



# The impact of the EU's clean energy package on Hungary's energy transition

**EUFORES, Budapest  
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# Objectives of European Energy Policy



Solidarity and energy security



An integrated market



Energy efficiency



Research and innovation



Decarbonisation



PARIS2015  
UN CLIMATE CHANGE CONFERENCE  
COP21·CMP11

# Clean Energy Package: 2030

Innovative



Enabling Framework

Inter-connected



Energy Union Governance

Energy Efficiency



**32.5%**

Renewables

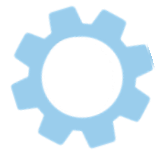


**32%**

Electricity Market Design



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



Inclusive



Safe for all



Socially fair



Digital



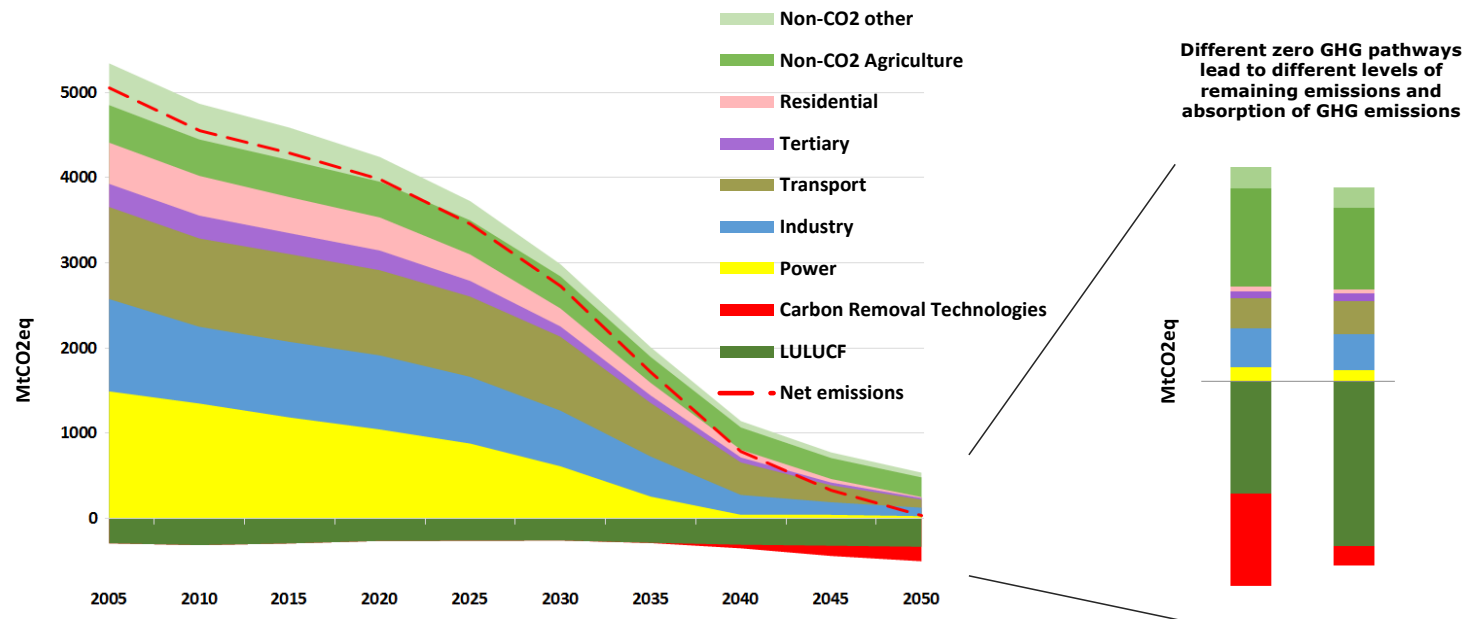
Investment-friendly



European Commission

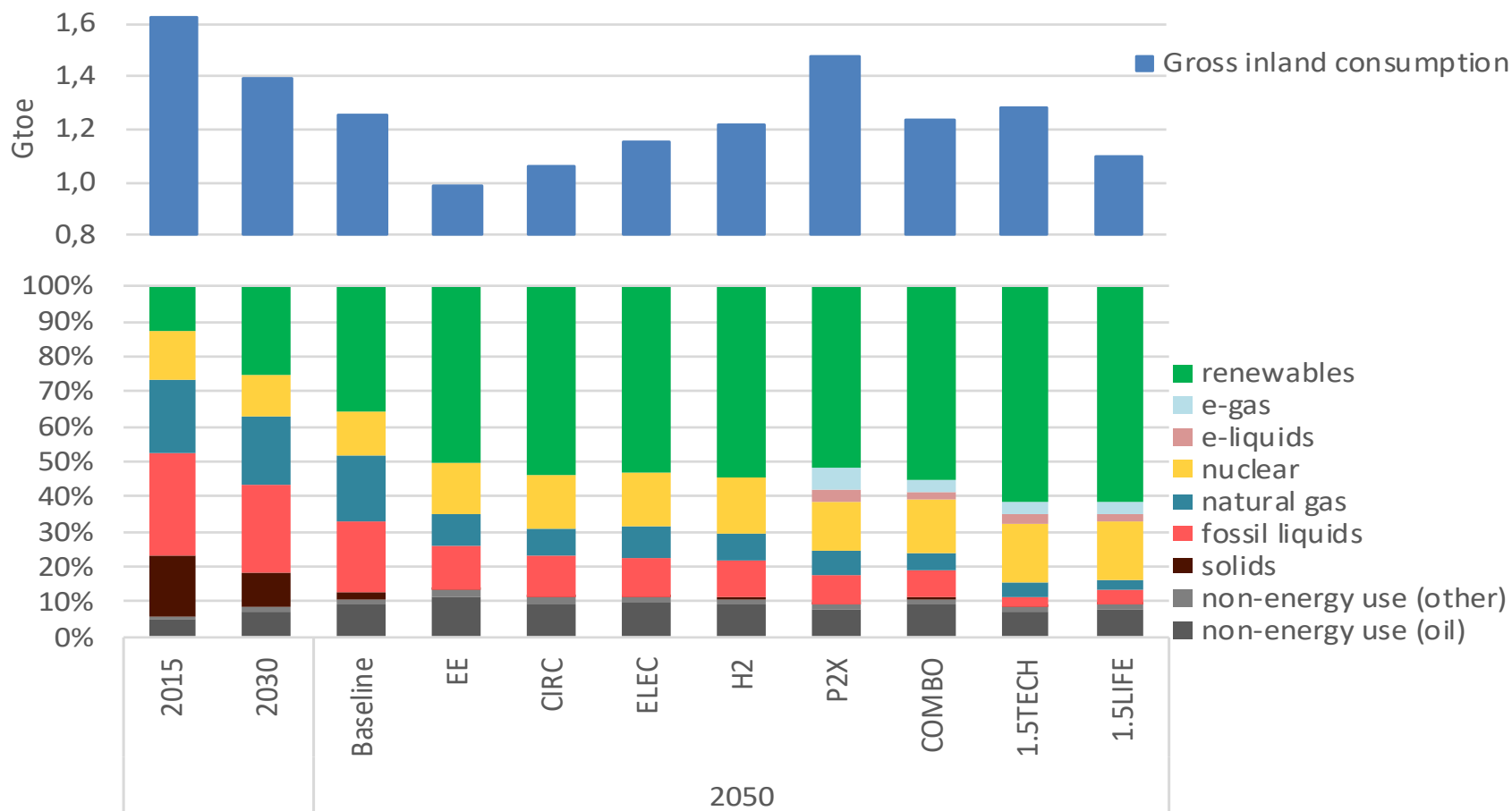
# + 2050 Perspective: Long Term Strategy

- EU leads in clean energy transition and GHG emissions reduction. Ambitious 2030 targets. 60% reductions in 2050 with current policies – not in line with the Paris Agreement.
- Radical transformations necessary: central role of energy system, buildings, transport, industry, agriculture.
- There are a number of pathways for achieving a climate neutral EU, challenging but feasible from a technological, economic, environmental and social perspective.



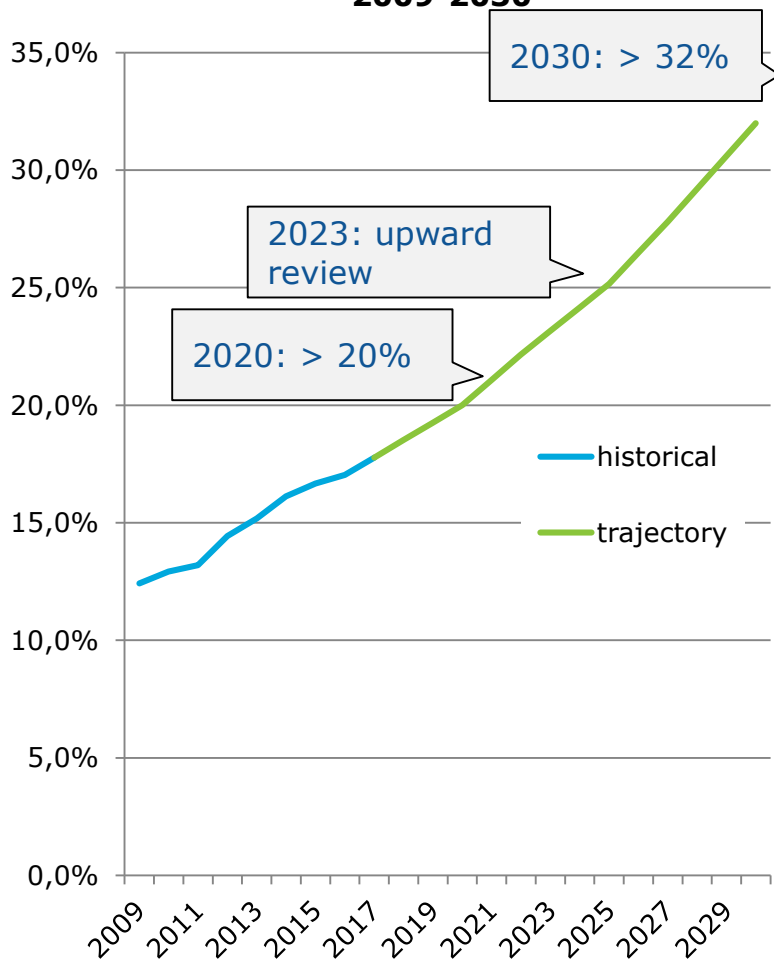
- > 60% of all energy produced from renewables
- > 80% of electricity produced by renewables
- EUR 2-3 trillion of energy import savings (2030-2050)

# 2050



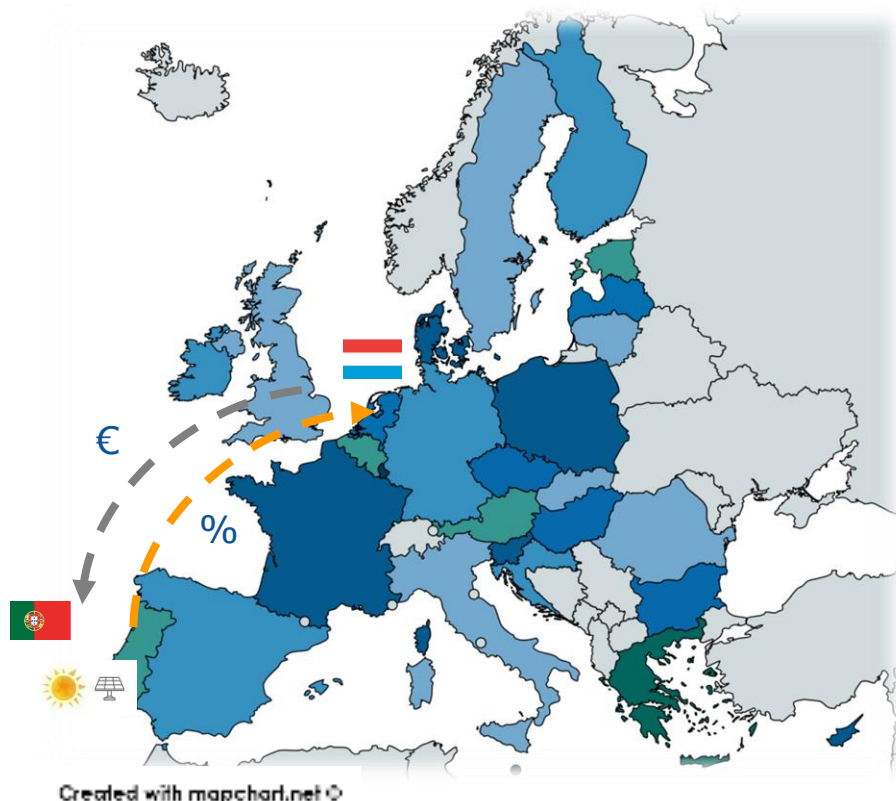
## A NEW APPROACH TO RENEWABLES

EU renewable energy share  
2009-2030



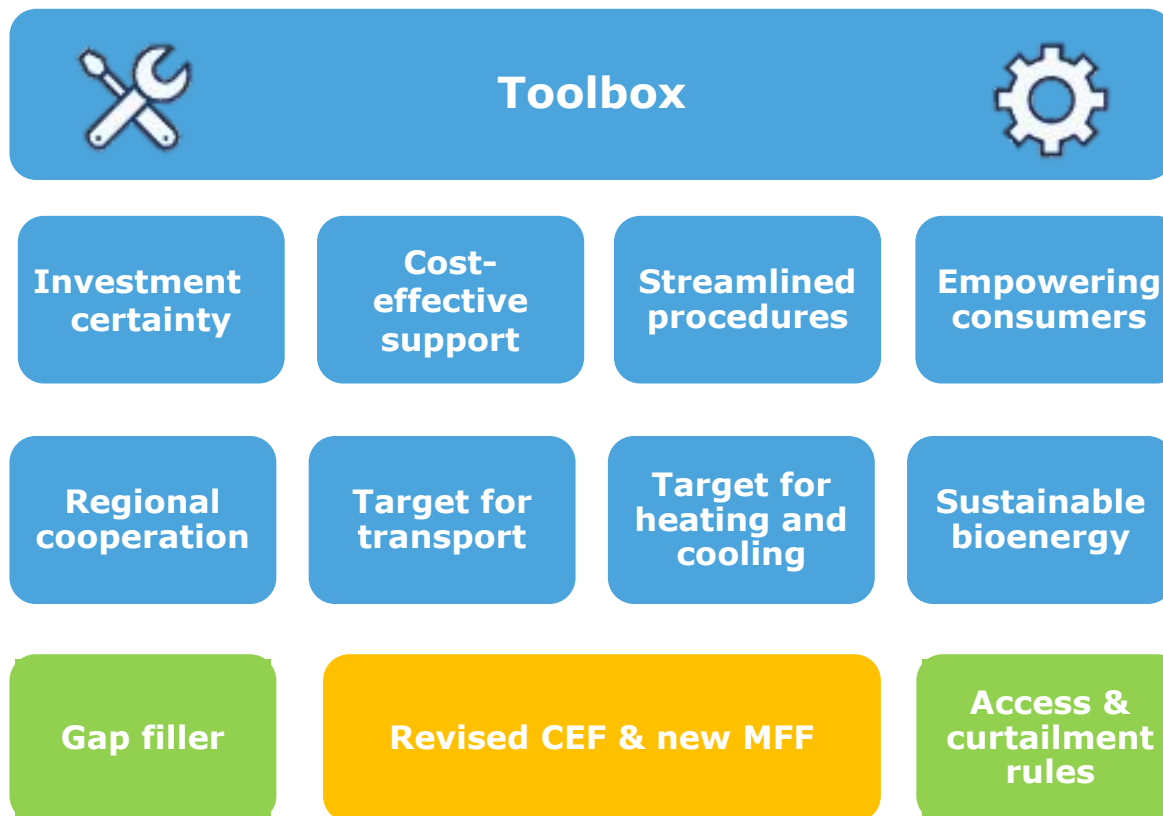
- **Binding EU-target of at least 32%** (upward review in 2023)
- Underpinned by **national contributions**
- **Formula** to assess contributions (in case of ambition gap)
- **Collective responsibility** of target achievement
- **Joint measures** (EU financial platform)

## STRENGTHENED COOPERATION



- **statistical transfers & EU trading platform (new)**
- **joint projects**
- **joint support schemes**
  - **Opening is encouraged**, but remains voluntary (indicative shares: 5% 2023-2026; 10% 2027-2030)
  - **Review clause for 2023** to reassess a mandatory opening (of 5% by 2025 and 10% by 2030)
- **CEF window for cross-border renewables projects (MFF proposal)**

## A SET OF MEASURES TO GET TO AT LEAST 32%





## SUPPORT SCHEME PRINCIPLES: STABILITY AND PREDICTABILITY

Don't turn back time!

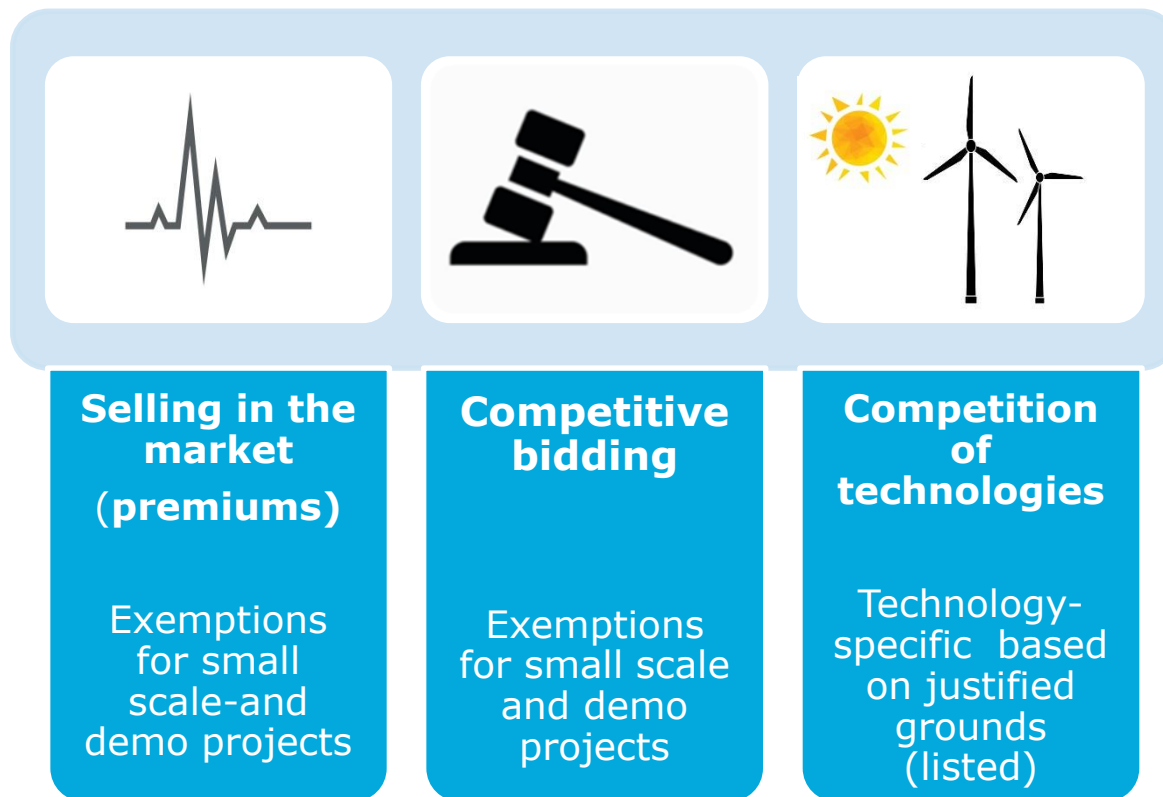


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Abrupt and "retroactive" changes are toxic for RES investments and ...make them more expensive

- Specific provision to **avoid "retroactive" changes** to support
- Revisions **may not compromise the economic viability** of supported projects
- Need to **publish long-term schedules** for support schemes

## SUPPORT SCHEME PRINCIPLES FOR RES-E



Without prejudice to individual state aid procedures (case-by-case assessment)

## ADMINISTRATIVE PROCEDURES

*Putting an end to this...*



- **Single contact point** for permit applicants
- **Clear time limits** for procedures:
  - Two years\*
- Swift procedure for **repowering**:
  - One year\*
- **Simple notification procedures for small installations** (up to 10.8 kW)

\* One year extension under extraordinary circumstances

## TOWARDS A DECENTRALISED ENERGY SYSTEM



- REDII will **empower citizens** and local actors to be active in the energy transition
- Objectives:
  - **mobilise private capital**
  - **increase local acceptance**
- For the first time, a **definition** and a new **legal regime** for **self-consumption** and for **renewable energy communities**
- **Facilitate uptake of long-term power purchase agreements (PPAs)**

## EMPOWERING ENERGY CONSUMERS: SELF-CONSUMPTION

**Consumers entitled to become self-consumers**, including multi-apartment blocks

- **No discrimination or disproportionate charges**
- Electricity **behind the meter not be charged. Exemptions:**
  - Installations larger than 30 kW
  - Risk of financial instability of the system (after December 2026)
  - Electricity that benefits from support schemes
- **Remuneration** when feeding into the grid
- Self-consumers **active in the market:**
  - Power Purchase Agreements
  - Peer-to-peer trading
  - Other possibilities of MDI (demand response)
- **Enabling framework** by the end of 2019



## RENEWABLE ENERGY COMMUNITIES



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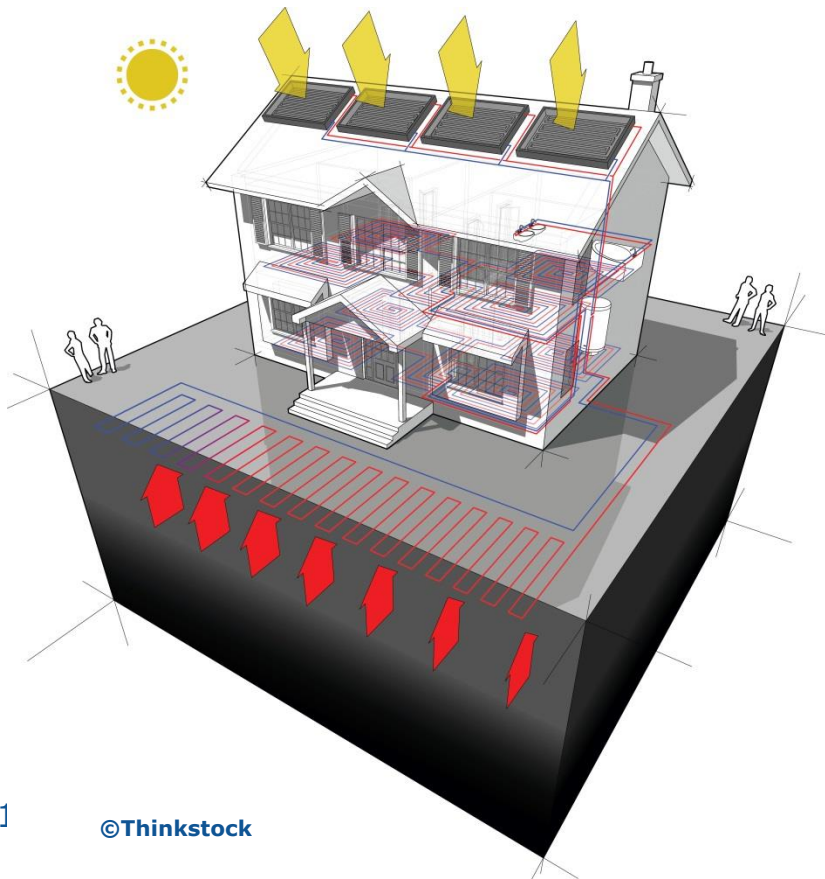
### Entitled to generate, sell and store renewable energy

- **Definition** for the first time in EU legislation
- Increased **participation** of citizens in the energy transition
- Communities can directly reap the **environmental, economic and social benefits** of renewable energy
- Any final energy customer can become member (while maintaining all rights and obligations)
- **Enabling framework** by the end of 2019



## ADDRESSING THE UNTAPPED POTENTIAL OF HEATING & COOLING

- Target to **increase** renewables in heating and cooling by **1.3 percent point per year** (2020-2030):

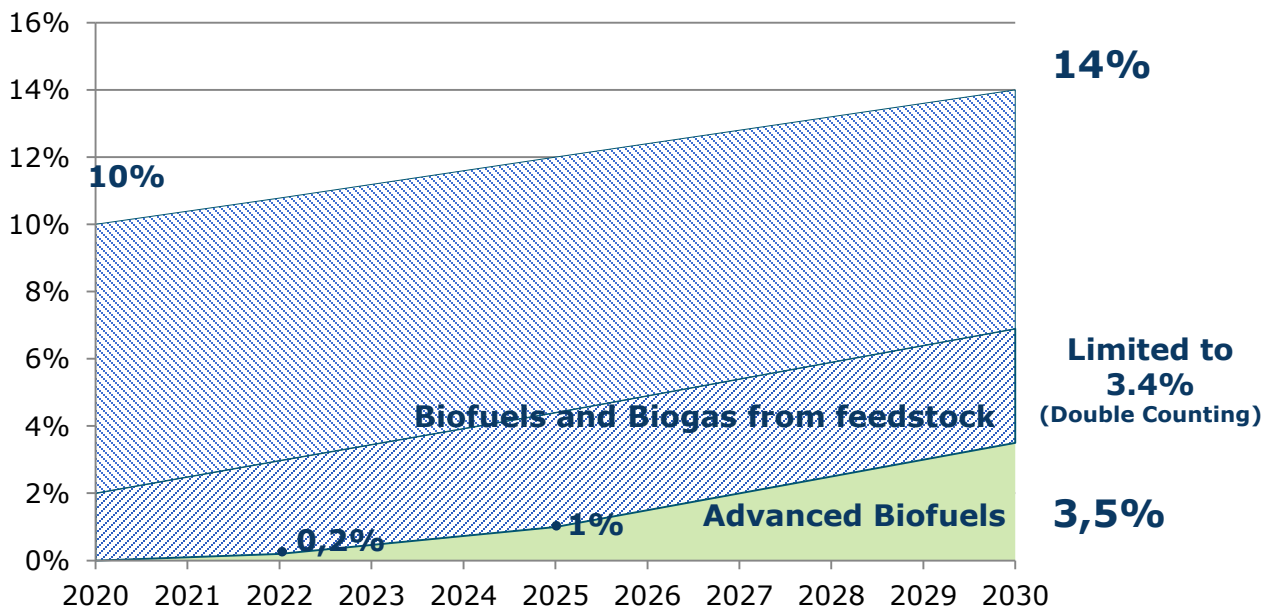


- **Flexibilities:** high RES MS, high natural gas or cooling shares, dispersed settlement structures, 40% allowance for waste heat/cold
- **Illustrative** list of **measures** leaving flexibility for Member States and accessibility

### District heating and cooling

- **1 ppt increase** in renewables and waste heat/cold
- **Third Party Access** for suppliers of renewables and waste heat/cold
- **Right to disconnect** from inefficient networks for consumers
- **Right to be informed** for consumers on renewables share and energy performance

# MAINSTREAMING RENEWABLE ENERGY IN TRANSPORT



## Multipliers



- **Conventional** biofuels, bioliquids and biomass from food and feed crops frozen around 2020 levels
- **High ILUC risk** biofuels first frozen, and then gradually reduced towards 0% by 2030

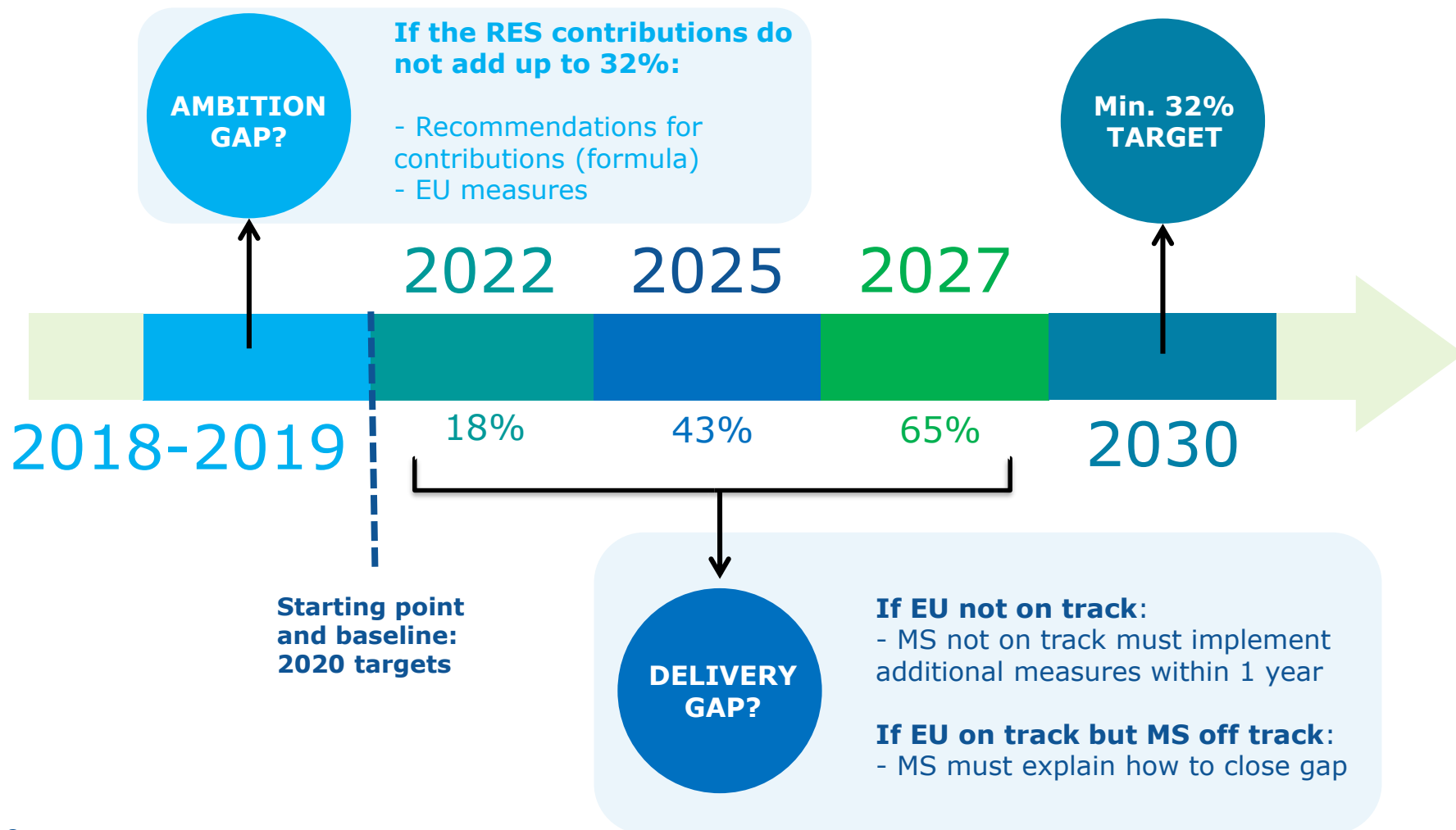


## BIOENERGY SUSTAINABILITY

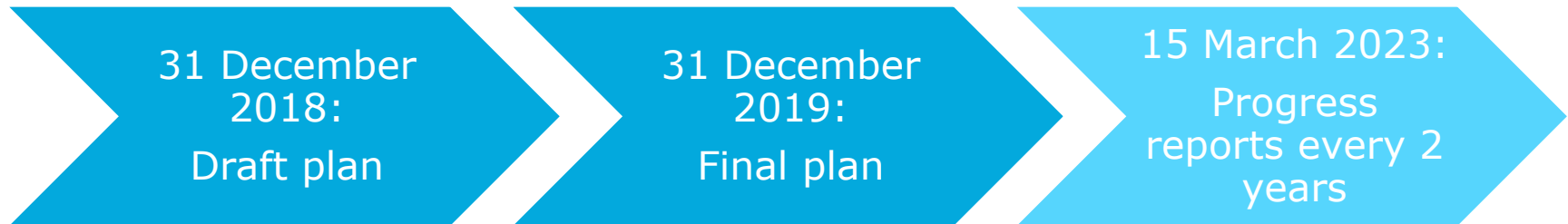
- Reinforced **EU bioenergy sustainability criteria**:
  - Enhanced **synergies with the circular economy** (e.g. waste hierarchy principles)
  - EU criteria extended to cover **biomass for heat/cooling and power**
  - New risk-based criteria for **forest biomass** (ensuring sustainable harvesting & proper LULUCF accounting)
  - Higher **GHG emission saving targets**
- New energy efficiency criteria for **large-scale biopower**
- Enhanced EU and national **verification of the implementation** of the sustainability criteria
- Full **EU harmonization for biofuels**, partial harmonization for biomass in heat & power



## ENSURING THE TARGET IS ACHIEVED – GOVERNANCE REGULATION

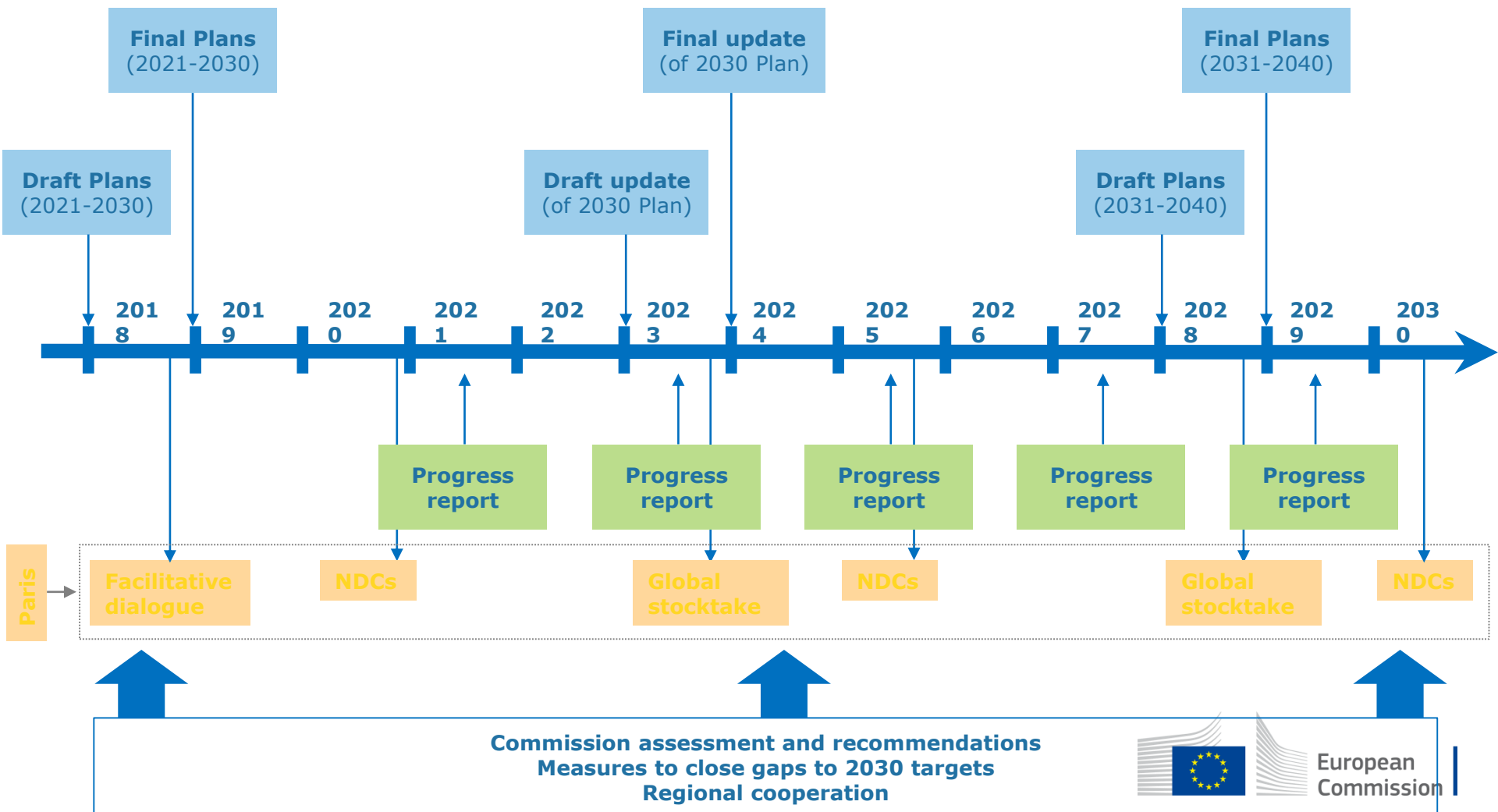


## GOVERNANCE PROCESS



- Planning and reporting obligations on renewables are now integrated in **energy and climate plans and progress reports** (Governance Regulation)
- **Integrated national plans:**
  - **RES Objectives and trajectories** (e.g. overall and sectoral RES trajectories)
  - **Policies and measures** to promote renewables (e.g. in electricity, heating and cooling, transport)
- **Integrated national progress reports:**
  - Assessment of the implementation of the plans
- **Monitoring by the Commission**

# TIMELINE

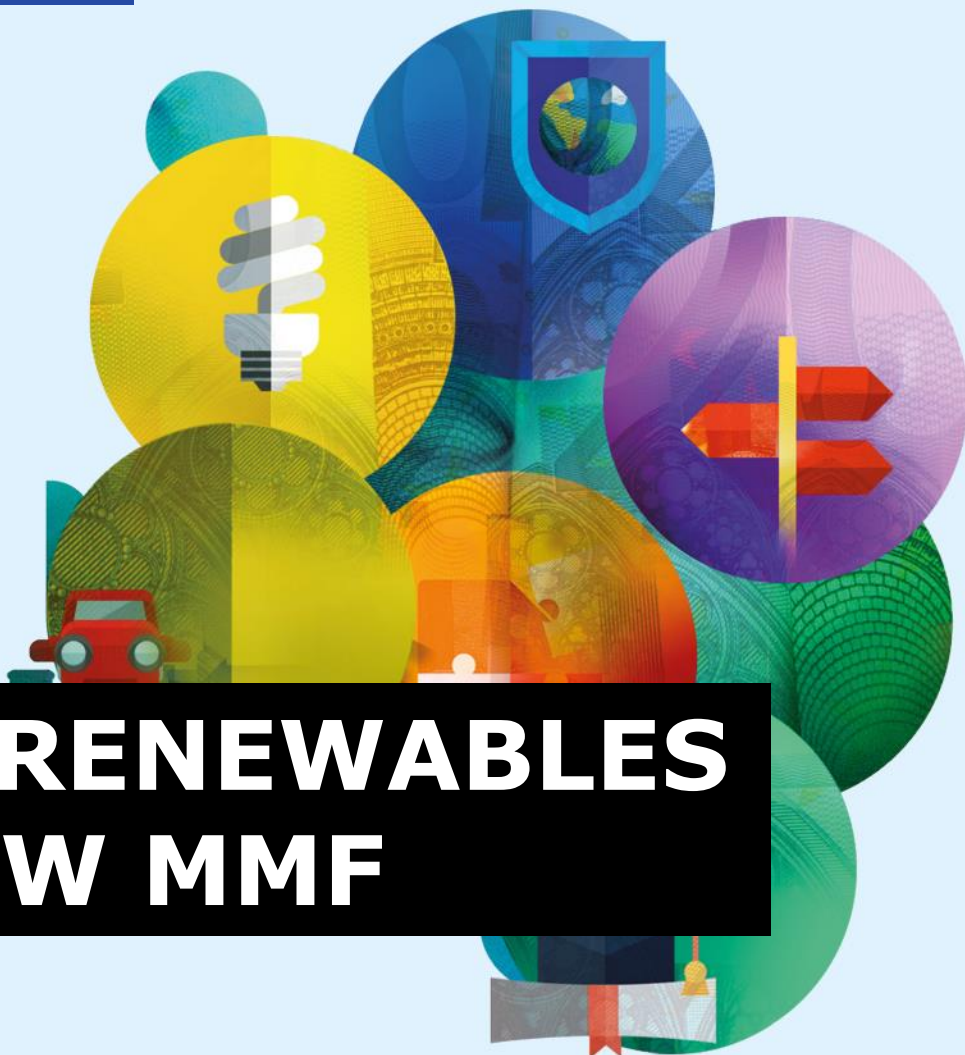




# EU BUDGET FOR THE FUTURE

**SUPPORT FOR RENEWABLES  
UNDER THE NEW MMF**

*#EUBudget*



## ENHANCED FINANCING TOOLBOX TO SUPPORT RENEWABLES



EU Funding Instruments supporting  
RES in the next MFF



INCREASED CLIMATE MAINSTREAMING ACROSS EU BUDGET (25%)

Cohesion  
Funds

Invest EU

Horizon  
Europe

Connecting  
Europe  
Facility

LIFE  
Clean Energy  
Transition  
Program

Innovation  
Fund\*

- + Low Carbon Investments kept as priority for Member States under **Cohesion funds** with **higher ring fencing** (30%)
- + **New Invest EU Fund** with a € 11.5 bln Sustainable Infrastructure window to unlock private investment through financial instruments and **tailor made products**
- + **Increased Funds** under **Horizon Europe** for R&I in climate, energy and mobility (€15 bln)
- + **New Window under CEF to support cross border RES Projects (€ 865 mln)**
- + **New Programme** (CEPE) under LIFE for RES & Energy efficiency capacity building and policy implementation
- + **New Innovation Fund** targeting market uptake of innovative RES, CCS and solutions for Energy Intensive Industries (€ 2bln-€12 bln)



**THANKS A LOT FOR YOUR  
ATTENTION!**



# Vision for a Clean Planet by 2050

- The Paris Agreement objective is to keep temperature increase to well below 2°C and to pursue efforts to limit it to 1.5°C
- But the IPCC report confirms that limiting climate change to 1.5°C has to be pursued to avoid these worst impacts
- For the EU to lead the world in climate action, it means achieving net-zero greenhouse gas emissions by 2050
- The EU with this vision can inform others how we can deliver collectively a clean planet.
- The Long Term Strategy shows transforming our economy is possible and beneficial.
- It sets the direction of travel. No intention to revise the 2030 targets.



# 7 Building Blocks

1. Energy efficiency
2. Deployments of renewables
3. Clean, safe & connected mobility
4. Competitive industry and circular economy
5. Infrastructure and inter-connections
6. Bio-economy and natural carbon sinks
7. Tackle remaining emissions with carbon capture and storage

# Detailed assessment supported by scenario analysis

## Long Term Strategy Options

	Electrification (ELEC)	Hydrogen (H2)	Power-to-X (P2X)	Energy Efficiency (EE)	Circular Economy (CIRC)	Combination (COMBO)	1.5°C Technical (1.5TECH)	1.5°C Sustainable Lifestyles (1.5LIFE)
<b>Main Drivers</b>	Electrification in all sectors	Hydrogen in industry, transport and buildings	E-fuels in industry, transport and buildings	Pursuing deep energy efficiency in all sectors	Increased resource and material efficiency	Cost-efficient combination of options from 2°C scenarios	Based on COMBO with more BECCS, CCS	Based on COMBO and CIRC with lifestyle changes
<b>GHG target in 2050</b>	-80% GHG (excluding sinks) ["well below 2°C" ambition]					-90% GHG (incl. sinks)	-100% GHG (incl. sinks) ["1.5°C" ambition]	
<b>Major Common Assumptions</b>	<ul style="list-style-type: none"> <li>Higher energy efficiency post 2030</li> <li>Deployment of sustainable, advanced biofuels</li> <li>Moderate circular economy measures</li> <li>Digitilisation</li> </ul>				<ul style="list-style-type: none"> <li>Market coordination for infrastructure deployment</li> <li>BECCS present only post-2050 in 2°C scenarios</li> <li>Significant learning by doing for low carbon technologies</li> <li>Significant improvements in the efficiency of the transport system.</li> </ul>			
<b>Power sector</b>	Power is nearly decarbonised by 2050. Strong penetration of RES facilitated by system optimization (demand-side response, storage, interconnections, role of prosumers). Nuclear still plays a role in the power sector and CCS deployment faces limitations.							
<b>Industry</b>	Electrification of processes	Use of H2 in targeted applications	Use of e-gas in targeted applications	Reducing energy demand via Energy Efficiency	Higher recycling rates, material substitution, circular measures	Combination of most Cost-efficient options from "well below 2°C" scenarios with targeted application (excluding CIRC)	COMBO but stronger	CIRC+COMBO but stronger
<b>Buildings</b>	Increased deployment of heat pumps	Deployment of H2 for heating	Deployment of e-gas for heating	Increased renovation rates and depth	Sustainable buildings			CIRC+COMBO but stronger
<b>Transport sector</b>	Faster electrification for all transport modes	H2 deployment for HDVs and some for LDVs	E-fuels deployment for all modes	Increased modal shift	Mobility as a service			<ul style="list-style-type: none"> <li>CIRC+COMBO but stronger</li> <li>Alternatives to air travel</li> </ul>
<b>Other Drivers</b>		H2 in gas distribution grid	E-gas in gas distribution grid					Limited enhancement natural sink