



**#CCS4CEE**

Iceland  
Liechtenstein  
Norway grants



**CIVITTA**

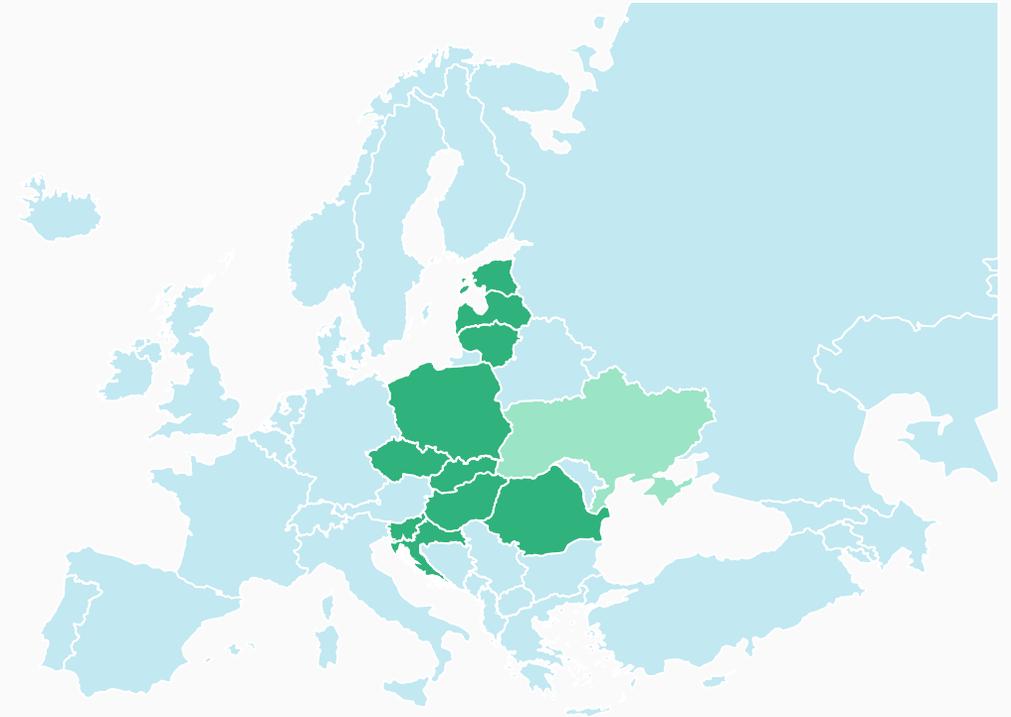
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**Baltic Carbon Forum**

**2022-10-13**

# Building Momentum for the Long-term CCS Deployment in the CEE Region

- ✓ The project addresses the „Climate Change Mitigation and Adaptation“ topic focusing on the challenge of achieving significant reductions of GHG emissions across all sectors of the European economy by 2050 through CCS technologies.
- ✓ The aim is to renew the discussion of CCS and CCU technologies in Central and Eastern Europe, which lead to new policies and joint projects.
- ✓ The project covers Croatia, Czechia, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia, Slovenia, and Ukraine.



Project team:



Supported by:



## Context analysis and roadmaps developed, available online

### CONTEXT AND POTENTIAL

- ✓ Analytical reports focusing on the current state, past experiences and potential for CCS deployment in the target countries
- ✓ Stakeholder workshops and seminars

### POLICY ROADMAPS

- ✓ Integrated policy roadmap prepared based on inputs delivered by partners
- ✓ Stakeholder events focusing on policy roadmaps

### FURTHER SUPPORT

- ✓ Networking and capacity-building for implementing CCS initiatives in target countries
- ✓ Stakeholder workshops and seminars

## Summary of context



- No industrial scale storage potential
- No definite public image has been formed with CCS/CCU technologies.
- However, stakeholders believe that as the technologies allow for a reduction or usage of CO<sub>2</sub>, the majority will not oppose it
- Economic justification, financing and lack of suitable infrastructure are other main barriers to the development of CCS/CCU solutions



- Geological research needed to understand onshore and offshore potential
- Since 2012 storage of CO<sub>2</sub> in geological formations, and the water column has been prohibited in Latvia
- Overall prospects for CCS/CCU solutions differ among the stakeholders; both CCS and CCU options are considered
- Economic justification, financing and lack of suitable infrastructure are other main barriers to the development of CCS/CCU solutions



- Some potential locations for CO<sub>2</sub> storage, research needed
- Law prohibits any underground carbon storage and its research in Lithuania from 2019
- The main emitters are highly interested in CCS/CCU applications in their processes; however current legislative issues slow down the progress
- Public acceptance of carbon storage is negative due to the spread of rejective ideas



## Illustration

# Estonia – high energy prices accelerate projects with environmental impact

Offshore Energy

## First stage of Estonian Paldiski LNG terminal completed

Paldiski LNG terminal is a proposed FSRU-based LNG import terminal. Estonian energy company Alexela is partnered with compatriot investment firm...

1 month ago



ERR

## Ministry: LNG terminal conditions to be clarified in October

Tatar said if the ship docks at the Finnish terminal, Estonia will still consider the upkeep of the new Paldiski facilities a priority.

1 week ago



ERR

## Infortar: Source of LNG for Paldiski terminal still unclear

LNG terminal construction site in Paldiski. Source: Alexela. News. Martti Talgre, executive manager of LNG...

1 week ago



<https://www.aripaev.ee> > uudised > 2022/09/27 > elering-j...

## Elering and Alexela dispute around LNG-terminali - Äripäev

Sep 27, 2022 — Elering ja Alexela kraaklevad LNG-terminali ümber. Riigifirma Eleringi ja eraettevõtete Alexela ja Infortari ehitatava Paldiski ...



- After February 2022, almost every Baltic Sea country has started to develop their own LNG capacity, similar determination is also being observed in the case of offshore wind, driven by decarbonization goals and economic, not political, factors.
- “Unfortunate that it took a war to drive home LNG terminal necessity” – CEO of Alexela, who has been trying to build an LNG terminal for 12 years.
- "No market participant or consumer knows who, where and how will be offering the service and importing LNG," - Executive Manager of Infortar, developer of LNG terminal.
- Public and private sector companies are in dispute about the LNG terminal as there are different opinions regarding the security of gas supply as well as the liability related to the LNG terminal.
- General feeling that neighbouring countries are starting to favour consumers and entrepreneurs of their own country, creating unequal opportunities.

# Latvia – plenty of discussions on economic, political and environmental aspects of the proposed Skulte LNG terminal

 LSM.LV

**Latvia mulls options for its own LNG terminal**

The best known of the previously announced projects in Latvia is the idea of an LNG terminal at Skulte. Developers have also been in talks...

Mar 28, 2022



 LSM.LV

**Locals protest against Skulte LNG terminal / Article - Rīga**

The Skulte Liquefied Natural Gas Terminal project is one of the options to replace Russian gas. The terminal is intended north of the port...

May 2, 2022



 Baltic News Network

**Minister: building LNG terminal in Latvia is not possible without «climbing over» other interests**

LETA. July 5, 2022. Facebook · Twitter · construction, gas, Ilze Indriksone, LNG terminal, independent of Russia, plans, Photo: Evija Trifanova/LETA.

Jul 5, 2022



 Baltic News Network

**Skulte LNG terminal given status of object of national interest**

...

The objective of the law is enhancing the security of energy supplies to Latvia through successful implementation of Skulte LNG terminal project...

6 days ago



- “We understand the concerns of residents and environmental activists, and they can be resolved <...>. Unfortunately, we also see organized resistance from the previous gas suppliers” – board member of Skulte LNG Terminal.
- “We will not be able to build a LNG terminal in Skulte by 2024 unless the EIA procedure is simplified” – CEO of Skulte LNG Terminal.
- “There are several places in Latvia where it would be possible to build the terminal, more suitable places <...>” – founder of the Coastal Environmental Protection Society.
- “The leaks from the Nord Stream gas pipeline are already highlighting a number of safety and environmental aspects that have to be evaluated before building such an explosive structure. The EIA procedure must not be eased for Skulte LNG Terminal” – representative of the Coastal Environmental Protection Society.
- “As the state we are prepared to remove all administrative obstacles. However, we will not allow the project to be implemented against residents’ will. This is why we cannot promise the project will climb over other interests” – Minister of Economics.

Sources: <https://eng.lsm.lv/article/economy/business/latvia-mulls-options-for-its-own-lng-terminal.a449899/>; <https://eng.lsm.lv/article/economy/economy/locals-protest-against-skulte-lng-terminal.a454858/>; <https://bnn-news.com/minister-building-lng-terminal-in-latvia-is-not-possible-without-climbing-over-other-interests-235914/>; <https://bnn-news.com/skulte-lng-terminal-given-status-of-object-of-national-interest-in-latvia-238985/>; [https://neatkariga.nra.lv/intervijas/392317-skulte-lng-terminal-ultimats-valdibai-nebus-garantiju-nebus-terminala/](https://neatkariga.nra.lv/intervijas/392317-skulte-lng-terminal-ultimats-valdibai-nebus-garantiju-nebus-terminala;); <https://www.baltictimes.com/lng-terminal-cannot-be-built-by-2024-unless-eia-requirements-are-eased-developer/>;

# Lithuania – extensive discussion in 2019 followed by a CO<sub>2</sub> storage ban

News 2019.10.11 11:10

## Lithuanian parliament moves to ban CO<sub>2</sub> storage underground 29

 Delfi

### Mindaugas Puidokas. Energetikos ministras Seime stumia leidimą teršti žemės gelmes ir vandenį

Aktyviausiai anglies dioksido laidojimą Lietuvos žemėse stumia energetikos ministras ...  
K. Mažeika žada nepritari CO<sub>2</sub> laidojimui.

Jul 19, 2019

**Videos**

CO<sub>2</sub> laidojimas žemės gelmėse. Balsavimas Seime, 2019 10 10  
GYVAS MIŠKAS  
Oct 16, 2019 · 5.8K views  
37:59

„Ar paversime žemės gelmes atliekynu?“ žemės gelmes atliekynu?“  
Minfo  
Jul 27, 2019 · 515 views  
43:19

- "The burial of CO<sub>2</sub> in the depths of the earth poses a threat to the environment, so it should be banned." – representative of the ruling party.
- "Can a mineral water bubble contaminate the depths?<...> We only have to regret that in Lithuania we refuse it. By the way, such a decision will lead to an increase in the price of electricity by almost a third." – representative of main opposition party.
- The president's office clarified its position: "<...> negatively views the possibility of allowing carbon dioxide to be stored in natural or artificial cavities in the depths of the earth. However, <...> we believe that it is necessary to monitor the results of scientific research, as well as the experience of the European Union and other countries in this field".
- American companies <...> have signed a memorandum of understanding with the Ministry of Energy. A feasibility study is currently being conducted to implement the gas power plant project of their technology in Lithuania. This business plan balances the limits of success, just like other gas plants. But the technology relies on CO<sub>2</sub> capture and storage, the company hopes to realize the CO<sub>2</sub> in our oil fields. If this activity were banned, the investment would likely float away.
- Does not seem to be discussed at length in social media, but picked up by environmental groups and various other groups, sometimes of dubious quality.

Sources:

<https://www.lrt.lt/en/news-in-english/19/1105790/lithuanian-parliament-moves-to-ban-co2-storage-underground>;  
<https://www.vz.lt/pramone/energetika/2019/06/21/chevron-isvarymas-2-pries-jav-investicijas-stoja-pazistami-veidai>;  
<https://naglis-navakas.squarespace.com/energydigest/2019/6/24/energydigest-2519-sinchronizacija-ir-amerikieiai> ;  
 Facebook search results for "CO<sub>2</sub> laidojimas"

# Parallars regarding the social acceptance of interventions similar to CCS

COUNTRY	PROJECT	PUBLIC REACTION
<b>Czech republic</b>	Proposed lithium mining in the Cínovec village Proposed long-term storage of nuclear waste	Strong local opposition and high CO <sub>2</sub> output Strong municipalities opposition
<b>Poland</b>	The Turów coal-fired power plant	Close to the Czech border and 5th largest greenhouse gas emitter in Poland - strong opposition from Czech residents
<b>Romania</b>	Chevron's proposed fracking project at Pungești Roșia Montană gold mining project	Ultimately withdrawn due to public opposition UNESCO world heritage site, long-stalled mine project due to battles with local residents and environmental groups
<b>Latvia</b>	The Skulte LNG terminal Dobele wind farm	Local residents are concerned about the safety risk in the event of an accident 10,000 people signed a petition to prevent construction in the area in order to save fertile Zemgale land
<b>Hungary</b>	Expansion of the Paks II nuclear power plant	Planned to be built by a Russian company; major problem of an earthquake hazard determined by a group of inspectors
<b>Slovakia</b>	Waste dumps Planned LNG terminal in Bratislava	Local residents in Pezinok won a fight against illegal toxic waste dump Environmental groups are concerned about the air quality which would be reduced due to increase in trucks traffic as well as terminal being built near densely populated area of the capital
	Oil pipeline to Austria	Civil association 'No to the the Oil Pipeline Via Žitny Ostroc' oppose pipeline going through Slovakia's biggest largest drinking water reserves
<b>Slovenia</b>	-	Overall mistrust in proposed energy and climate policies and industrial companies due to past experience with the Šoštanj thermal power plant which relates to corruption

## Current stakeholders are mostly active

- The confidence of stakeholders in CCS and CCU deployment varies between partner countries.
- Most engaged stakeholders could be classified as “proactive” (actively supporting the deployment of CCS) in Croatia, the Czech Republic, Hungary, Poland and Ukraine.
- However, skeptical voices (stakeholders opposing the deployment of CCS) were also noted in Croatia, Estonia, Romania, Lithuania, Slovakia and Slovenia.
- In Latvia, Slovakia and Slovenia, most engaged stakeholders were neutral (neither supporting nor opposing CCU/CCS).

## Generally in all countries the perception is “safety first”

- Many stakeholders engaged in the CCS4CEE project highlighted the risks of CO<sub>2</sub> leakage from underground storage sites. This is echoed by the public perception of CCS – despite an overall lack of knowledge of CCS technologies, public concern tends to manifest predominantly around the establishment of these storage sites near residential areas.
- Stakeholders argued that CCS policy still needs to be developed and refined before being implemented in European countries. Interestingly, several industrial and academic stakeholders in Romania and Slovakia vocally highlighted the “laissez-faire” mentality around CO<sub>2</sub> storage (leaving it to become a problem for future generations) as a main concern for CCS, directing more of their approval towards CCU.
- CO<sub>2</sub>-EOR was also a point of interest for oil and gas companies in several partner countries.

## What do industry stakeholders say?

COUNTRY	BARRIER	RECOMMENDATION
<b>Czech Republic</b>	Financial: high CAPEX investments	Financial: develop national and international financing frameworks to support CCS deployment
<b>Croatia</b>	Financial: high CAPEX investments	Financial: CCS/CCU projects should be recognized as of strategic relevance in order to increase the funding rate from national and European level
<b>Estonia</b>	Financial: the cost of finding an alternative use of CO <sub>2</sub>	Financial: incentivize, through financial frameworks, pilot projects conducted by companies
<b>Hungary</b>	Financial: high investment and operating costs for CCU than for CCS	Regulatory: remove administrative barrier in order to facilitate general licensing process, infrastructure development
<b>Latvia</b>	Regulatory: CO <sub>2</sub> is not included in the regulatory framework	Financial: make available national subsidies, grants, EU funding for pilot projects development
<b>Lithuania</b>	Regulatory: CO <sub>2</sub> is not included in the regulatory framework	Financial: provide grants for pilot projects as to incentivize companies to continue CCS/CCU deployment
<b>Poland</b>	Financial: insufficient financing opportunities for CCS/CCU technologies	Financial: create new financing opportunities (loans, guarantees, tax exemptions), plus a common standard for CO <sub>2</sub> emissions accounting
<b>Romania</b>	Institutional: lack of governmental involvement and industry inertia	Financial: set up national financing framework to access EU structural innovation funding
<b>Slovakia</b>	Financial: CCS/CCU projects are not economically feasible	Regulatory: establish the implementing decree for CO <sub>2</sub> storage
<b>Slovenia</b>	Financial: lack of governmental funding for initial CO <sub>2</sub> capture projects	Financial: co-financing projects through governmental subsidies for initial projects
<b>Ukraine</b>	Regulatory: absent regulatory framework	Regulatory: develop regulatory framework (the national government should focus on the potential use of the existing infrastructure)

## Other barriers for CCS technology implementations in CEE region (as stated in the countries' roadmaps)



### KNOWLEDGE

- Virtually all stakeholders agreed that social acceptance of CCU and CCS technologies is also plagued by extremely limited knowledge of the technologies.



### SOCIETAL

- The understanding of CCS technologies in partner countries remains overwhelmingly limited and people still hold positive attitude towards fossil fuels.
- The need for addressing social acceptance of CCU and CCS in partner countries is threefold:
  - a robust position from leading and trustworthy institutions
  - concerted public dialogue and education on climate change and CCU/CCS
  - relevant, factual media coverage

## Related actions from the Baltic countries roadmaps

### Scaling-up R&D activities and building national knowledge and experience

- Set up a **platform/working group** to represent key stakeholders involved in CCS development (potential for Baltic states level)
- Develop **feasibility study/research** at the national (potentially Baltic) level
- Monitor **funding opportunities** at the EU and international level
- Analyse **existing experience** of implemented and functioning projects / operating models and implement **further research and pilot projects**

### Policy, standards and regulations

- Incorporate the CCS aspects more widely into the relevant existing or new **policy-planning documents**
- Abolish **the existing prohibitions** on the storage of CO<sub>2</sub> in national laws
- Take into account the **EU CCS directive** when drafting regulatory frameworks

### Stakeholder engagement, cooperation & know-how dissemination

- Identify **up-to-date information** on new CCS projects in the surrounding region
- Ensure **cooperation and further communication** between the largest stakeholders
- Support and organize **local and regional events**

### Social aspects and public support

- Develop the **communication plan** according to the needs/identified future development directions
- Carry out **proactive communication activities**
- Make **information on this topic** more widely available

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