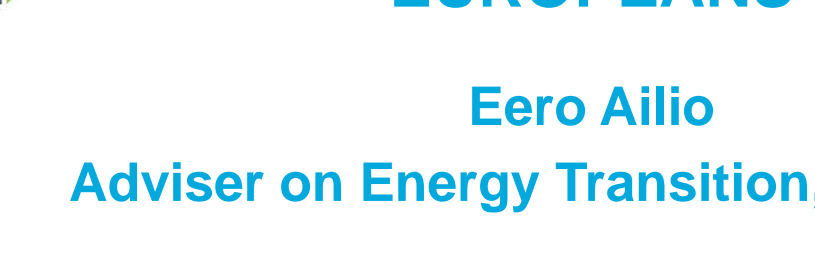
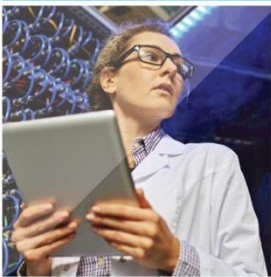
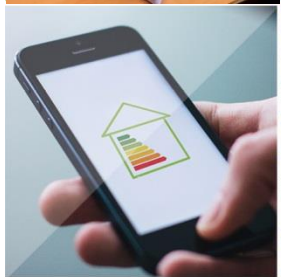
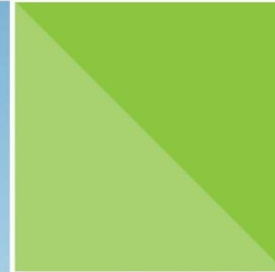




European
Commission



CLEAN ENERGY FOR ALL EUROPEANS

Eero Ailio

Adviser on Energy Transition, DG Energy

Smart Evolution – through innovation to sustainability
Zagreb, Croatia, 15 May 2019



WHY DO WE DO THIS?

SUSTAINABILITY: ENERGY SYSTEM DRIVES CLIMATE CHANGE, MUST LEAD TRANSITION

2030

50 % of electricity to come from renewables



2050

Electricity completely carbon free*



EU has the most **ambitious climate commitments** in the world



Leadership brings responsibility

Unique opportunity to **modernise our economy** and to

boost competitiveness

create growth and jobs

WHY DO WE NEED NEW LEGISLATION?

GOALS IN LAW FOCUS ACTION

2020

-20%
GHG
EMISSIONS

20%
RENEWABLE
ENERGY

20%
ENERGY
EFFICIENCY

10%
INTER
CONNECTION

2030

-40%
GHG
EMISSIONS

32%
RENEWABLE
ENERGY

-32,5%
ENERGY
EFFICIENCY

15%
INTER
CONNECTION

WHY DO WE NEED NEW LEGISLATION?

SIGNALLING TO INVESTORS: CLEAN ENERGY TRANSITION IS A GROWTH SECTOR BOTH THROUGH:

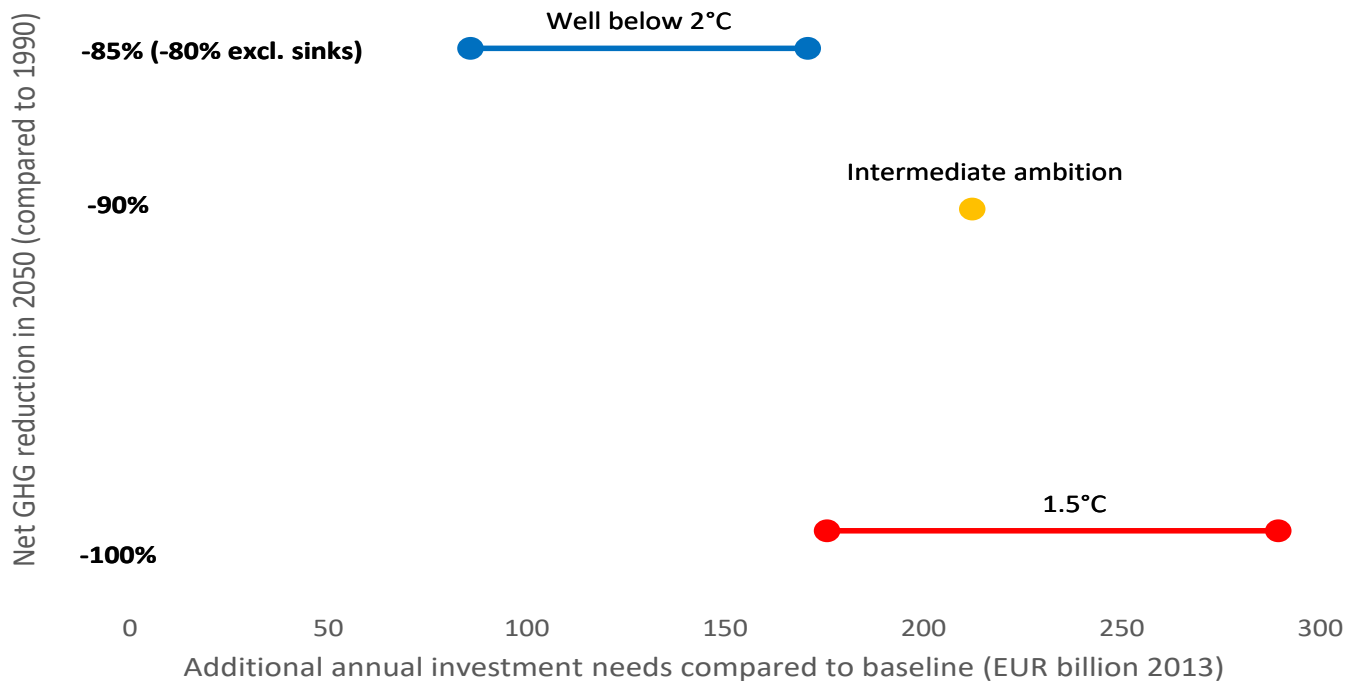
adapting our regulations

putting on the table an enabling environment.



THE CLEAN ENERGY FOR ALL EUROPEANS Package

WHAT ARE OUR INVESTMENT GOALS?



Investment needs:

+177bn EUR p.a. from 2021 to meet 2030 climate & energy targets
+ additional 175 to 290bn p.a. to meet 2050 net zero GHG economy

WHAT ARE OUR INVESTMENT GOALS?

COST EFFICIENT RENEWABLES: SAVINGS FROM SHORTER MARKET + CROSSBORDER TRADE



expensive



cheap

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

HOW DO WE GET THERE?

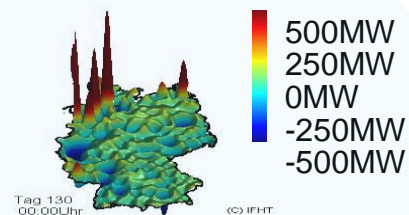
OPERATIONAL OBJECTIVES: FROM SUSTAINABILITY TO JOBS



**Putting
energy
efficiency
first**



PARIS2015
UN CLIMATE CHANGE CONFERENCE
COP21·CMP11



**Ensuring secure
energy supplies**



**Adapting
markets for
renewables,
renewables for
markets**

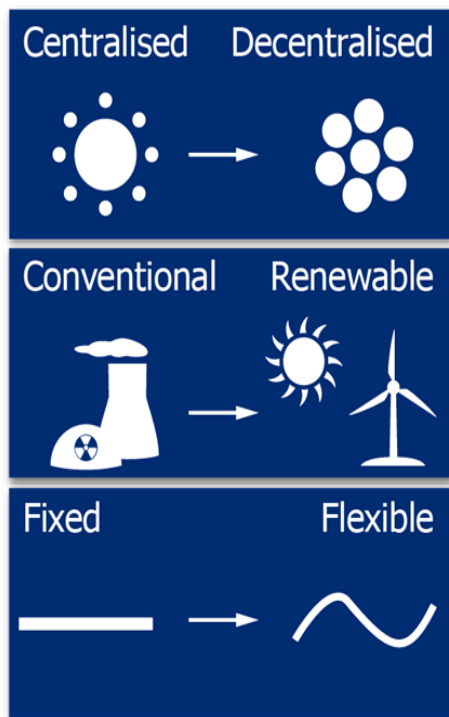


**Delivering a
fair deal for
consumers**

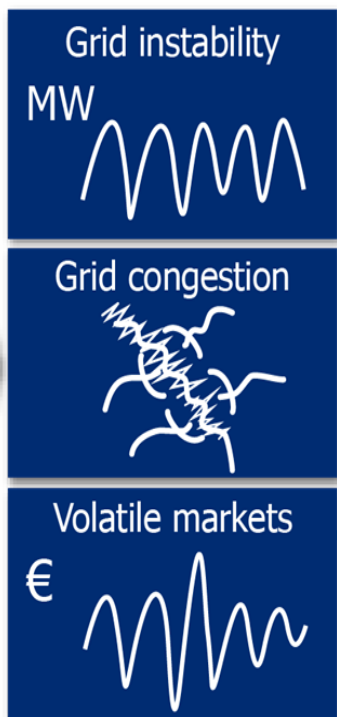
HOW DO WE GET THERE?

TECHNOLOGY + FLEXIBILITY TO THE MARKETS

TRENDS



OBSTACLES



SOLUTIONS



KEY

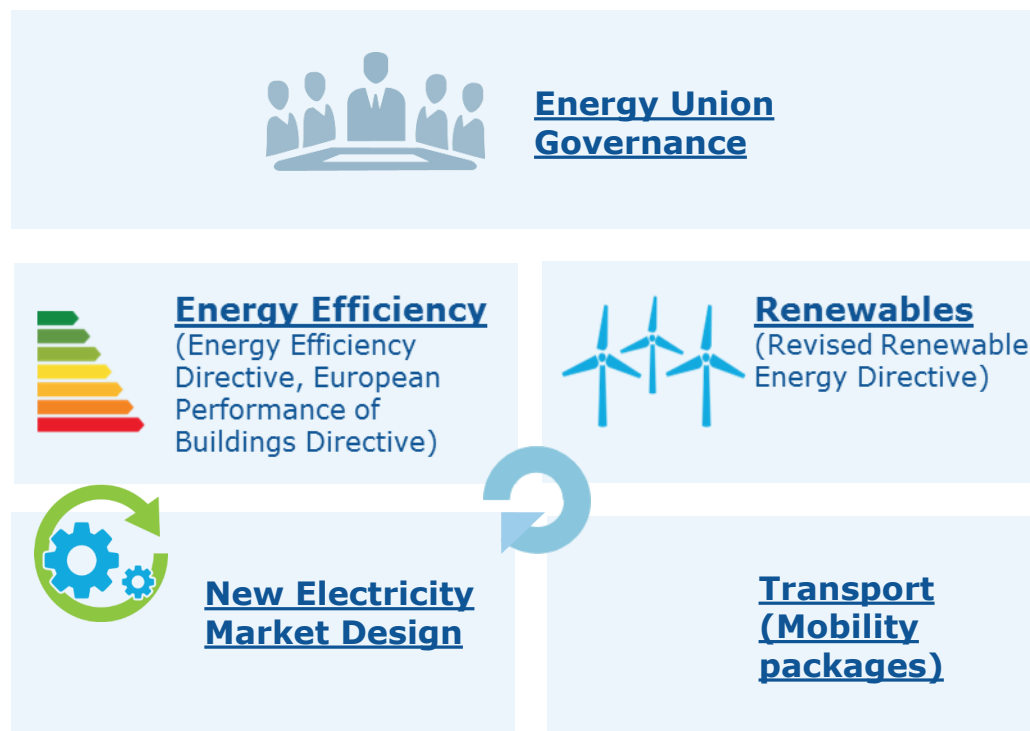


WHAT IS IN THE CLEAN ENERGY PACKAGE?

THE RIGHT REGULATORY FRAMEWORK FOR POST – 2020

" In essence the new package is about tapping our green growth potential across the board"

Commissioner Miguel Arias Cañete (2016)



ENERGY EFFICIENCY

ACHIEVING THE BINDING 32% ENERGY EFFICIENCY TARGET BY 2030



Energy Efficiency Directive

- Binding 32% energy efficiency target for 2030;
- Create 400,000 new jobs;
- Reduce gas imports by 12%;
- Save € 70 billion in fossil fuel imports;
- Empower consumers by granting access to information on their energy consumption.



Energy Performance of Buildings

- Clear vision for a decarbonised building stock by 2050;
- Smart & Efficient buildings through use of Information and Communication Technologies and Smart Technologies;
- Smart Finance for Smart Buildings initiative:
 - More effective use of public funding
 - Aggregation of funds
 - De-risking
- Protect vulnerable groups & address energy poverty.



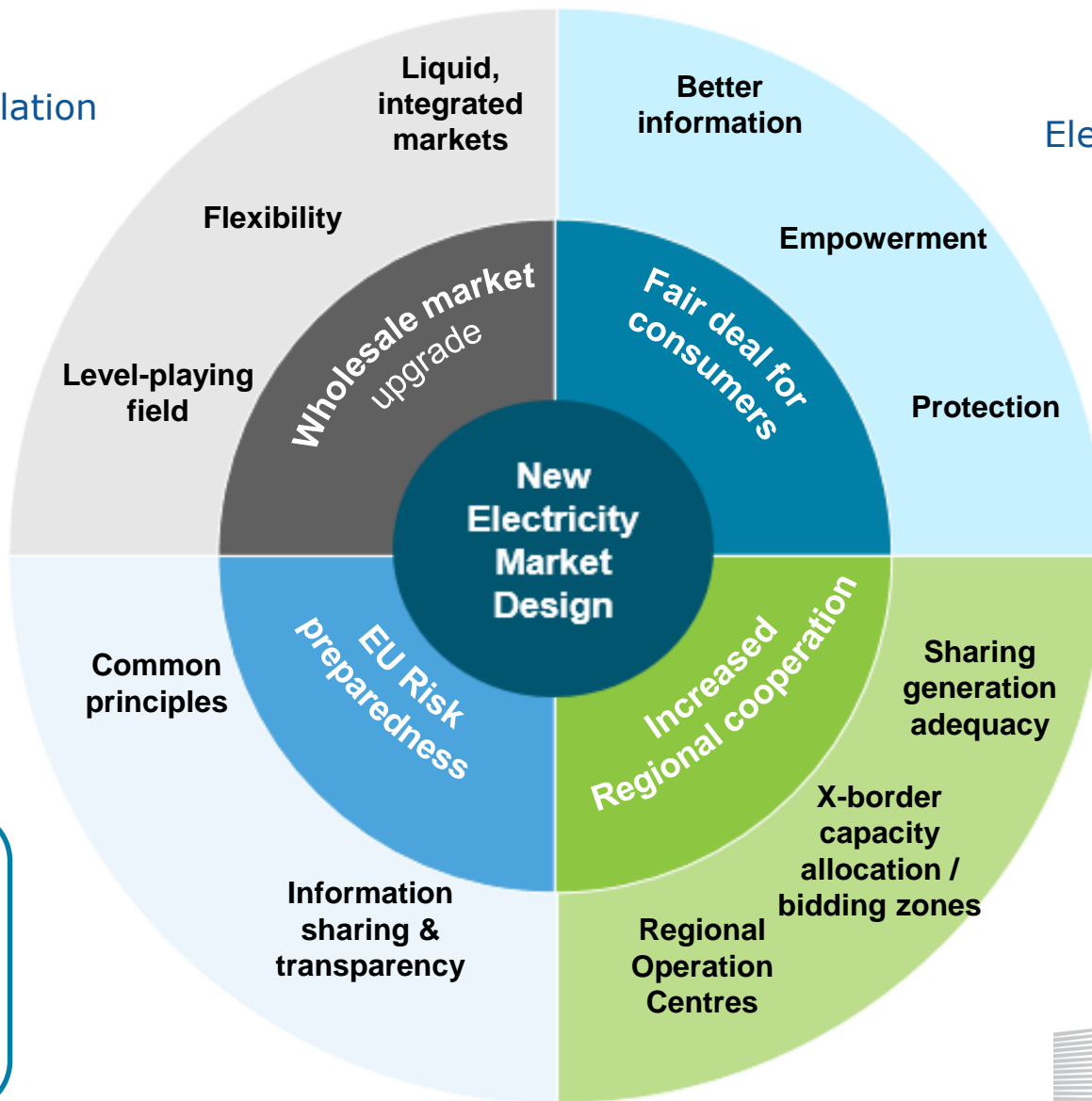
Ecodesign Working Plan

- List of new product groups;
- Outline on how ecodesign will contribute to circular economy objectives;
- Specific measures on air conditioning;
- Guidelines on voluntary agreements.

NEW MARKET DESIGN

Electricity Regulation

Electricity Directive



**Stenghtened role
Regulatory
oversight**



MARKETS FIT FOR PURPOSE

COMPETITIVE ENERGY MARKETS ARE AT THE HEART OF A COMPETITIVE ECONOMY

Strengthened short-term markets

Increase **cross-border trading opportunities** over shorter timeframes (intraday and balancing markets)

Reward flexibility for generation, demand-response and storage

Allow **prices to show real value** of electricity in terms of time and location (scarcity pricing)

Competitive retail markets

Flexible network management

Free supply price principle, regulated prices subject to stricter conditions

Fair market access for new market players such as new service providers

Distribution operators as neutral but **active market facilitators** (use but not own storage, recharging infrastructure)



Level-playing field among sources

Phase-out **priority** dispatch (RES)

Curtailment rules

Remuneration on equal terms on market principles

Phase-in **balancing** responsibilities (RES)

Regional cooperation

Regional Operation Centres (TSOs)

Common rules on **crisis prevention**

European framework for capacity remuneration

New tasks for **ACER**

NEW MARKET DESIGN

A FAIR DEAL FOR CONSUMERS



BETTER INFORMED

- Right to fit-for-purpose smart meters
- Certified price comparison tool
- Clearer energy bills



EMPOWERED

- Right for individuals & energy communities to generate, consume, store or sell electricity back to the market
- Easier to switch contract or supplier
- Reward shifting of consumption (demand-response)
- Right to dynamic price electricity contract
- Right to independent aggregator service



PROTECTED

- Criteria, monitoring of energy poverty
- Information on alternatives to disconnection
- More secure electricity supplies
- Sound data management
- Out-of-court dispute settlement

CITIZENS ENERGY COMMUNITIES RECOGNISED

WHAT

- Association, cooperative, partnership, NGO, other legal entity
- Controlled by members or shareholders
- Value driven, as opposed to profit maximising
- Supply, distribution, aggregation

HOW

Level-playing field

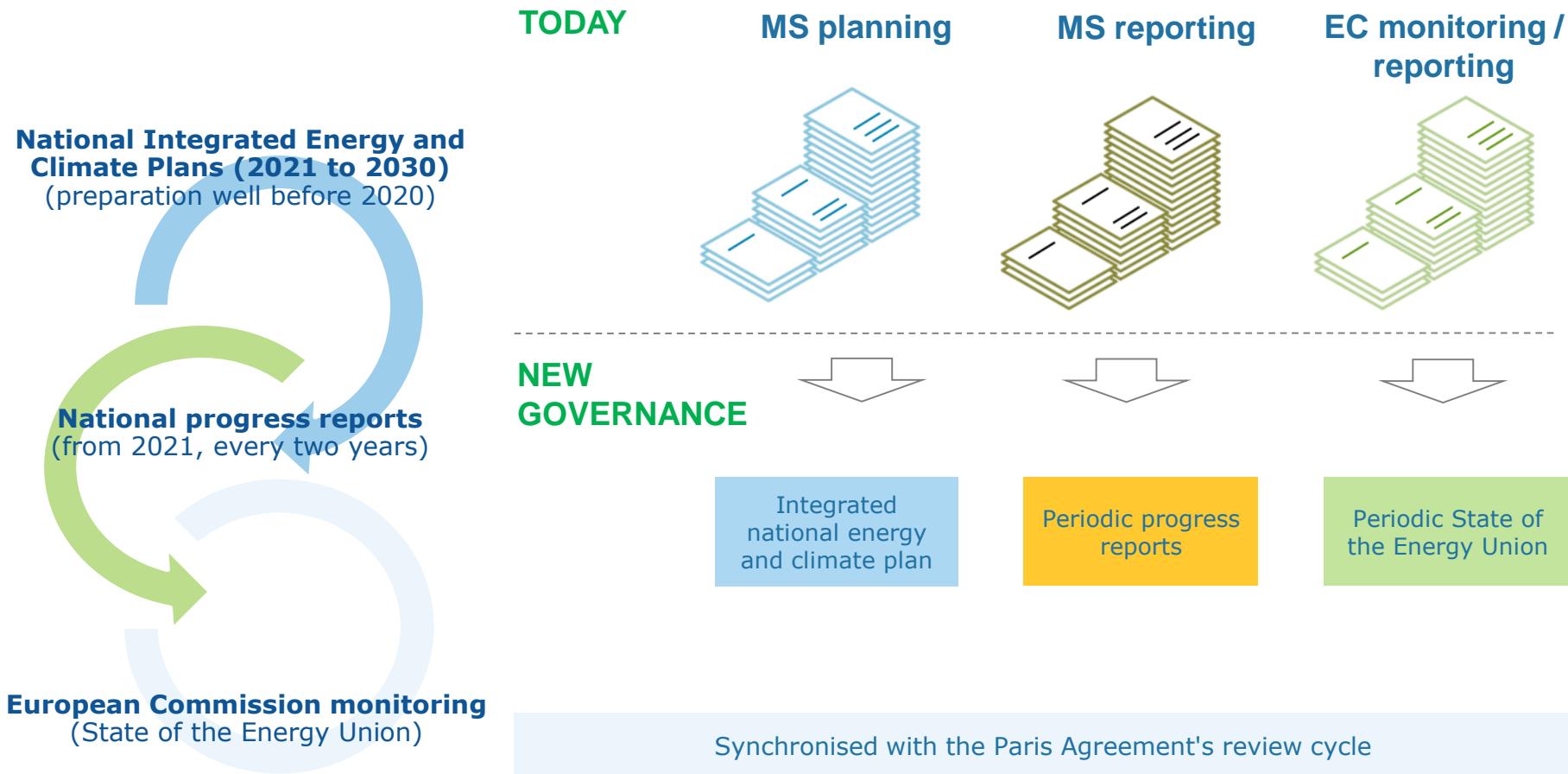
- Recognised for generation, distribution, supply, aggregation, storage
- Non-discriminatory, fair, proportionate and transparent treatment
- Subject to same rules as other market players

Market and system integration

- Access to all electricity markets and balance responsible
- Participation is voluntary and members retain rights as (active) customers
- DSOs to facilitate electricity transfers within communities
- Right to share self-generated electricity with members

ENERGY UNION GOVERNANCE

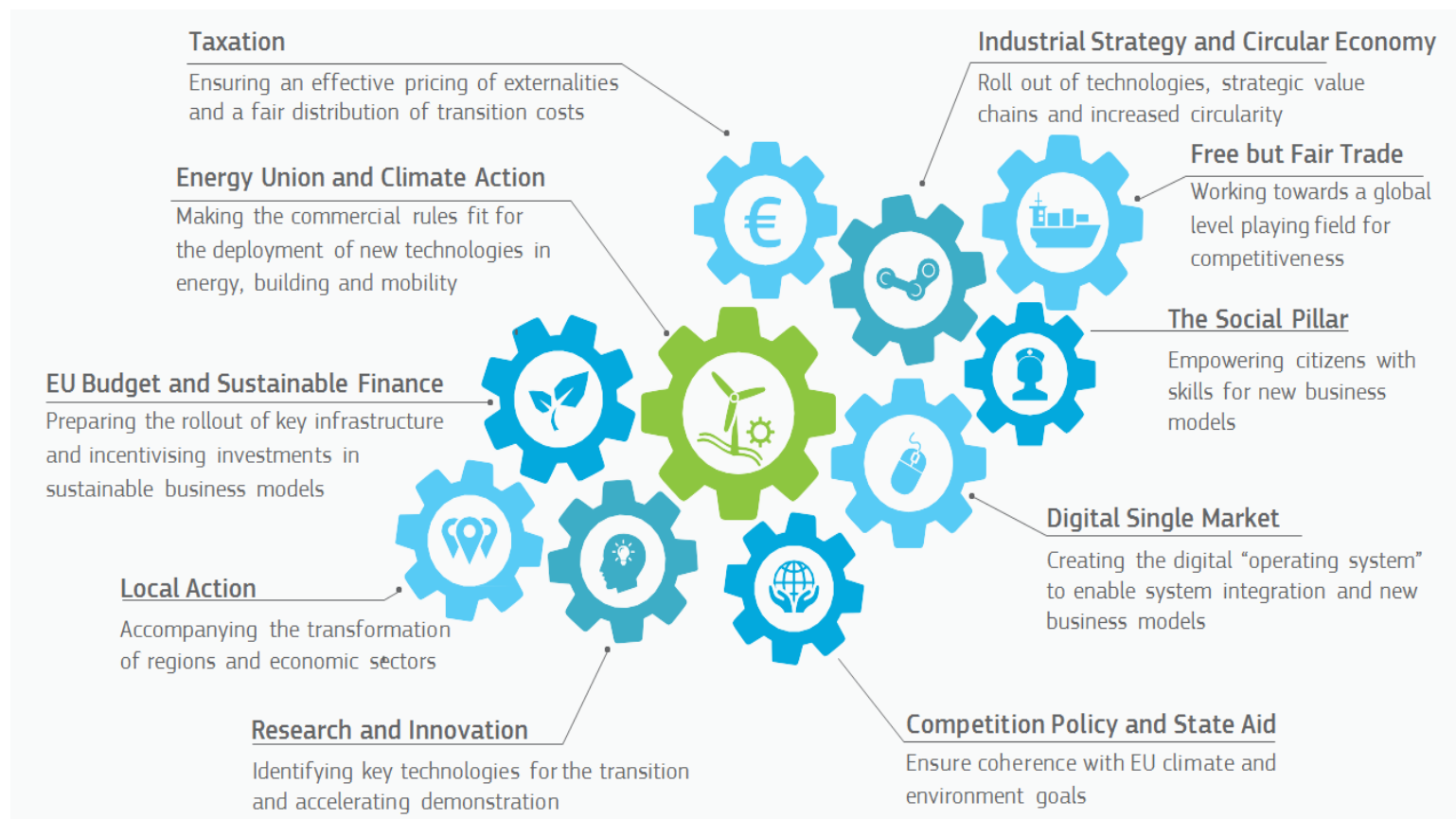
STREAMLINING AND INTEGRATION OF ENERGY AND CLIMATE PLANNING AND REPORTING





HOW DO WE GET THERE? (2)

THE RIGHT ENABLING ENVIRONMENT FOR POST – 2020



HOW WE ENGAGE MUNICIPALITIES?



- **8000** active signatories in EU (9000+ worldwide)
- **Strong political commitment and vision to reach European climate/energy targets**
- **Need for know-how and financing of plans**



- Nearly **6.000** members
- **Clear implementation & replication target and focus on matchmaking**
- **Knowledge and support to capacity building**



HOW WE ENGAGE ISLANDS



Goals: accelerate energy transition, reduce import dependency, better air quality, lower GHG emissions



6 pilots: Sifnos (EL), Cres (HR), Aran (IE), La Palma (ES), Culatra (PT), Salina (IT)

20 pioneers: Hvar (HR), Brač (HR), Korčula (HR), Kökar (FI), Marie-Galante (FR), New Caledonia (FR), Crete (EL), Samos (EL), Cape Clear (IE), Favignana (IT), Pantelleria (IT), Azores (PT), Ibiza (ES), Mallorca (ES), Menorca (ES), Illa de Arousa (ES), Gotland (SE), Öland (SE), Orkney (UK), Group of Off-Grid Scottish Islands, (UK)

WHAT CAN WE EXPECT IN TERMS OF RESULTS?

2016

2030



Opportunity to speed up **decarbonisation** and to speed up **growth and job creation**.



Investment:

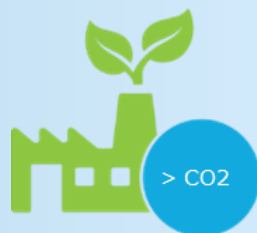
- extra 177bn EUR euros per year of investment
- Crucial role for EFSI



Economic growth*:

- 1% increase in GDP
- 190bn EUR into the economy
- 900,000 new jobs

*Upper end of estimates

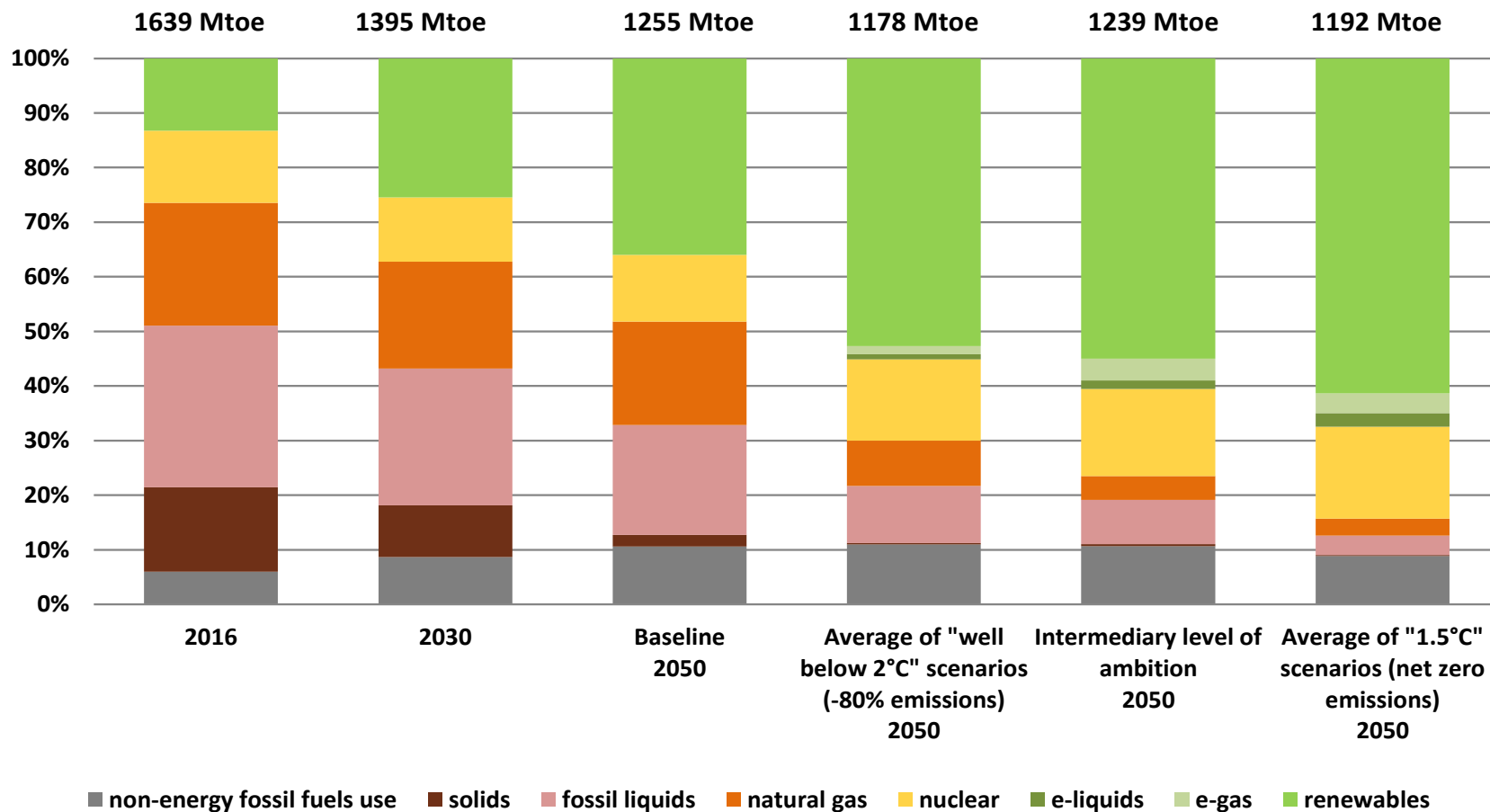


Decarbonisation:

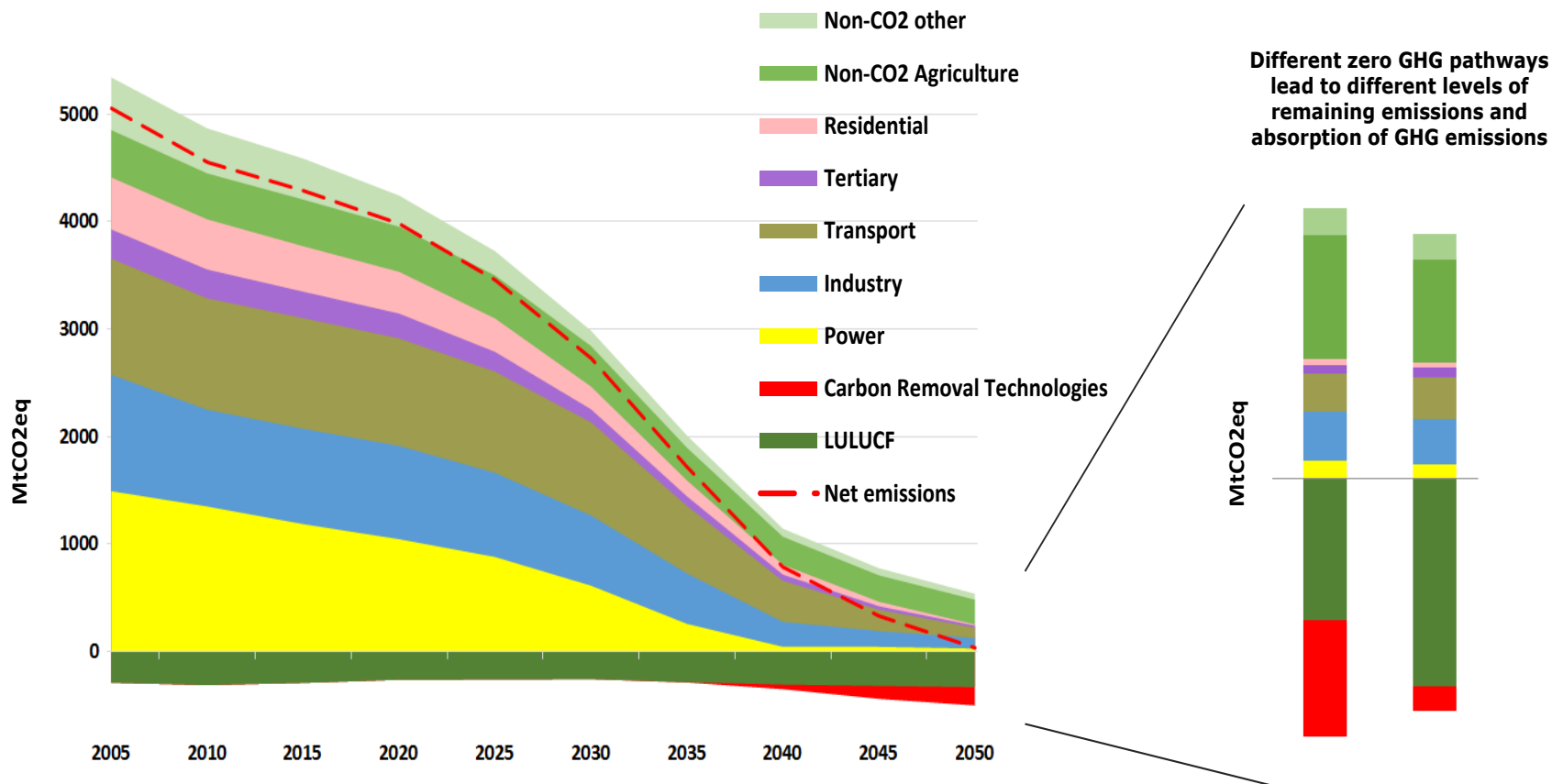
- Carbon intensity of the economy 57% lower in 2030 than in 2015
- **72%** share of non-fossil fuels in electricity generation in 2030

WHAT ABOUT LIFE AFTER 2030? (LTS)

Gross Inland Consumption



WHAT ABOUT LIFE AFTER 2030? LTS



Thank you



NEW MARKET DESIGN

CHANGING ROLE OF ELECTRICITY DISTRIBUTION COMPANIES

Use of flexibility services in networks

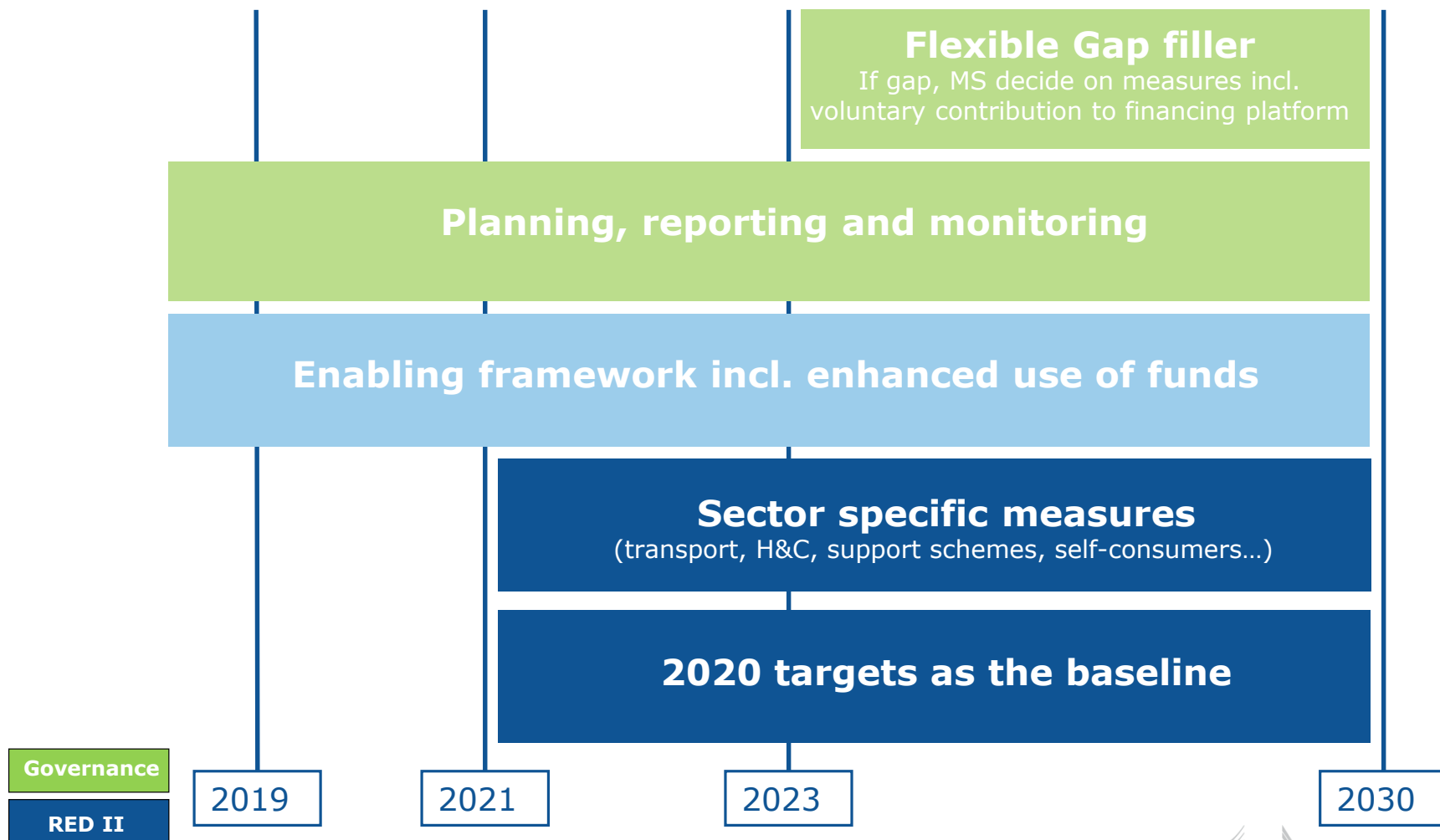
- ✓ Actively manage the network and improve efficiencies
- ✓ Avoid unnecessary grid expansions
→ lower grid costs and tariffs



Role of electricity DSOs/TSOs in energy storage

- ✓ DSOs and TSOs should not own or operate storage facilities
- ✓ Member States may allow operators to get involved in such activity in case of market failures

HOW TO MAKE IT HAPPEN: ACHIEVING AT LEAST 32.5 % RES EU-WIDE



HOW DOES EC ACCELERATE TRANSITION? MFF 2021-2027

1,135 Trillion € in commitments for 2021-2027, 1,11% of EU GNI

