



Activity report 2023

CONTEXTUAL CHANGES

- **War in Ukraine**

In 2023, the impact of Ukraine's invasion by Russia, resulting in a very stressful and dangerous situation for nuclear safety and nuclear energy, at the site of Zaporizhzhia nuclear power plant as well as others, continued. This war has set a completely new picture in terms of nuclear safety and nuclear security in Europe (shelling, threat of new drones with hi-tech bomber capacities) but also in terms of energy supply, especially gas, impacting public opinions on energy sovereignty.¹



Zaporizhzhia nuclear power plant, Ukraine. Image: Ralf1969, Wikimedia Commons

Despite the war and the European Commission² recommendations, Russia's influence on the European nuclear energy sector, in the Eastern part especially, remained significant, including dependency on uranium, fuel and technology supply, as well as on knowledge and skills from the Russian company Rosatom building reactors in Europe. Unfortunately, as observed in 2022 already, the IAEA still struggles to deal with nuclear safety in Ukraine while Russia still holds position and influence in the Agency.

¹ https://www.oecd-nea.org/jcms/pl_66130/ukraine-current-status-of-nuclear-power-installations

² <https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:52022DC0230>

- **Political decisions and public opinions**

President Emmanuel Macron made a declaration on 10 February 2022 calling for a “renaissance” of the nuclear energy in France, followed a year later, by the creation of a European nuclear “alliance” in Sweden. In September 2023, this alliance became international and during the COP28 at Dubai, in December 2023, a pledge to triple nuclear capacity by 2050 was made by 22 countries in the name of the fight against climate change³.

The push from EU member states like France to promote nuclear energy against climate change is not new and in July 2022 the members of the EU Parliament did not object the inclusion of gas and nuclear in the EU taxonomy which is meant to help achieving the objectives of the European Green Deal.



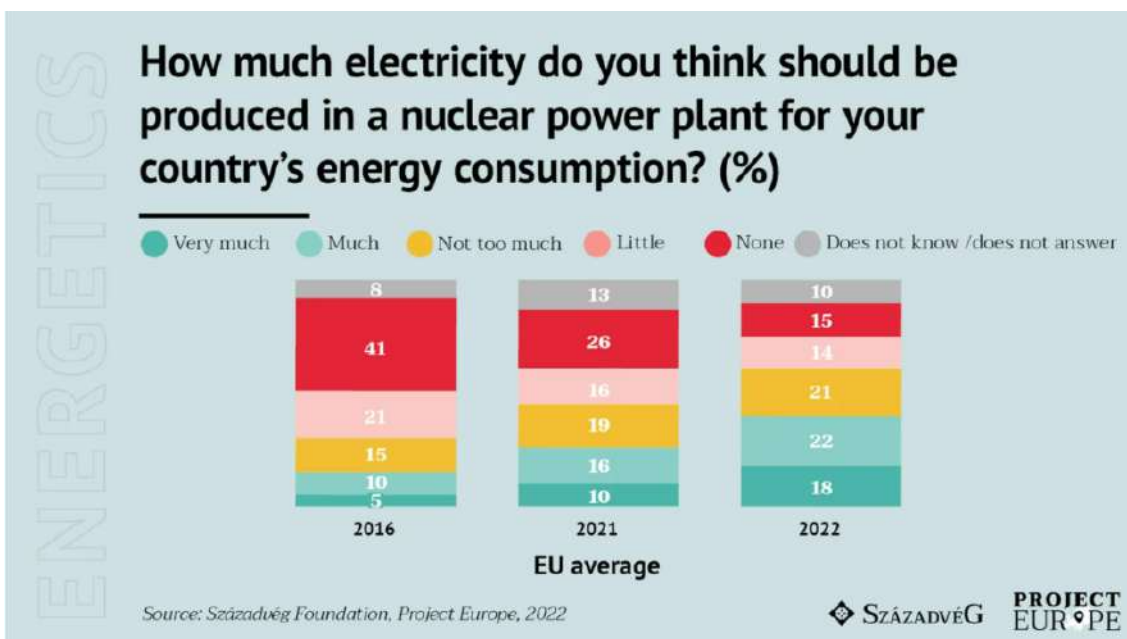
President Emmanuel Macron of France at the United Nations climate summit in Dubai, United Arab Emirates, on Saturday. He said nuclear power was an “indispensable solution” in efforts to curb climate change. Peter Dejong/Associated Press

There is a debate at the European level regarding nuclear energy promoted by some member states, like France, as a strategic technology for energy independence and climate change mitigation while others, like Germany, deny this criticality.

In fact, during 2023, this political debate on energy among member states took place at the European level on multiple topics like the Renewable Energy Directive (RED) or the electricity market reform or also the Net-Zero Industry Act.

If among politicians and public nuclear energy appears to be better accepted than after Fukushima 10 years ago, due to the energy crisis and due to the climate change, it is nevertheless still far from consensual and continues to face serious challenges and concerns.

³ <https://www.nytimes.com/2023/12/02/climate/cop28-nuclear-power.html>



• Nuclear energy development

The evolution of the nuclear reactors under construction in Europe since 1950 peaked right before Chernobyl in the late 1980's before decreasing continuously until 2005. Constructions then started to increase again before declining again few years after following Fukushima Daiichi disaster.

In 2023, 13 reactors were under construction in EU and wider Europe:

- 1 reactor in France (EPR of 1630 MW).
- 1 reactor in Slovakia (VVER V-213 of 440 MW).
- 2 reactors in the United-Kingdom (EPR-1750 of 1630 MW).
- 5 reactors in Russia (1 Brest-OD-300 of 300 MW, 2 RITM-200S of 55MW and 2 VVER V-510K of 1175 MW).
- 4 reactors in Turkey (VVER V-509 of 1114 MW)⁴.

In addition to this continued decline of construction, nuclear power plants are aging, in fact, in July 2022, 90 of the 104 nuclear reactors in the EU had an age higher than 31 years⁵. Small Modular Reactors (SMRs) are now being planned for several countries across the world⁶.

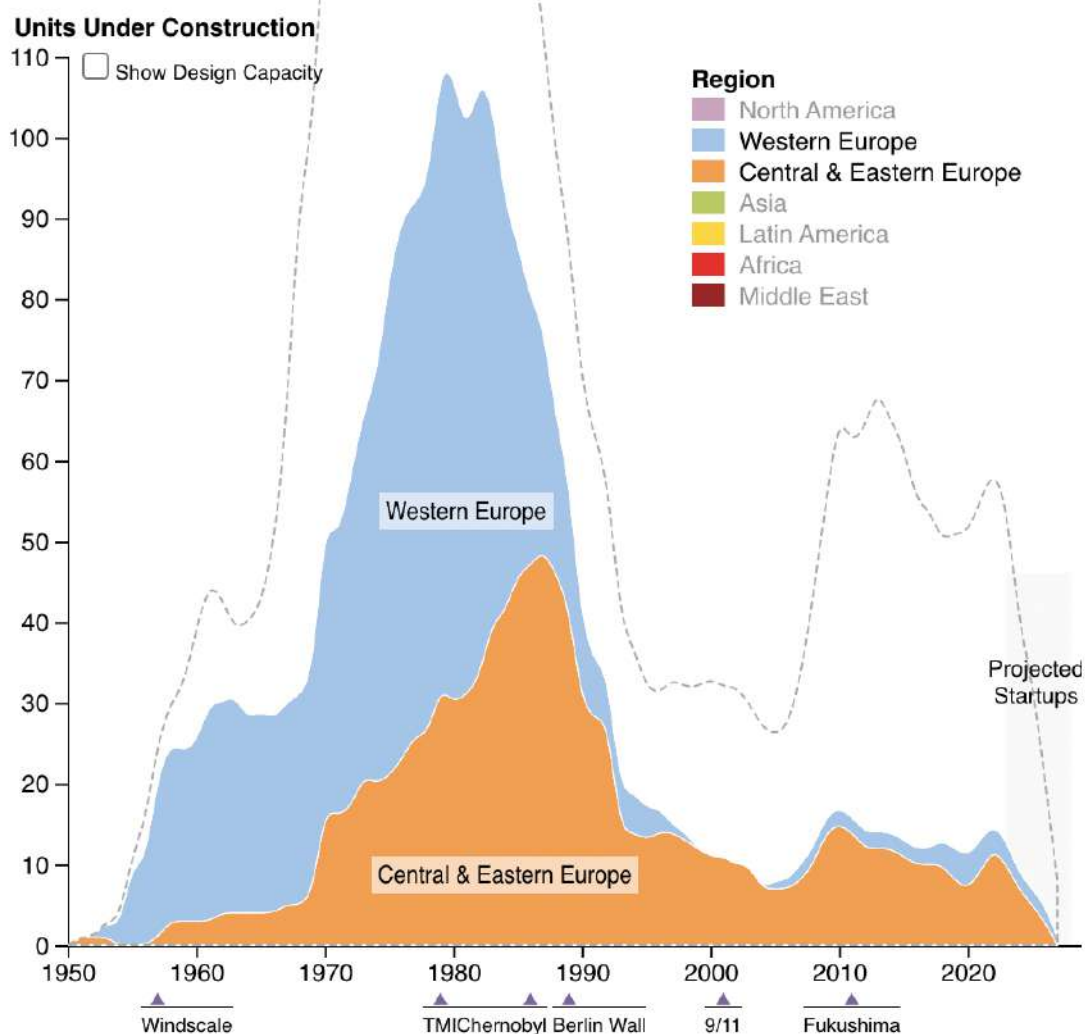
⁴ <https://www.worldnuclearreport.org/IMG/pdf/wnsr2023-v3-hr.pdf>

This take into account 2 small reactors in Russia but not 2 reactors suspended in Ukraine as it can be found here: <https://world-nuclear.org/information-library/current-and-future-generation/plans-for-new-reactors-worldwide.aspx>

⁵ <https://www.statista.com/statistics/1352911/age-of-nuclear-power-reactors-in-the-european-union/>

⁶ [https://www.europarl.europa.eu/RegData/etudes/BRIE/2023/751456/EPRS_BRI\(2023\)751456_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/BRIE/2023/751456/EPRS_BRI(2023)751456_EN.pdf)

Reactors Under Construction — Year by Year



- **Costs and safety**

The EU's first new reactor in 16 years came online this April 2023, in Finland⁷, with a total cost of 11 billion euros instead of 3, after over 18 years instead of 4. Right after, in August 2023, Slovakia also had a new reactor online, a decade behind schedule and more than double its original budget⁸. EPR reactors under construction in France and in the United-Kingdom are all over a decade over schedule and billions over-budget.

⁷ There were four reactors added to the grid in those 16 years in the European part of Russia. Also, Astravets 1 in Belarus was added to the grid before OL3.

⁸ <https://www.reuters.com/graphics/EUROPE-ENERGY/NUCLEARPOWER/gdvzwwegkpw/>

Among the 13 reactors under construction, only the 3 Russian reactors planned are still claimed to be on schedule, whereas all face lengthy and costly safety challenges. For example, the French nuclear fleet on 19 December 2022, had 16 of 56 reactors⁹ stopped for reasons of safety concerns and electricity production for 2022 was at its lowest level for the last 30 years which was one of the reasons the debt of the French company EdF increased to 64,5 billion euros. In the beginning of 2023, the French government announced its intention to merge the technical support organisation IRSN with the regulator ASN in a new structure with a claim to improve safety. The lack of consultation and the lack of impact assessment for this decision as well as the rather good reputation of the French dual model of nuclear safety has led to a lot of opposition to this reform from different stakeholders (experts, civil society, elected officials and others). End of 2023, the reform is still not implemented and some debates as well as demonstrations are planned.

Finally, in France unit 1 of the Tricastin nuclear power plant was the first French power reactor licensed to operate beyond 40 years with a 10-year extension while Finland, Sweden, Bulgaria, the Czech Republic, Slovenia, the Netherlands, and Hungary have all taken steps to allow reactors to run for at least 60 years.

Lifetime extension of nuclear power plants as well as new reactor planning is not without consequences on radioactive waste management which are already unprecedented and hard to deal with technically and socially. In addition, climate change also has a significant impact on nuclear power plants (temperature and flow of water, heat waves, sea level).



The Tricastin-1 nuclear power plant began commercial operation in December 1980. Courtesy EDF.

⁹ During summer a total of 32 reactors were offline – 16 due to cooling problems.

SITUATION OF NUCLEAR TRANSPARENCY WATCH

Based on the Aarhus Convention, Nuclear Transparency Watch (NTW) works to ensure a civil society presence at the heart of expertise and decision-making on nuclear safety and security in the European Union. The network's activities cover the entire nuclear cycle, with a particular focus on operational safety, including issues such as life extension of old plants, emergency preparedness and response (EP&R), nuclear post-accident management, radioactive waste management (RWM), nuclear regulation, decommissioning of nuclear facilities and also environmental issues related to nuclear.

- **INTERNATIONAL RELATIONS**

NTW maintaining a close link with the European Union institutions; and especially the European Commission through DG ENER with regular interactions to strengthen the contribution of NGOs and society to monitoring of the operational implementation of EU directives concerning nuclear activities.

However, its interactions with the ENEF (European Nuclear Energy Forum), despite efforts to improve the involvement of civil society, remained disappointing and discouraging for those who made the effort to be involved (discourse process, administrative and financial barriers)¹⁰. As a constructive parallel, NTW organized a conference in Bratislava preceding ENEF to give an overview of nuclear developments from the point of view of civil society. NGOs gathered on site and online around 50 participants¹¹.

Moreover, NTW is continuing to work with NOAH (Friends of the Earth Denmark) on proposals for amendment of the Euratom Treaty and implementation of a EU treaty on renewables, energy efficiency and energy conservation¹².

NTW is still trying to enhance its interactions with the European Parliament though its MEP or ex-MEP members like Jakop Dalunde from the Greens. 23 members of the European Parliament signed NTW's joint open letter on concerns for nuclear safety system in France together with 12 other European NGOs¹³ in March 2023. NTW also participated in an EEB working group on nuclear and climate change together with representatives from Greenpeace, Climate Action Network and Friends of the Earth in relation with the German MEP from the Greens Anna Deparnay-Grunenberg. Finally, the sudden death of the French MEP from the Greens Michèle Rivasi who was NTW's co-founder, and first Chair was a great shock for many.

¹⁰ <https://www.nuclear-transparency-watch.eu/media/open-letter-to-the-french-minister-of-energy-transition-on-nuclear-safety.html>

¹¹ <https://www.youtube.com/watch?v=W07qci0J2vA&t=32s>

¹² <https://noah.dk/kalender/international-conference-options-eu-treaty-change-energy-field>

¹³ <https://www.nuclear-transparency-watch.eu/media/open-letter-to-the-french-minister-of-energy-transition-on-nuclear-safety.html>

At the international level, NTW was involved also in the 3-days OECD NEA 3rd Stakeholder Involvement Workshop in September 2023¹⁴. Furthermore, NTW made presentations in various events like the IAEA “International Conference on the Safety of Radioactive Management, Decommissioning, Environmental Protection and Remediation” on 6-10 November 2023¹⁵, the 1st ECOSENS Scientific Event¹⁶ in August 2023 and for the SITEX.network¹⁷ Topical Day in November 2023.



OECD NEA 3rd Stakeholders Involvement Workshop with Johan Swahn (MKG/NTW) and Jan Haverkamp (WISE/Greenpeace and NTW).

- **NUCLEAR SAFETY**

Regarding nuclear safety, NTW keeps participating in Environmental Impact Assessment (EIA) procedures for nuclear installations and especially lifetime extensions of nuclear power plants. After Doel and Loviisa in 2021, and Krsko in 2022, NTW took part to the cross-border consultation on lifetime extension for Doel-4 and Tihange-3 in Belgium on 15 June 2023¹⁸. As nuclear power plants will increasingly require public participation in the future as part of the review of their life extension or construction, NTW will continue to provide support and, if necessary, some coordination to its members and to other NGOs.

¹⁴ https://www.oecd-nea.org/jcms/pl_87003/optimising-decision-making-in-the-nuclear-sector-through-stakeholder-involvement

¹⁵ <https://www.iaea.org/events/icwedr2023>

¹⁶ <https://ecosens-project.eu/powering-the-future-responsibly-assessing-the-sustainability-of-nuclearenergy/>

¹⁷ NTW is a member of SITEX.Network since 2018.

¹⁸ <https://www.nuclear-transparency-watch.eu/activities/cross-border-consultation-on-lifetime-extension-of-doel-4-and-tihange-3-belgium.html>

Within the framework of the Aarhus and Espoo Conventions, NTW will continue to plead for real public participation opportunities, despite disappointing outcomes in the past. One of the results is that the Aarhus Convention Compliance Committee (ACCC) concluded in 2021 that the under the Euratom Nuclear Safety Directive compulsory ten-yearly periodic safety reviews (PSRs) trigger a public participation obligation. NTW is urging the Netherlands, for example, to comply for the 2023 PSR of the Borssele NPP, and the Czech Republic was found by the ACCC to be non-compliant for not opening the possibility of public participation before the life extension of the Dukovany nuclear power plant.

NTW has supported Greenpeace since 2021 to push the French government to include environmental issues in the scope of public participation in the assessment of applications to extend the life of nuclear power plants beyond 40 years.

Emergency Preparedness & Response (EP&R) in Europe is also an important topic for which NTW is mobilising, with in 2023 the publication of an informative leaflet¹⁹.

Finally, NTW members are regularly providing reports and information on what is locally happening in the different European countries.

• TRANSPARENCY AND PUBLIC PARTICIPATION

NTW promotes transparency and public participation, sometimes in innovative ways. A good example is the Open Radiation project meant to enable citizen measurements of radioactivity. Launched in 2021 at Sellafield (United-Kingdom) with the support of IRSN and in partnership with Cumbria Trust, a first partnership established in a school is interesting other school as well as the waste management organisation and the local communities²⁰.

Other local projects were foreseen such as an ambitious project of reporting on the various types of radionuclides discharges throughout Europe or a project of temperature measurement in the Danube envisioned by two NTW members, which unfortunately did not find not sufficient resources to support in 2023.

NTW was represented at UNECE in June 2023 on NPP risk assessments and in December 2023²¹ on the Espoo Convention funding crisis.

Several informative webinars were also carried out by members in 2023 on topics like “The situation in Fukushima’s region today”²², “Transparency and public participation in radioactive waste management of European countries”²³ or “Elements of the French nuclear safety reform”²⁴.

Following the OECD-NEA 3rd Stakeholder Involvement Workshop, members from NTW and members from worldwide NGOs from the civil society have decided to have regular exchanges on transparency and public participation at the international level.

Following its participation in the working group of Friends of the Earth Estonia on Small Modular Reactors (SMRs), NTW has decided to set a working group on the topic to consider issues related to those including transparency and public participation.

¹⁹ <https://www.nuclear-transparency-watch.eu/activities/leaflet-for-emergency-preparedness-and-response.html>

²⁰ <https://www.openradiation.org/>

²¹ At the December 2023 Espoo Convention Meeting of the Parties for the first time in its history two of the parties – Bulgaria and Czechia - refused to accept the conclusions of the Espoo and Protocol Implementation Committee regarding their failure to offer effective public participation opportunities.

²² <https://www.youtube.com/watch?v=JEUBqVMhJig>

²³ <https://www.youtube.com/watch?v=FD9OGMmYUQQ&t=67s>

²⁴ <https://www.youtube.com/watch?v=L7xJfYtaCYU&t=1504s>

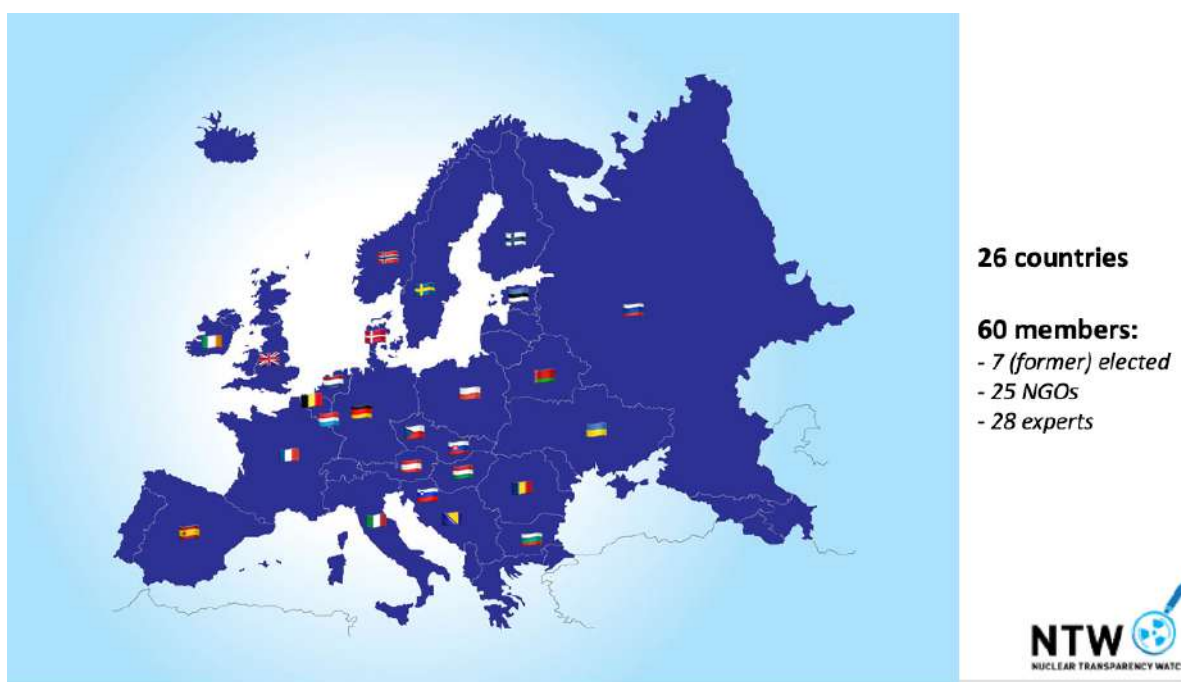
- **RADIOACTIVE WASTE MANAGEMENT**

NTW continued to be involved as a civil society organisation in the European Program of research on Radioactive Waste Management EURAD which is reaching its end in May 2024. However, a second version of the programme is planned and NTW will be part of it. Indeed, the role of civil society in the light of the Aarhus Convention has been positively recognised by the other actors in RWM (like Waste Management Organisations (WMO), Research Entities (RE) and especially Technical Support Organisations (TSO), even if some challenges remain (openness to the public, communication on the work achieved). Participating to this European research program allows NTW to facilitate an increase of civil society interactions with WMO, TSO and RE but also regulators.

Those interactions with different types of actors imply a wide range of socio-technical topics (Uncertainties in the near-field²⁵, public participation in technical discussions, transparency of monitoring, rolling stewardship) or ways to enhance interactions with civil society (e.g., Pathway Evaluation Process (PEP) for radioactive waste management). Finally, in addition to organising several pluralist workshops and webinars on radioactive waste management, NTW published a deliverable in the frame of EURAD evaluating the legal framework and site selection processes in radioactive waste management for civil society²⁶.

- **DIVERSITY AND REPRESENTATIVENESS**

NTW's membership is growing and reaching 60 at the end of 2023, which is 4 more members compared to 2022 and 10 more members compared to 2021. Those members are coming from 26 different countries across Europe.



²⁵ The near field is defined as the portion of a geologic repository for nuclear waste that contains the waste form and other components of the engineered barrier system (EBS), as well as a volume of immediately surrounding host rock that is significantly affected by repository construction and waste emplacement (cf. <https://www.sciencedirect.com/science/article/abs/pii/B9780081006429000116#:~:text=The%20near%20field%20is%20defined,repository%20construction%20and%20waste%20emplacement>).

²⁶ <https://www.ejp-eurad.eu/sites/default/files/2023-10/EURAD%20-%20D9.17%20Implementation%20of%20ROUTES%20ICS%20action%20plan%20second%20phase.pdf>

There is a great diversity and representativity among countries and types of actors. That includes a growing number of members and more involvement from younger profiles. However, there are concerns to keep finding new, diversified and motivated profiles while being careful to aim as much as possible at a gender balance in NTW.

- **RESOURCES**

NTW involves 13 Civil Society experts in EURAD, thanks to the program's funding, from a few hours a year to half a week, with notably 2 young PhD students and a senior profile. Even if this is completely dependent of this 5-year program started in 2019, it is a great help for NTW's growth as well as expertise building. One accountant works a day a week for NTW and a coordinator 4 days a week.

- **COMMUNICATION**

In 2023, NTW has increased its presence and visibility on social media – X (formerly known as Twitter), Facebook, LinkedIn and YouTube – while the website is regularly updated to make it more safe and easier to use.

- **CONCLUSION**

The evolution of NTW is very positive with increasing collaboration at local and international levels, as well as a new Board elected during the General Assembly 2023 celebrating the 10th anniversary of NTW.

Also, although communication tools are more diversified and more used, some work still must be done to increase NTW's presence online (deliverables, webinars, articles...). There are many activities that NTW initiated or in which NTW is involved and some are more successful or more dynamic, therefore some may move faster than others depending on the interest and involvement of the members.



NTW General Assembly 2023.