

Public Knowledge and Acceptance of Nuclear Energy in the Baltic States Compared to Other EU States

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Objectives and Scope

This paper analyzes public attitudes toward nuclear energy in the Baltic States from 2009 to 2024, comparing them to attitudes in other EU countries. It explores how geopolitical events, like the conflict in Ukraine, and technical changes have influenced public acceptance. The study also reflects on effective ways to communicate complex energy issues and the critical role scientists play in educating the public.

Objectives and Scope

The primary objective is to analyze the evolution of public attitudes and acceptance of nuclear energy in the Baltic States between 2009 and 2024. This period encompasses significant geopolitical and technical changes that have influenced public perception.

The scope includes examining how complex energy issues, infrastructure, policies, and technological solutions are communicated to the public. It emphasizes the role of scientists in this process, noting that they are often more trusted than journalists, industry representatives, or politicians. A comparison of data on nuclear energy knowledge in the Baltic States with data from other EU countries is also a key component.

Research Methods

The research employs a combination of methods to provide a comprehensive analysis. These include:

- Case studies of specific events and policies.
- Analysis within socio-political and economic frameworks.
- Data from Eurobarometer surveys and other sources.
- Reports from industry associations.
- Rhetorical analysis of statements by state leaders.
- Review of theoretical literature.

These methods collectively examine public acceptance of nuclear energy in the Baltic States from 2009 to 2025, offering a multifaceted perspective on the issue.

Increasingly Positive Attitudes

The study reveals that attitudes toward nuclear energy have become increasingly positive, even though the Baltic states do not currently produce nuclear energy. This shift has accelerated since 2022, likely influenced by the conflict in Ukraine and related energy concerns.

Public attitudes were previously influenced by the negative legacies of the Chernobyl and Fukushima disasters. However, the energy crisis following the closure of the Ignalina Nuclear Power Plant in Lithuania has led to a greater acceptance of nuclear energy as a potential solution.

Acceptance Levels in Baltic States

Estonia

Shows the highest support for new nuclear initiatives among the Baltic States.

Latvia and Lithuania

Remain more skeptical toward nuclear energy compared to Estonia.

These differences highlight the varying levels of acceptance and the specific concerns within each country. Understanding these nuances is crucial for tailoring effective communication and policy strategies related to nuclear energy.

Public acceptance

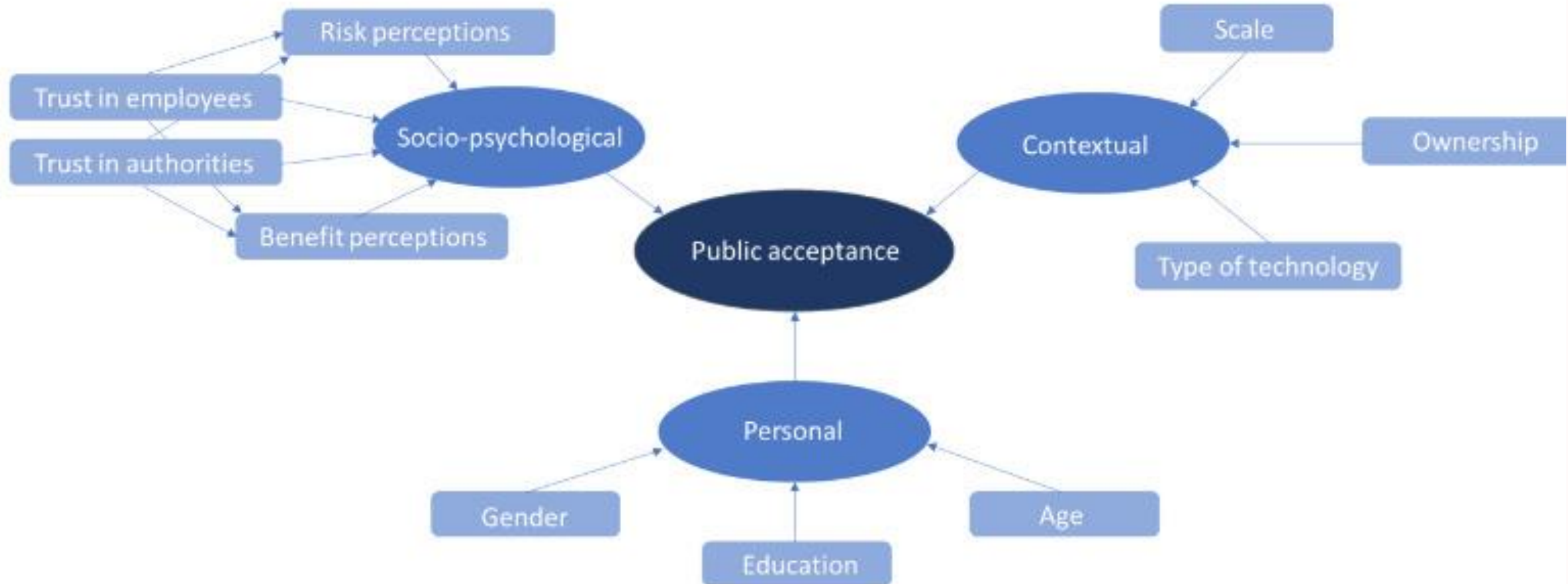


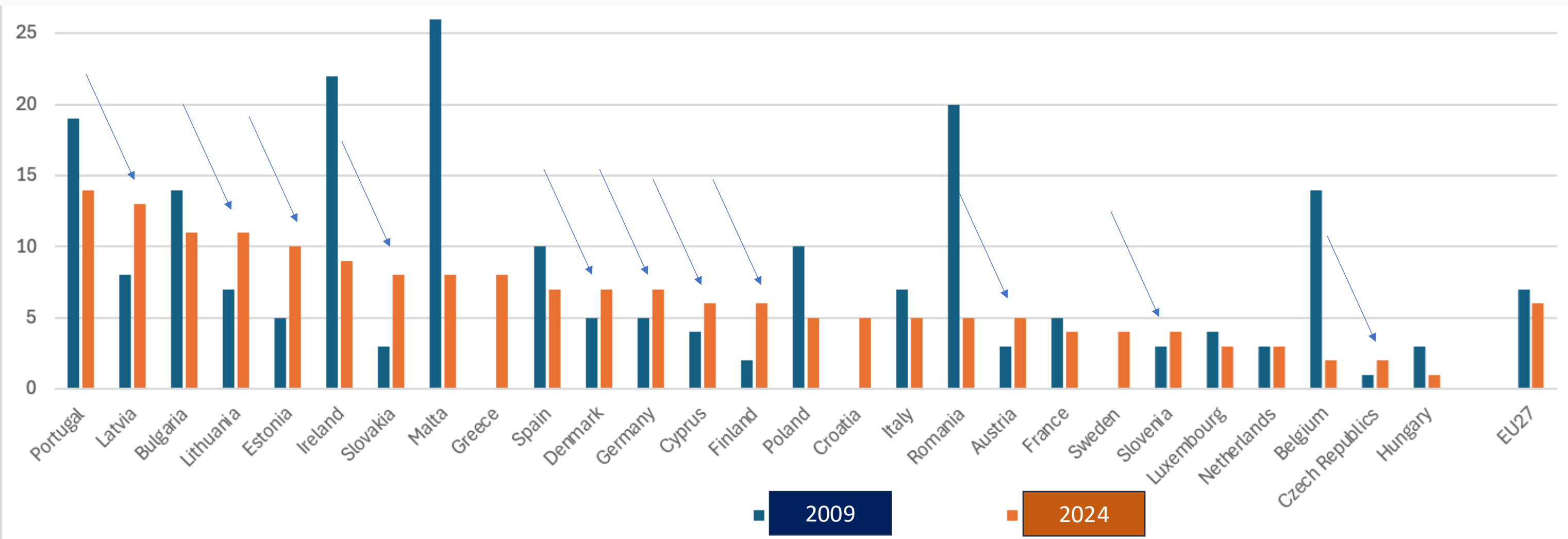
Figure 7 Public acceptance framework

Lack of Opinion and Knowledge

A notable portion of society in the Baltic States (10-13%) has no opinion or knowledge about nuclear energy. This contrasts with the EU average of 6%. In countries like Hungary, the Czech Republic, the Netherlands, Luxembourg, France, Sweden, and Slovenia, the percentage is even lower.

This observation suggests that there is a need for more active and interactive dissemination of scientific and technical knowledge. Presenting information in an accessible and understandable way could lead to a deeper public understanding of scientific topics related to nuclear energy.

Lack of Opinion and Knowledge



The Role of Small Modular Reactors (SMRs) (SMRs)

Given that the construction of small modular reactors (SMRs) is on the political agenda in the Baltic States, it is crucial to increase public information about this technology. Technical information about nuclear energy is not widely available in the Baltic states, partly due to the closure of the Ignalina Nuclear Power Plant in Lithuania.

SMRs offer a potential solution for clean energy production, but public acceptance hinges on clear, accessible information about their safety, efficiency, and environmental impact.

Trust in Authority

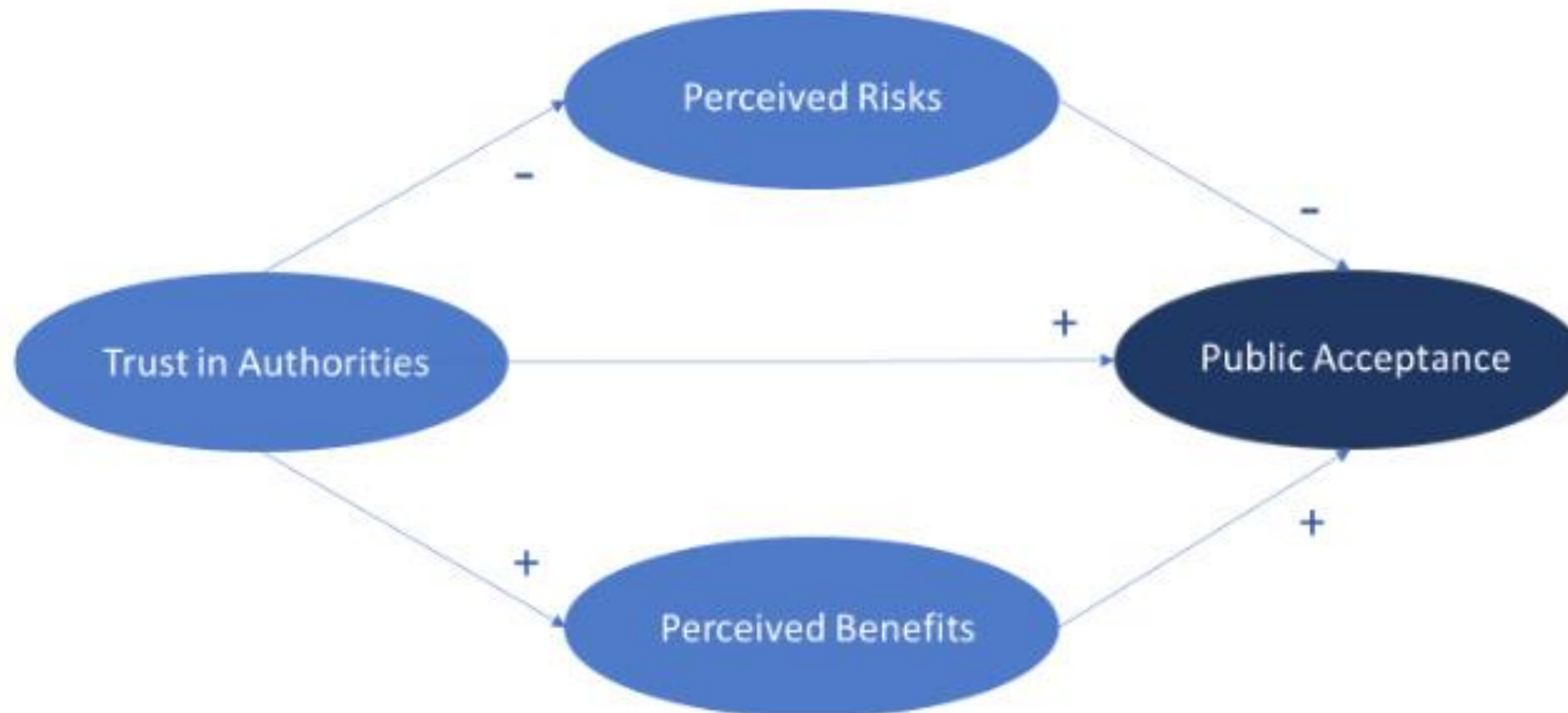


Figure 4 Linkages between 'Trust in Authority', 'Perceived Risks', 'Perceived Benefits' and 'Public Acceptance' (Bronfman et al., 2012)

Influence of Green Energy Energy Transition and EU Climate Targets

The transition to green energy and the EU's climate targets have significantly influenced public acceptance of nuclear energy. As countries strive to reduce carbon emissions, nuclear energy is increasingly viewed as a potential component of a diverse energy portfolio.

However, the issue of nuclear waste's environmental impact remains a critical challenge. Addressing public concerns about waste disposal and long-term environmental safety is essential for maintaining and increasing acceptance of nuclear energy.

Insights for Engineering Education

The research provides valuable insights for planners of future engineering education. It enables them to identify trends in nuclear energy education, including the knowledge and workforce demands of the future.

Additionally, investors can utilize these insights to assess the market potential of the nuclear energy sector in the Baltic States. Understanding public attitudes and knowledge levels is crucial for making informed investment decisions in this area.

Recommendation: E-Learning Platform for Public Public Information

The study recommends a new method for informing the public and monitoring opinions, based on the principle of an e-Learning platform. Such a platform would provide accessible, interactive information about nuclear energy, addressing common concerns and misconceptions.

By actively engaging the public and providing clear, scientifically sound information, an e-Learning platform can help foster a more informed and nuanced understanding of nuclear energy in the Baltic States. This, in turn, can lead to greater public acceptance and support for sustainable energy policies.

E-Learning Platform EduAim



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Informācijas un datu lietpratība



Par projektu

Digitālās prasmes

Informācijas un datu lietpratība

- E-izglītības datu pētījumi un analītika
- Datu pratība (1.1)
- Padzījināta informācijas pratība (1.2.)
- Informācijpratības pamati (1.2.)
- Datu pratības pamati (1.3.)
- Datu analīze ar Excel (1.3.)
- Datu analīze lēmumu pieņemšanai (1.3)
- Izklājlapu izmantošanas iespējas datu analīzei (1.3.)
- Ievads datu analītikā (1.3.)
- Datu ieguve un zināšanu atklāšana (1.3)
- Matemātiskās metodes datu analīzē (1.3)
- Datu analītika ar Python (1.3.)

Komunikācija un sadarbība

- Komunikācija 21.gadsimta darba vietā (2.1.)
- Google disks (2.2.)
- Tehnoloģijas labklājībai: IKT loma ilgtspējīgas attīstības mērķu sasniegšanā (2.3.)
- Failu sadarbība Slack rīkā un Google Drive integrācija (2.4.)

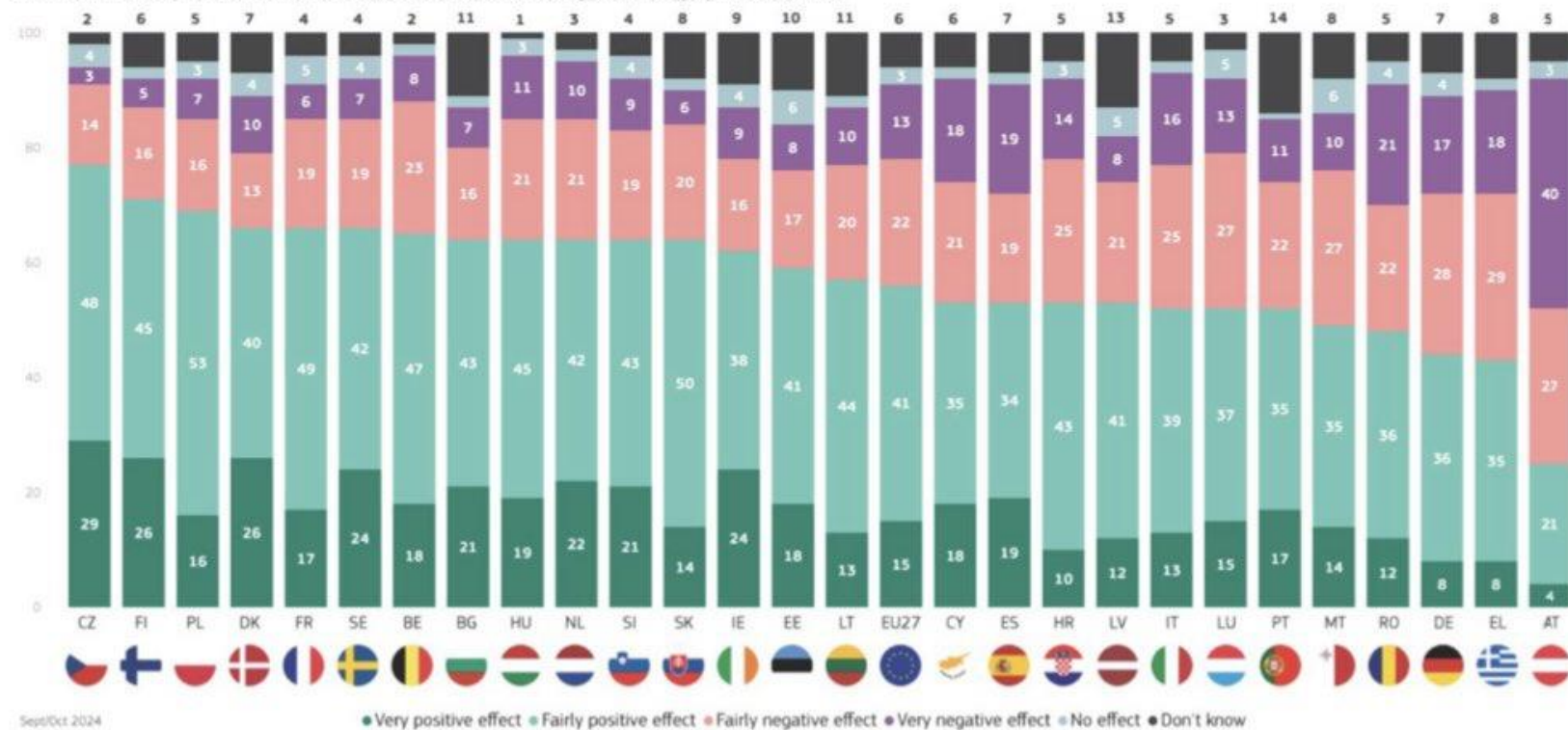
Knowledge and attitudes

Special Eurobarometer 557 European citizens' knowledge and attitudes towards science and technology

There is a broad range of opinions about the effect of **nuclear energy for energy production**. In 24 EU countries the majority think the effect will be positive, with respondents in Czechia (77%), Finland (71%) and Poland (69%) the most likely to do so. There are three EU Member States where the majority think the effect will be negative: Austria (67%), Greece (47% vs. 43% positive) and Germany (45% vs. 44% positive).

Opinion in countries outside the EU also varies considerably, with the proportion that think the effect will be positive ranging from 78% in Türkiye to 38% in Serbia.

QA6a.8. The following is a list of areas where new technologies are currently being developed. For each of these, do you think it will have a positive, a negative or no effect on our way of life in the next 20 years?:-Nuclear energy for energy production (%)

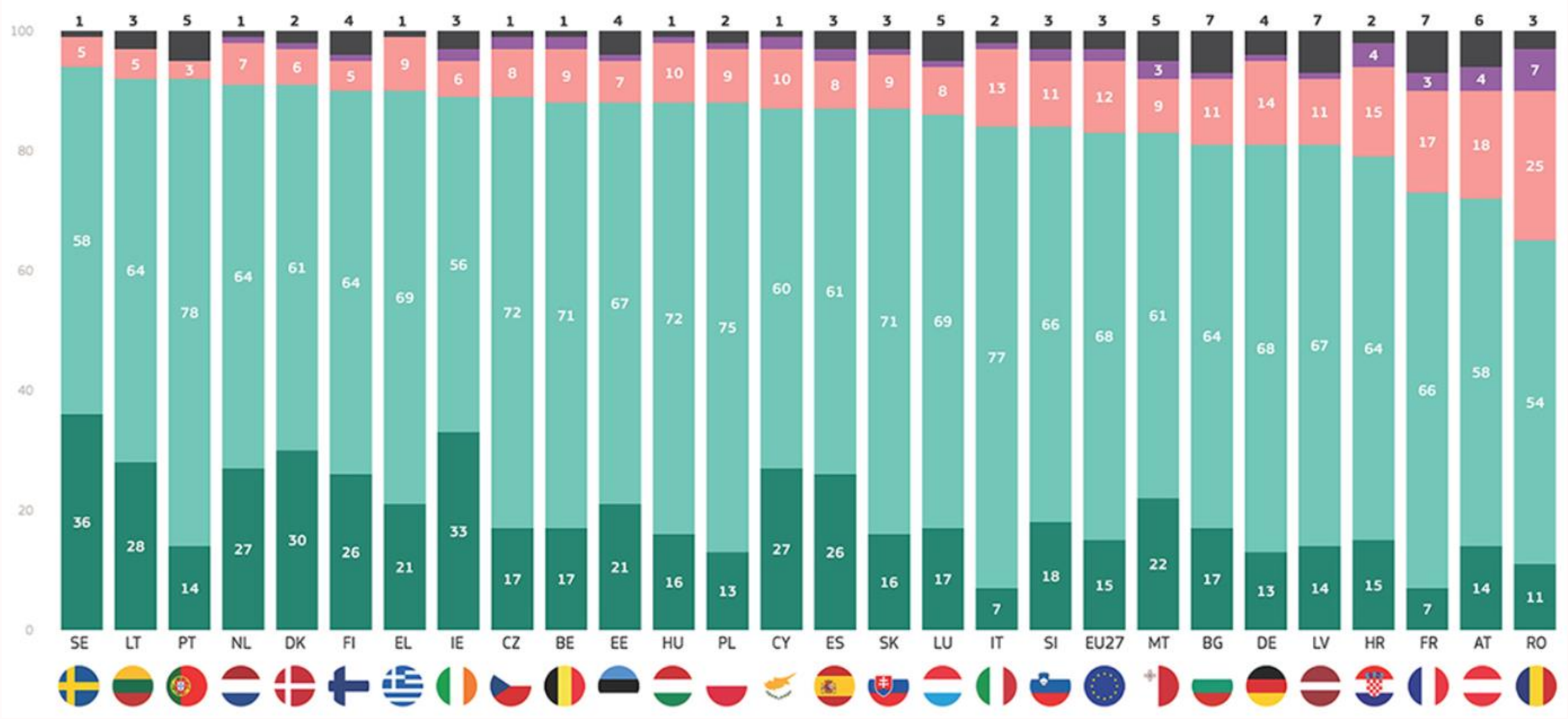


Sept/Oct 2024

Very positive effect Fairly positive effect Fairly negative effect Very negative effect No effect Don't know

Influence of science and technology on society

is... (• Very positive • Fairly positive • Fairly negative • Very negative • Don't know)?



Thank you for your attention!



Source:www.flickr.com

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