme coincided and overlapped with the IAEA Uranium Production Site Appraisal Team (UPSAT) which visited Tanzania *27 May to 5 June 2013*.

A TAEC representative stated later on (2018):
"The Outcome of the IAEA UPSAT report was the basis for EC to support URT Uranium regulatory environment".
The IAEA – UPSAT mission debriefed and met with the "EU team of experts on Nuclear Safety and Security from experts from the Directorate General for Development and Cooperation and the Joint Research Centre". [9]



NOTE that TAEC has adopted the term 'sustainable uranium mining' in its presentation.

[6] FIVE YEARS AFTER THE UPSAT MISSION: PROGRESS AND CHALLENGES, PowerPointPresentation D.A. Mwalongo, L. S.P. Busagala, F.O. Khamis, TAEC
[7] NEMC the Tanzanian authority responsible for the licensing of for example, uranium mines etc.
[8] Source: Minutes of a meeting of Civil Society organisations / LHRC – Legal and Human Rights Center, Dar es Salaam, and others, and the EU, Nuclear Safety and Security Coordination, European Commission, Vesselina Ranguelova
[9] "FIVE YEARS AFTER THE UPSAT MISSION: PROGRESS AND CHALLENGES" PowerPointPresentation D.A. Mwalongo, L. S.P. Busagala, F.O. Khamis, TAEC,2018, page 8, and https://inis.iaea.org/collection/NCLCollectionStore/_Public/49/097/49097543.pdf

In March **2016**, the **European Union, represented by the European Commission, launched a tender with the following purpose:**

"4. Strengthening the technical capabilities of the Tanzanian Atomic Energy Commission
(…)
7. Contract description: The purpose of the project is to improve the capabilities of Tanzania to independently regulate the uranium mining industry, by transfer of know-how and EU best practices. The specific objectives of this project are:
I. enhancing the legal and regulatory framework related to uranium mining and milling activities and associated transport;
II. support to the Tanzanian government for the use of the Dar es Salaam seaport for uranium transport and export; and
III. regional outreach programme on uranium regulatory framework and nuclear/radiation safety education and training."
The Maximum budget is 2 200 000 €

Source: EU TED – Tenders electronic daily, http://ted.europa.eu/udl?uri=TED:NOTICE:83926-2016:TEXT:EN:HTML

Later in 2016, **the EU created …**

"PROJECT MC5.01/15B - SUPPORT TO SOUTHERN AFRICAN STATES IN NUCLEAR SAFETY AND SAFEGUARDS"
Project duration: 36 months *(November 2016 - November 2019)*
Budget: € 2,5 million

Source: https://www.sadcproject.istc.int/, Appendix A

The project was finally awarded to ISTC - International Science and Technology Center, Kazakhstan.
The ISTC was co-founded by the EU [10] and is partially funded by the EU. [11]

It is rather questionable that an institution like ISTC, co-founded and funded by the EU, is awarded a 2,5 Mio € contract by its co-founders and funders, under the allegation that there would be no other organization or institution able to fulfill the criteria of the project application.

By **2017**, ISTC had started working on South African countries, launching a series of conferences, workshops and meetings "to support Southern African States in Nuclear Safety and Safeguards" – in reality, trying to promote nuclear power in Southern African states, also by creating a African Young Generation in Nuclear (AYGN) and targeting especially young women (see: www.sadcproject.istc.int/news)

ISTC created a website www.sadcproject.istc.int/ which suggests by its name that ISTC would be connected to SADC - the South African Development Community. Actually, formal relations between ISTC and SADC office were made only by November 2019.[12]

By now, EU Project MC5.01/15B, originally planned for Nov 2016 – Nov 2019, has been prolonged by a phase II until Nov. 2020.

This EU project, implemented by ISTC, raises a number of questions.

[10] https://www.nap.edu/read/5466/chapter/9#31
[11] https://en.wikipedia.org/wiki/International_Science_and_Technology_Center
[12] Meeting between Representatives of ISTC and SADC Secretariat, https://www.sadcproject.istc.int/news/meeting-between-representatives-of-istc-and-sadc-secretariat

3. *Questions re: EU involvement via project MC5.01/15B in Southern Africa, and Southern African Development Community (SADC)*

3.1. Preparing the Ground for 'Nuclear' in Southern African countries

The EU awarded Project MC 5.01/15B to Kazakh International Science and Technology Center (ISTC).

ISTC is an outspokenly pro-nuclear organization.

ISTC partners for conferences and meetings at different occasions with nuclear companies and WNA – World Nuclear Association, for example: Workshop on Nuclear Advocacy and Communication: "Building the Capacity on Nuclear Advocacy and Communication in Africa", Nairobi, 19-30 Nov. 2017, with **ROSATOM as "silver sponsor**".

ISTC advocates for nuclear power on other occasions (some examples …):

29.11.2017
ISTC assists young Africans in spreading nuclear safety and security culture
www.istc.int/en/article/20086

28 September 2018
Project Partner highlights the Importance of Women´s Participation in the Nuclear Sector for African Countries
Sheriffah Noor Khamseah Al-Idid Dato Syed Ahmad Idid, a member of Women in Nuclear Global (WIN) and a Global Innovation & Nuclear Advocate, has shared with the audience of BERNAMA, the Malaysian National News Agency, her account from a recent trip to Zambia and her efforts to enhance the participation of African women in the nuclear field. The trip was made possible within the framework of project MC 5.01/15 B.
www.sadcproject.istc.int/news/project-partner-highlights-the-importance-of-women-s-participation-in-the-nuclear-sector-for-african-countries

A compilation of ISTC's activities re: Africa can be found also on ITSC's website:
http://www.istc.int/en/search?keyword=kenya&type=2 ("News")
and 'Events': http://www.istc.int/en/search?keyword=kenya&type=2

ISTC promotes uranium mining via the example of Kazakhstan …

"Dr. Timur Zhantikin, JSC Kazakhstan Nuclear Power Plant, Director General (2008-2018) of the Committee for Atomic and Energy Supervision and Control, shared experiences and lessons from the perspective of a state that in the span of 30 years has built its nuclear institutional and legal frameworks and became a world leader in Uranium production …"[13]

… as well as nuclear power:

"The project is the INSC's [Instrument for Nuclear Safety Cooperation] first outreach to Africa, a continent where growing peaceful use of nuclear energy and nuclear applications requires increased levels of nuclear safety culture." [14]

"For instance, the European Regulatory Cooperation Forum brings together European countries with advanced nuclear energy sector, as well as with smaller and with nascent nuclear power programs. This is an example that SADC countries may wish to follow as Southern Africa faces the same need of a platform that unite diverse countries with various levels of use of radioactive materials." [15]

Conclusions

The EU Nuclear Safety Programme, via Project MC5.01/15B, implemented by ISTC

> promotes nuclear power in (Southern) African countries via workshops, conferences, seminars etc.

> ISTC created a website www.sadcproject.istc.int, points out ISTC's intention to 'dock' with SADC – South African Development Community to influence its member states in favor of nuclear power. Multiple pro-nuclear activities were launched, see: www.sadcproject.istc.int/news

> tries to get youth, especially young women, involved in nuclear technology. A pro-nuclear youth organization was created: **African Young Generation in Nuclear (AYGN)** and a **Kenyan offspring was created**, too: **Kenyan Young Generation in Nuclear (KYGN)**

With a vague outlook for nuclear power in EU countries themselves, the EU via its Nuclear Safety Programme and Kazakh ISTC promotes nuclear power in (Southern) African states under the veil of promoting nuclear safety and safeguards.

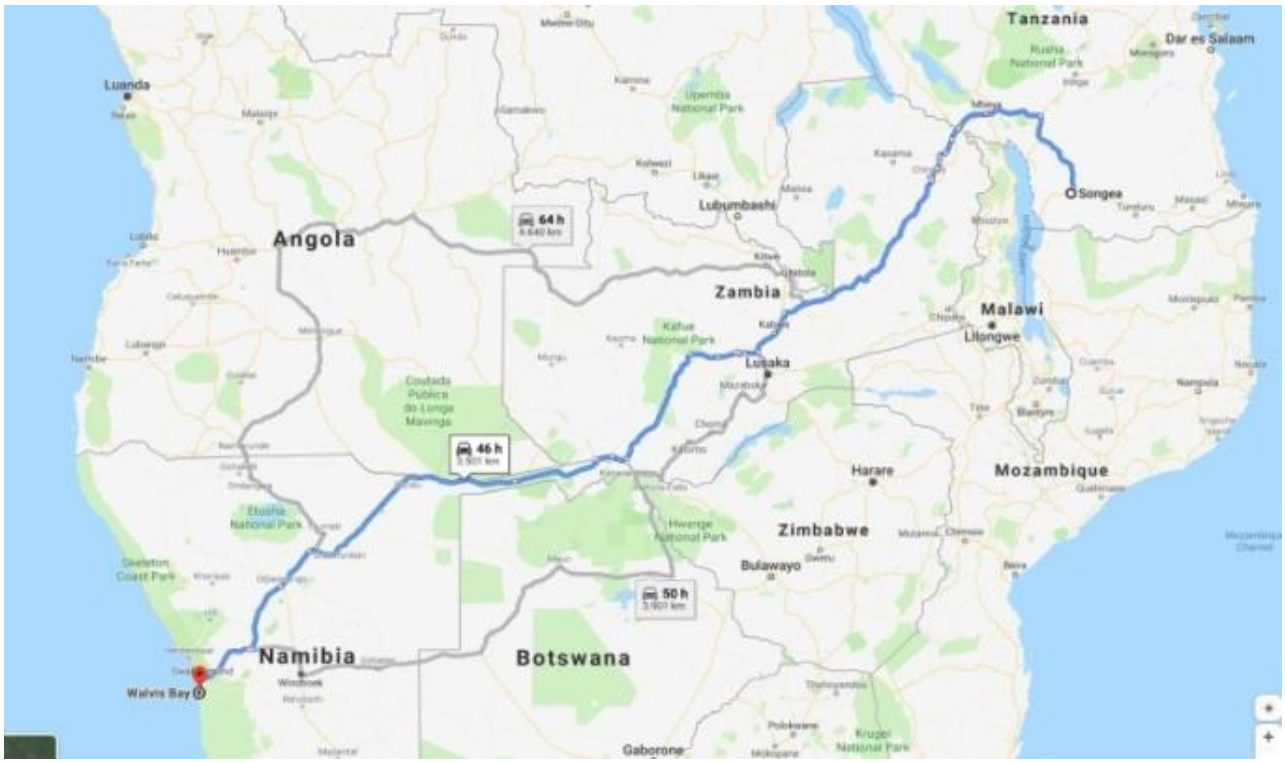
[13] ISTC and SADC Secretariat convene a Workshop on Nuclear Safety and Nuclear Transportation Safeguards, 02 March 2020 www.sadcproject.istc.int/news/istc-and-sadc-secretariat-convene-a-workshop-on-nuclear-safety-and-nuclear-transportation-safeguards (underlining not in the original)

[14] Meeting between Representatives of ISTC and SADC Secretariat, 28 November 2019 (underlining not in the original) www.sadcproject.istc.int/news/meeting-between-representatives-of-istc-and-sadc-secretariat

[15] Botswana, SADC Secretariat join the Group of Partners engaged with the Implementation of the Project Support to Southern African states in Nuclear Safety and Safeguards, 27 November 2019 www.sadcproject.istc.int/news/botswana-sadc-secretariat-join-the-group-of-partners-engaged-with-the-implementation-of-the-project-support-to-southern-african-states-in-nuclear-safety-and-safeguards

3.2. A Transport Route for Uranium from Tanzania (or Malawi) to Namibia's Walvis Bay ?

In 2019, the Zambia Radiation Protection Authority conducted a training course in Lusaka (Zambia) on 'safe transportation of uranium ore and radioactive sources' In line with the 'Implementation Plan of the EU-funded Project MC 5.01 15B". [16]



Transport Route from Songea area / Tanzania or Malawi to Walvis Bay, Namibia (google maps)

NOTE that there are no active uranium mines anywhere in the area which would necessitate transport routes for uranium ore.

> **Kayelekera Uranium Mine, Malawi** had shipped its uranium / yellowcake up to 2014 from Malawi via Zambia to Walvis Bay, Namibia (3500km). Ports on the East African cost would be much closer; most probably, no other port in the area besides Walvis Bay, has a license to ship radioactive materials.
Kayelekera Uranium Mine in Malawi was put on 'care and maintenance' in 2014, and is not very likely to re-open any time soon; Paladin sold the mine to another Australian company (Hylea / Lotus) in 2019/2020. [17]

Strange enough, the November 2019 Newsletter of the ISTC / SADC Project states: "Currently, the largest quantity of radioactive material transported through Zambia is the UOC from Kayelekera Mine in Karonga, Malawi to Walvis Bay, Namibia". [18]
The statement makes little sense since Kayelekera Uranium Mine had been put on 'care and maintenance' in 2014, no uranium was produced or transported from there since.

[16] https://www.sadcproject.istc.int/news/the-zambia-radiation-protection-authority-conducts-a-training-course-in-lusaka-on-safe-transportation-of-uranium-ore-and-radioactive-sources
[17] PALDADIN website, https://www.paladinenergy.com.au/project/kayelekera-mine-malawi-sold-march-2020
[18] https://www.sadcproject.istc.int/resources > Newsletter updated November 2019 > download

> **Mkuju River Project** in Southwest Tanzania (near Songea), by Mantra / UraniumOne / ROSATOM has been postponed in 2017 due to low prices. " … the restoration of the market is not expected earlier than 2022," Polikarpov, Rosatom's Regional Vice-President for Central and Southern Africa, said in an interview. [19]

As of the writing of this report (June 2020), no activity has started at Mkuju River. Building a major uranium exploitation operation takes at least 2 – 3 years, probably more due to the remote location of Mkuju River deposit.

Remains the question:
WHY are transport simulations conducted along a route to Walvis Bay with no operating mine in sight?

Another issues re: transport
(1) There is a long standing controversy between international nuclear regulators and the Government of Tanzania:
The Government of Tanzania favors a transport route from Songea through Tanzania to the port of Dar es Salaam (approx. 600km) and further shipping of yellowcake from there.
However, obviously the seaport of Dar es Salaam does not have a license to handle radioactive materials such as uranium (probably due to fears in regard to piracy on shipping routes along the East coast of Africa).

Thus, ISTC / EU Nuclear Safety Programme prefers a 3600 km-route through three countries (all members of SADC) with bad roads, several border crossings etc. to Walvis Bay, Namibia – a seaport with a license to handle uranium (Rössing Mine ships its yellowcake through Walvis Bay since its start).

The issue is not yet resolved.

Conclusion

The EU is funding the Project MC5.01/15B to help with nuclear 'safety and safeguards' as well as with securing transport route for uranium / yellowcake from Southwest Tanzania (or Malawi) to Walvis Bay.
The only uranium exploitation project in this area which might profit from such a route is Mkuju River uranium project near Songea.
Mkuju River Uranium Project is owned by ROSATOM – any profits generated by the mine will go to Russian ROSATOM whereas preparatory work is funded by the EU via its project MC5.01/15B.

[19] https://tanzania.mid.ru/web/tanzania-en/publications-on-russia/-/asset_publisher/CLelxjfwPHrC/content/rosatom-says-mkuju-uranium-project-due-2022-after-global-price-appreciation?inheritRedirect=false&redirect=https%3A%2F%2Ftanzania.mid.ru%3A443%2Fweb%2Ftanzania-en%2Fpublications-on-russia%3Fp_p_id%3D101_INSTANCE_CLelxjfwPHrC%26p_p_lifecycle%3D0%26p_p_state%3Dnormal%26p_p_mode%3Dview%26p_p_col_id%3Dcolumn-2%26p_p_col_count%3D1

3.3. The tale of 'green' uranium, 'sustainable uranium mining' … and nuclear power by SMRs

Attempts to paint uranium 'green' were already made years ago, among others in a "Strategic Environmental Management Plan (SEMP) for the Central Namib Uranium Province 2012 Annual Report" [20] by Namibian Ministry of Mines and Energy in cooperation with and funded by German Federal Institute for Geosciences and Natural Resources (BGR) and German cooperation GTZ.
The report concludes that "Namib uranium should be regarded as a 'green' product" if there is "<10% critical international voices about the operations and performances …" and if "There <10% evidence of unreliable, unethical and/or environmentally, socially and financially irresponsible conduct by the operation uranium mines "[21]

The criteria to declare a product – uranium – as 'green' are not facts – but media coverage by mainstream media (international stakeholders who are opposed to uranium mining or nuclear power in principle or on ideological reasons are dismissed from the start).

Attempts to greenwash uranium continue:

In **Dec. 2018 / Jan. 2019, the UN ECE – UN Economic Council for Europe** published (following a draft paper) a study titled **"Redesigning the Uranium Resource Pathway -** Application of the United Nations Framework Classification for Resources for Planning and Implementing Sustainable Uranium Projects".[22]

The UN ECE comprises, notwithstanding its name, besides European countries, including Russia, also the USA, Canada, as well as Kazahkstan (the world's biggest uranium producer); thus, the main four nuclear weapons states and main nuclear power states are members of UN ECE.

The UN ECE Energy Series Nr. 57 Report "Redesigning the Uranium Resource Pathway" goes to great length to create an impression that uranium could be mined 'sustainably' and should be regarded as 'green'.

"Among the clean, "green" energy options, uranium has a positive role to play, in particular, …" [23]

"In that sense, the need to deploy uranium as a green energy resource and substitute for carbon fuel sources, notably for base-load provision, is the primary "pull" factor powering demand for uranium resources." [24]

Moreover, the Report tries to create "A new uranium narrative" in order to align uranium resources with the SDGs[25], suggesting the use of ISL-technology as a 'clean' method of uranium recovery and Small Modular Reactors (SMRs) as the means of choice for generating power / electricity, throughout the Report.

[20] Geological Survey of Namibia (2014). Strategic Environmental Management Plan (SEMP) for the Central Namib Uranium Mining Province, 2012 Annual Report. Ministry of Mines and Energy, Windhoek, Republic of Namibia
http://www.mme.gov.na/files/publications/b32_Annual%20SEMP%20Report%20for%202012.pdf
[21] ibid, page 89, Target 11.1.1. and indicators 11.1.1.1. and 11.1.1.2.
[22] UN ECE Energy Series No. 57 – Redesigning the Uranium Resource Pathway, ISBN 978-92-1-117211-9, underlining not in the original
www.unece.org/fileadmin/DAM/energy/se/pdfs/UNFC/publ/E_ECE_ENERGY_124.pdf,
[23] UN ECE Energy Series Report No. 57, page 17
[24] ibid, page 55, underlining not in the original
[25] Ibid, page 17

A quick fact-check shows that ISL is by no means 'clean'. The US Geological Service concluded in 2009: "To date, no remediation of an ISR operation in the United States has successfully returned the aquifer to baseline conditions." [26]

Another expert review states: "The experience of acid ISL uranium mining in areas controlled by former Soviet Union provides a stark contrast to experiences in America and Australia. In most applications of the technique, there have been extreme occurences of groundwater contamination. At some sites, this contamination has migrated considerable distances to impact on potable drinking water supplies." [27]

The real reason for a change from open-pit mining to ISL at Mkuju River Project is given in a UraniumOne presentation: Capital expenditures (CAPEX) and operational expenditures (OPEX) are lower with ISL. The company advertises the same advantages of ISL on its website.[28]

Conclusion

Uranium mining and nuclear power lobbyists try hard to paint uranium 'green', to advertise in-situ leaching (ISL, also referred to as in-situ recovery, ISR) – **and to fit nuclear power under "SDG 7** – Ensure access to affordable, reliable, sustainable and modern energy for all" – despite the facts that uranium is acknowledged 'green' if there is little negative reporting about it, and that ISL is not 'clean', but just cheaper than other mining methods.

The repeated mention of SMRs in the UN ECE Energy Series Report No. 57 suggests a **connection to other international pro-nuclear activities, such as the NICE Future – Nuclear Innovation Clean Energy Future** [29] with some of the same states as founding members (United States, Canada, United Kingdom, and Russia …) who are also members of UN ECE.

The European Union – via its Nuclear Safety Programme and Kazakh ISTC – contributes to such activities, targeting (Southern) African countries and SADC – Southern African Development Community.

Mkuju River Uranium Project in Tanzania is used as an example mentioned explicitly – but might not remain the only one. It is currently used as a forefront example for a "new uranium narrative" trying to align uranium mining and nuclear power with the SDGs, mainly SDG 7.

Freiburg / Germany
1 July 2020

[26] J.K. Otton, S. Hall: In-situ recovery uranium mining in the United States: Overview of production and remediation issues, International Symposium on Uranium Raw Material for the Nuclear Fuel Cycle: Exploration, Mining, Production, Supply and Demand, Economics and Environmental Issues, 2009, page 129
https://inis.iaea.org/collection/NCLCollectionStore/_Public/41/003/41003200.pdf?r=1&r=1

[27] *Critical review of acid in situ leach uranium mining: 2. Soviet Block and Asia, in* Mudd, G.M. Env Geol (2001) 41: 404. https://doi.org/10.1007/s002540100405, underlining not in the original

[28] http://www.uranium1.com/clean-energy/#isr_mining

[29] https://www.nice-future.org/about/partners

CBRN Centres of Excellence
An initiative of the European Union

FACT SHEET

Project number:
MC5.01/15B

Project duration:
36 months
(November 2016 - November 2019)

Budget:
€2,5 million

Source of funding:
European Commission,
Directorate-General for International Cooperation and Development
(DG DEVCO),
Instrument for Nuclear Safety Cooperation

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The implementation of this project is managed by EC DG DEVCO

European Commission

PROJECT MC5.01/15B - SUPPORT TO SOUTHERN AFRICAN STATES IN NUCLEAR SAFETY AND SAFEGUARDS

Geographical scope

African countries preparing to engage in mining and transportation of uranium ore concentrate through their territories: Tanzania, Zambia, Malawi and Namibia. The Secretariat of the Southern African Development Community (SADC), based in Gaborone, Botswana, seeking to coordinate the actions of the pilot participating states, and to harmonize in the future the nuclear safety legal frameworks and policies of all its fourteen member states

Context

In search of development opportunities, some Eastern and Southern African countries attempt to use their uranium ore resources as a source of export revenue. For example, transportation of uranium concentrated ore is planned through the territories of Tanzania, Zambia, Malawi and Namibia, from production sites in Tanzania to the sea port of Walvis Bay in Namibia. Sustainable uranium mining and processing requires application of best international standards to avoid environmental damage and other hazards. It also implies harmonization on a regional basis of legal frameworks and policies to address the challenges at border crossings and crucial nodal points to prevent illicit trafficking of radioactive materials. The four participating countries recognize, in various form and degree, the need for regional harmonization and consider EU technical assistance essential in acquiring both scientific and organizational know-how, to successfully fulfil the nuclear safety requirements.
Project MC 5.01/15B seeks synergies with a parallel EU-funded project under the Instrument contributing to Stability and Peace (IcSP), namely P 60 "Support to The Centre of Excellence of Eastern and Central Africa in Nuclear Security". Together, they illustrate the internationally recommended "Triple S" approach addressing simultaneously the nuclear safety, safeguards and security issues.

Objectives and purpose The overall long-term objective of the project is

- to strengthen and harmonize the nuclear regulatory frameworks in the participating countries for sustainable uranium mining, milling, processing and associated transport in the sub - Saharan region of Africa,
- to enhance the nuclear safety and security policies of the participating countries and to support their efforts to fulfill the international safeguards obligations they have undertaken;
- to support the regional approach by strengthening the capacity of SADC to serve its member states, including through the development of a regionally harmonized system of accountancy, control and transport of radioactive and nuclear (RN) materials designed to improve the communication and interaction among the originating, transit and destination countries;

Activities The project will aim to

- analyze and help upgrade and harmonize on a regional basis the national regulatory frameworks, through the development of National Action Plans;
- perform a study in the four countries and at a regional level analyzing the production and transport of uranium;
- organize an exercise simulating the transport of uranium ore concentrate from Tanzania to Namibia through Malawi and Zambia, and monitoring step by step the provisions applied in the individual countries, at the border crossings and assessing the interaction at the regional level;
- organize a simulation and a field exercise in conjunction with P- 60 project;
- set up a web based communication system with a central server at SADC Headquarters, and fully-supported work stations at the responsible organizations in the four beneficiary countries, with a flexibility to allow further extension to other countries joining the network;
- identify the training needs during the inception phase and through the case study and address these needs, while prioritizing the training courses to be offered in line with the available budget;
- organize training modules at a regional level to strengthen networking between the participating countries.

Public Advocacy

This project will contribute to raise public awareness on nuclear safety in the participating countries through public events and media exposure, including through social media, TV discussions, a students' debate on the peaceful use of nuclear power and presentations at specialized international exhibitions and fora.