

The Network for Networks



WG Regulation
15 March 2024



Agenda



Agenda		
I. 09:30 – 09:35	Welcome	<i>Per Everhill</i> WG Chairman
II. 09:35 – 09:40	Actions agreed (meeting 18 December 2023)	<i>Federica Bruni</i>
III. 09:40 – 10:15	Policy Updates: <ul style="list-style-type: none"> • EU 2040 Targets • Debrief: high-level Clean Transition Dialogue hosted by European Commission's VP Maroš Šefčovič 	<i>Federica Bruni</i> <i>Carmen Gimeno</i>
IV. 10:15 – 11:00	CEER Presentation: Regulatory Frameworks for European Energy Networks 2023	<i>Marina Furdas</i> Energy Network Department, Bundesnetzagentur, CEER
V. 11:00 – 11:15	Coffee Break	
VI. 11:15 – 12:00	Roundtable Discussion: How to concretely ensure that the actions within the Grids Action Plan & EMD Reform are transposed at National Level? Focus: Financing infrastructure, regulatory models CAPEX & OPEX, Anticipatory Investments and Flexible Connection Agreements;	<i>Secretariat + all WG Participants</i>
VII. 12:00 – 12:10	Debriefing: Advancement Position Paper on Revenue Regulation	<i>Per Everhill</i>
VIII. 12:10 - 12:20	Fact Sheet on Energy Sharing	
IX. 12:20 - 12:30	AOB & next meeting	

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I. Welcome



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II. Previous actions agreed 18 December 2023



WG Regulation – Actions – 18 December



Subject	Action
<p data-bbox="405 919 751 968">Policy Updates</p>	<ul data-bbox="988 539 2040 1346" style="list-style-type: none"><li data-bbox="988 539 1821 629">• Keep sharing updates on the main policy developments ✓<li data-bbox="988 665 2020 858">• Engage in discussions on how to concretely ensure that the actions within the Action Plan on Grids & EMD Reform are transposed at National Level (NRAs). ✓<li data-bbox="988 893 2000 1139">• Organization of an informal roundtable with DSOs and regulators to exchange on the implementation of anticipatory investments, flexible connections agreements, etc, how to attract investments. ongoing<li data-bbox="988 1203 2040 1346">• Financing of infrastructure is identified as a relevant issue for DSOs . The WG wants to work further on this topic.

WG Regulation – Actions 18 December



Subject	Action
Revenue Regulation	<ul style="list-style-type: none">• The presentations of the different frameworks will feed into the development of the GEODE position paper on income regulation ✓• Setting up of a drafting team composed of Per Everhill (SE), Lisbeth Vingås (NO), Ina Lehto (FI) and Pilar Barrera (AT), with its first meeting taking place in January. ✓• For the scope of the paper to be expanded, targeting both national regulators, as well as the future European Commission. ✓• Per will share the Draft paper with the drafting team, so they submit feedback in track changes. ✓• A call of the drafting team will be arranged in January 2024 once feed-back is received. ✓

WG Regulation – Actions 18 December



Subject	Action
<p data-bbox="346 891 815 991">Energy Sharing Fact Sheet</p>	<ul data-bbox="996 819 2007 1068" style="list-style-type: none"><li data-bbox="996 819 2007 911">• For GEODE to continue developing the Factsheet based on the 7 subchapters. ✓<li data-bbox="996 968 2007 1068">• Propose to the EMD Task Force to also take part in the development of the Factsheet. ✓

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III. Policy Updates



European Commission Communication on 2040 Targets



Released on February 6th along with :

- Impact Assessment Report accompanying the 2040 targets Communication
- EC Communication "Towards an ambitious Industrial Carbon Management for the EU"



- The Commission **proposes a 90% greenhouse gas (GHG) emissions reduction** compared to 1990 levels by 2040 based on the impact assessment, which includes three possible scenarios:
 - Option 1: a reduction of up to 80% compared to 1990
 - Option 2: a reduction of 85-90%
 - Option 3: a reduction of 90-95%.
- 90 % Reduction Target can be achieved based on a cross sectoral decrease of emissions, as well as important Energy system Investments

European Commission Communication on 2040 Targets



Policy Implications:

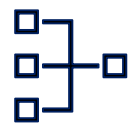
Delivering the target will largely depend on the full implementation of the 2030 policy framework. Building on the existing legislation, the Commission looks at the following scenarios and options for 2040



Energy prices: Reducing energy prices, through PPAs, particularly for **energy-intensive industries** which face the dual challenge of investing in clean production methods and high energy-prices.



Energy efficiency and buildings: Future policies should seek to encourage energy performance contracting and promote innovative market-based financing solution.



Electrification, grids and infrastructure: Acceleration of efforts and **investments in expansions, digitalization and increased flexibility of the grids**, making the Action Plan on grids a continued priority for the EC in achieving the 2040 Targets. In addition, it calls on **increasing resilience and security of critical energy infrastructure.**

European Commission Communication on 2040 Targets



Policy Implications:

Delivering the target will largely depend on the full implementation of the 2030 policy framework. Building on the existing legislation, the Commission looks at the following scenarios and options for 2040



- **Energy system integration, storage, digitalization, and flexibility:** System integration is essential and requires important investments in reinforcing infrastructure with the Communication stressing the need for further policies to boost investments (digitalization, AI, networks, storage and flexibility market solutions).



- **Fossil fuels:** EC foresees an 80% decrease in fossil fuel consumption for energy. The Commission still sees a role for gas in industry, buildings and electricity, coupled with CCS to mitigate climate impact.



- **Industry Decarbonization Deal:** Aimed at safeguarding European industries while accelerating the reduction of GHG emissions, the Communication proposes to set up an enabling framework for competitiveness, that puts due attention to decarbonization and circularity, accompanied by a growing need for industrial carbon management and removal

European Commission Communication on 2040 Targets



Policy Implications:



Delivering the target will largely depend on the full implementation of the 2030 policy framework. Building on the existing legislation, the Commission looks at the following scenarios and options for 2040



- **Investment policy:** calls for an additional percentage of GDP to be invested annually in the green transition by:
 - By streamlining and creating synergies across existing instruments
 - More options should also be explored to create a business case for new business models in the key sectors of the economy needed for the transition.
 - **Making adjustments to the EU's funding and financing landscape** such as deepening the Capital Markets Union, reflection on investment policies at large, looking at taxation policy, access to finance, regulatory simplification, creating a “true single market for key technologies, establishment of one stop shop for existing funding instruments.
- **Other relevant potential policy areas:**
 - Reduction of dependance on Imports
 - Decarbonising Transport and improving mobility: Focusing on the Aviation and Maritime Transport Sector
 - Land, food, and bioeconomy and Sustainable land use
 - Research, Innovation and Skills (A just and fair transition for people)

High-level Clean Transition Dialogue hosted by EC VP Maroš Šefčovič



Maroš Šefčovič  • Following
European Commission Executive Vice-President for the European Green ...
1w • Edited • 

Energy infrastructure is at the centre of our attention given its strategic importance for:

- secure supply of clean energy
- low energy prices
- decarbonisation and electrification of our economy.

Glad to host the key stakeholders as part of [European Commission's](#) clean transition dialogues.

[#energysecurity](#) [#economicsecurity](#)



26 February 2024

Stakeholder from :

- Electricity, Gas and Hydrogen Value Chain (DSOs, TSOs, Generation, Market parties, etc)
- Gas TSO & DSO Associations
- EIB
- EU Standardization Bodies (CEN/CENELEC)
- Regulators (CEER ; ACER)



Aim : What are the **needs of the European energy infrastructure** to deliver the Green Deal objectives and make the energy transition a reality, to prepare for the next EC mandate.



Highlights from DSOs:

- Ensuring **regulatory frameworks supporting infrastructure** development (CAPEX, OPEX, Anticipatory Investment)
- **Securing, mobilizing and adapting infrastructure financing**
- Promoting **public acceptance**
- Ensuring a **resilient grid build out**

High-Level Roundtable on EU Grids



25 March 2024



Stakeholders from **entirety of grids value chain:**

- EC Commissioner Kadri Simson
- Belgium's Energy Minister Tinne Van Der Straeten
- ENTSO-E
- EU DSO Entity
- GEODE
- E.DSO
- CEDEC
- Euroelectric
- Equipment manufacturers & users



Discuss the **successful delivery of the EU Grid Action Plan** and the **need for future policies**. The conclusions of the discussions will serve as **policy recommendations on the EU Grid Action Plan implementation**.



Three thematic sessions:

1. **Strengthening European Supply-Chains** for grid infrastructure
2. **Financing** the grid infrastructure **scale-up**
3. **Regulatory framework** to facilitate infrastructure delivery

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IV. CEER Report on Regulatory Frameworks for European Energy Networks 2023 *Marina Furdas Bundesnetzagentur, CEER*



CEER

**Council of European
Energy Regulators**



Powerpoint Presentation

Report on Regulatory Frameworks for European Energy Networks 2023

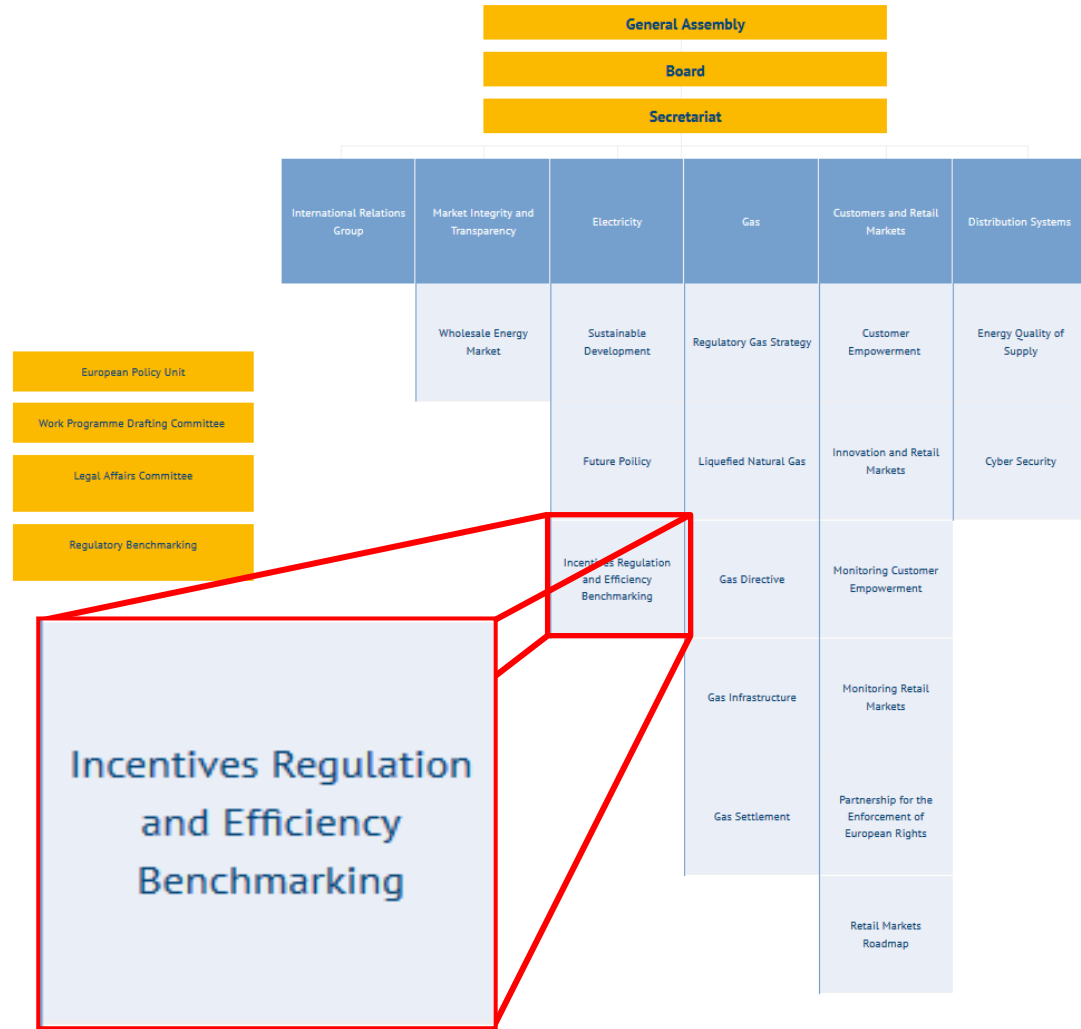
**Marina Furdas, Bundesnetzagentur
GEODE Online Meeting, 15 March 2024**

Agenda

- About CEER
- About Bundesnetzagentur
- Regulatory Frameworks Report (in general)
- Regulatory Frameworks Report 2023



About CEER



Managing level

Working Groups

Work Streams

- Creation of
 - Reports
 - Statements
 - Strategy papers
- Conducting international projects like TSO efficiency benchmarkings
- Training Courses



About Bundesnetzagentur

- National Regulatory Authority of Germany
- Independent higher federal authority
- Subordinated to the Federal Ministry of Economic Affairs and Energy
- Founded 1998 as Regulatory Authority Telecommunication und Post (RegTP)
- Since 2006: Bundesnetzagentur (BNetzA) regulatory areas telecommunication, post, railways, electricity and gas
- approx. 3.000 employees



Regulatory Frameworks Report (in general) (1/3)

- Formerly known as Investment Conditions Report
- 2019 first version of the renewed report (RFR 2018)
- Initial version in 2013, dealing with the regulatory situation in 2012
- Publication in 2013 and 2014 only as a summary
- Since 2016 complete publication of the whole report including Q&A-Papers and Summaries
- <https://www.ceer.eu/documents/104400/-/-/bd93ab3b-de76-134d-2374-85d3cd5c3125>



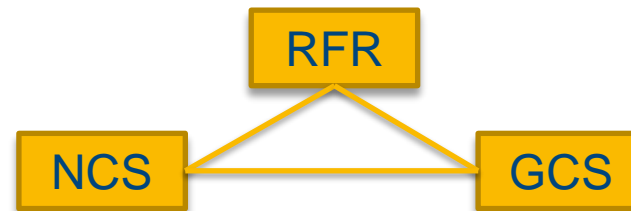
Regulatory Frameworks Report (in general) (2/3)

- Objective: *Provide a general overview of the regulatory systems of electricity and gas networks in participating European countries, including a detailed look at the regulatory instruments and the conditions for investors*
- 34 European countries
 - 28 CEER members
 - 2023: 5 ECRB members (CEER observers)
- Toolbox of used regulatory components
- Most regulatory regimes are complex and individually adjusted. Therefore, the report cannot give a complete description and comparison of all European regulatory systems



Regulatory Frameworks Report (in general) (3/3)

- Report is a living document – new ideas lead to annual changes and adjustments
- German regulator BNetzA is not the author of the main part, only the editor. BNetzA evaluates the submitted tables (chapters 3-7)
- RFR as one part of a describing triangle:



- NCS: National Case Studies (Annex 5 – since RFR 2019)
- GCS: General Case Study (Annex 6 – since RFR 2022)



Regulatory Frameworks Report 2023 (1/7)

- Contents
 - Description of the regulatory framework
 - Including a fact sheet at the beginning
 - Each subchapter of this chapter limited to five pages
 - Economic theory and the regulatory system
 - Calculation of the Rate of Return
 - Regulatory Asset Base
 - Depreciations
 - Incentives and improvements
- Annex 4: Given values and answers of the used questionnaires in Excel format
- Annex 5: National Case Studies: Revenue calculations and further descriptions of the national regulatory system (voluntary)



Regulatory Frameworks Report 2023 (2/7)

- Description of the regulatory framework

- Fact sheet

- One column per network sector
- Topics: market structure, general framework, rate of return, regulatory asset base, depreciations
- Idea was to keep it in one page – most countries were able to stay within this limitation

- Additional text with detailed description

- No structure was given here before
- Often paragraphs about the historical development, transparency and an outlook were given
- Single figures are used to form a complete regulatory picture
- Limited to five pages (reason for Annex 5)

	Gas TSO	Gas DSO	Electricity TSO	Electricity DSO	
Market structure	Network operators	16	~700	4	~850
	Network length	~40.000 km	~500.000 km	~37.000 km	~1.800.000 km
	Ownership	Mainly private investors, indirect public ownership	Private and local public ownership	Mainly private investors, indirect public ownership	Private and local public ownership
Authority	Bundesnetzagentur <small>(www.bundesnetzagentur.de)</small>	Bundesnetzagentur and federal state authorities, depending from size and network area	Bundesnetzagentur <small>(www.bundesnetzagentur.de)</small>	Bundesnetzagentur and federal state authorities, depending from size and network area	
	System				
General framework	Period				
	5 years, current period: 2019-2022		Incentive Regulation / Revenue cap		
	3rd year in current regulatory period		5 years, current period: 2014-2018		
Main elements for determining the revenue cap	Transparency				
	Efficiency scores, efficiency model parameters, specific cost data				
	Non-controllable and controllable costs, TOTEX efficiency benchmark, general inflation and sectoral productivity factor, volatile costs	Non-controllable and controllable costs, TOTEX efficiency benchmark, efficiency bonus, general inflation and sectoral productivity factor, volatile costs	Non-controllable and controllable costs, TOTEX efficiency benchmark, general inflation and sectoral productivity factor, volatile costs	Non-controllable and controllable costs, TOTEX efficiency benchmark, efficiency bonus, general inflation and sectoral productivity factor, quality element, volatile costs	
Legal framework	EnWG, ARegV, GasNEV		EnWG, ARegV, StromNEV		
Rate of return	Type of WACC				
	No use of WACC				
	Determination of the rate of return on equity				
Sum of a nominal risk-free rate and a risk premium (market risk premium multiplied with a beta risk factor) multiplied with a corporate tax factor					
Rate of return on equity before taxes					
6.91% = (2.49+3.8*0.83) * 1.225					
Use of rate of return					
Granted for existing assets to a maximum of 40% of the imputed necessary business assets. Any available equity capital in the capital structure in excess of this will be subject to another equity interest rate					
Regulatory asset base	Components of RAB				
	Fixed assets, working capital, assets under construction				
	Regulatory asset value				
Net substance preservation for business assets capitalised prior to 1 st 2006, real capital preservation for business assets as from 1 st 2006					
RAB adjustments	By the ordinance defined investments after the base year, e.g. expansions, lead to an adjustments of the non-controllable costs and therefore of the revenue cap	Investments in new assets after the base year lead to an adjustment of the CAPEX. No distinction between replacements and enhancements or expansions	By the ordinance defined investments after the base year, e.g. expansions, lead to an adjustments of the non-controllable costs and therefore of the revenue cap	The assets of the base year are used as RAB. No general adjustments after the base year	
Method					
Straight line					
Depreciation ratio					
Depending on asset type. Ratio between 1.5% and 4% e.g. lines & cables: ~2%, stations: ~4%					
Consideration					
Part of the examined controllable costs					


Regulatory Frameworks Report 2023 (3/7)

- Economic theory and the regulatory system
 - In most cases: incentive based approaches
 - Mixture of revenue (or price) cap and specific rate of return
 - Response to the drawbacks of former cost-plus regulation
 - Inefficiencies have to be reduced during the current regulatory period (x-factor)
 - In most cases the reduction has to be on the OPEX layer
 - Focus on System Operators shows no big differences compares with transport functions



Regulatory Frameworks Report 2023 (4/7)

- Calculation of the rate of return
 - Mostly a WACC factor is used
 - Weighted Average Cost of Capital
 - Simplified Formula: $WACC = \frac{Equity}{(Equity+Debt)} * Cost\ of\ equity + \frac{Debt}{(Equity+Debt)} * Cost\ of\ debt$


 - $Cost\ of\ equity\ (post\ tax,\ nominal) = risk\ free\ rate\ (nominal) + market\ risk\ premium * equity\ beta$
 - $Cost\ of\ equity\ (pre\ tax,\ nominal) = \frac{Cost\ of\ equity\ (post\ tax)}{(1-tax\ rate)}$
 - $Cost\ of\ debt\ (nominal) = risk\ free\ rate\ (nominal) + debt\ premium$



Regulatory Frameworks Report 2023 (5/7)

- Calculation of the rate of return
 - Risk free rate ~ 1,32 % on average,
 - Market risk premium ~ range 3,7 % – 8,0 %
 - Equity beta ~ range 0,6 – 1,3
 - Debt premium ~ 1,39 % on average
 - Gearing ratio ~ mostly 40 – 60 %

- Often different values per network sector and per CEER or ECRB members



Regulatory Frameworks Report 2023 (6/7)

- Regulatory asset base
 - Very important at the tariff calculation (multiplied with WACC for calculating the allowed revenues)
 - Fixed assets are part of the RAB – Working capital is often not a part of the RAB
 - Contributions from third parties and leased assets are mostly not part of the RAB
 - Mostly RAB is not based exclusively on historical costs
 - Adjustments of the RAB because of new investments or depreciations



Regulatory Frameworks Report 2023 (7/7)

- Depreciations
 - Straight line concepts are used
 - Depreciation rate depending on the type of asset
 - Mostly between 2 and 5 %
 - E.g. lines & pipes ~ 45 years of lifetime
- Incentives and Improvements
 - Regulatory consequences of the energy crisis
 - The installation of incentive elements in the national regulatory regimes are assessed as one main element
 - Examples: incentives for a better quality and security of supply or the integration of renewable energies and smart technology
 - Trending hot topics: the integration of renewable energies or new tasks caused by changes in energy markets and climate change



Regulatory Frameworks Report 2023, Annex 6

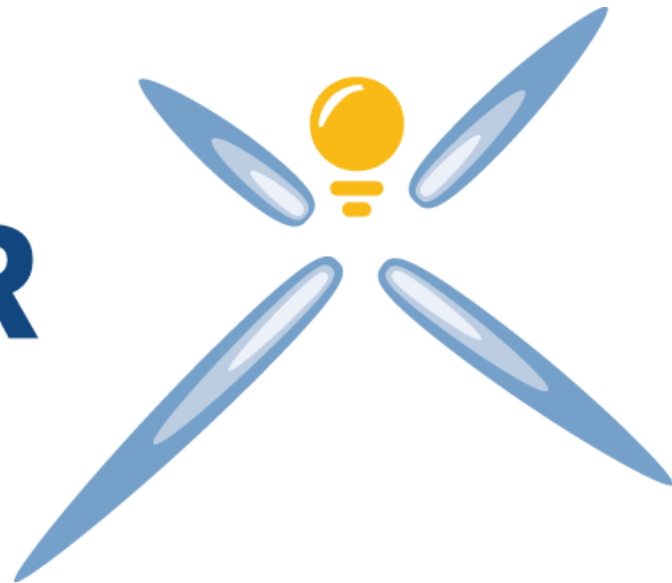
- General Case Study as a new annex since 2022
 - Idea: show differences between the single regulatory systems
 - Focus on common regulatory corridor
 - Fictional electricity DSO with assets and costs
 - Question board about regulatory system
 - Depreciation
 - RAB
 - WACC
 - Comparison for Germany, Austria, Spain, Sweden, Greece
 - Important: No judging comparison



Thank you for your attention!

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www.ceer.eu

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V. Coffee Break



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VI. Round Table Discussion



How to concretely ensure that the actions within the Grids Action Plan & EMD Reform are transposed at National Level? - Context

Anticipatory Investments

CAPEX & OPEX



Flexible Connection Agreements

Financing Infrastructure

Grids Action Plan - Timeline 2024



Q1

Q2

Q3

Q4

ACTION 6: ENTSO-E & EU DSO to agree on **harmonised definitions for available grid hosting capacity** for system operators and establish a **pan-EU overview**.

ACTION 9: Commission to identify tailored **financing models** and **strengthen dialogue to address financing obstacles**.

ACTION 12: Commission to launch a **Pact for Engagement** for early, regular and meaningful stakeholder engagement and regulatory support.

ACTION 10: Commission to increase visibility on opportunities for **EU funding programmes for smart grids and modernisation of distribution grids**.

ACTION 3: EU DSO Entity to support **DSO grid planning** by mapping the **existence and characteristics of distribution development plans**

ACTION 7: ENTSO-E & EU DSO promoting uptake of **smart grid, network efficiency and innovative technologies**.

ACTION 13: ENTSO-E & EU DSO Entity collaboration with technology providers to **develop standard technology specifications and improve visibility of grid project pipelines**, to facilitate investments in manufacturing capacity and supply chains.

ACTION 11: Commission to support **permitting acceleration** providing **guidance and technical support** to implement **acceleration measures**.

Grids Action Plan - Timeline 2025



Q1

Q2

Q3

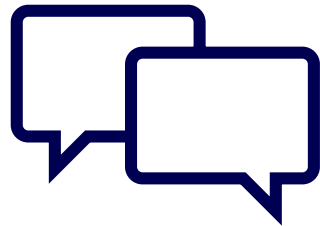
Q4

ACTION 4: Commission to propose **guiding principles** identifying conditions under which **anticipatory investments in grid projects** should be granted.

ACTION 8: ACER, in its next tariff report, to **recommend best practices** in relation to the **promotion of smart grids and network efficiency technologies through tariff design**, focusing on consideration of **OPEX** in addition to **CAPEX** and benefit sharing.

ACTION 11: Commission to **support permitting acceleration** providing **guidance and technical support** on how to implement existing legislative tools and Member States to implement acceleration measures.

ACTION 14: Commission to **promote common technical requirements for generation and demand connection**.



Discussion

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VII. Debriefing – Revenue Regulation Paper – Per Everhill



GEODE Position Paper on DSO Revenue regulation

Drafting team from Sweden, Norway, Finland and Austria

Highlight the importance of an efficient revenue regulation for electrification

Present important principles:

- Long time predictability
- Encouraging anticipatory investments
- Create sufficient cash flow for investments
- Competitive WACC (weighted average cost of capital)
- Incentivising cost efficient solutions regardless of technology
- Reward efficiency
- Incentives for desired improvements
- Allowing sufficient cash flow

To be presented on GEODE spring seminar in June

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VIII. Energy Sharing Fact Sheet



Energy Sharing – Follow up Meeting 11

October



KEY ELEMENTS

Grid cost not necessarily benefit from Energy Sharing – e.g. the Sun in Northern Europe is mostly shining in the summer – not in the winter when we have highest consumption, therefore collective self consumed energy will not reduce the load in the grid (and thereby not the grid cost), PV will only reduce the consumption in the summer, when the consumption is low anyway (and the capacity in the grid is high)

Virtual Energy Sharing - If you are virtually adjusting meter values based on sharing, you are at the same time removing the connection between the physical flow of energy and the payment for it. If sharing is done in a „local area“ – me and my neighbor – the problem is still there, but smaller than sharing over distances. If the virtual correction on meter values is only done on energy (net grid tariffs) this problem will not occur

Grid tariffs – If you do not reduce grid cost, the benefit from sharing should only be given on electricity price/energy

Harmonisation of procedures between administrations, DSOs, installers

Data exchange between actors, consumers, DSOs, suppliers

Establishment of an „energy sharing coordinator“ for communication with DSOs, suppliers (e.g. communication of energy sharing agreement)

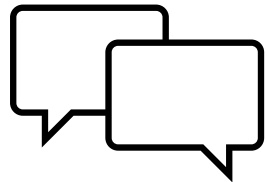
Permitting

Energy Sharing Fact Sheet



Key Takeaways from the webinar:

- Energy Sharing is an **opportunity** and already an on – the ground reality in some Member States (e.g. Belgium, Italy, Greece, Spain, Austria & Lithuania)
- Foster expansion of energy sharing initiatives via smarthening of grids infrastructure (Digitalization) and promoting strong price signaling (tariffs);
- Clarifications are needed to ensure prosumers expectations and reality match up. (Avoidance of piling up of legislative texts and obligations for both Consumers and DSOs)



How to move forward? Time for a GEODE Fact-sheet on Energy Sharing? Or is it too early??

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VIII. AOB & next meeting



Discussion



Rescheduled to Monday 3rd June 2024



Florence Forum taking place on the 27– 28th
May

WG Regulation 2023

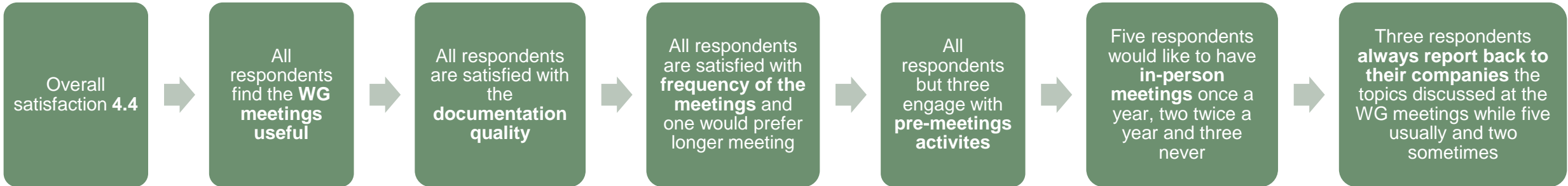


4 Meetings

- 9 March 2023 - 10 participants from 5 EU countries + UK + Norway
- 21 June 2023 - 9 participants from 7 EU countries + Norway
- 3 October 2023 - 8 participants from 4 EU countries + Norway
- 18 December 2023 - 11 participants from 6 EU countries + Norway + UK

GEODE Survey Nr. Replies 10/40

Position paper on the EMD reform (Feb. 2023) & recommendations on electricity distribution tariff structures (May 2023)



New topics proposal

Flexibility products as tariffs & bilateral agreements as well as sharing of experience



Thank You!

GEODE
info@geode-eu.org
Tel +32 2 204 44 60

www.geode-eu.org

