



European Nuclear Societies in Stakeholder Engagement

Part 1: Interacting with Education System

September 2026

The **European Nuclear Society (ENS)** is a Learned Society consisting of professionals in the nuclear sector. Its main goal is to promote and advance science and engineering related to the peaceful uses of nuclear technologies together with its 22 National Nuclear Societies, supported by Corporate Members and Associate Members. ENS comprises more than 13,000 nuclear professionals from the academic world, research centres, industry and authorities in all levels of seniority, dedicated to advancing nuclear technology through scientific excellence, independent expertise, and collaborative networks.

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Table of contents

Executive summary.....	5		
Chapter 1. Introduction			
Nuclear workforce landscape in Europe.....	6		
Role of Nuclear Societies in workforce development.....	6		
Purpose of the report.....	7		
ENS Focus Group on School and Public Engagement and Report Methodology.....	8		
Chapter 2. Educational Projects of Nuclear Societies in Europe			
Projects realized.....	8		
Audience of the educational projects.....	10		
Chapter 3. Catalogue of Nuclear Societies' projects interacting with education system.....		12	
Chapter 4. Recommendations and roadmap			
What it Takes to Choose a Project.....	49		
What it Takes to Organize a Project.....	52		
What it Takes to Fund a Project.....	59		
What it Takes to Disseminate and Evaluate a Project.....	64		
Chapter 5. External activities and sources			
Educational activities of the sector, research and academia.....	67		
International organizations' activities.....	68		
Chapter 6. General recommendations and future outlook.....			69

Executive summary

Europe's technological transformation, driven by the energy transition, research and innovation, digitalisation and advanced healthcare, requires a growing workforce with strong STEM competences. Nuclear sector provides almost 900,000 jobs in the EU today (direct, indirect and induced) and is projected to sustain around 1.5 million jobs by 2050. **Nuclear Societies, as networks of professionals in the nuclear sector, contribute to attracting future generations workforce** by complementing formal education with technically rigorous and creative educational projects.

This report presents the first Europe-wide overview of educational initiatives organised by Nuclear Societies affiliated with the European Nuclear Society (ENS). Based on a survey conducted in 2026, it documents **29 project models** implemented across the ENS network, targeting pupils, teachers and parents. **Summer schools and structured courses** represent the largest share of activities, followed by **competitions** and **teacher-focused initiatives**, while **workshops, career events, educational tools** and **study visits** complement the educational offer.

Together, the **featured projects reached more than 2,400 participants in a single year**. The strongest outreach is observed towards secondary school students aged 13–16, who were reached by 82% of the projects, followed by high-school students (51%), while teachers and primary school pupils each participate in 37% of the initiatives.

Apart from synthetic analysis, the report includes a catalogue of all featured projects (Chapter 3), showcasing a combination of scientific expertise, personal engagement of nuclear professionals and flexible educational formats that can be adapted to different audiences and national contexts.

This overview of numerous successful engagement models demonstrates the important role that Nuclear Societies already play in strengthening STEM education, improving awareness of nuclear technologies and contributing to the long-term development of the European nuclear workforce. With adequate support, this potential may be strengthened in the future, bringing solid complementary support to formal STEM education.

Chapter 1. Introduction

Nuclear workforce landscape in Europe

Europe is undergoing a technological and industrial transformation driven by the energy transition, digitalisation and advances in research and innovation. Sustaining this transition requires a **strong pipeline of skilled professionals in science, technology, engineering, and mathematics (STEM)**, capable of developing, operating, and advancing the technologies that support Europe's economic competitiveness and societal well-being.

Nuclear science and technologies are ingrained in many of these spheres - from energy production, to medicine, agrifood, industrial applications and others.

Nuclear sector has a significant impact on the European economy, supporting in total almost 900,000 jobs in 2023 in the EU-27 [1] including 134,000 direct jobs, out of which 6,600 in construction, 109,500 in operation and 18,700 in decommissioning. In the future (by 2050), the nuclear industry could sustain a totality of almost 1.5 million jobs [2].

Even in the non-nuclear countries in Europe, a positive impact from the nuclear sector is recorded due to the interconnectedness of the national economies and labour markets, as countries without nuclear capacities still provide a qualified workforce and subcontractors with expertise and technologies for the sector [3].

Growing workforce demand requires experts in diverse STEM and non-STEM fields, and **addressing the need of skilled professionals in nuclear requires involvement of multiple stakeholders**—from school system and universities to employers, state-level institutions and dedicated non-governmental initiatives.

Role of Nuclear Societies in workforce development

Nuclear Societies, as Learned Societies focused on disciplines related to nuclear science and technology, recognise that a **coordinated and long-term approach to nuclear education** allows the sector to ensure a sufficient workforce, as well as maintain critical knowledge and competences needed for the safe and responsible use of nuclear technologies. With **Societies present in 22 countries in Europe and beyond**, affiliated nuclear professionals are an ally and active player in this effort.

Experience shows that members of Nuclear Societies are effective contributors in informal education, fostering of passion and raising awareness about nuclear energy in various society groups. This is possible through the combination of:

[1] Including direct, indirect and induced jobs.

[2] nucleareurope, Economic & Job Creation Benefits of Investing in Nuclear Highlighted in New Report, Press Release, 2025 ([access link](#)).

[3] nucleareurope, Economic & Job Creation Benefits of Investing in Nuclear Highlighted in New Report, Press Release, 2025 ([access link](#)).

- Technical rigour stemming from a scientific background;
- Authenticity, thanks to engagement in personal capacity, allowing human-to-human connection. Diversity of Nuclear Societies membership also allows the contribution of members most relevant to given audience;
- Creativity leading to multiplicity of engagement formats.

This results in:

- Credibility in front of an audience and educational establishments, and
- Relevance – through authentic human experience.

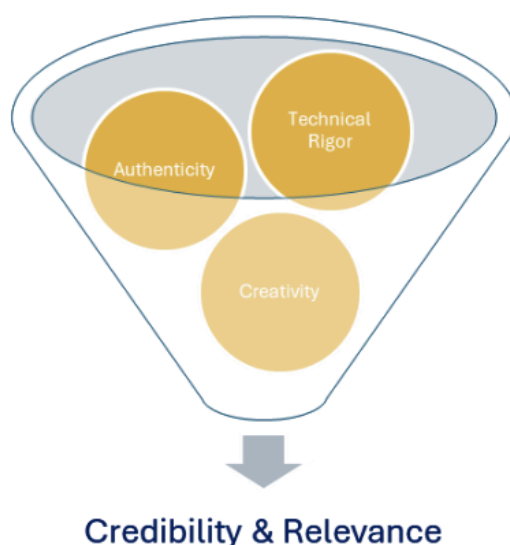


Figure 1: Success factors of Nuclear Societies engagement in educational activities

This combination, while not easy to achieve by other actors, is complementary to their institutional or industrial efforts.

Purpose of the report

This report highlights **examples of successful engagement with the education systems of Nuclear Societies affiliated with ENS**. Its purpose is to exhibit existing projects in the field of education and draw best practices, encouraging a collective effort to address the workforce needs long-term.

The report aims to **focus on activities dedicated to a school-age audience, as well as teachers and parents**. Nuclear Societies' members organised or significantly contributed to all activities. The report does not feature activities targeted at university students of nuclear disciplines, but activities for non-nuclear students were included.

The second report will follow, focusing on general public engagements of Nuclear Societies.

Examples of good practices featured in this report show that **combining formal education with non-formal activities and initiatives** can significantly enhance nuclear and general STEM literacy, and spark students' interest in the related fields.

ENS Focus Group on School and Public Engagement and Report Methodology

The **ENS Focus Group on School and Public Engagement**, created to strengthen public engagement efforts across Europe, consists of Members from a number of European Nuclear Societies that actively contributed to the activities. At the moment of writing, the list includes Nuclear Societies from Belgium, Croatia, Hungary, Italy, Poland, Serbia, Slovakia, Slovenia, Spain and Ukraine. Members represent a broad range of expertise - including engineers, teachers, and scientists - as well as varying levels of seniority, from young professionals to senior experts.

The Focus Group developed a **survey** that was then distributed through the Nuclear Societies to their members between January and March 2026. It concerned events and projects organized by, or with significant involvement of a Nuclear Society, aimed at pupils, non-nuclear students, teachers, parents, or projects that interact more broadly with the education system. It collected information on details including event duration, number of participants, target age groups, and logistical aspects (such as required personnel, costs, and budget), as well as lessons learned and related insights.

Following data collection, the responses were analyzed and structured into the final report format.

Chapter 2. Educational Projects of Nuclear Societies in Europe

Projects realized



Figure 2: Geographical distribution of submitted nuclear education projects in Nuclear Societies

The collection of data related to education activities of Nuclear Societies resulted in **29 projects submitted across the network**. The map (Figure 2) illustrates the geographical distribution of nuclear education projects identified through the survey, conducted within the framework of this study. The colour intensity reflects the number of active projects reported in each participating country.

The results reveal a significant concentration of initiatives in Central and South-Eastern Europe. Hungary, Slovenia, Serbia, and Croatia together represent the majority of the total mapped projects, indicating the presence of particularly active regional networks in the field of nuclear education and outreach.

At the same time, several European countries, appear with no reported projects in the dataset. Since these countries may well host active projects but simply did not participate in the study, this outcome should be interpreted with caution and considered in light of the survey's methodological limitations.

The analysis of the educational formats represented in the surveyed projects reveals a **relatively diversified landscape in terms of teaching methodologies and engagement approaches**.

As shown in the chart (Figure 3), 'summer school'-based activities and structured courses constitute the dominant category, accounting for approximately 32% of the total reported initiatives.

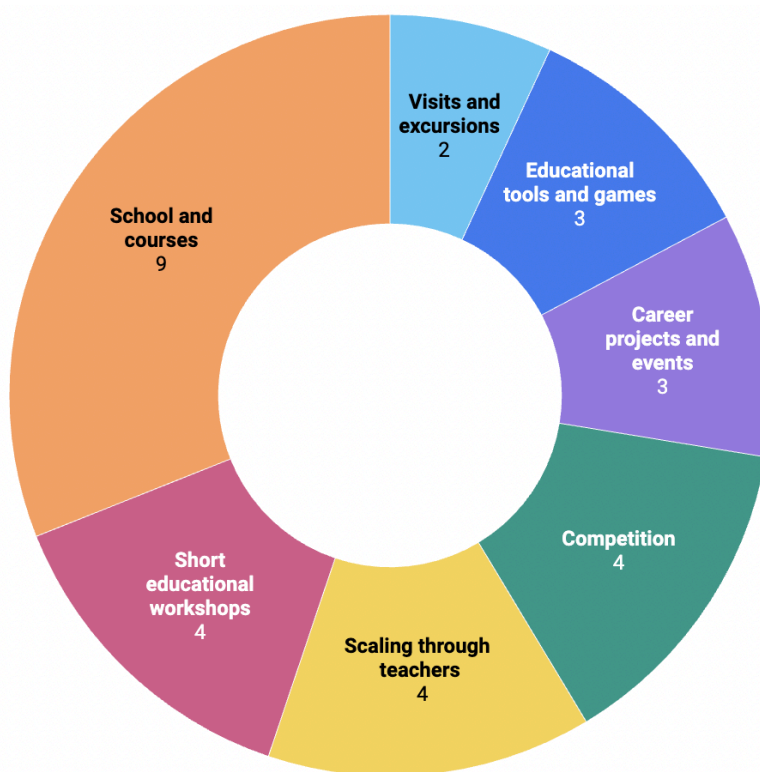


Figure 3: Educational formats distribution from ENS survey [number of reported projects]

The remaining initiatives are distributed across formats:

- Competitions and teacher-led scaling activities each represent around 14% of the mapped projects.
- Short educational workshops, career-oriented projects/events, and educational tools/games each account for approximately 10% of the total initiatives.
- Visits and excursions make up roughly 7% of the activities identified through the survey.

Audience of the educational projects

The analysis of participant reach provides an insight into the scale and audience impact of the surveyed nuclear education initiatives. It needs to be noted, however, that a full comparison of audiences is not possible due to the heterogeneity of the projects: some activities are based on single occurrences engaging with the audience, while others interact continuously, so the intensity of reach varies project-to-project.

The results presented in Figure 4 reveal a **relatively balanced distribution between targeted and large-scale educational initiatives**. The strong presence of activities involving fewer than 50 participants underscores the continued importance of focused, interactive learning environments, which are often better suited for direct engagement. On the other hand, the significant proportion of projects reaching more than 200 participants demonstrates the capacity of several initiatives to operate on a broader dissemination level, engaging wider audiences through conferences, public events, or extensive educational campaigns.

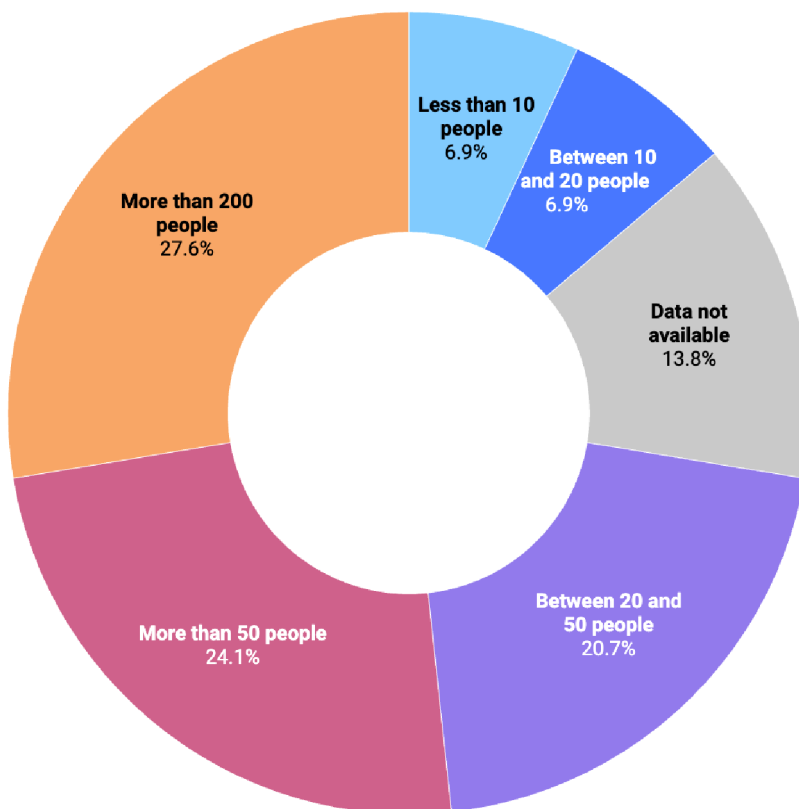


Figure 4: Distribution of surveyed nuclear education projects by audience size [% of reported projects]

Crucially, although projects involving more than 200 participants represent less than one-third of the initiatives mapped, they account for approximately 70% of the **total participant reach reported in the survey, which exceeded 2,400 participants in a single year**. This indicates that a relatively limited number of large-scale initiatives drive the majority of audience engagement within the surveyed ecosystem.

The total participant reach reported in the surveyed projects exceeded 2,400 participants per year

The analysis of audience segmentation provides key insights into the primary target groups of the surveyed nuclear education initiatives, highlighting where educational efforts are concentrated and where potential gaps remain.

When considering the proportion of individual projects engaging each target group (Figure 5), the data confirms a **strong outreach density across formal education levels**:

- Secondary Schools (Middle School) are involved in 82% of all surveyed projects.
- High Schools are reached by 51% of the initiatives.
- Primary Schools and Teachers are each engaged in 37% of the cases.
- Parents are included in 20% of the projects. Notably, parents are exclusively engaged in initiatives where teachers are also involved, indicating a coordinated school-family framework.
- Pre-schools are featured in 10%.

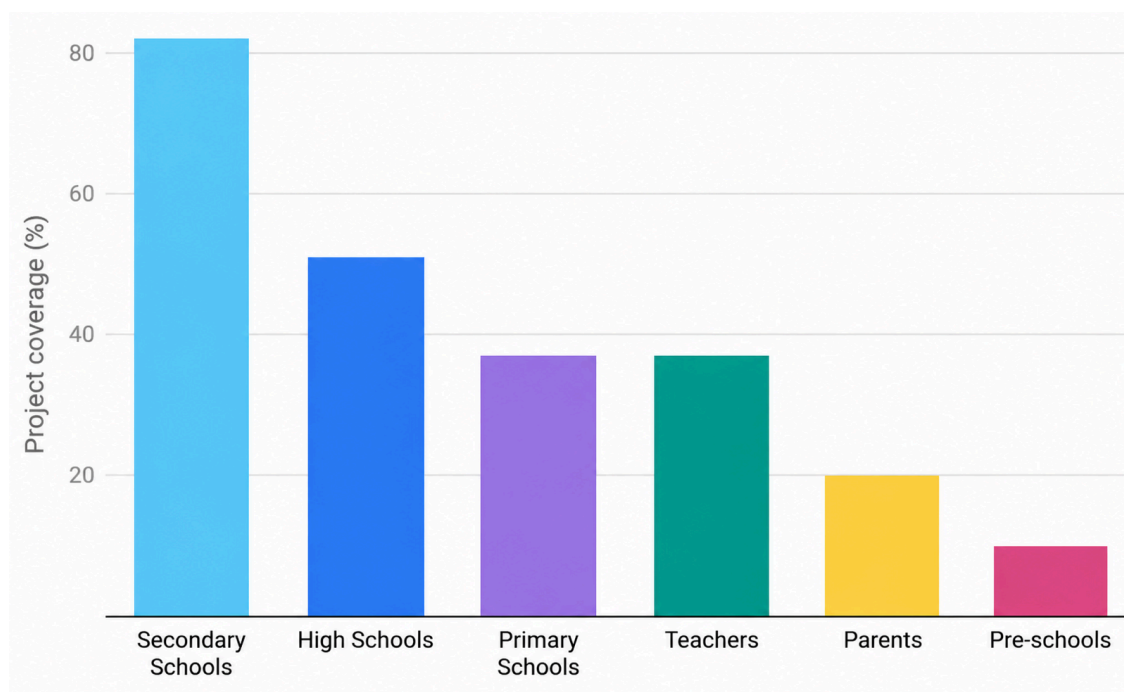


Figure 5. Target Groups reached by projects [% of reported projects]

Indicative age ranges of school levels: under 7 y.o. (or pre-school); 7-12 y.o. (or primary school); 13-16 y.o. (or secondary school); 17+ y.o. (or high school)

Chapter 3. Catalogue of Nuclear Societies' projects interacting with education system

This third chapter presents a **catalogue of the 29 projects organised by Nuclear Societies** and identified through the survey conducted within the framework of this report. Its primary purpose is to provide a practical synthesis of existing initiatives, **offering inspiration and concrete reference points** for Societies wishing to launch or develop their own activities in connection with the education system.

For clarity, the catalogue is organised into **seven categories**, corresponding to the format typology introduced in Chapter 2:

- Schools and courses
- Competitions
- Scaling through teachers
- Educational tools and games
- Career projects and events
- Short educational workshops
- Visits and excursions

Each project is presented on a single page, structured around **six elements**: a short description, the target audience, the realisation time, the location, the organising team, and a highlight of the best advice shared by organisers.

Readers interested in learning more about a specific project are invited to consult the contact details provided, where available, or the website of the relevant Nuclear Society.

NUCLEAR SOCIETIES PROJECTS

SHORT EDUCATIONAL WORKSHOPS

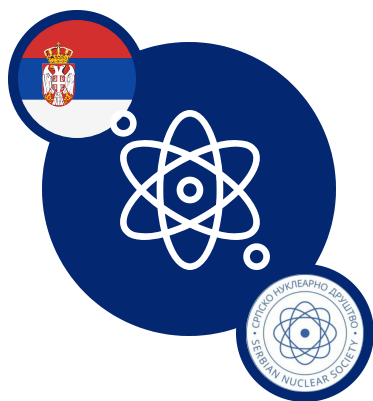
European Researchers' Night – pre event

Serbian Nuclear Society

Website: <https://www.nuclear.org.rs/>

DESCRIPTION

As part of the European Researchers' Night, the Vinča Institute of Nuclear Sciences opened its doors to students and visitors, turning science into an engaging festival of knowledge and creativity. Students participated in interactive experiments, workshops, and discussions with researchers.



Visitors explored water purification using sunlight, applications of nanomaterials and graphene oxide, and innovative coffee-based cosmetics. Workshops in powder metallurgy, ceramics, health, and nutrition highlighted the link between science and everyday life.

The HBRN (Chemical, Biological, Radiological, and Nuclear) platform presented safety and protection measures in crisis situations, while lectures and first responder demonstrations enriched the program.

AUDIENCE

- Over 200
- Ages 7-12, 13-16, 17+, Teachers, educators

REALISATION TIME

- 22.09.2025
- Cyclic, Growth of engagement expected

LOCATION

Vinca Institute of Nuclear Sciences

ORGANISATION TEAMS

- 1-2 people
- Skills in project management, event organization, communication, outreach, teamwork, leadership and adaptability

HIGHLIGHT

Event went perfectly well: kids and their teachers were full of very **positive impressions.**

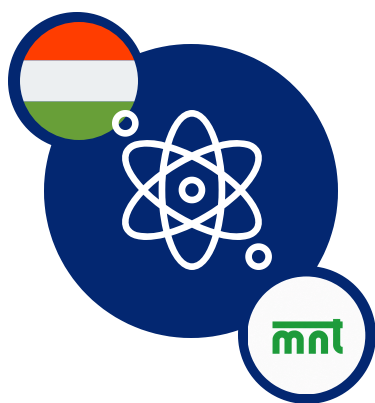
HighSchool RoadShow

Hungarian Nuclear Society (Young Generation Network)

Website: www.nuklearis.hu

DESCRIPTION

Members of the Hungarian Nuclear Society Young Generation Network visit high schools to introduce students to the basics of nuclear energy in a simple and engaging way.



Through interactive presentations, 3D models, radiation detectors and real-life examples, young professionals explain how nuclear power plants work, how safety systems are designed and why nuclear energy contributes to low-carbon electricity production. The format also gives students space to ask questions, discuss common myths and concerns, and see engineering and energy careers as possible future pathways.

AUDIENCE

- Age 13–16 and 17+
- 20–50 participants per visit

REALISATION TIME

- Cyclic
- Launched in the autumn semester of the 2025/26 academic year and plans to continue

LOCATION

School classrooms in Hungary

ORGANISATION TEAMS

- 1–2 organizers
- No special skills are required beyond enthusiasm and the ability to connect with students

HIGHLIGHT

The event was smoothly organized and the **selected topics genuinely engaged students.**

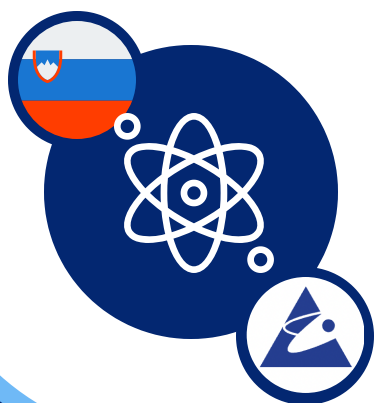
How to Create the Sun on Earth workshop

Nuclear Society of Slovenia

Website: www.djs.si

DESCRIPTION

The workshop “How to Create the Sun on Earth” was part of the Natural Science Day “Planetarium and Energy” at Benedikt Primary School. It introduced students aged 12+ to the basic principles of nuclear fusion – the process that powers the Sun and other stars.



Students explored how fusion differs from fission, why it is considered a potential future energy source, and what scientific and technological challenges must be overcome to achieve controlled fusion on Earth. The presentation also covered plasma, extreme temperatures, magnetic confinement, advanced materials and the importance of international scientific collaboration.

AUDIENCE

- Age 7–12, 13–16
- Teachers/educators
- 50+ participants

REALISATION TIME

- One-time event
- Realized on 7 October 2022

LOCATION

Benedikt Primary School, Slovenia

ORGANISATION TEAMS

- At least 2 people at the primary school and 1 representative from NSS
- Expertise in fusion science and public engagement

HIGHLIGHT

Support from school staff and teachers was essential for organizing the workshop in a school environment.

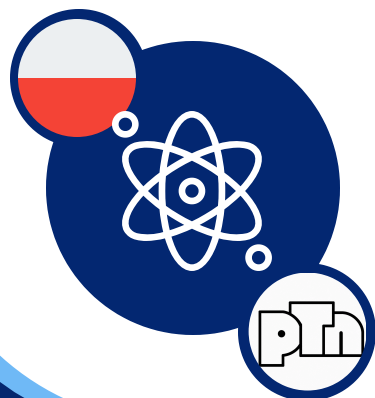
Lessons in primary and secondary schools

Polish Nuclear Society

Website: <https://ptnukleoniczne.pl/>

DESCRIPTION

Interactive lessons explaining radioactivity, nuclear reactions and the role of nuclear energy. The first part of each lesson focuses on the phenomenon of radioactivity, including basic types of ionising radiation, natural sources of radiation and radiation detection, supported by simple demonstrations and experiments, making the topic easier and more engaging for pupils.



The second part introduces the concept of nuclear fission and explains, how nuclear power plants operate. Particular attention is given to the role of nuclear energy in the energy mix, its importance for stable, low-emission electricity production. The lessons are usually delivered as 45 or 90 minute class.

AUDIENCE

- 1 class/workshop (≈20 students), Ages: 7–12, 13–16, 17+
- Increasing teacher demand

REALISATION TIME

- Run on a regular basis from 2017 to 2024
- Averaging 250 lessons per year

LOCATION

School class

ORGANISATION TEAMS

- 5+ people
- Skills in science communication, educational outreach, public speaking

HIGHLIGHT

We received this opportunity as a **direct commission** from the Nuclear Energy Department within the Polish Ministry. We took part in the annual tender for the contract every year.

Nuclear Energy Workshop

Croatian Nuclear Society

Website: <https://nuklearno-drustvo.hr/?lang=en> / Email: petra.strmecki@fer.unizg.hr

DESCRIPTION

This workshop is delivered at science fairs and university or faculty days. Depending on the audience, it begins with a short lecture on the operation of nuclear power plants: what electricity is, how it is produced, what a nuclear power plant looks like, how it works, how nuclear power contributes to grid stability, and how it compares with solar and wind energy.



The lecture is followed by a Q&A session, after which participants try operating a nuclear power plant start-up simulator. The format gives many students their first direct introduction to nuclear power and to education and career opportunities in the nuclear sector.

AUDIENCE

- Parents; age 7–12, 13–16 and 17+; non-nuclear students
- 50+ participants per occurrence

REALISATION TIME

- Cyclic
- Held every year and ongoing

LOCATION

Science fairs with high attendance in Croatia

ORGANISATION TEAMS

- 3–5 organizers
- Technical knowledge, strong communication skills and the ability to engage participants and encourage questions

HIGHLIGHT

For many students, the workshop is the first time they learn more about nuclear power plants and the opportunities for study and work in the nuclear industry; the **Q&A session is consistently very valuable.**

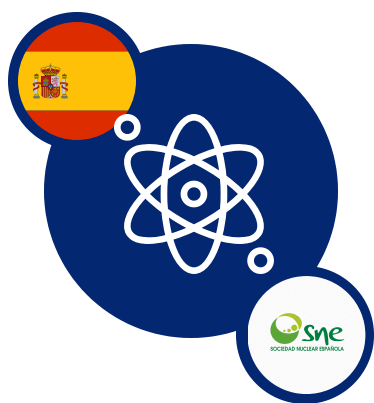
STEM workshops

Spanish Nuclear Society

Website: www.sne.es

DESCRIPTION

In primary and early secondary education, a series of STEM workshops has been developed to accompany a brief introductory talk.



Two main workshops have been implemented so far: one on environmental radiation and its effects on living organisms, and another on building a model nuclear power plant using Play-Doh.

AUDIENCE

- 20–40 students/workshop
- Ages: 7–12, 13–16

REALISATION TIME

- On-going project for the last 2 years

LOCATION

School class

ORGANISATION TEAMS

- 1–2 people
- Skills in educational outreach, workshop coordination, science communication, adaptability

HIGHLIGHT

It's all about how kids engage with things. If you **let them touch, play, and turn it into a game**, they'll love it.

STEM workshop – Coding without computers

Spanish Nuclear Society

Website: www.sne.es / Email: j.pelegrina@jovenesnucleares.org

DESCRIPTION

This is a workshop aimed at students 12–15 years old. Participants learn about coding, its use and its importance, and then are split into "programmers" and "robots".



The former write instructions emulating code for the latter to perform exactly as written. The end goal is for participants to reflect on how we communicate with computers and the use of literal instructions.

AUDIENCE

- 50+ participants
- Ages 13–16 (or secondary school)

REALISATION TIME

- Realized once per year during the Spanish Nuclear Society annual meeting

LOCATION

University classroom or similar

ORGANISATION TEAMS

- 1–2 people
- Ability to keep participants engaged is important: communication, non-verbal, engagement, etc.

HIGHLIGHT

Fun and interesting atmosphere, **switching hands-on activity time with moments for explanations and descriptions** (more listening).

NUCLEAR SOCIETIES PROJECTS

VISITS AND EXCURSIONS

NATURALE (Nature and Radioactivity – Walk, Talk and Learn)

Serbian Nuclear Society

Website: <https://www.nuclear.org.rs> / Email: jovana.knezevic@df.uns.ac.rs

DESCRIPTION

NATURALE introduces students to natural radioactivity and sources of radioactivity present in nature through workshops and sample collection in national parks, nature reserves and nature parks in Serbia. During walks in nature, students also learn about ecosystems and species, with an emphasis on fungi, including physiology, biochemistry and fungal ecology.



Primary school students are introduced to the phenomenon, while high school pupils deepen their knowledge of biology and nuclear physics. These activities develop thinking, communication, self-management and research skills, while encouraging interest in natural sciences and nature preservation.

AUDIENCE

- Age 7–12 (primary school) and 13–16 (secondary school)
- 20–50 participants

REALISATION TIME

- Ongoing project planned for 2025–2026
- One-time project framework with multiple activities

LOCATION

Workshops in school classes; educational walks in Fruška Gora National Park and Zasavica Nature Park

ORGANISATION TEAMS

- 3–5 organizers
- Skills include budget administration, time management, planning and organization

HIGHLIGHT

Workshops before the field work helped students understand key terms and what was expected from them. The **combination of theory and field work** was highlighted by many participants as the best part of the project.

Visit to the Paks Nuclear Power Plant and Bataapáti Radioactive Waste Repository

Hungarian Nuclear Society

Website: www.nuklearis.hu / Email: jarosievitz@gmail.com

DESCRIPTION

The study trip brings students to the Paks Nuclear Power Plant and to the Bataapáti National Radioactive Waste Repository. At Paks, students visit the Visitor Center, see the unit control room, turbine hall and reactor hall from the visitor corridor, and learn about major plant systems including the secondary circuit and spent fuel cooling pool.



After lunch at the power plant, the group travels to Bataapáti, where students learn about the final disposal of radioactive waste generated at Paks, the repository's deep underground granite-rock setting, storage chambers, waste packaging technologies and the continuous improvement of storage processes.



AUDIENCE

- Restricted to ages 16+ (students, teachers and educators)
- 20–50 participants



REALISATION TIME

- One-time visit; held on 23 May 2025
- Strong interest from students each year



LOCATION

Paks Nuclear Power Plant and Bataapáti National Radioactive Waste Repository, Hungary



ORGANISATION TEAMS

- 1–2 organizers
- Students are selected based on interest, motivation and responsible behavior



HIGHLIGHT

The program is highly successful: students apply at the start of the school year and await the May visit. A **pre-visit presentation by the NPP communications director** helps build interest.

NUCLEAR SOCIETIES PROJECTS

CAREER PROJECTS AND EVENTS

Career Orientation Day

Hungarian Nuclear Society

Website: www.nuklearis.hu

DESCRIPTION

This is a one-day career orientation event focused on the nuclear field and introduced students to practical and experimental work in nuclear-related research environments. The program included visits to the Budapest Research Reactor, a radiation safety laboratory and an environmental physics laboratory.



Students were introduced not only to experimental work but also to various computational tasks, helping them better understand the range of professional roles and study directions connected with nuclear science and technology.

AUDIENCE

- 17+ high school students
- 10–20 participants

REALISATION TIME

- One-time completed, held on 28 November 2025
- One-day program

LOCATION

HUN-REN Centre for Energy Research, Budapest Research Reactor, Hungary

ORGANISATION TEAMS

- 1–2 organizers
- Good organizational skills, communication and prompt responses are important

HIGHLIGHT

Timely organization, clear information for participants and organizers, and **good time management** are key success factors.

Guide for Applicants

"The Path to a Career in the Nuclear Industry"

Ukrainian Nuclear Society (UkrNS)

Website: <https://ukrns.org/en/>

DESCRIPTION

This guide is a PDF document and printed brochure for young people entering the world of specialties and professions needed in the nuclear energy industry.



It helps future students choose a major and field of study, learn about higher education institutions, understand employment opportunities after graduation and receive practical recommendations for building a professional career in Ukraine's nuclear industry. In May 2025, an electronic version of the directory was launched, gathering useful information on where to study, how to apply to higher education institutions, how to access guaranteed employment opportunities and other career-related guidance.



AUDIENCE

- Ages 13–16 and 17+
- Students, teachers, educators, parents and the general public



REALISATION TIME

- Cyclic
- Updated every year



LOCATION

Available to a wide audience online and in printed form



ORGANISATION TEAMS

- 1–2 people
- The project requires information gathering and updating, editing skills, and brochure/booklet design



HIGHLIGHT

Good communication with universities is important for data collection and updating information.

“My Career in the Nuclear Industry” Project

Ukrainian Nuclear Society (UkrNS)

Website: <https://ukrns.org/en/>

DESCRIPTION

The project helps young people see career prospects in the nuclear energy sector and provides a reliable reference point for those seeking quality education, an interesting profession and stable employment in Ukraine’s leading energy sector.



It combines information about educational institutions, specialties, internships and job opportunities on one resource to help young people consciously plan their professional pathway. The website includes information on specialized university programs, career opportunities in the nuclear industry, popular nuclear and related professions, competitions, scholarships, internship programs, educational events and stories of young professionals already working successfully in the sector.

AUDIENCE

- Ages 13+
- A focus on senior pupils and university applicants

REALISATION TIME

- Ongoing since spring 2025
- Available all the time

LOCATION

Online platform available to a wide audience

ORGANISATION TEAMS

- 3–5 people
- Work includes collecting and updating information, compiling text and designing material

HIGHLIGHT

The **initial creation and content filling process** was quick and efficient.

NUCLEAR SOCIETIES PROJECTS

SCALING THROUGH TEACHERS

Hungarian Nuclear Society – Teachers' Division

Hungarian Nuclear Society

Website: www.nuklearis.hu

DESCRIPTION

Within the Hungarian Nuclear Society there is a Teachers' Division (secondary and tertiary education) dedicated to broadening their own and students' knowledge in the nuclear field. There is no requirement for memberships, only the approval of the governing committee of the Nuclear Society is needed.



Members are actively involved in a number of projects:

- Leó Szilárd Physics Competition as organizers or student mentors
- András Mester Nuclear Summer Schools
- site visits
- talks by renowned scientists.

The Nuclear Society recognizes the essential role that teachers play in generating interest in nuclear and provides support to teachers for attending conferences.

AUDIENCE

- Age 13–16 (or secondary school)
- 200 people/year & growing interest

REALISATION TIME

- Cyclic
- One school year

LOCATION

Schools in satellite towns of an NPP

ORGANISATION TEAMS

- 3–5 organizers
- 1–2 people handling equipment and 2 moderators

HIGHLIGHT

By completing tasks that **simulate real stages of NPP operation**, participants gain interest in further learning about this topic!

Nuclear Physics Educational Package on the Internet

Hungarian Nuclear Society

Website: www.nuklearis.hu / Email: kis.tamas0829@gmail.com

DESCRIPTION

The Hungarian Nuclear Society created a complex educational package based on an online CURRICULUM. They developed an interactive 3-D energy valley, and its physical (printable) version, called the "stability object". To understand the nuclear transformations, members created 3D animations. We collected the main characteristics of the observed nuclei in the Table of isotopes.



Radioactivity can cause fear even today, but this phenomenon is part of nature, since the beginning of time. It can be found both in the environment and in us. Teachers can alleviate the strong rejection of its application with articulate, trustworthy and scientifically accurate information, and most importantly, with high-quality education.

AUDIENCE

- Primarily for high school students and teachers
- Also used by university students

REALISATION TIME

- Started: 2019
- English version: completed 2023 / Hungarian version: ongoing since 2023

LOCATION

Several grammar schools, two universities, Hungarian Nuclear Society

ORGANISATION TEAMS

- 10 people
- Project concept, management, curriculum development, IT solutions and graphic design

HIGHLIGHT

The **team's enthusiasm** and selflessness is worth highlighting! We learned a great deal from one another—especially when it came to integrating IT solutions with the underlying physics.

Webinar for Teachers: “Opportunities for Youth in the Nuclear Industry”

Ukrainian Nuclear Society

Website: <https://ukrns.org/en/>

DESCRIPTION

The purpose is education and information on the aspects of the nuclear industry. The target audience includes teachers, as well as high school students, applicants, and their parents. The speakers are specialists leading in Ukraine's nuclear industry and members of the UkrNS.



Experts focus on the current state of nuclear energy, industry and science, prospects for Ukraine and globally, professional training, employment opportunities and working conditions for nuclear specialists. By training over 60 teachers, the project created a "multiplier effect," where educators are equipped with data and tools to guide high school students toward STEM and nuclear-related careers.

AUDIENCE

- 130+ participants (Feb 2026)
- 17+ / high school students, teachers, educators, parents

REALISATION TIME

- Held several times a year

LOCATION

Online for a wide audience

ORGANISATION TEAMS

- 3–5 people
- Engaging expert speakers

HIGHLIGHT

It is best to **hold webinars more frequently**, but breaking them down into shorter sessions on specific topics.

NUCLEAR SOCIETIES PROJECTS

SCHOOLS AND COURSES

András Mester Nuclear Summer School

Hungarian Nuclear Society

Website: www.nuklearis.hu / Email: tarjan.peter@gmail.com

DESCRIPTION

The András Mester Nuclear Summer School is a 6-day camp for around 30 high school student. It is an opportunity for extracurricular learning, self-development and networking. It takes place in picturesque Keszthely, at Lake Balaton.



Program features talks by nuclear experts, experiments and measurements, solving problems, discussions, experimental shows and a nuclear quiz. There is also a full-day trip to a nuclear facility. The best participant (based on a number of criteria and student votes) is awarded the András Mester Award.

AUDIENCE

- About 30 participants every year
- High-school students

REALISATION TIME

- Annual activity

LOCATION

School dormitory and classrooms in Keszthely, Hungary

ORGANISATION TEAMS

- 5+ people: local knowledge is important to organize venue, food, entertainment
- Connections to nuclear experts are useful too

HIGHLIGHT

Members of YGN contribute to workshops, quizzes, and social games **to make the experience educational and fun.**

Atomic academy of South Ukraine NPP

Ukrainian Nuclear Society

Website: <https://ukrns.org/en/> / Email: hubllnew@gmail.com

DESCRIPTION

Activities for students in grades 7–11:

- 7th: competition "How does a nuclear power plant work?" – 5 exercises with the interpretation of real production processes at nuclear power plants
- 8th: competition "Nuclear Power Plant: What? How? Why?" – 5 exercises in similar topic



- 9th: Game "Nuclear Energy puzzles, questions"
- 10th: Essay competition: Nuclear energy and the world, and excursion to a nuclear power plant
- 11th: Competition "I am an engineer"
- Participants collect stickers in a special brochure. Whoever has the most stickers has the best chance of concluding a three-party agreement to study at a university and then work at a nuclear power plant after graduation.

AUDIENCE

- 230 participants/year
- Ages: 7–12 and 13–16

REALISATION TIME

- Implementation began in 2023
- Still currently ongoing

LOCATION

Public Relations Department of South Ukraine NPP

ORGANISATION TEAMS

- 2 to 10 people depending on the event
- Educational content development, coordination with partners

HIGHLIGHT

To conduct events, we use models that are an interpretation of real equipment and processes at a nuclear power plant: **construction of a nuclear power plant.**

First nuclear camp in Serbia

Serbian Nuclear Society

Website: <https://www.nuclear.org.rs/> / Email: garabandic.milos@gmail.com

DESCRIPTION

The nuclear science camp in Serbia is for fourth-year high school students, introducing them to nuclear physics and its real-world applications. Students visited the Institute of Oncology of Vojvodina, where they learned about the role of medical physicists in radiotherapy and diagnostic imaging, nuclear physics principles applied in cancer treatment, radiation planning, and patient safety.



The participants also visited the Vinča Institute of Nuclear Sciences, where they attended lectures, observed laboratory equipment, and discussed ongoing scientific projects. The camp inspired young students to pursue careers in science, promote scientific literacy, and demonstrate the importance of nuclear technologies in medicine, research, and modern society.

AUDIENCE

- 10-20 participants
- Ages 17+ (or high school)

REALISATION TIME

- One-time activity in June 2025

LOCATION

Institute for Oncology of Vojvodina, Grammar School Isidora Sekulic, Vinca Nuclear Institute

ORGANISATION TEAMS

- 1-2 people
- Budget administration, time management, planning and organisation

HIGHLIGHT

Students are selected based on strong interest in natural sciences, their enthusiasm, curiosity & achievements in the subject. This helped **reach highly motivated participants**.

Interactive Game “How a Nuclear Power Plant Works”

Ukrainian Nuclear Society

Website: <https://ukrns.org/en/>

DESCRIPTION

The goal of the project is to inform young people about the main production processes that take place at nuclear power plants.



Teams receive brief information and perform practical tasks. Games can be held at educational institutions and partner enterprises of UkrNS. The projects also support career guidance and encourage higher education in nuclear-related fields.

The project is implemented in the format of dynamic mini-games, which interpret real production processes at nuclear power plants, such as “Construction of a nuclear power plant”, “Installation of pipelines”, “Loading nuclear fuel”, “Turning the turbine”, and “Connecting to the power system”.

AUDIENCE

- 500 participants in 3 years, 200/year currently
- Ages 13–16

REALISATION TIME

- Cyclic activity throughout the school year

LOCATION

Initially launched in the satellite town of South Ukraine NPP, with plans to expand to all nuclear plant regions

ORGANISATION TEAMS

- 3–5 organizers
- 1–2 people handling equipment, 2 moderators

HIGHLIGHT

By completing tasks that **simulate real stages of NPP operation**, participants gain interest in further learning about this topic!

Nuclear School

Ukrainian Nuclear Society

Website: <https://ukrns.org/en/>

DESCRIPTION

Joint project of the Rivne and Khmelnytskyi NPPs and the UkrNS is being implemented with the aim of forming a potential personnel reserve for NPPs, disseminating knowledge about the industry, and establishing strong partnerships with educational institutions in satellite towns of the NPP and neighbouring settlements.



Throughout the academic year, participants in the nuclear school can expect a packed programme: excursions to industrial sites, information and training centres; master classes in various sports; lectures by specialists and instructors from the Rivne NPP; business games; career guidance testing; internships at the workplaces of managers and employees of the station; and more.

AUDIENCE

- 200+ participants annually in each region
- Ages 13–16

REALISATION TIME

- Annual projects implemented during the academic year
- First one, at the Rivne NPP started 9 years ago.

LOCATION

Multiple sites

ORGANISATION TEAMS

- Organisers, volunteer station experts, psychologists, and trainers support the project
- Team size depends on participant numbers

HIGHLIGHT

Information about the school's progress is constantly **covered in the local media** of the regions where it is held.

Summer Energy Camp – Practical Education for Young People

Nuclear Society of Slovenia

Website: www.djs.si / Email: garsia.kosinac@gen-energija.si

DESCRIPTION

Summer Energy Camp for secondary school students with an interest in technical and energy-related topics has been organised by the Faculty of Energy Engineering of the University of Maribor and GEN energija.



The camp lasts one week and includes: 3D modelling and 3D printing; exploration of nuclear technologies and renewable energy; hands-on projects, such as building a model of a reactor core and demonstrating the fuel replacement process; lectures and assignments in energy engineering and technology.

Students work in teams, learn problem-solving skills, and present their projects at the end of the camp.



AUDIENCE

- Up to 10 participants
- Ages 13-16 (or secondary school)



REALISATION TIME

- An annual event running for the past seven years



LOCATION

Institute of Energy in Krško



ORGANISATION TEAMS

- 3-5 people
- Experts, skilled organisers, and designers



HIGHLIGHT

Organizers need **good communication skills** to attract participants' interest and stimulate their curiosity, but also to keep their spirits and motivation high

NUCLEAR SOCIETIES PROJECTS

COMPETITIONS

Mladi Genialcy

Nuclear Society of Slovenia

Website: www.djs.si / Email: garsia.kosinac@gen-energija.si

DESCRIPTION

A 6-day camp for high school students interested in nuclear physics.



The participants attend talks given by nuclear experts, perform hands-on experiments and measurements, solve problems, participate in discussions, and are entertained by experimental shows, a nuclear quiz, and a full-day trip to a nuclear facility. At the end of the school, the best participant is awarded with the András Mester Award

AUDIENCE

- More than 50 people/year
- Age 7-12, 13-16

REALISATION TIME

- Cyclic
- Every year

LOCATION

GEN energije company and NEK, primary and secondary schools

ORGANISATION TEAMS

- More than 5 organizers
- Board of experts, Organizer, Designers, communicator

HIGHLIGHT

There is the need of people with **good communication skills** to attract participants' interest and stimulate their curiosity, but also to keep their spirits and motivation high

National Country wide Leo Szilárd Physics Competition

Hungarian Nuclear Society

Website: www.nuklearis.hu

DESCRIPTION

The first competition was held in 1998, on the occasion of the centenary celebration of Leo Szilárd. High school students compete in two categories: Juniors and Seniors. The topics cover almost the entirety of modern physics, with a particular focus on nuclear and radiation physics.



From a selected theme, students are required to solve problems and to design, carry out, and analyze hands-on experiments. In addition, they work on more complex “experiments” using computer simulation tools. Winners receive valuable prizes, and recognition is also given to the most effective teacher and school.

AUDIENCE

- Around 400 people/year
- Age 15–19 years (high school)

REALISATION TIME

- Cyclic
- Every year

LOCATION

First step in schools, final is held at the vocationals school of Paks NPP

ORGANISATION TEAMS

- More than 10 organizers
- Board of experts (professors and teachers)

HIGHLIGHT

It has been almost **30 years** the competition has been organised.

"Nuclear Energy and the World" Competition

Ukrainian Nuclear Society (UkrNS)

Website: <https://ukrns.org/en/> / Email: info@ukrns.org

DESCRIPTION

The purpose of the competition is to promote nuclear physics and energy among schoolchildren and young people, while also supporting talented participants and providing career guidance in the energy sector. The support of universities, nuclear power plants, and industry is essential.



Participation is individual, in the form of an abstract or a research project. Winners who achieve 1st, 2nd, and 3rd place, as well as those receiving special recognition, are awarded valuable prizes and gifts.



AUDIENCE

- More than 50 people/year
- Age 13-16 (or secondary school)



REALISATION TIME

- Cyclic
- Every year



LOCATION

Multiple sites



ORGANISATION TEAMS

- Organizers depend on the number of host cities
- Selection organizers, moderators, and jury members are required



HIGHLIGHT

Over the past five year, the competition has become **popular in cities where people are less familiar with the topic of nuclear energy**, and every year it attracts participants from new territories

"Youth in the world of Energy" Competition

Nuclear Society of Slovenia

Website: www.djs.si / Email: garsia.kosinac@gen-energija.si

DESCRIPTION

A competition that aims to promote energy and environmental literacy. It has been organised by GEN energija in cooperation with the Eco-School programme for 13 years and is intended for kindergartens, primary schools, and secondary schools.



The competition encourages the development of knowledge on topics such as electricity generation, sustainable energy sources (including nuclear energy), energy efficiency, and the environmental impacts of energy production. Pupils and students create a wide range of outputs—models, posters, drawings, videos, and other presentations—that demonstrate their understanding of energy and sustainable solutions.

AUDIENCE

- 200+ participants/year
- Ages <7, 7–12 and 13–16

REALISATION TIME

- Cyclic
- Every year

LOCATION

Multiple venues

ORGANISATION TEAMS

- Board of experts
- Designers

HIGHLIGHT

Create a network with various institutions, teachers and professors, allowing for **long-term relationships** and facilitating new projects

NUCLEAR SOCIETIES PROJECTS

EDUCATIONAL TOOLS AND GAMES

"Going to schools" with Radiomon

Belgian Nuclear Society

Website: <http://www.bnsorg.be/> / Email: etiennehoarau18@gmail.com

DESCRIPTION

Thanks to the collaboration with the company Radiomon, which is developing a video game about nuclear energy, the main idea is to use entertainment as a learning tool.



Video games can keep children engaged and stimulate their curiosity, allowing us to introduce and discuss topics related to nuclear energy in an interactive and accessible way.

AUDIENCE

- 20–50 participants expected
- Secondary/high school students, teachers

REALISATION TIME

- Starting now (2026)

LOCATION

Brussels region

ORGANISATION TEAMS

- 3–5 organizers
- Expertise in gaming, education, and nuclear communication

HIGHLIGHT

Good synergy between public and private funding for innovation in Brussels

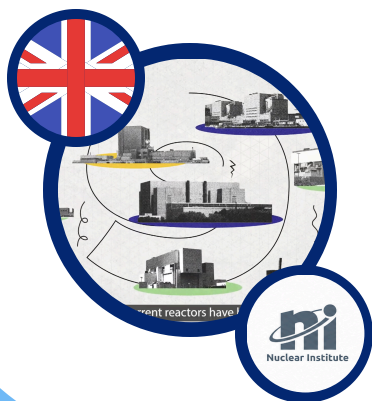
KS2 Animated video series with lesson plan

Nuclear Institute

Website: <https://www.nuclearinst.com/Homepage>

DESCRIPTION

A series of five animated videos designed for students aged 13–16. The videos cover introductory topics related to nuclear activities and are accompanied by 30-minute lesson plans, providing teachers with ready-to-use materials to deliver alongside the videos.



All resources can be find on the NI website

AUDIENCE

- Over 400 schools downloaded the resource
- Ages 13–16

REALISATION TIME

- Starting now (2026)

LOCATION

Online

ORGANISATION TEAMS

- 3–5 organizers
- Script writers and an animations agency

HIGHLIGHT

To avoid misconceptions around nuclear, the **use of the right imagery is essential**. Thus, working with an agency for the animation and teachers for the lesson plans worked well.

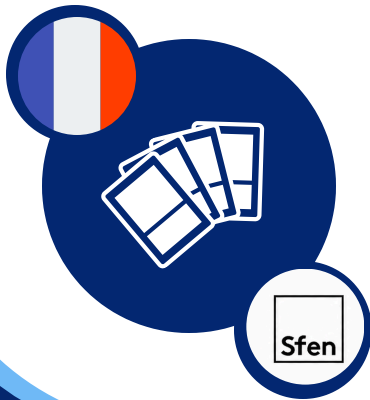
Megawatt

French Nuclear Society (SFEN)

Website: www.sfen.org

DESCRIPTION

Megawatt is an educational card game that helps participants understand the challenges of the energy transition through play. Developed by CurieUs Games and deployed in France by the Sfen, it invites players to build an electricity system while balancing production, costs, emissions, reliability and unexpected political, economic or climate events.



In France, workshops are led by Sfen members, who guide participants through the game and help them connect each decision to real-world energy issues. Based on data from sources such as the IPCC, the International Energy Agency, the World Bank and Our World in Data, Megawatt makes complex energy concepts tangible and accessible. During the first half of 2026, the project has already reached more than 200 participants.

AUDIENCE

- 10–20 participants /workshop; 200+ participants reached in H1 2026
- Ages 13–16 and 17+

REALISATION TIME

- Cyclic
- Started in 2025 with the preparation and is ongoing

LOCATION

Schools, educational settings and during career discovery internships in France

ORGANISATION TEAMS

- 1–2 per workshop
- Strong communication, facilitation, and educational outreach skills

HIGHLIGHT

Beyond technical expertise, the project requires strong communication and facilitation skills, plus coordination with schools or host institutions, educational materials, facilitator training and **clear messaging**

N·U·K·I·S (Nuclides United for Knowledge, Innovation and Safety)

Jóvenes Nucleares (SNE)

Website: www.sne.es / Email: l.serra@jovenesnucleares.org

DESCRIPTION

NUKIS is a trading Card Game of nuclear creatures, associated with each element of the periodic table.



The cards contain the name of the creature, description, attacks, and abilities, all related to nuclear science & technology facts and definitions, in an engaging way with cool designs and logos.

At the back of the cards, interesting facts are given and a QR leading to the SNE/JJNN website.

AUDIENCE

- More than 50 people/year
- Age 13-16 years (secondary school)

REALISATION TIME

- Cyclic, every year
- Started in 2015

LOCATION

University classroom or similar. It takes place at different locations every year

ORGANISATION TEAMS

- 3-5 organizers
- Designer or Creator, Formatting and printing, Project leader

HIGHLIGHT

Teenagers loved the designs and the **playability**

Chapter 4. Recommendations and roadmap

The following chapters are an internal analysis of the ENS Focus Group with the intention to honestly approaching the **best practices** appearing from this exercise. We intend to give insight for the important decisions based on **how to allocate limited resources for the best result**.

Above all, we aim to show that **each Nuclear Society can contribute to the crucial effort of scaling up the nuclear workforce and raising awareness about nuclear energy via engagement with the education system** (engagement with the general public will be the topic of the next report).

One of the most practically useful questions for any Nuclear Society or their Young Generation Network (YGN) considering a new engagement project is deceptively simple: **what does it actually take to run this?**

This fourth chapter seeks to answer that question by translating the project responses collected across the ENS network into **practical guidance for Nuclear Societies, YGNs, and members planning to launch, scale, or improve engagement activities in education settings**.

Rather than presenting a generic overview, this analysis focuses on the operational questions that determine whether an activity can actually be delivered in practice: what resources are needed, what tools are required, how the activity is paid for, how participants are reached, and whether the effect of the activity is measured.

On this basis, the chapter aims to identify both **effective practices** and less successful approaches in order **to draw lessons for future projects**.

The section is organised around four dimensions: **(i) basic decisions; (ii) organisational requirements; (iii) financial considerations; and (iv) dissemination as well as impact measurement**.

What it Takes to choose a Project

Project categories, topics and audience mapping

The projects collected across the ENS network cover a **wide spectrum of formats and educational objectives**, from summer schools and competitions to teacher webinars and animated video series. This diversity reflects a **complementary toolkit**: each format serves a distinct purpose, reaches its most adapted audience, and requires a different type of organisational commitment.

The Table 1 maps these **seven categories** to the topics they typically address and the educational purpose they serve, as well as best practices related to target audience.

[1] Including direct, indirect and induced jobs.

[2] nucleareurope, Economic & Job Creation Benefits of Investing in Nuclear Highlighted in New Report, Press Release, 2025 ([access link](#)).

[3] nucleareurope, Economic & Job Creation Benefits of Investing in Nuclear Highlighted in New Report, Press Release, 2025 ([access link](#)).

Format category	Examples of topics covered	Primary purpose	Audience-related best practices by age range
Schools and courses	Nuclear physics, radiation, energy systems, hands-on experiments	Provide sustained, structured learning over several days or sessions; combine scientific content with networking and mentorship	Best suited to 13-16 and 17+ students with prior interest in physics or STEM. For multi-day formats, prioritize motivated participants over broad reach: science club members, competition winners, and students from science-focused classes make the most of intensive programmes.
Competitions	Energy literacy, nuclear science, essay writing, physics problem-solving	Identify and reward motivated students; combine knowledge assessment with public visibility and further opportunities	Adaptable across age groups, but the format must match the audience. Creative outputs such as drawings, posters, videos, and models work well for 7-12-year-olds, while essays, research papers, and problem-solving tasks suit 13-16 and 17+ students. University students can engage with more advanced scientific topics.
Scaling through teachers	Nuclear career pathways, energy topics training and Q&As, classroom resources	Reach students indirectly at scale; equip educators to bring nuclear topics into regular curricula	Teachers are both an audience and a multiplier. Webinars, resource packages, and dedicated teacher networks such as the Hungarian Nuclear Society's Teachers' Division (see p. 29) enable indirect reach at significant scale. Engaging teachers alongside parents is particularly effective for career-oriented activities, since both influence students' university and professional choices.
Educational tools and games	Nuclear science, isotopes, power plant operation, energy concepts	Reduce psychological distance from complex topics; sustain engagement through play and creative formats	Most effective with 7-12 and 13-16-year-olds, for whom playful formats lower the barrier to engagement. Gamified activities may be followed by a brief explanation connecting the game mechanics to real nuclear processes, and ideally a pointer towards nuclear careers and further opportunities.
Career projects and events	Nuclear professions, university pathways, industry testimonials	Support informed career choices; bridge schools, universities, and the nuclear sector	Primarily aimed at 17+ students approaching university entry, as well as prospective applicants and non-nuclear students exploring options. Involving teachers and parents, who shape both attitude and decision-making, significantly amplifies the reach of career-focused content.
Short educational workshops	Radioactivity, STEM concepts, environmental radiation, energy basics	Deliver accessible introductory content efficiently; adapt easily to different school settings and age groups	Versatile and low-threshold, these work across the 7-16 age range. For younger students, prioritize demonstrations, observations, and concrete analogies. For older secondary students, more quantitative content such as radiation measurements, energy comparisons, and safety principles is appropriate. Format simplicity makes these easy to repeat and adapt across different school contexts.
Visits and excursions	Nuclear power plant operation, radioactive waste management, research reactors	Provide direct exposure to professional nuclear environments; make the sector tangible for students considering careers	Most valuable for 17+ students who are actively considering nuclear careers, as well as science club members. For younger students, a visit is most effective when embedded in a broader programme and more high-level exposure than detailed explanations

Table 1. Format categories, their purpose and audiences

The data presented earlier, in Figure 5, reveal that **secondary school students aged 13-16 are by far the most targeted group** across the network, appearing in the majority of submitted projects. The 17+ high school cohort is the second most frequently addressed group, followed by primary school students (7-12), teachers and educators, and to a lesser extent parents and non-nuclear university students.

This distribution is not accidental. The 13-16 age group sits at a particularly **accessible stage**: old enough to engage with basic scientific concepts, yet still in the process of forming their interests and considering future pathways. The 17+ group, approaching university entry, is the natural target for career-oriented activities. Younger students (7-12 and pre-school) appear primarily in gamified, creative, or competition formats that do not require prior scientific knowledge.

It is important to note, however, that **no age group is inherently excluded from any format**. A competition can be designed for pre-schoolers just as much as for university students; a facility visit can be meaningful at 12 as well as at 18.

What changes is the way it is designed and delivered: the language used, the level of scientific detail, the type of output expected from participants, and the tools employed. The recommendations in the Table 1 therefore reflect the most effective pairings observed across submitted projects, not hard boundaries.

It is worth noting that **no single format serves all purposes equally well**, and that the format ultimately chosen is often shaped as much by available resources as by strategic objectives.

- **Where resources are limited**, simple and accessible formats such as short workshops, classroom presentations, or educational tools can still help raise awareness among broad and diverse audiences.
- **Where greater resources and capacity are available**, formats involving repeated contact with students and teachers, including summer schools and recurring competitions, may offer stronger opportunities for longer-term engagement.

Single event vs. recurring cycle

Among the submitted projects, **recurring formats are the clear majority**: summer schools, competitions, teacher programmes, and school visits are almost all organised on an annual or multi-occurrence basis.

Recurring formats **capitalize on upfront investment** in building a framework and **generate compounding value over time**: growing name recognition, established partnerships, and stronger participant pipelines.

Single-occurrence projects can deliver strong immediate impact: for instance facility visits, which provide unique and memorable experiences for participants. Although they usually offer fewer opportunities for sustained engagement than recurring programmes, they can still have significant long-term effects when the experience is sufficiently impactful or serves as **a catalyst for future involvement**.

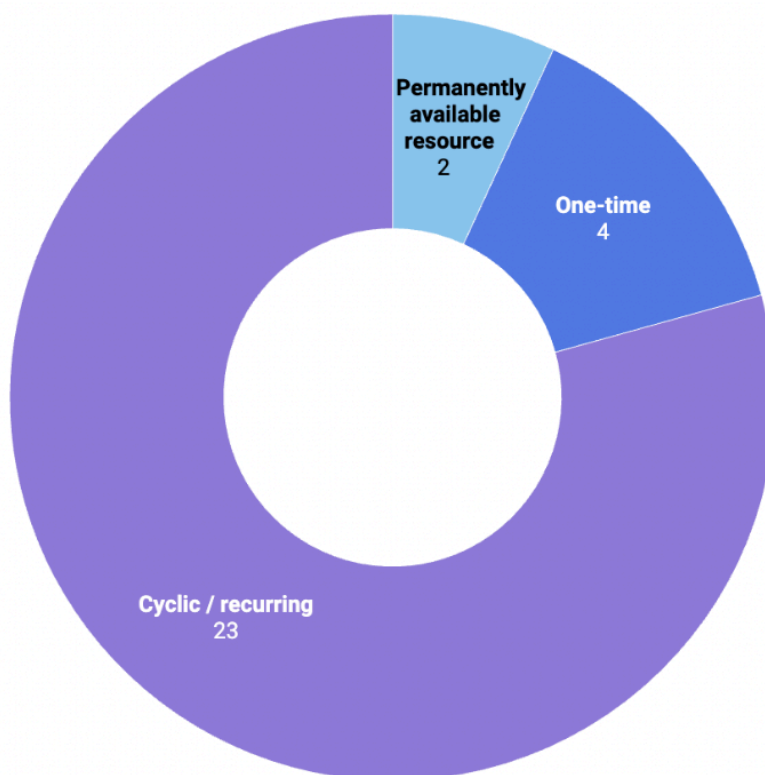


Figure 6. Distribution of projects by recurrence type [number of reported projects]

Overall, a practical consideration emerging from the data is **the importance of distinguishing between the initial cost** (time, resources, finances) of creating a project format and **the marginal cost of running it again**. Several of the most ambitious projects, including competitions, career platforms, and animated video series, required substantial first-year investment and may continue to involve significant annual costs, but they can also generate reusable assets, established processes, and accumulate visibility over time, **decreasing the effort vs. result ratio over time**.

What did we learn here, in one sentence?

Dear organizer, define your audience first, choose a clear objective and a format that achieves it, and design a project that could be repeated in the future with less effort than the first time

What It Takes to Organize a Project

Small Organizing Teams Do Not Mean Small Impact

A good starting point for assessing the feasibility of an engagement project is **the size of the team needed to run it**. For Nuclear Societies based on volunteer contribution, this gives an immediate sense of how accessible the project is, how easily it could be repeated, and whether it can be sustained over time. Figure 7 presents organizing team sizes across reported projects.

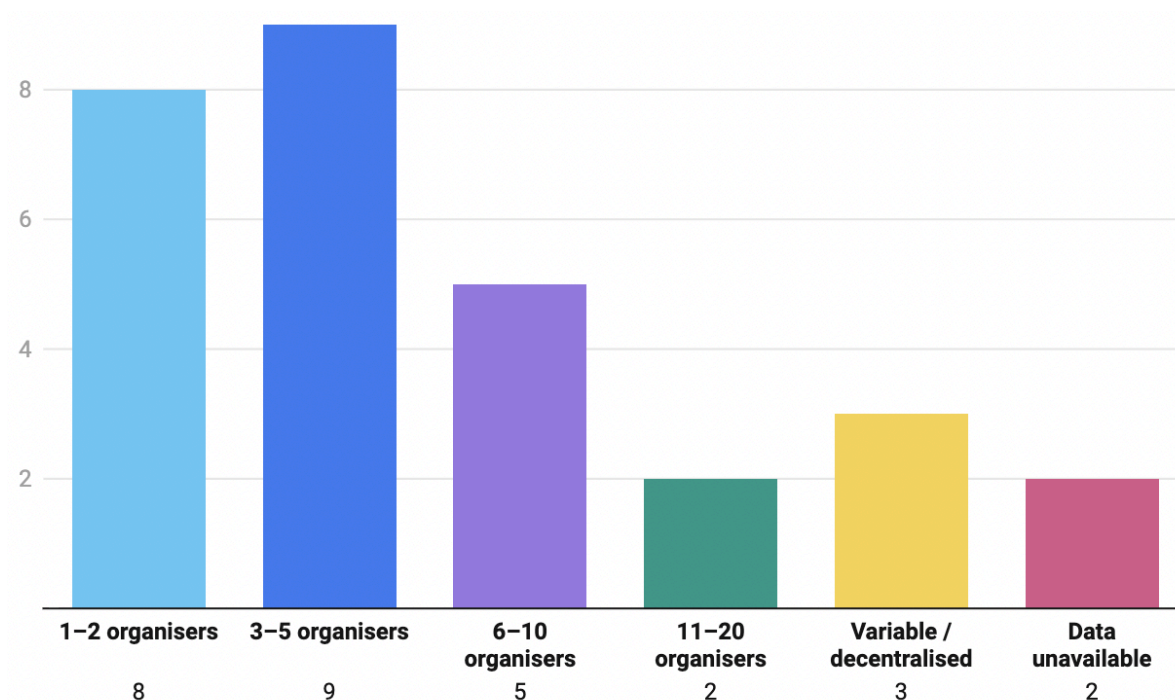


Figure 7. Reported team size across the projects surveyed

In the projects surveyed, **the most common operating model is clearly a small but structured team of 3 to 5 organisers**, reported by 9 projects. This suggests that most engagement initiatives do not rely on large organising committees, but instead on compact teams with enough capacity to divide responsibilities effectively.

Smaller formats are also common: 8 projects reported requiring only 1 to 2 organisers. By contrast, projects requiring larger teams are much less frequent, with only 5 projects involving 6 to 10 organisers, and very few requiring more than 10 organisers. Taken together, these findings indicate that the human-resource barrier to launching a school engagement activity is relatively low, and **Societies wishing to begin or expand their engagement work can start with accessible formats** before moving towards more complex activities.

Low-burden formats include, for instance, classroom workshops, career orientation activities, online guides, and certain school visits. For example, the HighSchool RoadShow (Hungarian Nuclear Society, [see p. 15](#)) and the Spanish STEM workshops ([see p. 19](#)) both operate with only 1 to 2 organisers and limited equipment. Importantly, **this should not be equated with lower reach or impact**, as such formats can still engage substantial numbers of students and generate strong enthusiasm among participants. This also illustrates that some of the most accessible entry points into school engagement can also be among the least demanding in terms of human resources.

Projects requiring 6 to 10 organisers usually correspond to more complex formats: multi-module activities, digital or consortium-based projects, and events requiring several roles to be coordinated simultaneously. These projects remain manageable for most Societies, but they require clearer task allocation, stronger planning, and more robust coordination than a simple classroom activity.

Two projects required 11 to 20 organisers. Projects in this category tend to be larger or more established formats, with more specialised roles and a higher degree of coordination. One notable example is the Leó Szilárd Physics Competition, organised by the Hungarian Nuclear Society ([see p. 41](#)), which is coordinated by approximately 12 people, including university professors, nuclear researchers, and secondary school physics teachers. Its complexity, involving two selection stages, bespoke experimental equipment, and a large-scale final stage at the Paks NPP vocational school, explains the need for a more substantial organisational structure.

Finally, three projects were classified as variable or decentralised. In these cases, the number of organisers depends on the geographic scope, the involvement of local branches, NPP towns, modules, or the stage of implementation. Such models can be powerful for scaling outreach across territories, but they also require strong coordination mechanisms to ensure consistency and quality.

When talking about project organisers, **the impact of Young Generation Networks needs to be noted**: many of the submitted activities are the efforts of youth sections of the Nuclear Societies, who spend considerable time to ensure creative outreach to large numbers of children and students.

Overall, the data provides a reassuring message for member Societies: **most education engagement projects can be launched and sustained by relatively small teams**. A good approach would therefore be not to wait until a large team is available, but to begin with a format that fits existing human resources, assign roles clearly, and scale up progressively. A less effective practice would be to overdesign a project from the outset, creating organisational needs that exceed the Society's actual capacity and risk discouraging volunteers or delaying implementation.

Roles, Skills and Continuity

Beyond the raw number of organisers, the survey responses reveal **several types of roles and skills required** across different project formats. **Four functional roles** appear repeatedly, either explicitly stated or clearly implied by the project descriptions:

- **Content expert / subject matter specialist**: Someone with solid nuclear science or engineering knowledge who can develop or validate the educational content, respond to technical questions from participants, and ensure scientific accuracy. This role is identified as essential in virtually all project categories, from simple workshops to multi-week schools.
- **Coordinator / project manager**: Someone responsible for the overall logistics – scheduling, communications, transport, venue booking, budgeting, and coordination with external parties. Several respondents mentioned that underestimating the administrative workload is a common mistake, particularly for recurring events.
- **Communicator / facilitator / animator**: Someone capable of presenting complex nuclear topics in an accessible, engaging way to non-specialist audiences, including young people. Basically, this role demands interpersonal skills, energy, and adaptability. The Spanish Nuclear Society noted that for the coding STEM workshop ([see p. 20](#)), the ability to keep participants engaged – through non-verbal communication, humour, and adaptability – is one of the most critical skills.

- **Designer / graphic artist:** Required for projects involving printed materials, educational tools, branding, or digital content.

An important finding across project types is that, while these different roles may sometimes be held by the same person, this is generally not advisable. When too many responsibilities are concentrated in a single individual, teams may face challenges in maintaining consistency and quality.

Several respondents also highlighted **the value of experience in organisational continuity**. For instance, organizers of the Leó Szilárd Competition ([see p. 41](#)) noted that after nearly three decades, the organisation now runs quite smoothly – which can be understood by the fact that **institutional memory, established routines, and reliable partner relationships** reduce coordination costs significantly each year.

This points to an important recommendation: **Societies embarking on recurring activities should invest early in documenting their processes and building an institutional knowledge base**, so that the project does not depend exclusively on the continuity of specific individuals.

Finally, it is important to underline that **volunteering plays a particularly important role for YGNs**. Indeed, several projects are run predominantly by volunteers who contribute their time and expertise without remuneration. This model makes projects highly cost-efficient and can foster strong personal commitment, but it also requires careful attention to workload distribution.

To support long-term sustainability, Nuclear Societies and YGNs could therefore invest in simple practices such as **shared documentation, structured role handovers, and mentoring between successive organising teams**.

Equipment requirements for Impactful Projects

The **equipment requirements** in youth engagement projects may be a make or break of a project. Analysed activities require various elements – from zero or near zero material needs to highly specialised physical installations ([see Chapter 3](#)):

- **Short educational workshops and classroom-based** activities are the least equipment-intensive format. This type of activity may, for example, require a board, a computer, or a projector, as highlighted by the Croatian Nuclear Society in the context of its Nuclear Energy Workshop ([see p. 18](#)). However, this equipment may already be available on site within the academic institution and made available for the duration of the session. This is a useful tip for Societies exploring how to get started with outreach: a compelling classroom activity can be delivered with minimal physical resources, provided that the facilitator has strong scientific knowledge and, above all, good communication skills.
- **Visits and excursions** usually require more coordination of transport logistics and planning than provision of equipment. On the one hand, it is necessary to foresee enough people (supervisors), depending on the number of students taking part in the trip, in order to ensure their safety properly, including respecting site safety rules, especially if the visit concerns a nuclear power plant. On the other hand, transport arrangements must be carefully planned, including the choice of transport, schedules, routes, meeting points, and safety conditions during the journey. Therefore, the success of a visit or excursion depends mainly on careful preparation in advance.

- **Educational tools and games** usually span a wide range of equipment requirements. Some can be delivered with relatively simple materials, such as printed cards, posters, or worksheets (main effort here is design and preparation in advance), while others include more substantial resources, including digital platforms, video content, interactive devices, or purpose-built demonstration kits. Their feasibility therefore depends not only on the equipment itself, but also on the level of design, testing, and preparation needed to make the tool effective and reusable. These projects highlight a common challenge: the more physically engaging and technically impressive the equipment, the greater the cost, logistical challenge (transport, assembly, storage) and the higher the barrier for replication by Societies elsewhere.
- **Schools and courses**, including summer camps, typically require access to classroom or laboratory facilities at the host institution, along with basic presentation equipment and, in some cases, specific scientific instruments. Hands-on experiments require particular attention: they should be carefully prepared, tested, and checked in advance, as insufficient preparation can lead to disruptions during the programme.
- **Competitions** occupy a particular position in terms of equipment requirements. The Leó Szilárd Competition stands out ([see p. 41](#)): the final round requires 15 to 20 copies of bespoke experimental set-ups, which must be rebuilt each year specifically for the competition. This represents a significant ongoing investment of both time and materials. However, where resources are more limited, alternative competition formats can still be implemented, for example by using digital tools. Prizes should also be planned carefully, as they can help motivate participants without necessarily requiring a large budget. Symbolic rewards, certificates, books, small scientific kits, or opportunities such as visits and mentoring can be effective alternatives to expensive prizes.

Overall, **equipment should be seen less as a prerequisite for outreach than as an investment** that may shape the replicability and long-term sustainability of a project.

Many effective initiatives are not necessarily those with the most impressive material set-up, but those whose resource needs are proportionate to their educational objectives, organisational capacity, and available budget.

For this reason, **preparing a realistic forecast plan** can be useful, especially as some tools may take time to prepare.

External Partnerships as Operational Enablers

External partnerships appear in a substantial proportion of the documented projects and **play a role that goes well beyond financial support**.

Indeed, in this context, additional stakeholders contributed equipment, expertise, access to facilities, communication channels, institutional credibility, and, in some cases, long-term strategic support.

The data allows us to identify four main types of external stakeholders, as shown in the figure below.

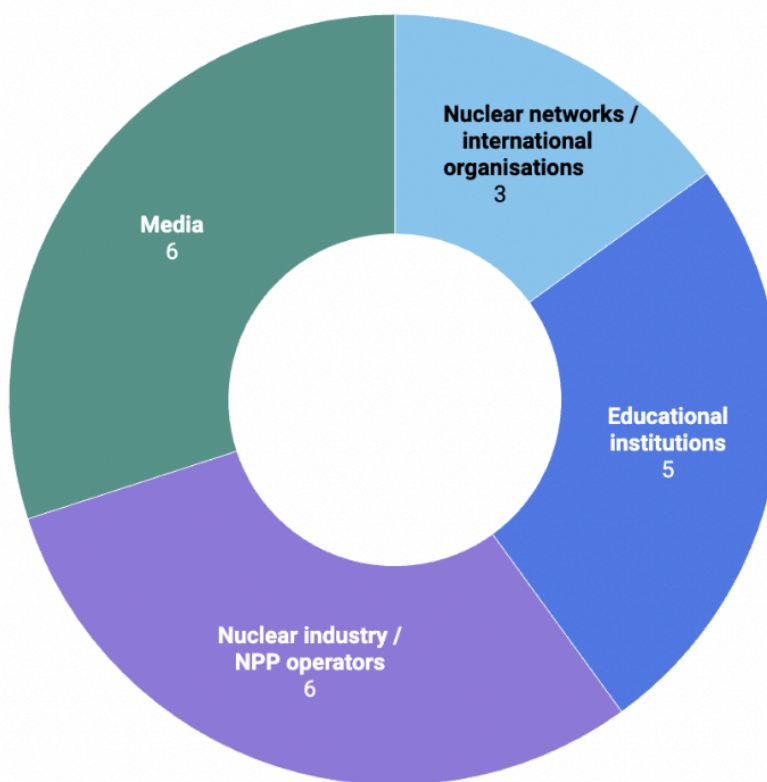


Figure 8. Types of external stakeholders mentioned across the projects surveyed

This distribution suggests that **partnerships are part of the operational conditions that make a project possible, and often scalable, or credible**. Each type of stakeholder brings a different kind of contribution and therefore requires a different form of relationship management.

- **Nuclear power plants, industry actors and other nuclear-related companies** are among the most frequently mentioned external partners. They may provide access to industrial sites, technical expertise, communication support, transport, funding, or staff time. In some cases, industry partners also contribute to the educational content itself, for example through presentations, demonstrations, or access to professionals working in the field.

Consequently, this type of partnership is particularly valuable because it can **connect educational outreach with real-world applications of nuclear science and technology**. However, it also requires careful framing. For the benefit of participants, the educational objective of the project should remain clear, and the activity should not be perceived as purely promotional. A good practice is therefore to **define the partner's role early**: what they provide, how they contribute to the learning objectives, and how the activity will remain balanced, transparent, and appropriate for the target audience.

- **Educational institutions** are also among the most frequently mentioned stakeholder categories. Their contribution is often logistical but essential: access to classrooms, laboratories, lecture halls, dormitories, canteen facilities, or existing student networks. Schools, universities and research institutes can also help identify the right audience, adapt the content to students' level, and integrate the activity into an existing educational framework.

A good practice here is to **build partnerships with educational institutions not only for logistic support, but also for co-designing the activity**. Academic staff can provide valuable feedback on timing, format, student needs, and curriculum relevance. This can significantly improve both participation and educational impact.

Note: An example of the potential from an educational engagement of a research institution can be found in Chapter 5.

- **Other Nuclear Societies, networks and international organisations** were mentioned in several survey responses. They are particularly relevant for knowledge exchange, visibility, co-funding opportunities, and the replication of project models across countries. These networks can help national Societies avoid starting from scratch by sharing tested formats, practical templates, communication materials, or lessons learned from previous activities.

This is especially relevant for **smaller Societies or Societies operating in countries with limited nuclear infrastructure**. In such contexts, international cooperation can compensate for limited local resources by providing access to expertise, examples of good practice, and potential institutional support. Some useful organisations can be found in Chapter 5.

- **Media actors** are mainly linked to visibility, public communication, and outreach beyond the immediate participants. Media coverage can help increase the perceived legitimacy of a project, attract future participants, and make the activity more visible to schools, families, public authorities, or potential sponsors. In some cases, media involvement can also help present nuclear-related topics in a more accessible way to the wider public. Scientific journals and specialised reviews can also be taken into account to support visibility.

However, it should be noted that a project designed for students does not automatically translate into a clear public message, especially in case of purely scientific content. Societies should therefore prepare simple communication materials such as short descriptions of the activity, key messages, photos or visual material, and assign contact points for follow-up communication.

- **Public institutions, such as municipalities or other local authorities**, were not explicitly mentioned among the surveyed projects, but they still represent an opportunity worth exploring for Nuclear Societies. Public institutions can provide legitimacy, access to local networks, venues, communication channels, or support in reaching schools and families. In some cases, financial means are also available. Their involvement may be particularly useful when a project has a strong local dimension or takes place in a public educational setting.

The absence of mentions in the current data suggests that this type of partnership may be underused. Yet, for some Societies, especially those with access to local communities close to nuclear installations, local public institutions could represent a useful cooperation point. A good practice would be to identify whether municipalities, regional education services, science centres, or public youth programmes already support educational initiatives and offer in-kind advantages or funding.

Finally, **the most useful partnerships are generally those built over time**. Trust, repeated contact, and clear mutual expectations make it easier to launch new activities or mobilise support when needed. For European Nuclear Societies, a good practice would therefore be to **maintain those relationships beyond a single event**.

What did we learn here, in one sentence?

Dear organizer, engage with relevant partners early, match your ambitions to your available resources (volunteers, equipment), think of who will own specific tasks, and think to document the process so the project can survive in case of change of team

What It Takes to Fund a Project

If partnerships play such a central role in securing the financial resources that Nuclear Societies need to sustain these activities, it is because **financial sustainability is one of the most frequently cited challenges among the projects examined.**

This section therefore examines the **financial dimension of engagement work** by analyzing typical cost levels, the distribution of financial contributions, and the respective roles of in-kind support, internal resources, external sponsorship, and public funding.

It also considers **how different funding models affect the durability, scalability, and replicability of projects** within the education system.

Preliminary Note on Data Completeness

The financial information available in the survey requires careful interpretation. The dataset contains 29 projects, of which 23 provide a numerical cost figure in euros. This includes 22 projects with a non-zero reported cost and one project reporting €0 in direct costs. The remaining 6 projects do not provide a numerical cost figure, but the absence of such a figure should not be interpreted in a single way.

In some cases, it reflects incomplete financial reporting or the difficulty of isolating a project's cost from wider institutional budgets. In others, it suggests that the activity was delivered free of charge or at very low direct cost, particularly when it relied on volunteer speakers, internal staff time, existing educational materials, online formats, or facilities provided by partner institutions. Several projects therefore sit in a grey area between "no data" and "low-cost delivery": they may not generate substantial direct expenditure, but they still rely on non-monetised resources. For this reason, the analysis below distinguishes between direct reported costs, low- or no-cost activities, and broader or proxy budget figures.

This has important implications for project replication. Activities that appear inexpensive can be highly accessible and easy to implement, but they may still depend on people, expertise, facilities, and organisational capacity that should be recognised and documented. The data also shows that **meaningful educational engagement does not necessarily require a large budget**: where expertise, volunteers, existing materials, institutional spaces, online formats or partner support are available, Nuclear Societies can organise relevant and impactful activities even with little or no dedicated funding.

The **key issue is therefore not only the amount of money available, but also the capacity to mobilise non-financial resources effectively and to recognise their real value.**

Project Cost Levels Landscape

Among the 23 projects with reported costs in euros, **costs range from €0 to €28,000**. The **mean cost is approximately €5,950**, while the median cost is €3,000. It should be noted that **most engagement projects in the dataset are concentrated in the lower part of the cost distribution**, while the average is pulled upward by a small number of higher-cost projects, as shown in the graph below.

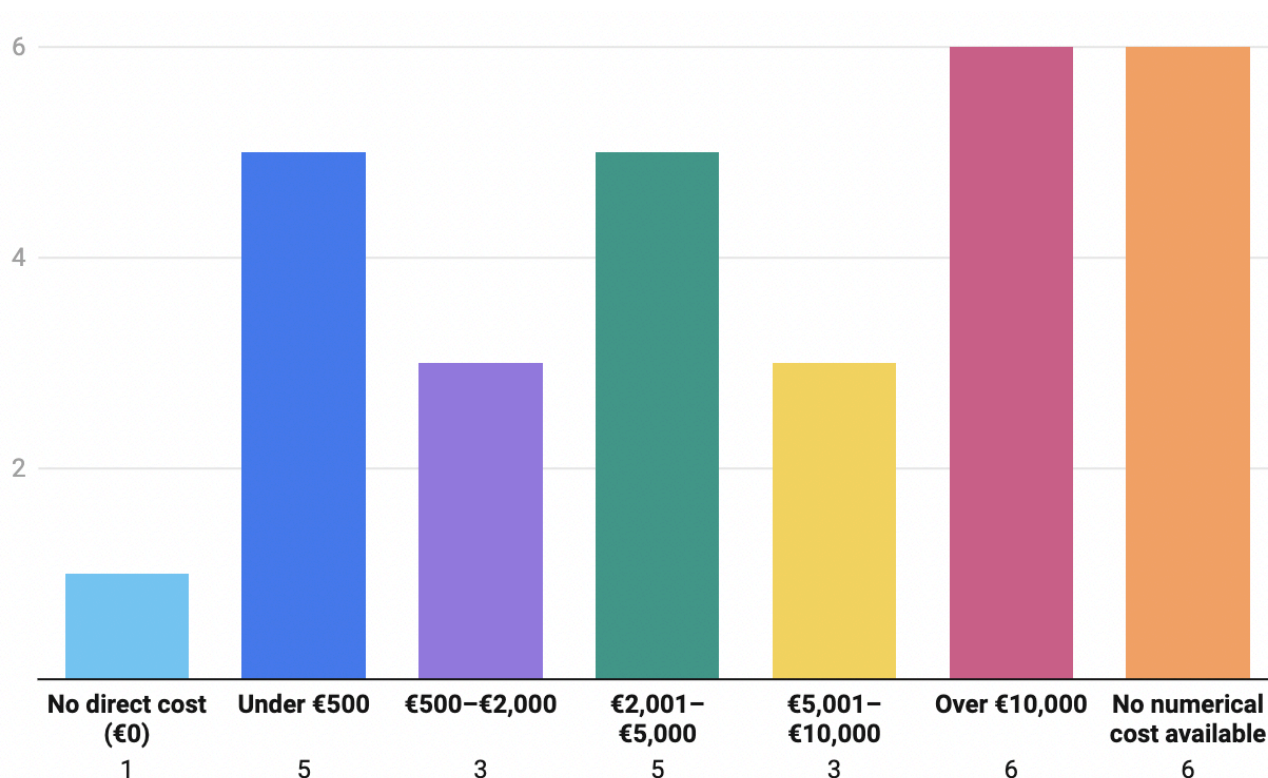


Figure 9. Distribution of projects by direct reported cost

The distribution reveals a clear pattern: the **majority of projects with reported costs fall below €5,000**, with the under €500 and €2,001–€5,000 brackets each accounting for 5 projects, or 22% of those with direct cost data.

This points to **two distinct but equally legitimate operating models** within the network: very lean activities relying primarily on volunteers and minimal materials, and more structured formats such as recurring workshops, career events or short camps that require a dedicated budget. It is worth emphasising that **cost is always relative to the size and resources of the organising Society: what represents a significant investment for a smaller national Society may be routine expenditure for a larger one**, and vice versa.

Low-cost engagement is clearly present and should not be underestimated. The 5 projects operating below €500 include some of the network's most replicable formats: roadshows, STEM workshops, educational card games, and career orientation days. Their low cost is generally made possible by volunteer facilitation, minimal material requirements, and local delivery. This confirms that low-budget engagement is not a secondary or fallback model, but a practical and well-established approach for Nuclear Societies of all sizes.

At the upper end, 6 projects exceed €10,000. These are among the most established formats in the dataset: the Mladi Genialci competition (Slovenia, [see p. 40](#)), the NATURALE fieldwork project (Serbia, [see p. 22](#)), the Leó Szilárd Physics Competition (Hungary, [see p. 41](#)), the Hungarian Nuclear Society's Teachers' Division programme ([see p. 29](#)), the KS2 Animated video series ([see p. 46](#)), and the interactive radioactivity and nuclear energy lessons delivered in primary and secondary schools (Poland, [see p. 17](#)). Their higher cost reflects greater complexity, larger participant numbers, multi-day formats, prize structures, production needs, or significant coordination across many sessions. They represent what sustained institutional investment in youth engagement can produce over time.

Budget Sources and Funding Structures: Main Patterns

The survey also shows that **Nuclear Societies rely on a wide variety of funding models. Internal Society budgets remain important, but many projects also depend on mixed funding, in-kind contributions, public grants, industry sponsorship, institutional resources or participant fees.**

- A first group of projects is indeed funded mainly and directly through **Nuclear Society resources**. This includes several Spanish, Hungarian, Croatian and Ukrainian activities, particularly low-cost workshops, roadshows, science fairs, career events and educational tools. This model is relatively straightforward because the Society retains control over the activity and can integrate it into its annual outreach plan. However, it also creates a vulnerability: if the Society's budget is reduced, the project can quickly become difficult to maintain.
- A second observed model is **mixed funding**, where costs are shared between a Nuclear Society and one or more partners. Examples include projects combining Society funds with participant fees, public funding, university support, NPP contributions, sponsorship or partner resources. This model appears especially important for larger or recurring projects, because it spreads financial responsibility across several actors. However, it also requires stronger coordination and can create uncertainty when one funding source is not renewed.
- **Industry and NPP-related sponsorship** is particularly visible in projects developed close to nuclear operators or energy companies. For example, some Slovenian projects ([see pages 38 and 43](#)) were supported by GEN energija. This model can provide substantial and stable support, especially for projects linked to public information, energy education or local community engagement. However, it also raises a potential credibility risk, as activities funded by industry actors may be perceived by some audiences as less independent, even when their educational content is scientifically accurate.
- **Public and European funding** also play an important role, although they appear less frequently as primary funding sources in the dataset. An example is the Serbian nuclear camp supported by the ENEN++ programme ([see p. 35](#)).

At national level, the Polish lessons programme in primary and secondary schools (*see p. 17*) is directly commissioned and funded by the Nuclear Energy Department within the Polish Ministry, through an annual public tender. Among other opportunities are grants from municipalities, ministries, and existing educational programmes. **Public funding may help Societies move beyond one-off outreach activities** and develop more structured, ambitious and collaborative formats. This is why these opportunities **should be considered more systematically**, particularly for projects involving several partners or cross-border exchange.

- **In-kind and labour-based contributions** are widespread, but they are not always captured in the financial data. In several cases where no precise cost figure was available, respondents indicated that activities relied primarily on labour-based contributions, including in-kind work, internal staff time, existing educational materials, institutional infrastructure, or small additional expenses such as mileage. In other words, these low-cost models depend heavily on the ability of Nuclear Societies to mobilise volunteers. They show that engagement can be organised without substantial direct expenditure, but they should not be mistaken for being cost-free: their **sustainability depends largely on the continued availability of people**.
- Finally, **participant fees are rare**: both the András Mester Nuclear Summer School (*see p. 33*), where students pay a symbolic fee of approximately €50, and the Hungarian Nuclear Camp for High School Students (*see p. xx*) combine Society funding with participant contributions. Although still limited, this model could be considered for multi-day or residential formats, provided that fees remain symbolic and do not become a barrier to participation. Societies should nevertheless recognise that **not all students or families are able to contribute equally**; where possible, fees could therefore be adjusted according to income, supported by waivers, or combined with scholarships to preserve accessibility.

From No-Budget Activities to Cost of Larger-Scale Programmes

The financial profile of projects varies strongly by format.

- At the lowest-cost end are **short workshops, school visits and roadshows**, which can often be organised with very limited direct expenditure, especially when they rely on volunteers, existing materials, local delivery, or online formats. For these formats, the priority is to make the activity easy to repeat: a clear structure, reusable materials and a small pool of available speakers can keep costs low while making delivery easier from one school or event to another.
- **Educational tools and games** also tend to remain relatively affordable when they are based on simple physical materials or open-access resources. Their main advantage is that production costs are often concentrated at the beginning, while the tool can then be reused across several schools, events, or countries.
- **Camps and multi-day formats** generally require higher budgets because they involve accommodation, meals, transport, venues and coordination. However, their cost per participant can remain reasonable when participant numbers are sufficient and logistics are planned early. As mentioned above, budgets for these formats should be built from fixed costs upwards. Societies should also consider mixed funding models, combining partner support, public grants, and where appropriate, symbolic participant contributions.

- **Competitions and contests** vary widely in cost, depending on the scale of the final event, the use of prizes, equipment needs, jury involvement and possible travel costs. The main financial good practice is to keep the budget focused on what directly supports learning and participation. In many cases, the value of a competition comes less from expensive prizes or complex logistics than from the preparation process, mentoring, feedback and visibility it gives to students.
- At the highest-cost end are **large institutional or multi-partner programmes**, which operate on a different scale from ordinary outreach activities. These projects can reach wider audiences and produce more professional outputs, but they usually require public funding, industry support, formal partnerships and stronger administrative capacity. They should therefore be treated less as standard models for small Societies and more as examples of what can be achieved when engagement is embedded in broader institutional or European frameworks.

What did we learn here, in one sentence?

Educational engagement in the nuclear field can be organised at very different financial scales, from low-cost formats requiring little or no dedicated budget to more ambitious initiatives needing substantial and diversified funding

What matters most is to start somewhere: even modest initiatives can create visibility, build relationships with schools and partners, and provide a basis for larger projects later on.

Key Financial Lessons for Future Projects

In summary, this financial analysis points to **several best practices for Nuclear Societies**:

- **Start with what is feasible.** Not every project needs a large budget: simple workshops, school visits, online formats or reusable tools can be as impactful for students as larger initiatives, especially when they are well targeted and easy to replicate.
- **Diversify funding sources.** Combining Society funds, partner support, public grants, industry sponsorship or in-kind contributions make projects more resilient than relying on a single funder.
- **Plan large projects like camps and competitions from fixed costs upwards and always include a margin.** Accommodation, catering, transport, prizes and venue costs should be identified early, as they are usually the least flexible parts of the budget. Margin included in the budget supports resilience to unexpected expenses.
- **Be aware of all project costs, including hidden contributions.** Organizers' time, equipment loans, free venues and partner support may be recorded for future planning, even when no direct expenditure is involved.
- **Seek public and European funding opportunities.** National science promotion funds, educational grants, European funds, foundations, and networks can help Societies develop more ambitious or collaborative projects.

- **Keep participant contributions symbolic and accessible.** For multi-day or residential formats, small fees may support sustainability and commitment, but they should remain limited and, where possible, adjusted to participants' financial situations.
- **Create a dedicated budget line for educational activities if possible.** A small, predictable amount from internal or sponsored budget is often enough to support one or several low-cost activities and makes projects less dependent on last-minute approvals.

What did we learn here, in one sentence?

Dear organizer, calculate costs upfront, consider diverse funding sources and use existing facilities and frameworks whenever useful

What It Takes to Disseminate and Evaluate a Project

While many Nuclear Societies have clear practices for organising and delivering activities, fewer appear to systematically focus on how projects are promoted, who they reach, and what effect they have on participants.

This does not necessarily mean that dissemination or evaluation are absent in practice. In many cases, they may simply be informal, embedded in existing relationships, or not reported in detail. However, the large number of empty or limited responses suggests that **this is an area where Nuclear Societies and YGNs could significantly strengthen their methods.**

Reaching the Right Audience, Not Just a Larger One

The survey shows that dissemination strategies vary considerably across projects. Some activities rely mainly on social media, websites or newsletters, while others use more targeted channels, such as direct contact with teachers, schools, mentors, professional networks or partner organisations. In several cases, dissemination is not simply a matter of “advertising” the project, but of reaching the right participants and building trust with the institutions that can give access to them.

This is particularly visible in projects targeting school students. **Direct contact with teachers** appears to be one of the most effective dissemination methods, as they can identify motivated students, integrate the activity into school life, and represent it in front of families or school administrations.

A best practice is therefore that **dissemination should not be reduced to visibility.** For educational projects, the quality of the channel matters as much as its reach: a post on social media may increase awareness, but a teacher, school partner or educational network can ensure meaningful participation. Societies should therefore **treat dissemination as a relationship-building process, especially for recurring projects.**

A second recommendation is that **already existing events and institutional platforms can be powerful dissemination tools**. Some projects benefit from being attached to career fairs, professional forums or general educational events. This allows Nuclear Societies to use existing communication channels rather than building an audience from scratch. **For smaller Societies**, this is a particularly useful approach: **embedding an activity within a larger event can reduce communication effort and increase credibility**.

Overall, the strongest dissemination strategies appear to combine **three elements: public visibility**, through websites or social media; **targeted recruitment**, through teachers and schools; and **partner-based outreach**, through institutions that already have access to the intended audience.

Impact Evaluation: The Weakest Link in the Project Cycle

Impact evaluation appears to be less developed than dissemination. Only a limited number of projects report a clear evaluation method, while many explicitly state that no assessment has been carried out. In other words, many projects may be well organised and well received, but without even a light evaluation mechanism, it becomes difficult to demonstrate their value, improve them over time or justify continued support.

Where evaluation does exist, it usually takes relatively simple forms. Several projects use **post-event surveys**, often completed by students or teachers. These surveys typically measure satisfaction, perceived learning, interest in future activities and suggestions for improvement. The Serbian NATURALE project ([see p. 22](#)) provides one of the most structured examples, with questions addressing students' understanding of radioactivity, sampling procedures and scientific work. The First Nuclear Camp in Serbia ([see p. 35](#)) also uses a participant survey to assess satisfaction, educational value and possible improvements. These examples clearly show that **impact evaluation does not need to be complex to be useful**.

Other projects rely on more **indirect indicators**, such as number of attendees, number of materials distributed, teacher feedback, repeated participation, registrations growth, or continued interest from students. These indicators are useful, but they measure reach more than impact.

This distinction is important. **Nuclear Societies should avoid confusing activity outputs with educational outcomes.** Outputs answer questions such as: how many students attended, how many schools were reached, how many materials were distributed? Outcomes answer a different question: what changed as a result of the activity? Did students learn something? Did they become more confident discussing nuclear topics? Did teachers find the material usable? Did the activity create interest in further study or careers?

A more mature evaluation culture would therefore combine both dimensions. **Quantitative indicators** can show the scale of the activity, while **short qualitative feedback** can explain what participants actually gained from it.

Towards Simple and Replicable Evaluation Practices

Ultimately, the main recommendation is not that every Nuclear Society needs to produce a complex impact study.

For most educational events, this would be unrealistic. Instead, **Societies should develop lightweight, repeatable evaluation practices** that can be used across different projects without creating a heavy administrative burden.

- A practical first step would be to **create a short feedback form for participants**, sent immediately after the event. This could include a few simple questions on satisfaction, clarity, perceived learning, interest in nuclear topics, and suggestions for improvement. For school-based activities, **a separate short form for teachers** may be even more valuable, as teachers can assess whether the content was age-appropriate, relevant to the curriculum or useful for future classroom work. A separate form could be **entry & exit poll**, measuring evolution of knowledge and attitudes of participants.
- A second good practice would be to **record a small set of basic indicators for every project**: number of participants, age group, number of schools or institutions reached, type of activity, dissemination channels used, partners involved and estimated resources mobilised. Even a minimal dataset would allow Societies to compare projects over time and identify which formats are easiest to replicate.
- A third recommendation is to **produce short internal evaluation notes after each activity**. These do not necessarily need to be published, but may prove useful later. A one- or two-page internal report summarising what was done, who was reached, what worked, what should be improved and what feedback was received would already be highly valuable. It would help preserve institutional memory, support future funding applications, and make handovers easier when volunteer teams change.
- Finally, **evaluation should not only be retrospective**. Societies could define in advance what success means for each project. For a workshop, success may mean that students understand one key concept better. For a camp, it may mean increased interest in nuclear science or STEM careers. For a teaching material, it may mean that teachers reuse it independently. Clear objectives make it easier to design simple but meaningful evaluation tools.

In this regard, **dissemination and evaluation should be considered integral parts of project design** rather than activities added at a later stage, as together they make educational engagement more credible, sustainable, and easier to adapt or replicate across the ENS network.

What did we learn here, in one sentence?

Dissemination and evaluation should be considered integral parts of project design rather than activities added at a later stage, as together they make educational engagement more credible, sustainable, and easier to adapt or replicate across the ENS network.

Chapter 5. External activities and sources

The educational activities realized by Nuclear Societies enter within the ecosystem providing education beyond the curriculum to pupils, students, parents and teachers.

By far are they not the only ones active in this matter: industry, research and academia play their roles in offering activities within their scope. International organizations develop their best practices in education and stakeholder engagement and offer opportunities and mobility grants. **Numerous resources are available to support organization of attractive educational projects.**

Educational activities of the sector, research and academia

Nuclear-related companies, research institutes and academia may get engaged in educational activities within their scope, either supporting Nuclear Societies or separately.

Within this report, we present an example of research center, **SCK-CEN**, that actively pursues the mission of educating pupils and students about nuclear energy, as one of the important players in Belgium. Selected projects related to education:

Teaching materials:

- **Fukushima teaching materials:** Educational resources developed to help students and teachers understand the Fukushima accident, its causes, consequences, and the principles of nuclear safety, targeted at secondary and high-school students (13–18 years).
- **Targeted teaching materials on nuclear physics/ionising radiation:** Curriculum-aligned learning materials designed to support the teaching of nuclear physics, radioactivity, and radiation applications at school level, primarily aimed at high-school students (17+).
- **MaT Teaching Material:** A set of educational resources developed to support teachers in explaining nuclear science concepts through accessible and engaging classroom activities, piloted with approximately 23 primary school pupils.

Activities for high-achieving students:

- **SCK CEN Academy science contests** and **RadioACT!:** Student competitions and outreach activities that engage young people in nuclear science through challenges, experiments, and creative science communication, involving 10–20 teams and approximately 100 participants per contest, mainly students aged 16–18.
- **ENEN2plus Nuclear Science Camp and Video Competition:** An international programme combining hands-on learning, networking, and science communication activities to stimulate students' interest in nuclear science careers, attracting 50 submissions in 2023 and 132 submissions in 2025, involving secondary and high-school students (13–18 years).
- **Cognitive Strong Pupil Project St Dimpna Geel:** A specialized educational initiative offering high-achieving students opportunities to explore advanced STEM and nuclear-related topics beyond the standard curriculum, involving 3 participants from the secondary and high-school age groups (13–18 years).
- **Visit for Physics Olympiad Finalists:** Educational visits organized for top-performing Physics Olympiad students, providing direct exposure to nuclear facilities, research environments, and industry professionals, engaging 10–15 participants per visit, aged 13–18 years.

Educational outreach and nuclear dissemination

- **Expoo – scientific exposition:** An interactive science exhibition introducing students and the general public to nuclear science and related STEM disciplines through hands-on demonstrations and educational displays, reaching approximately 40,000 visitors annually, including students, teachers and parents.
- **Guest lectures:** Expert-led presentations delivered in schools and universities to provide students with insights into nuclear science, technology, and career opportunities, typically reaching 1–3 classes per session and targeting secondary and high-school students (13–18 years).
- **KernKracht:** A public engagement and education initiative aimed at increasing awareness and understanding of nuclear energy and its role in society among students and local communities, among secondary school students (13–16 years).

These projects may serve as an example and inspiration on the **creative and impactful involvement brought by nuclear-related organizations**. It has to be noted that in some countries, respective organizations work actively in this field, and there is less incentive for Nuclear Societies to propose their own educational activities. Nevertheless, Nuclear Societies may come with an initiative by proposing an activity, or may cooperate by supporting promotion and dissemination of the projects, for example.

Many organisations (companies, research centres and universities) already offer nuclear education and outreach activities, and Nuclear Societies are encouraged to support their promotion and dissemination in order to maximise the impact of these initiatives

International organizations' activities

The possible involvement of local and national organizations was described in the Section “External Partnerships as Operational Enablers”. Here we will talk about the **opportunities provided by multiple international organizations**. While this section does not seek to be exhaustive, selected examples of international organizations and projects are listed below.

International Atomic Energy Agency offers information resources and regularly offers competitions and other opportunities for youth with attractive prizes. Selected resources:

- **Nuclear explained:** Easy-to-understand explainers about various nuclear-related topics in forms of video, podcast etc. Available in English, French and Spanish.
- **Nuclear Communicator's Toolbox:** set of resources helping with effective communication on the benefits and risks associated with the use of nuclear technologies
- **Contests:** some of the past IAEA contests included [infographics creation](#), [art](#), [essays](#), [STEM education](#). The contests may engage both youth and educators.

OECD - Nuclear Energy Agency operates the **Global Forum on Nuclear Education**, Science, Technology and Policy, with [six Working Groups](#) including Working Group 6: Building a Pipeline of STEM Professionals, aiming to provide several opportunities outlined in its flyer, as webinars, technical visits, educational materials and others.

European Nuclear Education Network (ENEN) is an association aiming at preservation and the further development of expertise in the nuclear fields by higher education and training in Europe. ENEN shares on its site, among others, opportunities targeted at youth, for instance competitions, summer schools, and other events. While the **EU Project ENEN2plus** is finalizing, with next edition destined to start in 2027, offers youth mobility (individual and group opportunities) projects aimed at attractivity and teacher support, competitions and other resources supporting educational engagement and activities.

- [Visit ENEN website](#) for news about education projects, competitions etc.
- Among the resources created within ENEN2plus, a [European map](#) of nuclear facilities available for secondary schools was created -

Chapter 6. General recommendations and future outlook

The projects collected in this report demonstrate that **Nuclear Societies already contribute substantially to STEM education and workforce development across Europe**. The diversity of activities presented, from classroom workshops and competitions to teacher programmes, camps and educational tools, shows **diverse and creative models of successful engagement with the education system**.

Synthesis of best practices:

- **Define your audience first, choose a clear objective and a format that achieves it, and design a project that could be repeated in the future with less effort than the first time.**
- **Engage with relevant partners early, match your ambitions to your available resources (volunteers, equipment), think of who will own specific tasks, and document the process so the project can survive changes in the team.**
- **Calculate costs upfront, consider diverse funding sources, and use existing facilities and frameworks whenever useful.**
- **Reach participants through the most effective channels, define success before the event, collect feedback immediately afterwards, and use the results to improve the next edition.**

One conclusion emerges particularly clearly: **meaningful educational activities do not necessarily require large budgets, extensive equipment or large teams**. Many of the projects analysed rely primarily on the commitment of volunteers, existing partnerships and the willingness of nuclear professionals to share their knowledge and experience with younger generations.

At the same time, **several factors increase the chances of long-term success**. Projects are more sustainable when they have a clearly defined audience and objective, when responsibilities are distributed among several people, and when knowledge is documented so that activities can continue despite changes in volunteers or leadership. Partnerships with schools, teachers, research institutions, industry and public bodies often play a role in providing access to audiences, funding, facilities and expertise.

Teachers deserve particular attention. While many projects focus directly on students, initiatives involving teachers can create a multiplier effect that extends far beyond a single event. Supporting educators with reliable information, classroom resources and opportunities for professional development may therefore be one of the most efficient ways to increase the reach of nuclear education activities.

The analysis also shows that **impact evaluation remains an area for improvement.** Many projects successfully attract participants but collect limited information on what students actually learned, how attitudes evolved, or whether interest in STEM and nuclear topics increased. Simple and proportionate evaluation methods could help organisers better understand the effects of their activities and strengthen future funding applications.

The need for educational engagement is unlikely to diminish in the coming decades. Europe's nuclear expansion in energy production, research, medicine and advanced technologies will require **a strong nuclear, and general STEM workforce.** Nuclear technologies form part of this landscape, both in countries operating nuclear facilities and in countries contributing expertise, research, services and supply chains.

For Nuclear Societies, this creates both a challenge and an opportunity. The challenge is to maintain and expand educational activities despite limited resources. The opportunity is that the network already possesses what many educational initiatives seek: access to knowledgeable professionals, scientific credibility and direct experience of the sector.

The examples presented throughout this report show that **across the ENS network, numerous project models already exist and can be adapted, replicated and improved.**

Continued exchange of experiences between Nuclear Societies makes it important beneficial for new projects' launch and development of existing initiatives. If the collective experience documented in this report helps even a few additional initiatives emerge, its purpose will have been achieved.



EUROPEAN NUCLEAR SOCIETY

European Nuclear Societies in Stakeholder Engagement

Part 1: Interacting with Education System

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