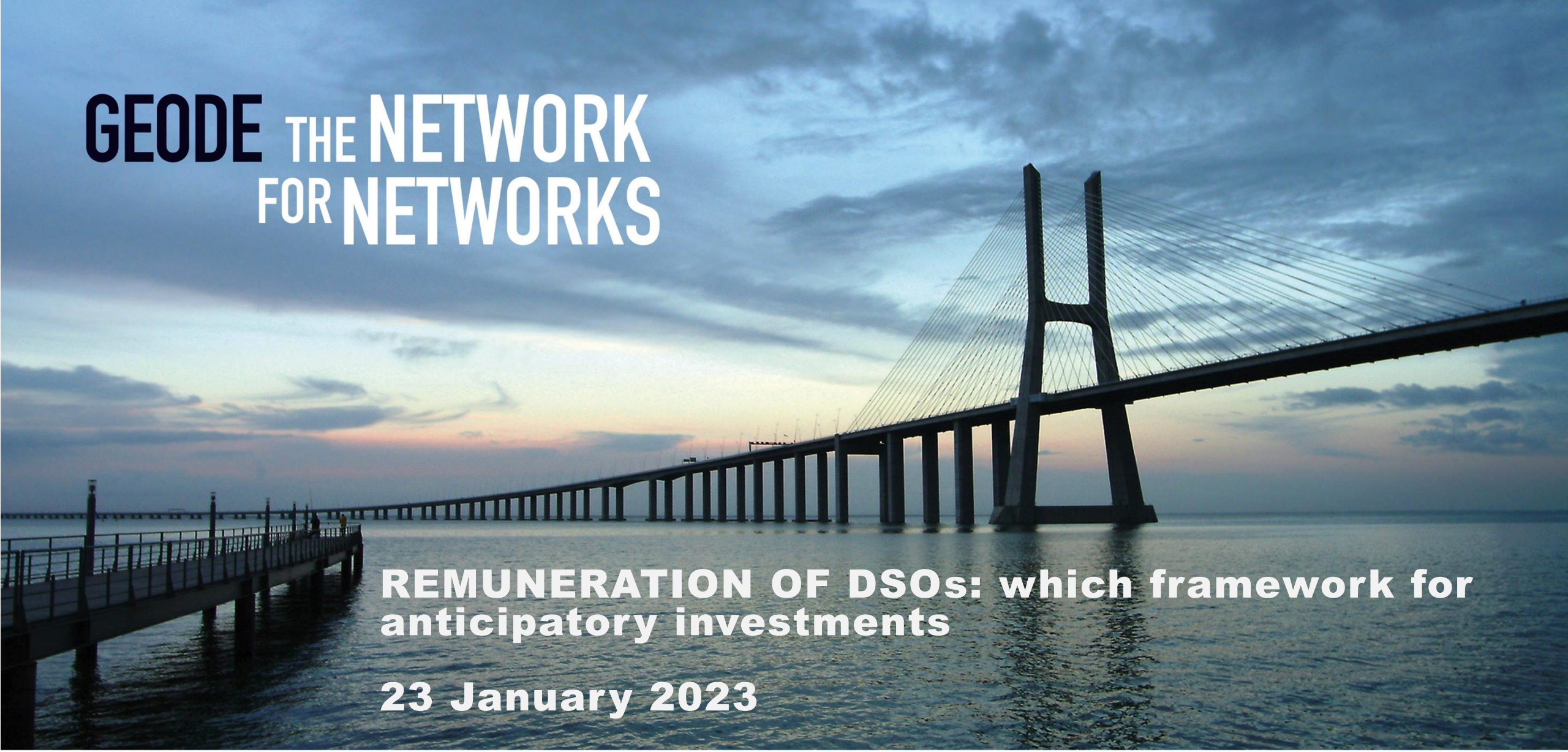


REMUNERATION OF DSOs: which framework for anticipatory investments

23 January 2023

Carmen Gimeno
Secretary General GEODE & Partner Verdia Legal

GEODE The Voice of local energy distributors across Europe

GEODE - Smart Distribution Systems Since 1991

*GEODE is a strong and reliable European **network platform** on energy distribution, that proactively provides **expert advice** to GEODE members and policy makers, to facilitate their decision-making process, for the benefit of the end-users*

- 83 Members
- 14 Countries
- 1400 Utilities
- 100 Million Customers

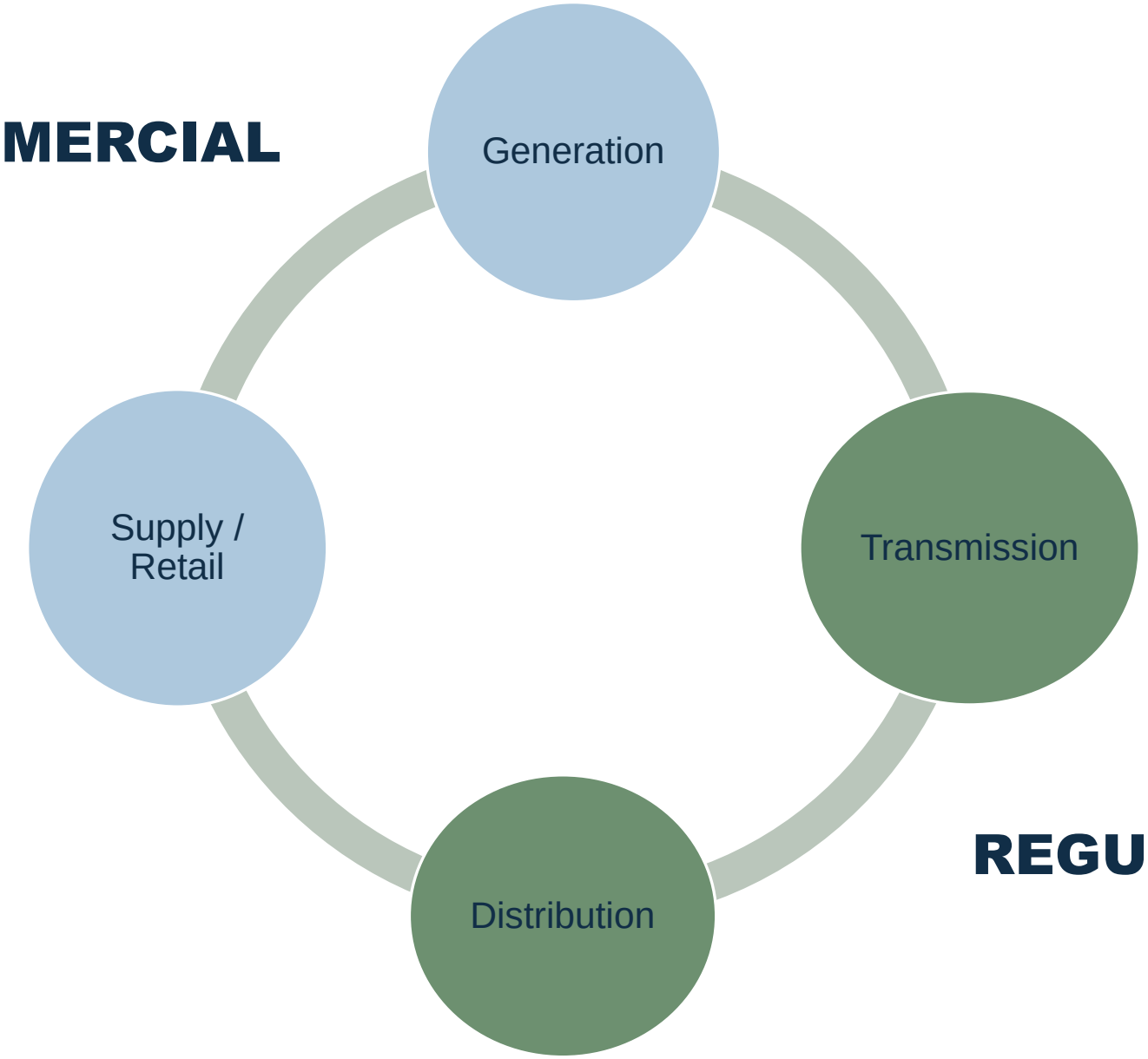
VERDIA LEGAL

About us

- Verdia is a law firm specialized in Energy Law with offices in Barcelona (ES).
- We have over 30 years of experience in the energy sector, which allow us to anticipate and provide solutions to our clients.
- We advice on every aspect of the regulation applicable to any activity related to the energy supply chain.
- We keep a constant dialogue with the regulatory institutions and the competent administrations.

The energy value chain

COMMERCIAL

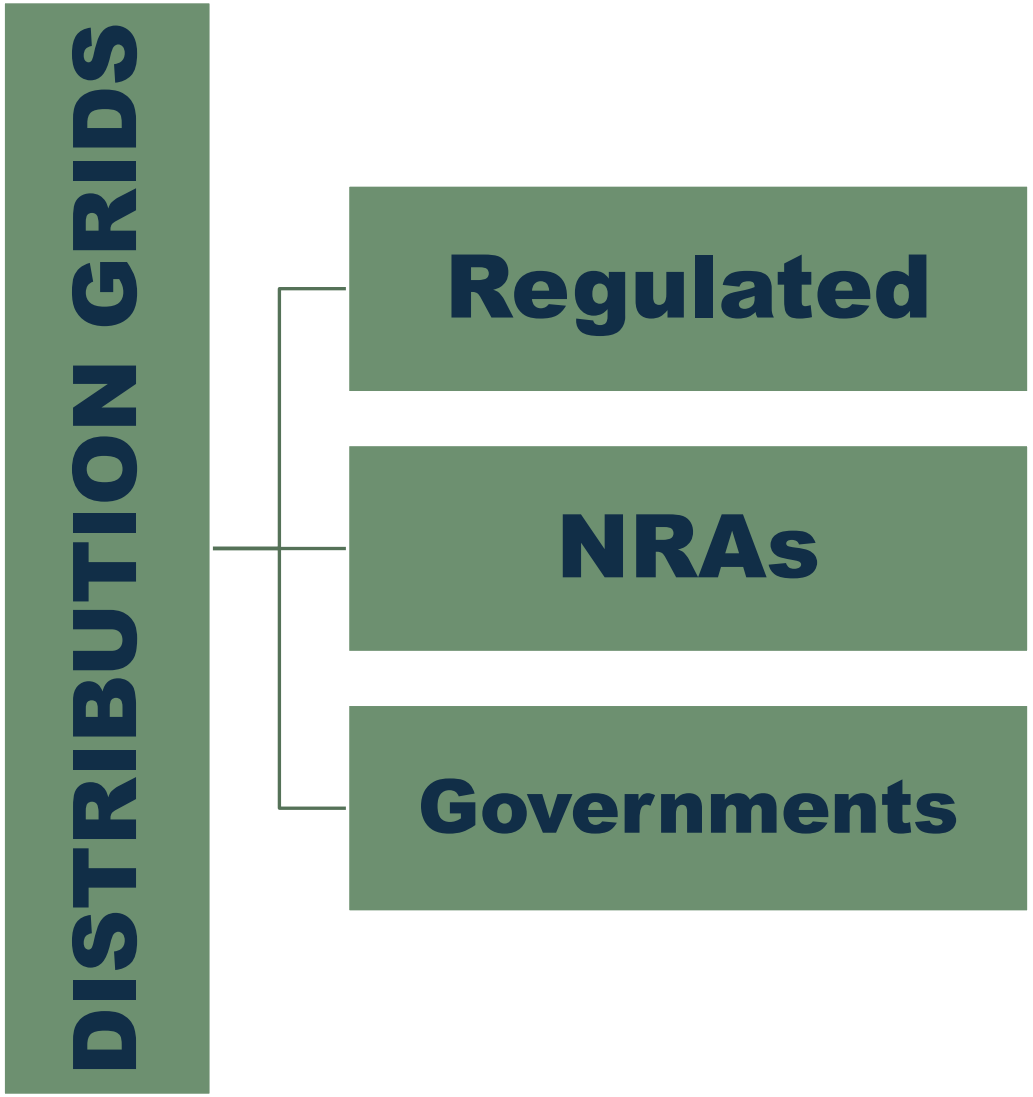


REGULATED

Power Distribution – Legal framework

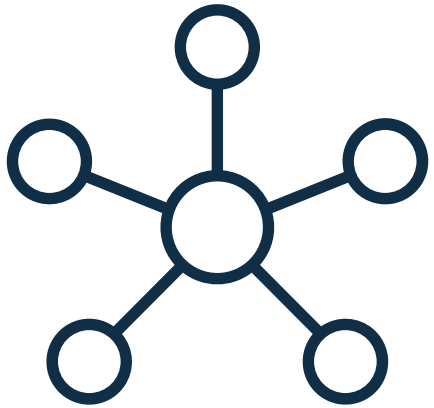
Distribution means the transport of electricity on high-voltage, medium-voltage and low-voltage distribution
systems with a view to its delivery to customers, but does not include supply

Art. 1(28) Directive (EU) 2019/944



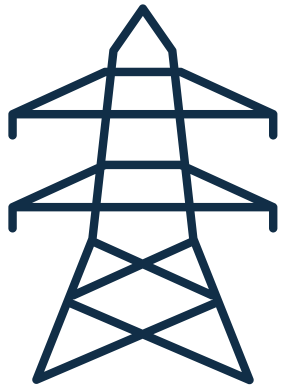
Distribution System Operator, DSO means a natural or legal person who is responsible for operating, ensuring the maintenance of and, if necessary, developing the distribution system in a given area and, where applicable, its interconnections with other systems, and for ensuring the long-term ability of the system to meet reasonable demands for the distribution of electricity.
Art. 1(29) Directive (EU) 2019/944

DSOs in Europe – Facts & Figures



2500 elec DSOs

92% < 1000.000 connections
6% > 100.000 < 1 M
2% > 1M connections



11 Million Km

of electricity grid

260 Million

Connected customers

Distribution grids the backbone of the energy transition

Regulatory framework approach to DSOs remuneration – main driver for grid investments (I)

DSOs

- DSOs **must ensure that their network has the capacity to meet a reasonable demand for electricity distribution in the long term**
- DSOs are also responsible for **expanding distribution facilities when necessary to meet new electricity supply demands** under the terms established by regulation

NRAs

- DSOs are entitled to receive **adequate remuneration** for performing their activity within the electricity system, under the terms established in the Law

Regulatory framework approach to DSOs remuneration – main driver for grid investments (II)

- The **revenue regulation** has to secure the necessary cash flows for DSOs investments as well as the financial incentives for owning and/or operating a distribution grid
- The revenue regulation is also used to incentivise certain functions such as flexibility and security of supply
- There is no European standard for revenue regulation but common general principles in EU Regulation
- Revenue regulation is set up by NRA for a specific time period – regulatory period

- Any regulatory framework makes use of a toolbox of regulatory instruments in accordance with their suitability and goals taking into consideration national conditions
- Most European countries follow Revenue cap or Price cap regulatory approaches, remunerating DSOs mainly for their investments on capital expenditures (CAPEX), combined in some countries with performance incentives to improve efficiency

Regulatory framework approach to DSOs remuneration – main driver for grid investments (III)

- Regulated electricity network tariffs have the core objective to recover the costs incurred by network operators for the operation and investments in their grids

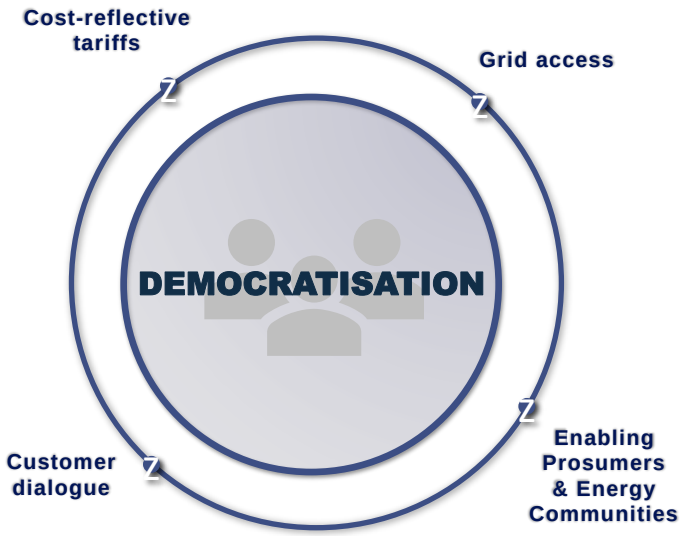
- Network tariffs or their methodologies, or both are fixed or approved, in accordance with transparent criteria, by NRAs *(Art.59 Electricity Directive (EU) 2019/944)*

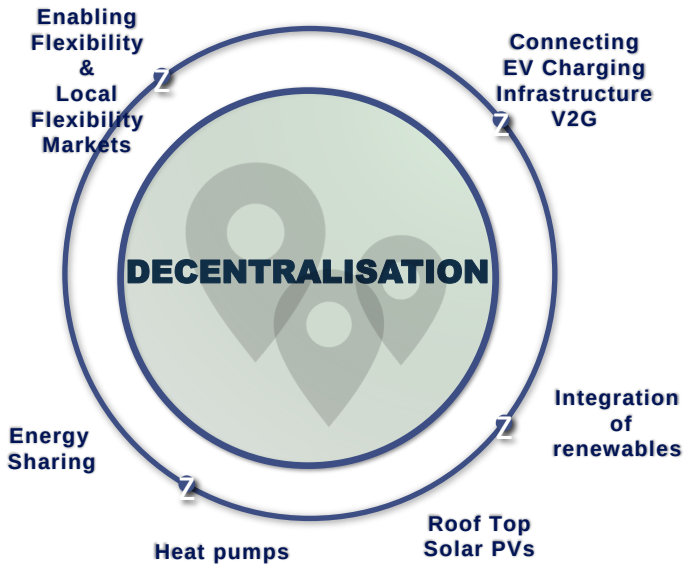
Distribution tariff methodologies shall provide appropriate incentives to the DSOs for the most cost-efficient operation and development of their networks including through the procurement of services, by recognising relevant costs as eligible. *(Art.18.8 Electricity Regulation (EU) 2019/943)*

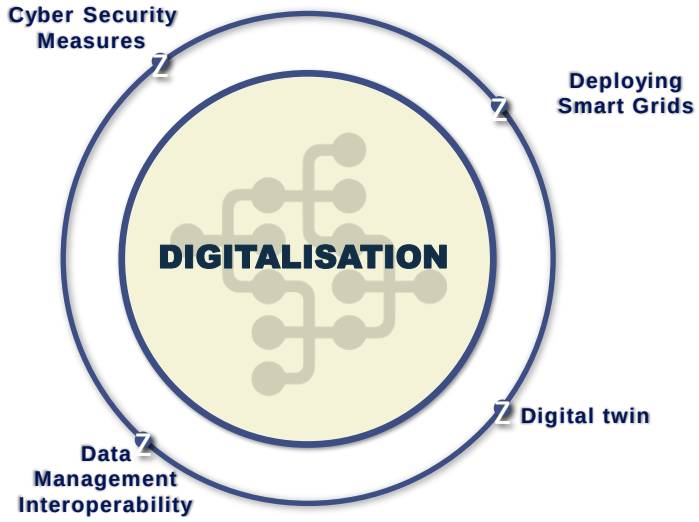
The distribution network costs to be recovered by network tariffs are:

- the return on capital and depreciation of investments (CAPEX)
- operational expenditures and costs (OPEX)
- distribution losses

Distribution Grids - Enabling the Energy Transition





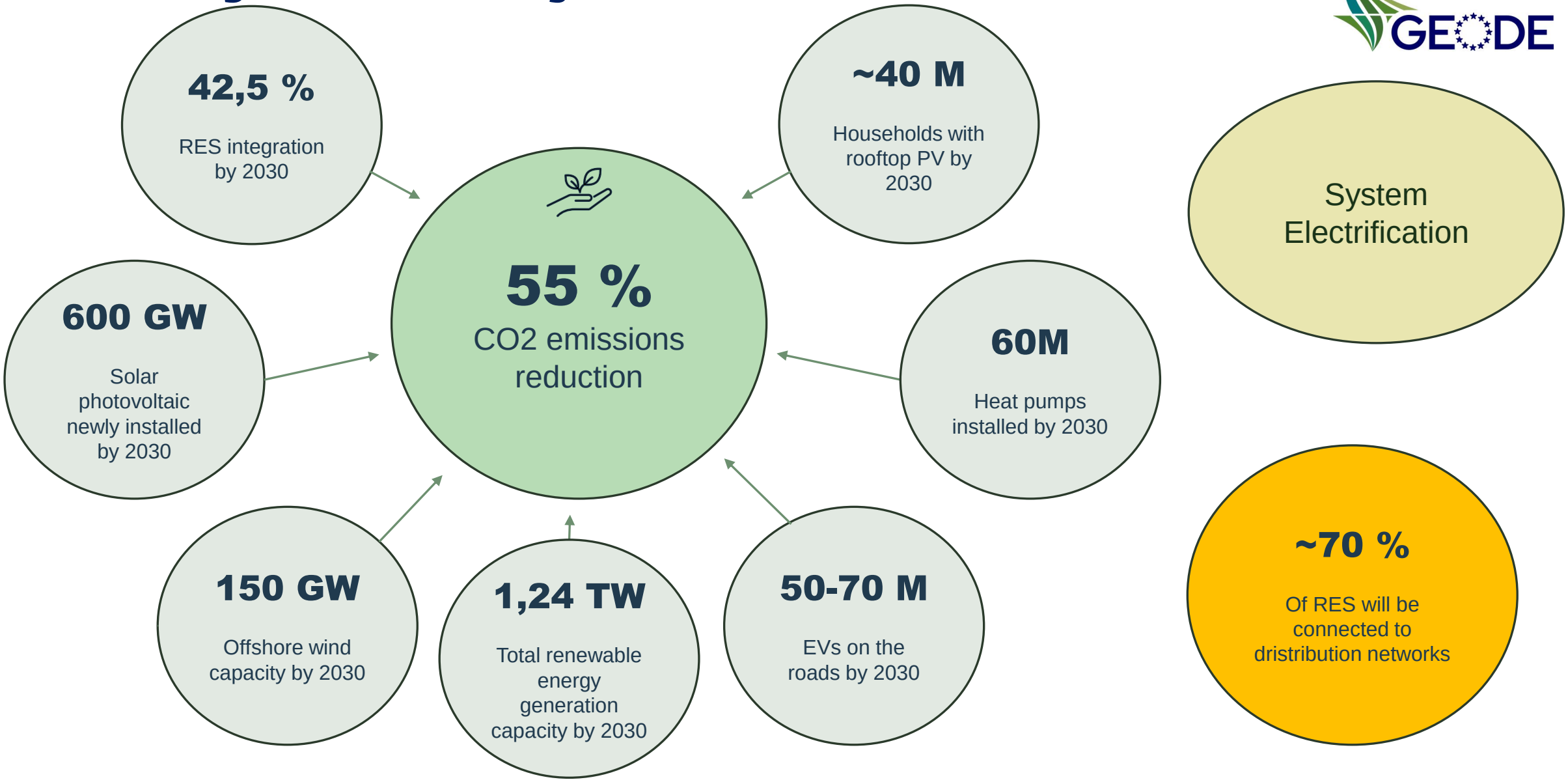


Network planning

Investments

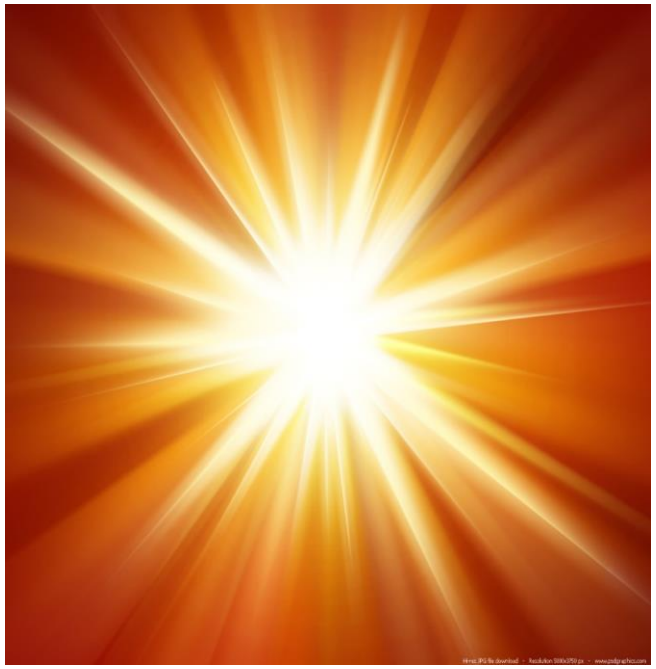
DECARBONISATION

EU Policy - 2030 Objectives



Distribution Grids – the backbone of the energy transition

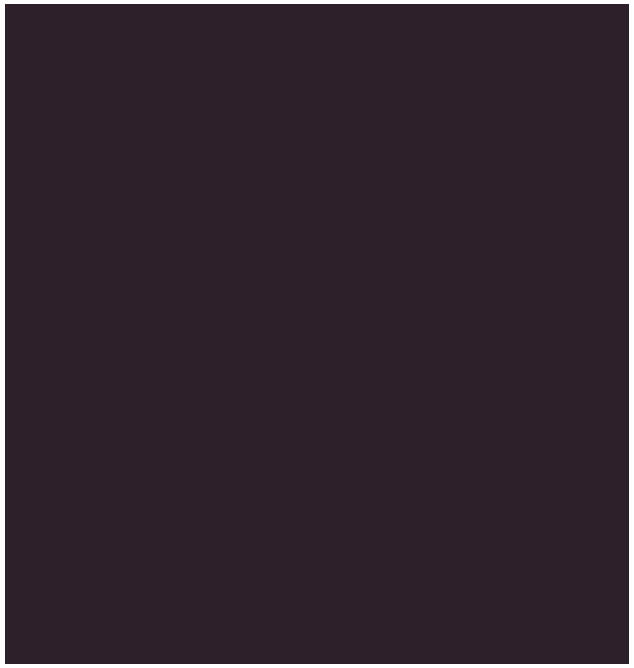
A new role for DSOs?



Keeping the lights on 24/7

or

A new way to operate the grid?



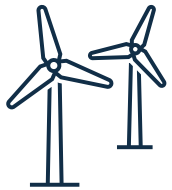
Grids fit for purpose of energy system needs

Grids fit for purpose of energy system needs

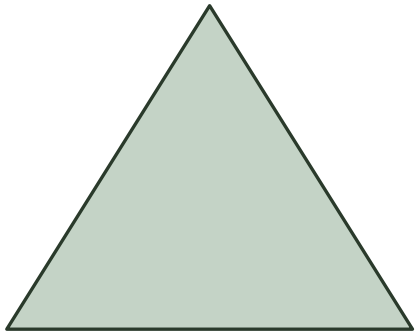
Grid investments are needed **NOW**

Speed is the real challenge!

Are we investing enough in our grids?

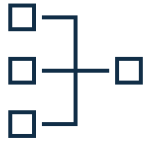


Renewables

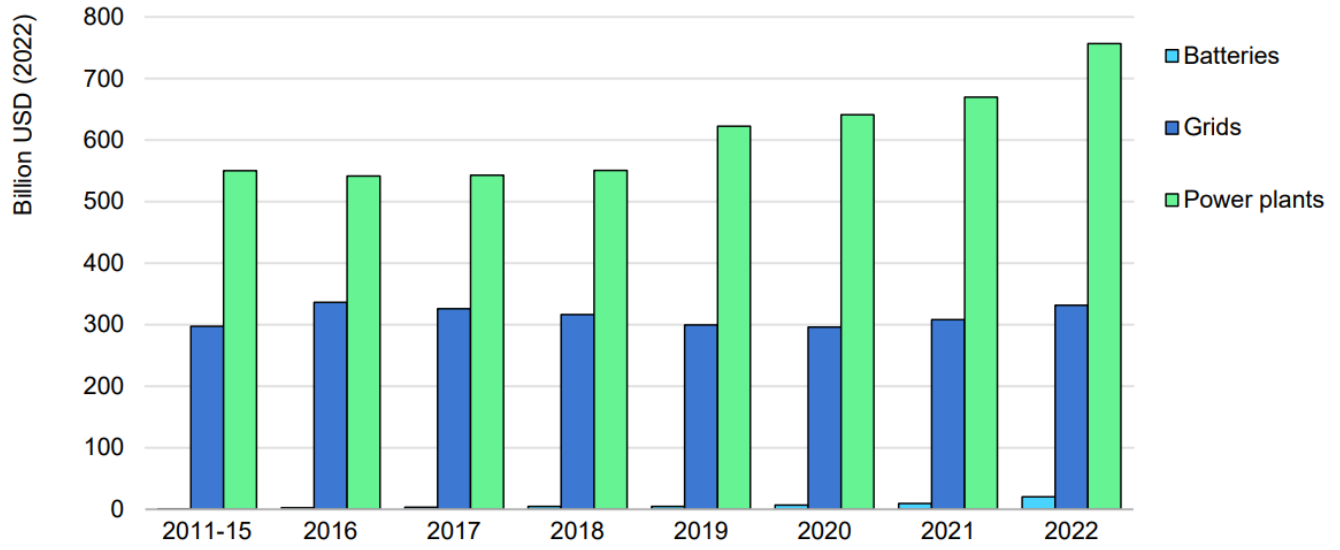


Storage

Grids



Annual investment in power capacity and grids, 2011-2022



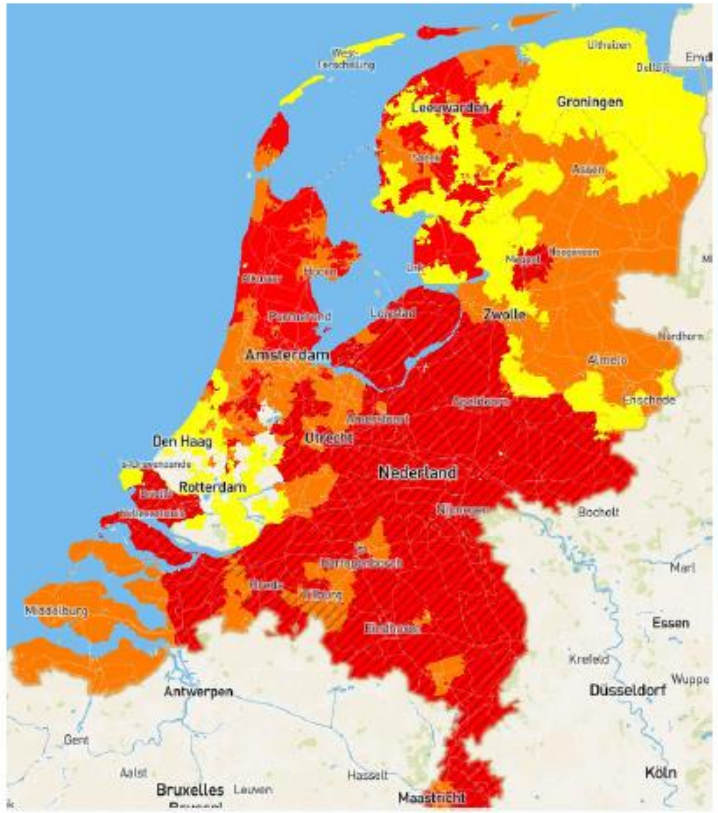
IEA. CC BY 4.0.

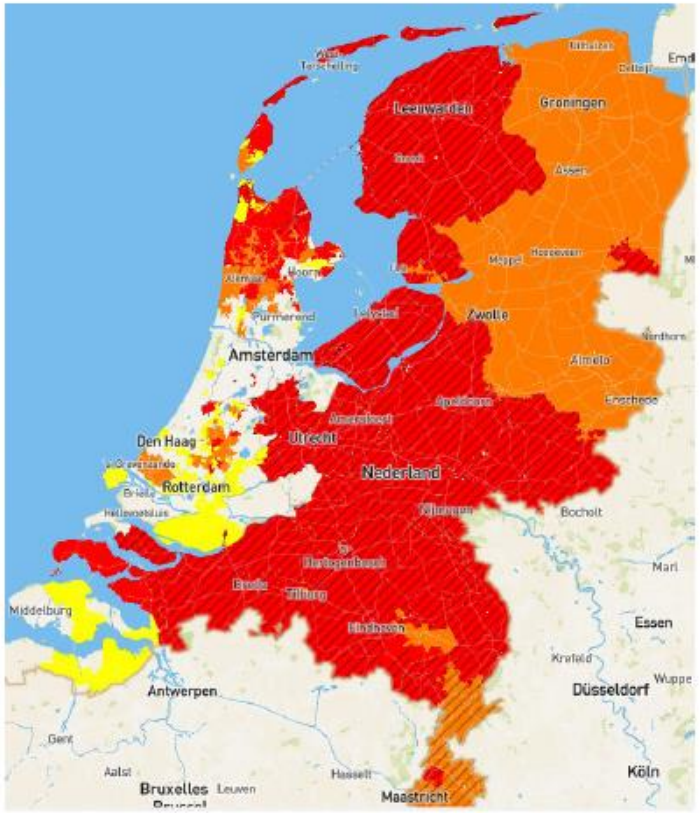
Source: IEA (2023), World Energy Investment.

Revenue regulation review needed?

Why now? - What brings attention on grids?

Case of the Netherlands:
Towards default non-firm connections agreements?



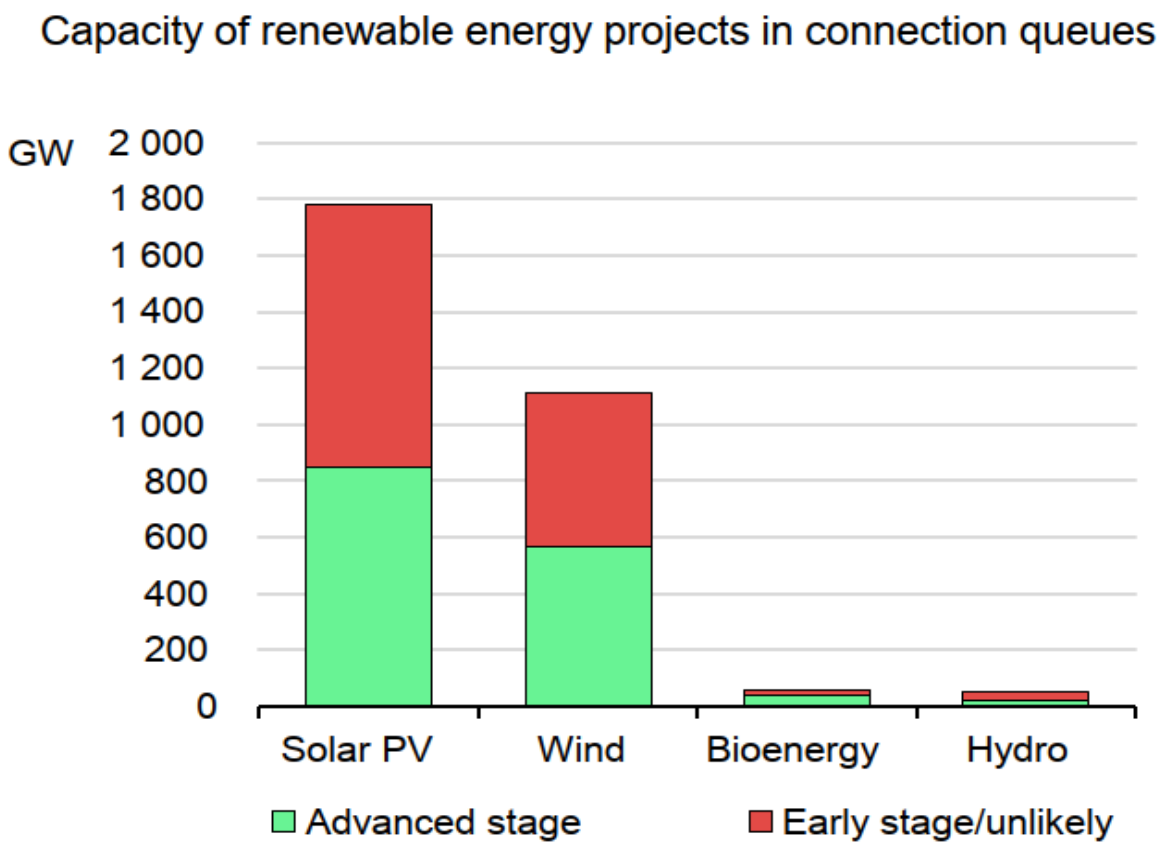


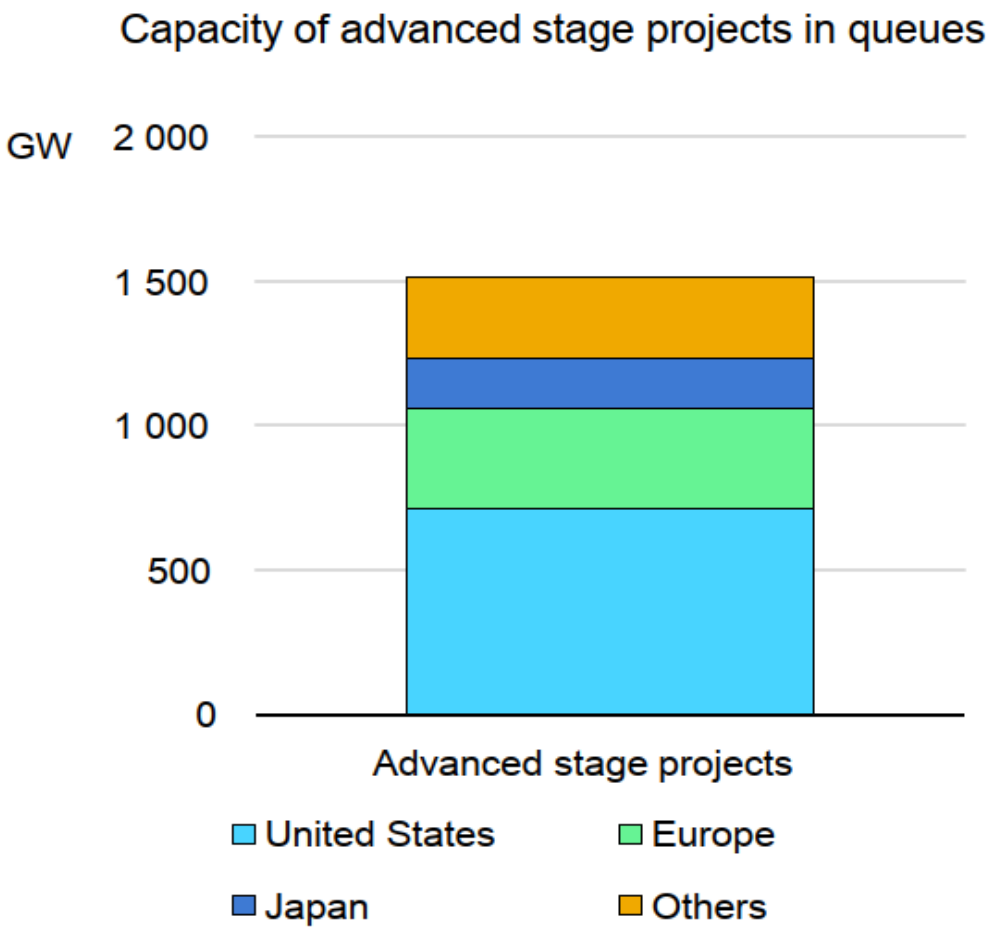
Electricity grid under further pressure: government and grid operators are taking drastic measures

October 18, 2023 Share over:

Netbeheer Nederland

Grids are becoming a bottleneck for energy transitions





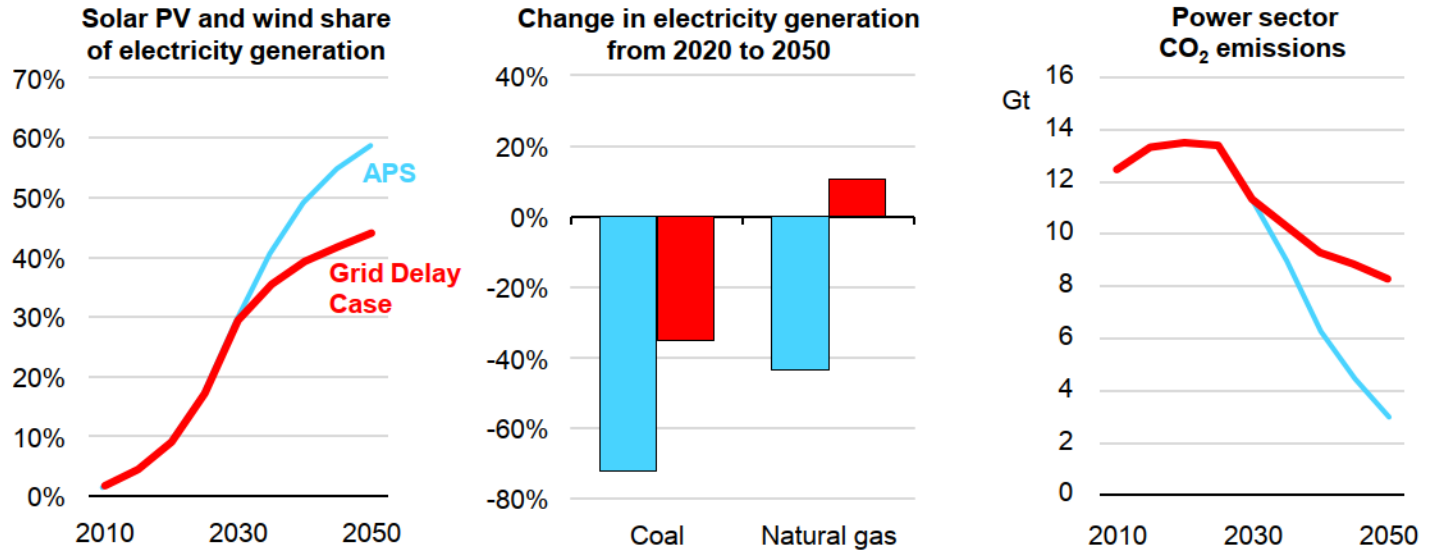
We estimate at least 1500 GW are wind and solar projects around the world are in an advanced stage of development. While investment in renewables has almost doubled in the last decade, investment in grids has remained stagnant.

Source: IEA Electricity Grids & Secure Energy Transitions, 17 October 2023

"We must invest in grids today or face gridlock tomorrow" **Faith Birol , Executive Director IEA**

Clean energy transitions depend on robust electricity grids

Impacts of failing to accelerate grid investment and modernisation



Failing to step up the pace of grid investment and modernisation would stifle the growth of renewables, and lead to greater use of coal and natural gas, raising fossil fuel import bills by USD 500 billion and CO_2 emissions

Source: IEA Electricity Grids & Secure Energy Transitions, 17 October 2023

THE GRIDS MOMENTUM !

FINANCIAL TIMES

HOME WORLD US COMPANIES TECH MARKETS CLIMATE OPINION WORK & CAREERS LIFE & ARTS HTSI

"There is no green future for Europe without an upgraded power grid"

Lack of ambition and attention risks making electricity grids the weak link in clean energy transitions

OCTOBER 2023

International Energy Agency

EU measures to ensure grids are fit for purpose

Adequate Financing

Anticipatory Investments

Faster permitting

Grid Resilience

EU instruments to ensure grids are fit for purpose

Electricity Market Reform

Council of the European Union

Brussels, 19 December 2023
(OR. en)

16964/23

Interinstitutional File:
2023/0077(COD)

LIMITE

ENER 712
ENV 1524
CLIMA 663
COMPET 1295
CONSOM 498
FISC 301
CODEC 2543

PUBLIC

NOTE

From:	General Secretariat of the Council
To:	Permanent Representatives Committee
No. Cion doc.:	7440/23 + ADD1
Subject:	Proposal for a REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL amending Regulations (EU) 2019/943 and (EU) 2019/942 as well as Directives (EU) 2018/2001 and (EU) 2019/944 to improve the Union's electricity market design - Analysis of the final compromise text with a view to agreement

I. INTRODUCTION

Agreement 14 December 2023

Grids, the missing link - An EU Action Plan for Grids

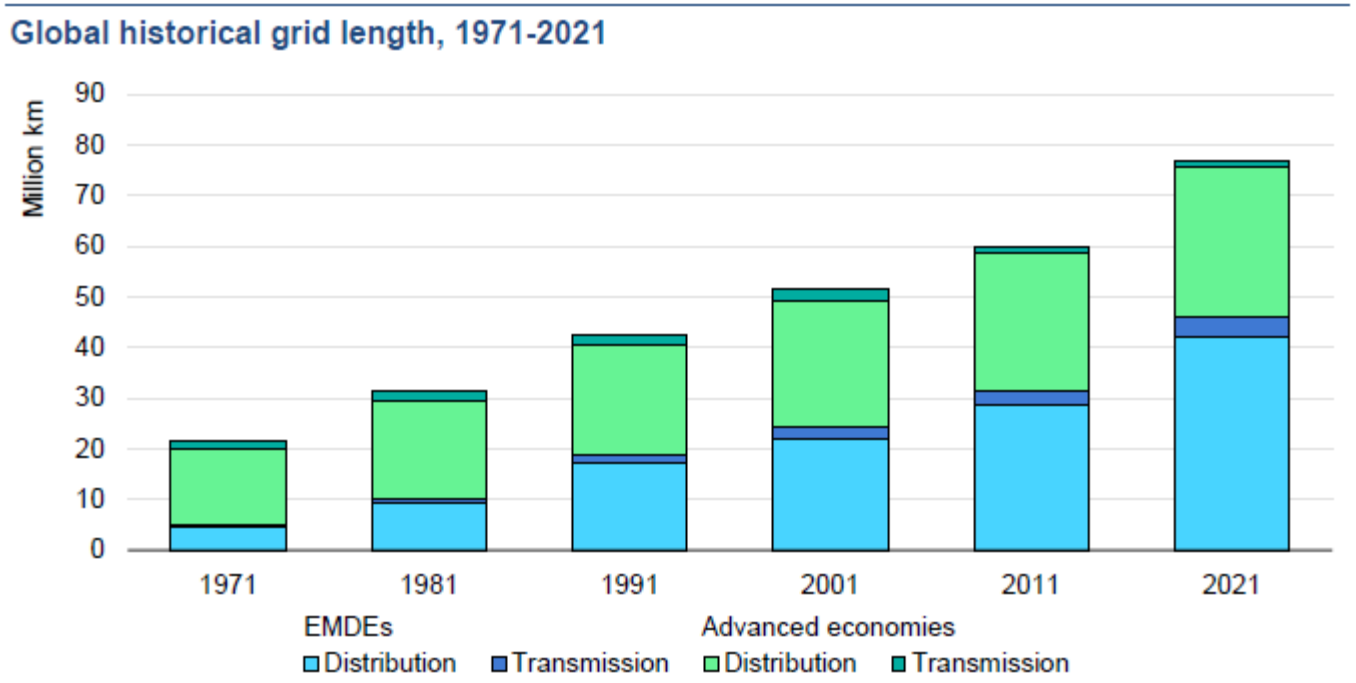
Publication 29 November 2023

Electricity Market Reform -Tariff Methodologies (Art. 18, 2& 8 Regulation & Recital 17 & 23)

- Tariff Methodologies **shall** consider both CAPEX and OPEX expenditures
- To provide **appropriate incentives** to TSOs and DSOs over both the short and the long run for the most cost-efficient operation and development of their networks, including through the procurement of services
- Including in distribution tariffs costs related to **anticipatory investments**
- Introducing where appropriate **performance targets**
- In order to foster **the** integration **of renewable energy** and security of supply**;** support the use of flexibility services, **enable the use of flexible connections; promote** efficient **and timely** investments**,** including solutions to optimise the existing grid**;** facilitate **energy storage,** demand response and facilitate innovation

Tariff Methodologies shall consider both CAPEX and OPEX expenditures

Grid Reinforcement & Building new capacity



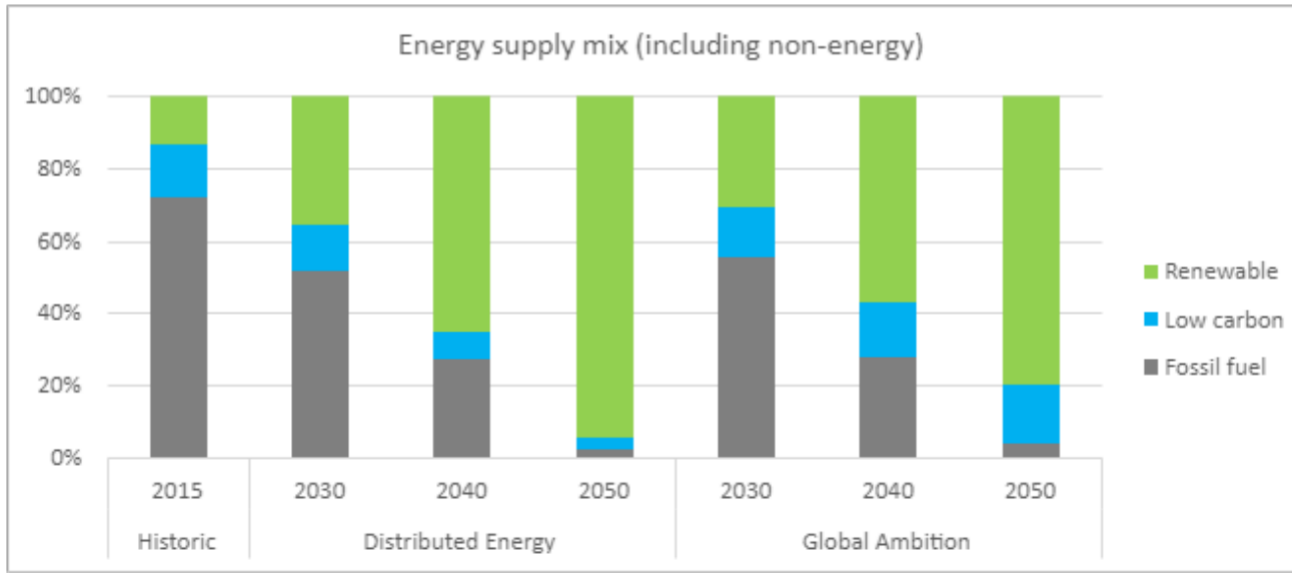
IEA Report: Electricity Grids and Secure Energy Transitions

- Distribution electricity grids account for about 93 % of the total length.
- More than 50 % EU grids infrastructure is more than 20 years old.
- Only 23 % EU grids are less than 10 years old.

Tariff Methodologies shall consider both CAPEX and OPEX expenditures

Digitalisation

Energy demand will be mostly met by weather-dependent power generation



Source: ENTSO-E TYNDP 2022 scenarios report her

Smart and flexible grid operation is crucial

- In 2016, 12 % of total grid investment was used for Digitalisation
- In 2022, it was about 20 %.

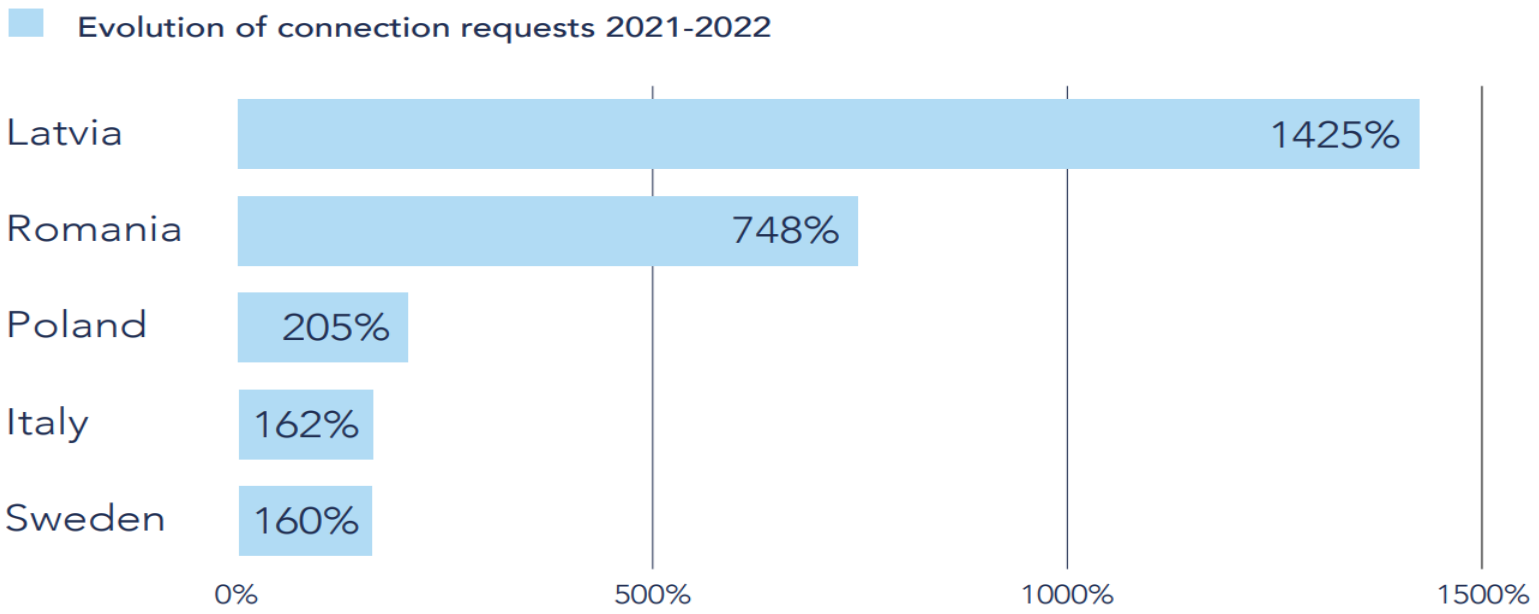
Source: IEA Report: Electricity Grids and Secure Energy Transitions

Ensure that existing infrastructure is better use, more smartness

Anticipatory Investments to face the new reality

(Recital 23) Regulatory authorities will play a central role in ensuring that sufficient investment is provided for the necessary grid development, expansion and reinforcement. Regulatory authorities should promote the use of anticipatory investments, encouraging the acceleration of grid development to meet the accelerated deployment of renewable generation, including where appropriate in designated renewables acceleration areas, and smart electrified demand.

- **Anticipatory investments** to face the new system reality, anticipating upcoming needs, volumes and loads.
- **Anticipatory investments** will allow network operators to speed up grid expansion and modernisation and have grids ready on time!



Source: DSOs Fit for 55, EU DSO Entity, Dcember 2023

Anticipatory Investments to face the new reality

Allowing for Anticipatory Investments in revenue regulation implies risks

Anticipatory Investments important element of forward looking revenue regulation

Electricity Market Reform -Tariff Methodologies (Art. 18, 2 & 8 Regulation)

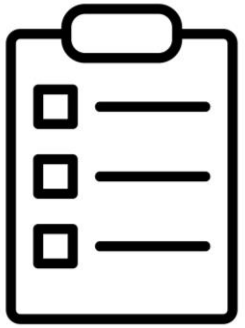
(2) Tariff methodologies shall reflect the fixed costs of transmission system operators and distribution system operators and ***shall consider both capital and operational expenditure to provide appropriate incentives to transmission system operators and distribution system operators*** *over both the short and long run, including anticipatory investments, in order to increase efficiencies including energy efficiency****;*** *foster market* ***integration, the*** *integration* ***of renewable energy*** *and security of supply****;*** *support the use of flexibility services,* ***enable the use of flexible connections; promote*** *efficient* ***and timely*** *investments****,*** *including solutions to optimise the existing grid****;*** *facilitate* ***energy storage,*** *demand response and related research activities (…) facilitate innovation in the interest of consumers in areas such as digitalisation, flexibility services and interconnection*

(8) Transmission and distribution tariff methodologies shall provide incentives to transmission and distribution system operators for the most cost-efficient operation and development of their networks including through the procurement of services. For that purpose, regulatory authorities shall recognise relevant costs as eligible, ***including costs related to anticipatory investments,*** *shall include those costs in transmission and distribution tariffs, and shall****,*** ***where appropriate,*** *introduce performance targets in order to provide incentives to transmission and distribution system operators to increase* ***overall system efficiency*** *in their networks, including through energy efficiency, the use of flexibility services and the development of smart grids and intelligent metering systems.*

EC Action Plan on Grids – 29 November

7 Challenges

14 Actions



Pact for Engagement

7 Challenges

1) Accelerating implementation of existing PCIs and developing new projects

2) Enhancing long-term network planning

3) Introducing a supportive, future-proof regulatory framework

4) Making better use of existing grids and smartening them

5) Improving access to financing

6) Ensuring faster and leaner permitting processes

7) Strengthening supply chains

Key Actions for Distribution Grids – Action 4

Action 4

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

- The **Commission**, with support from **ACER, ENTSO-E and EU DSO Entity**, will **by Q1-2025** propose **guidance identifying conditions under which the approval of anticipatory investments should normally be expected.**

- The EC calls on the use of **anticipatory investments** for investing in future-proof offshore networks that allow for future expansions of meshed offshore grids; for areas with high untapped onshore PV potential such as renewable acceleration areas set in accordance with RED.

Key Actions for DSOs – Action 8

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 the consideration of OPEX in addition to CAPEX and benefit sharing.

- **Network Tariffs and their methodologies, should be regularly updated by NRAs, based on both OPEX and CAPEX so to consider the changing energy system, and updated role of DSOs.**
- It also calls on **ACER** to further support NRAs through **recommending best practices in the next tariff report due January 2025**, and support NRAs in their implementation.
- **Network tariffs therefore need to evolve with the energy system.**

Looking forward regulation

- Implementation of EMR and EC Action Plan on Grids
- Unlock Investments by stable and predictable long-term regulatory models allowing DSOs for **adequate economic return on their investments**
- Capital (**CAPEX**) & Operational (**OPEX)** expenditure should be **equally balanced**
- Enabling **anticipatory investments**
- More **incentives** should be provided for **risky investments**, due to higher uncertainty, supporting innovation.

It's time to take the adequate decisions !

Smart income regulation

Incentivising the most efficient solution to efficient grid operation

Thank You!

Carmen Gimeno
GEODE Secretary General

cgimeno@geode-eu.org
cgimeno@verdialegal.com

Tel +32 2 204 44 60

www.geode-eu.org
www.verdialegal.com