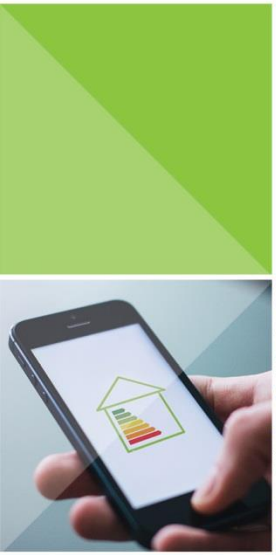





2019 IEA Workshop on Nuclear Power
Implications of new EU electricity market design
Paris 25 February 2019

CLEAN ENERGY TRANSITION- policy background

Innovative

Socially fair

Enabling Framework

CE4AE LEGISLATIVE PACKAGE

Energy Union Governance

Inclusive

Energy Efficiency

Energy Efficiency Directive, Energy Performance of Buildings Directive

Renewables

Revised Renewable Energy Directive

Electricity Market Design

Regulation and Directive on internal electricity market; Regulation on risk-preparedness, ACER regulation

Inter-connected

Harmonised

Digital

Investment-friendly

European Commission

1. General objectives

1. **Why** we need a new electricity market design? - General objectives

2. **What** is the regulatory framework? – The Clean Energy Package (CEP)

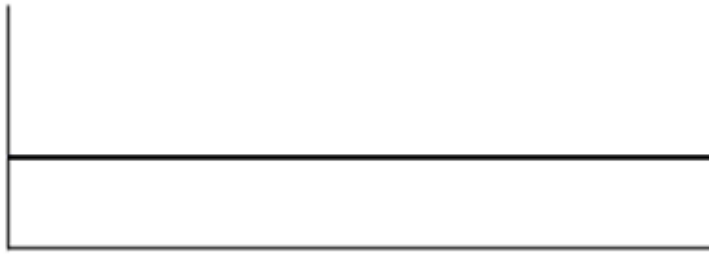
3. **How** will we reach the objectives?

4. **Implications for Renewables and Nuclear**

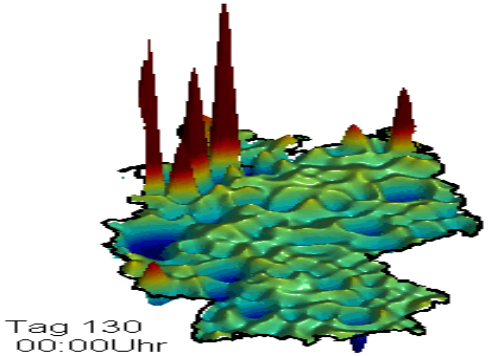
1. General objectives

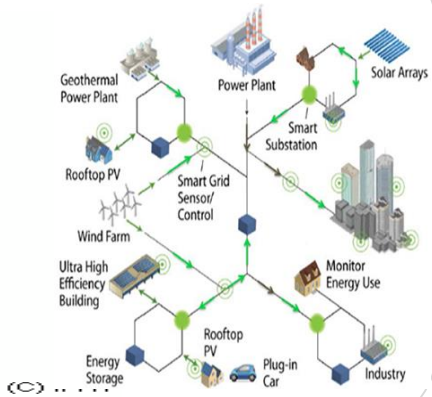
Security of supply

Old Electricity World



New Electricity World





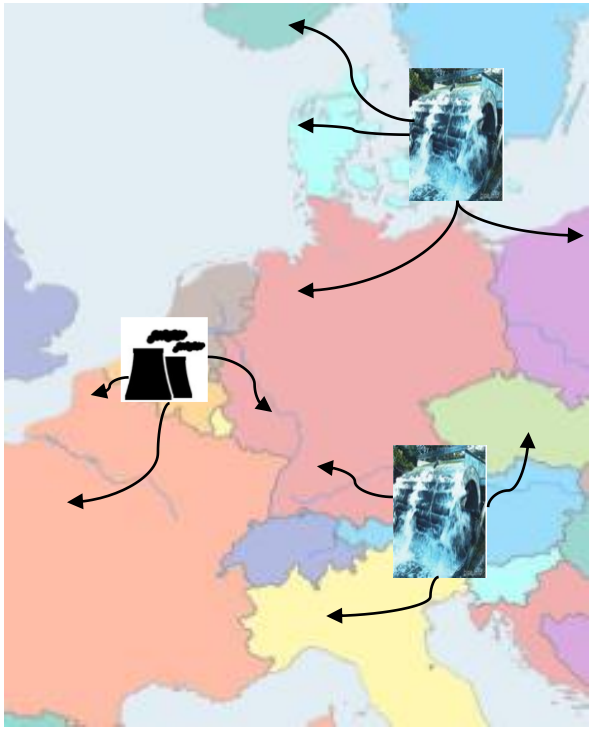
From central/ dispatchable…
…to decentralised/ volatile

European Commission

1. General objectives

Cost-effective / inciting investment

expensive



cheap

- Level playing field + strong short-term markets + demand response = €9.5 billion/year of cost savings by 2030;
- Coordinated approach to resource adequacy = capacity savings of ~80 GW (4.8 b€/year of investments!)

2. The regulatory framework - CEP

Electricity Regulation (RECAST)

- Contains majority of new wholesale rules

Electricity Directive (RECAST)

- Contains majority of new retail provisions

ACER Regulation (RECAST)

- ACER tasks and procedure

Regulation on Risk preparedness (NEW)

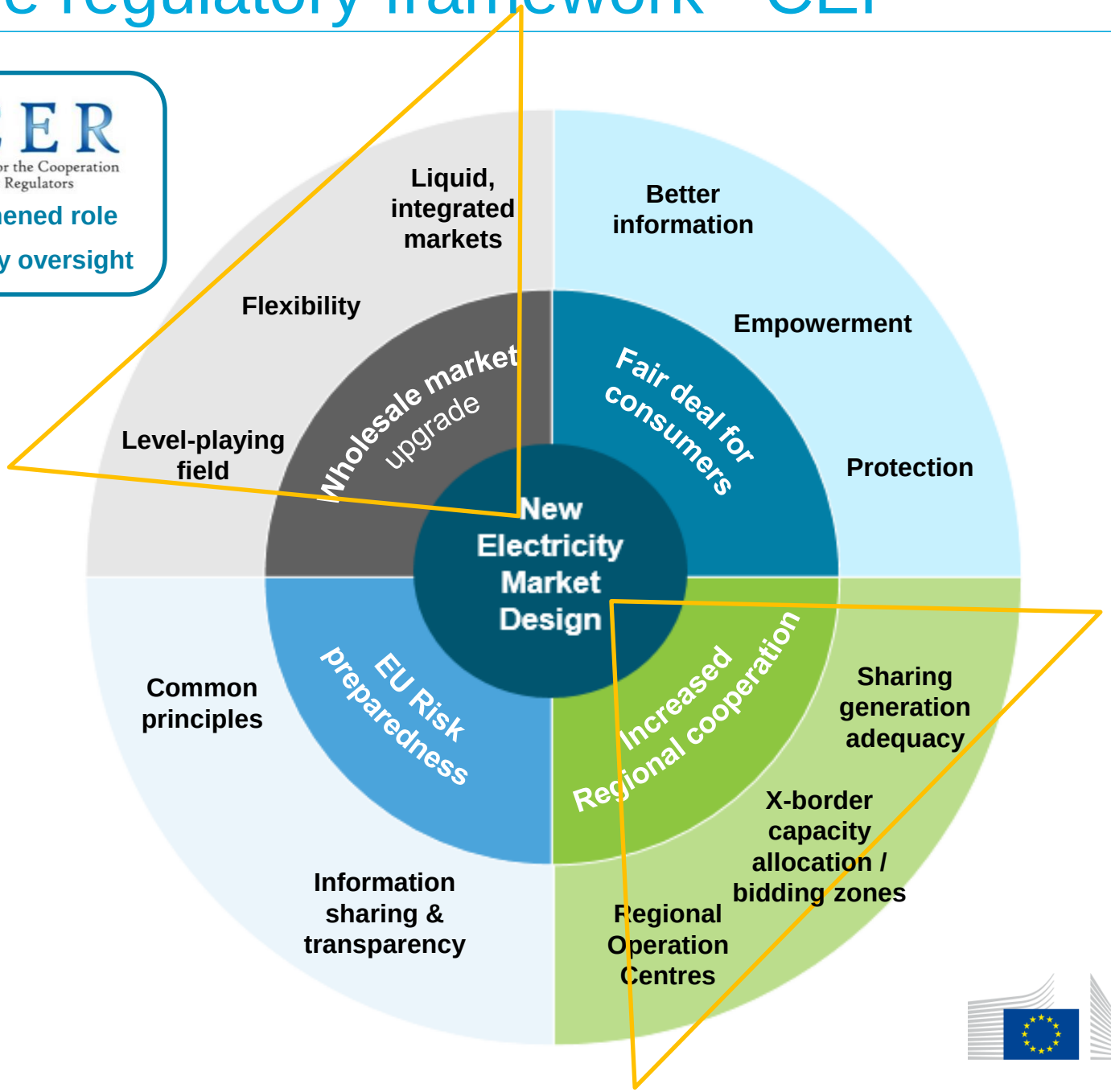
- Member States put in place appropriate tools to prevent, prepare for and manage electricity crisis situations

2. The regulatory framework - CEP

ACER
Agency for the Cooperation of Energy Regulators

Stenghthened role

Regulatory oversight



European Commission

3. How?

3.1 – Making the market fit for Renewables

New in the regulation

- Full market access for Renewables and Demand Response
- Shorter term markets:
  - Gate Closure Time <= 1 hour before real time
  - Imbalance settlement period of 15 min

Benefits

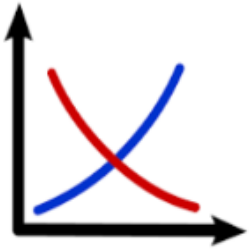
- Increased market flexibility and access, enabling renewables to become the backbone of our electricity system

3. How?

3.2 – Making Renewables fit for the market

Old:"produce and forget"

New: Market orientation



New in the regulation

- Phase out priority dispatch
- Phase in balancing responsibility

**Derogations for existing installations and new small RES*

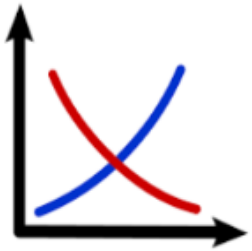
Benefits

- Eliminating market distortions for mature technologies…
- …whilst ensuring feasibility of smaller RES installations

3. H

3.2 –New opportunities for competitive Nuclear

New?: Market orientation



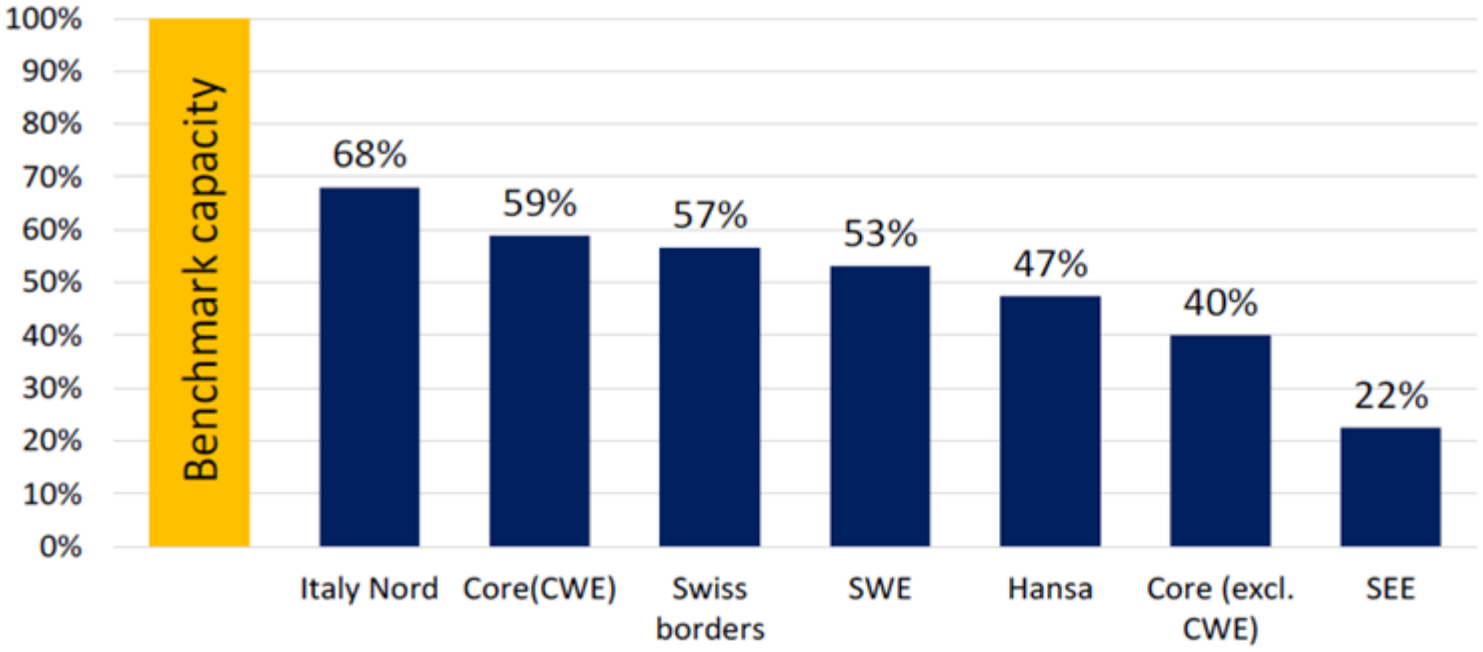
Implications for nuclear

- Level playing field with renewables
- Increased competition with matures RES technologies
- Increased volume of cross border trade relevant for base load supply
- Market design doesn’t rule out State aid schemes for renewables and nuclear

3. How?

3.3 – Framing bidding zones and cross border capacity allocation

Ratio between available cross-border capacity and the benchmark capacity* of HVAC interconnectors per region – 2016 (%)



Source: ACER calculations based on ENTSO-E and NRAs (2017)

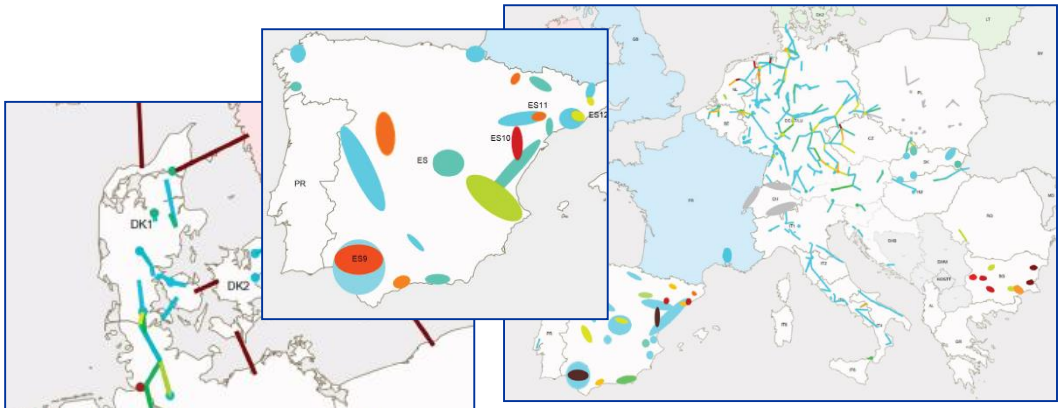
Borders with the lowest ratio between tradable capacity (NTC) and benchmark capacity (ranked) – 2016 (%, MW)

Border-Direction	ratio NTC/benchmark
DE/LU->PL	0%
CZ->PL	1%
SK->PL	2%
DE/LU->CZ	10%
RO->BG	10%
DK1->DE/LU	12%
PL->SE-4	16%
AT->CZ	28%
AT->CH	29%
DE->CH	29%
PL->LT	30%

Less than 50% of interconnection capacity is made available (!)
⇒ Objective: Limit undue restrictions of imports and exports

3. How?

3.3 – Bidding zones and structural congestion



Source: EntsoE Technical Report 2018

New in the regulation

- Addressing structural congestion a key priority. MS can choose:
  - an Action Plan with network investments until 2025, or
  - a bidding zone reconfiguration
- Bidding zone review: no agreement by MS → EC decides

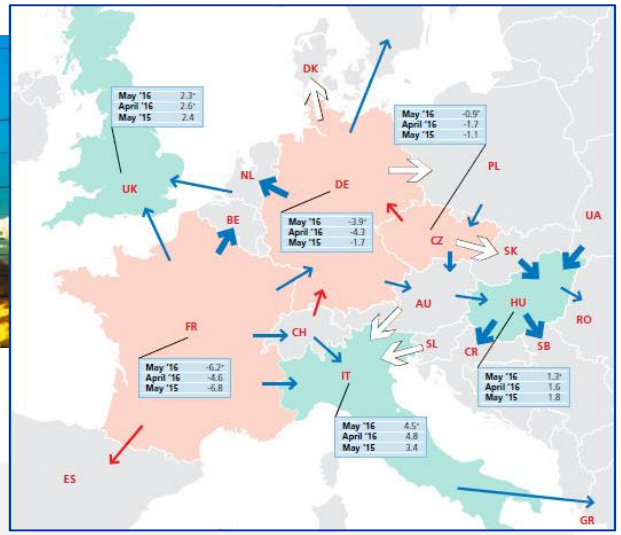
Benefits

A market better aligned to the physical grid which increases trade &:

- reduces the need for costly after-market remedial actions
- decreases the impact of congestion in one zone on the neighbours
- enhances security of supply by ensuring that electricity can be traded to where it is most needed.

3. How?

3.3 – Cross border electricity trading (capacity allocation)



New in the regulation

- Key principles:
  - Maximisation of trade across borders
  - No discrimination of cross-zonal vs internal trades
- Deductions by TSOs for loop flows and reliability margins capped
- New min. threshold of 70% of cross-zonal capacity for trade

Benefits

- Increased trade provides reliable access to electricity imports for:
  - Increased security of supply
  - Reduced need for new investments, thereby

    …reducing the cost of electricity for final consumers

*Source: ICIS Electricity cross border flows 2016

3. How?

3.4 – Coordinating state interventions in support of resource adequacy ('Capacity Mechanisms')

New in the regulation

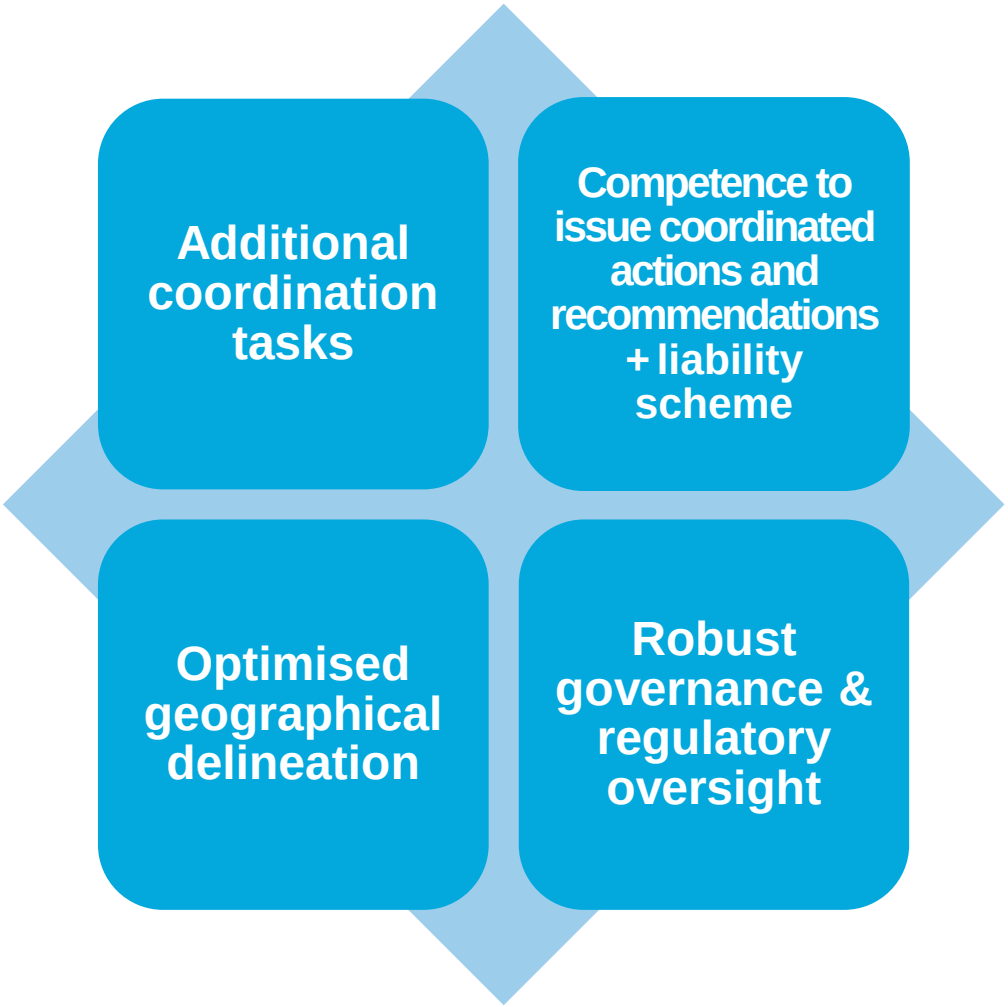
- State-of-the-art resource adequacy assessment
- Adequacy concerns to be addressed by market reforms
- Design principles for CMs
- Rules for cross-border participation in CMs
- Emission limit for resources committed in CMs

Benefits

- Necessity of CMs to be based on real needs → reduction of costs
- Make sure CMs if introduced are least distortive
- Exclude polluting technologies from CMs → facilitate clean transition

3. How?

3.5 – Fostering regional cooperation – regional coordination centres (RCCs)



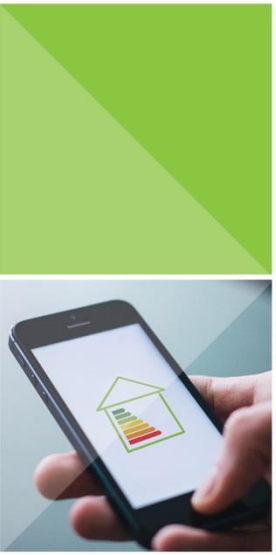
Benefits

- Improve the operation of the system across EU.
- Decrease the risk of blackouts

3. How?

3.6 – Other measures

New in the regulation	Benefits
Mandatory daily procurement for 30%-40% balancing products	Facilitate incorporation of RES and demand response in balancing markets
New ACER best practice report on transmission and distribution tariffs	Align approaches to new issues in tariff design such as dist. gen, smart meters, EV charging etc.
New methodology on the spending of congestion income	Ensure that congestion revenues are spent as a priority on reducing congestion






Thank you for your attention!

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