BioEnergy EUROPE

The European Green Deal: Bioenergy perspectives

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POWER4BIO

About us

Common voice of European bioenergy for the past 26 years.

Unites **30 national associations** and **90 companies** from Europe.

Umbrella organisation for the European Pellet Council and the International Biomass Torrefaction Council.

Aims at a **sustainable bioenergy market** based on fair business conditions.

Our activities

We carry **advocacy activities in key policy areas** & organise **dedicated working groups** to support the specific needs of our members.

We conceive and deploy **targeted publications & communication campaigns** to educate about bioenergy.

We **collect data on the evolution of the bioenergy market** and **produce tailored analyses** along the year.

We own and promote **international certification schemes** to guarantee high quality standard for fuels.

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Our members

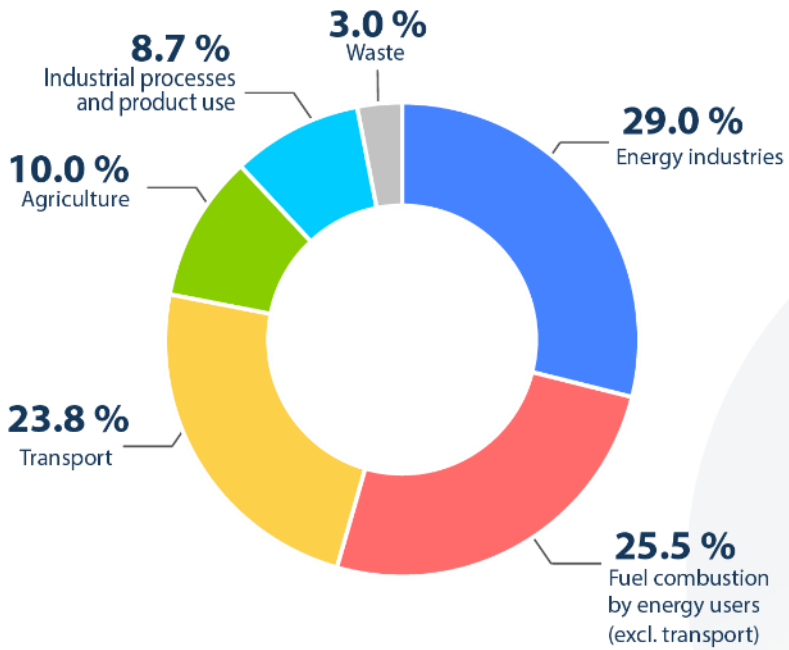
Companies

Associations

Academia & Research Centres

Bioenergy: The main source of renewable energy

Share of EU greenhouse gas emission by source, 2017



78.3% Energy use

Source: European Environment Agency

SUSTAINABLE ENERGY

IEA calls for 'dramatic' scaling up of clean energy tech to meet climate goals

PUBLISHED THU, SEP 10 2020·8:42 AM EDT

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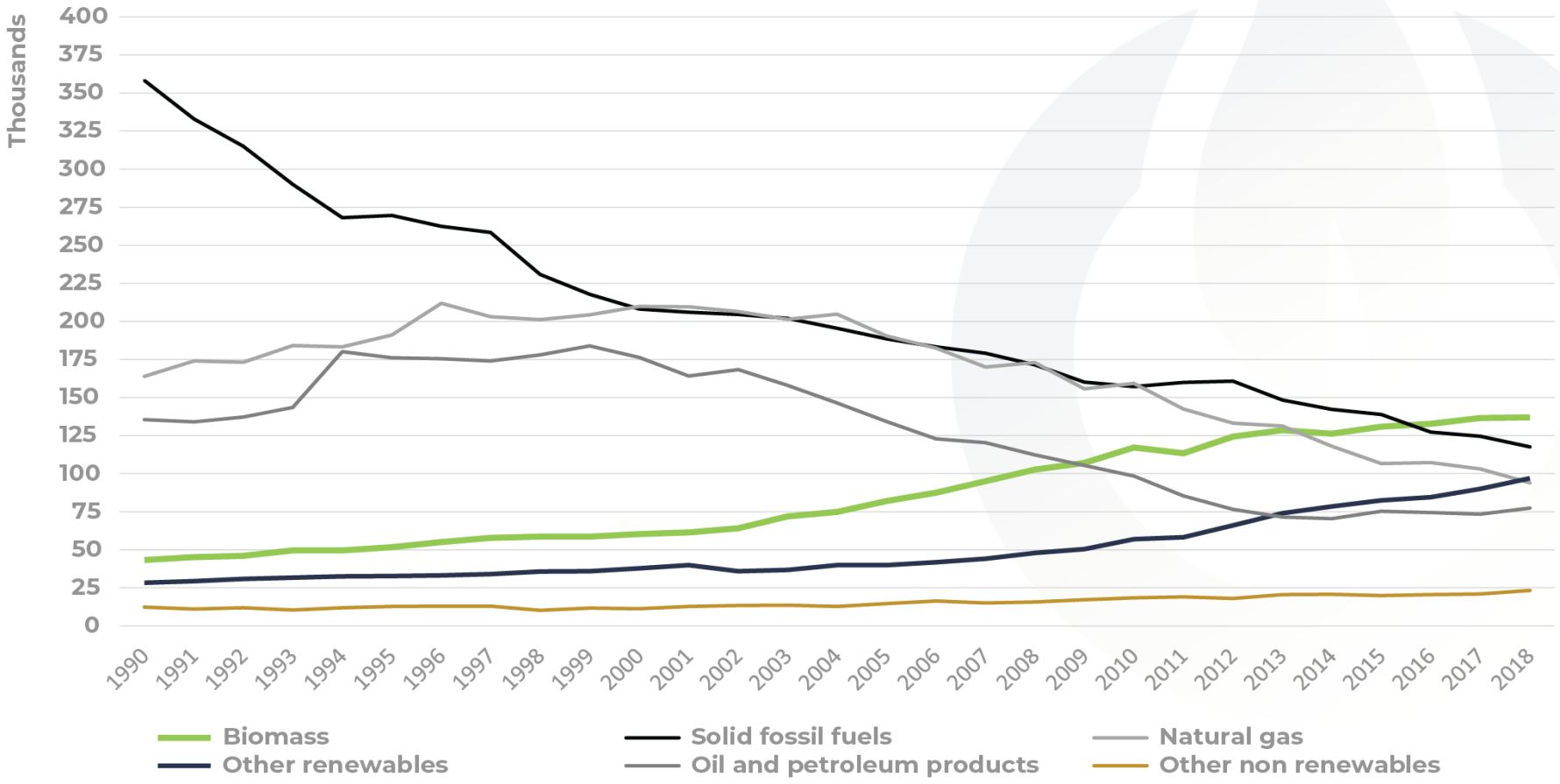
Evolution of primary energy production in EU (ktoe)



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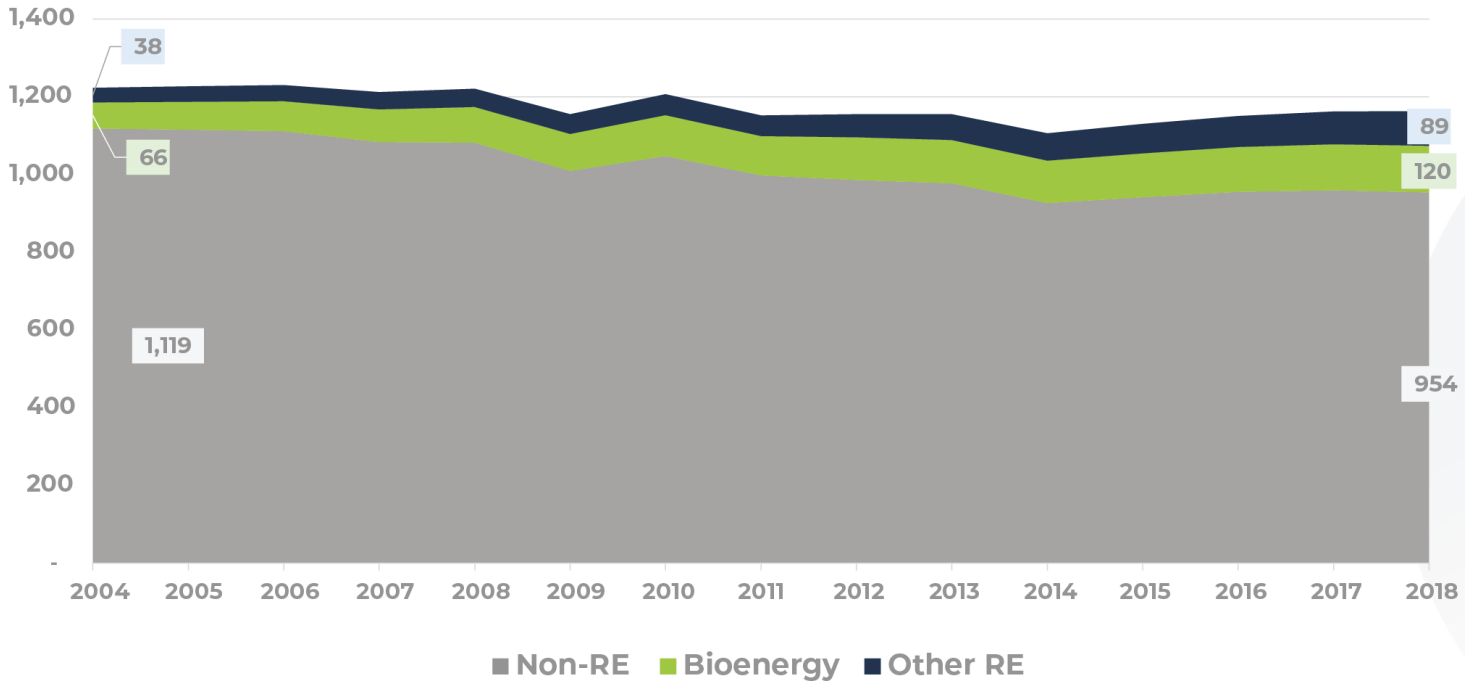
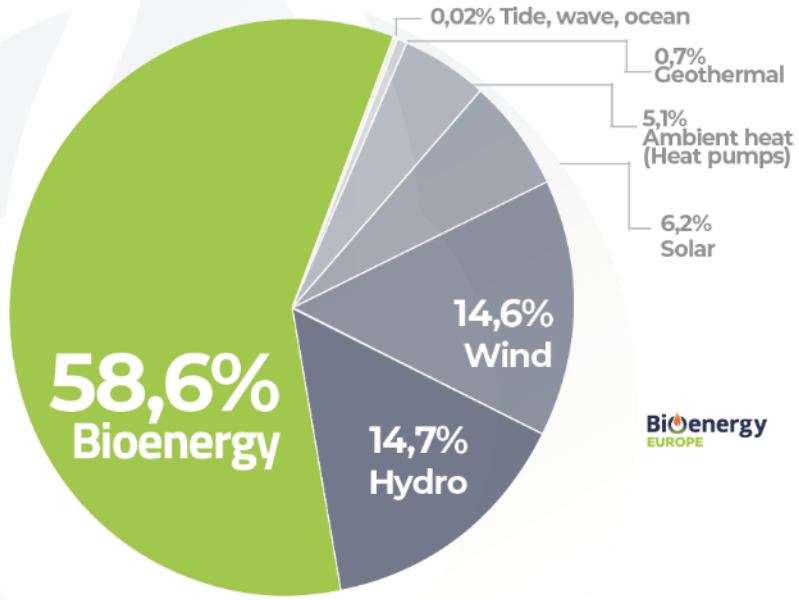
Evolution of the gross final energy consumption by fuel type in EU28 (Mtoe)



Distribution of renewable gross final energy consumption in the EU28 in 2017 (%)



EU's energy import bill reached €331 billion in 2018, after three years of consecutive rises.

Fossil fuel subsidies, amounted to EUR50 billion in 2018. After a period of recession they have started to **increase again since 2015**, growing by 6% until 2018.

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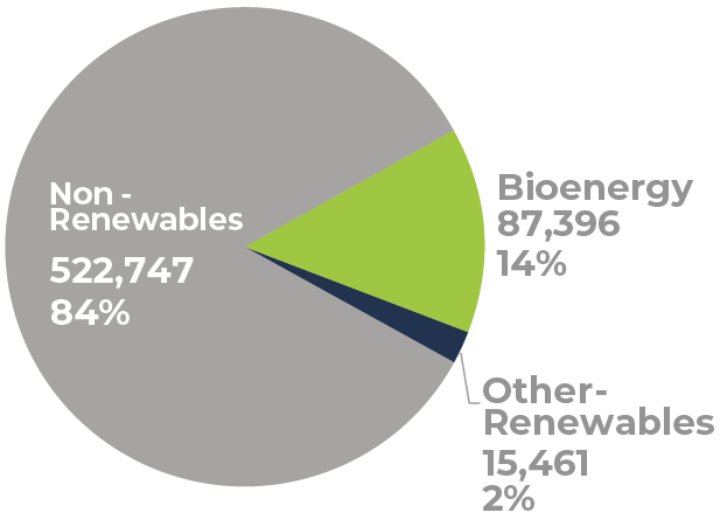
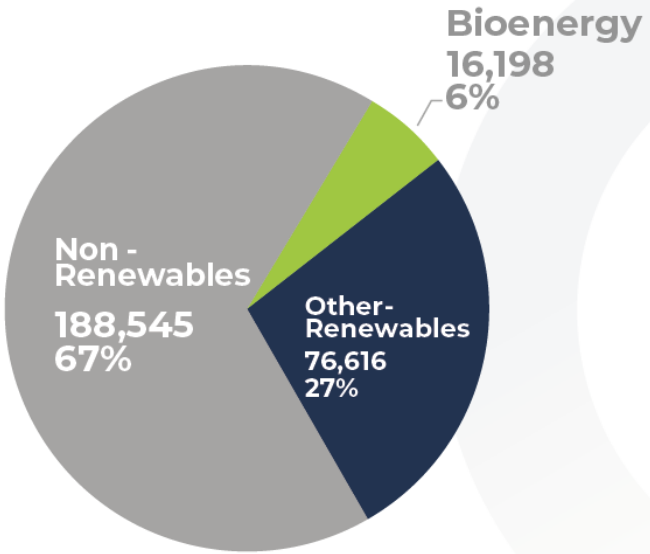
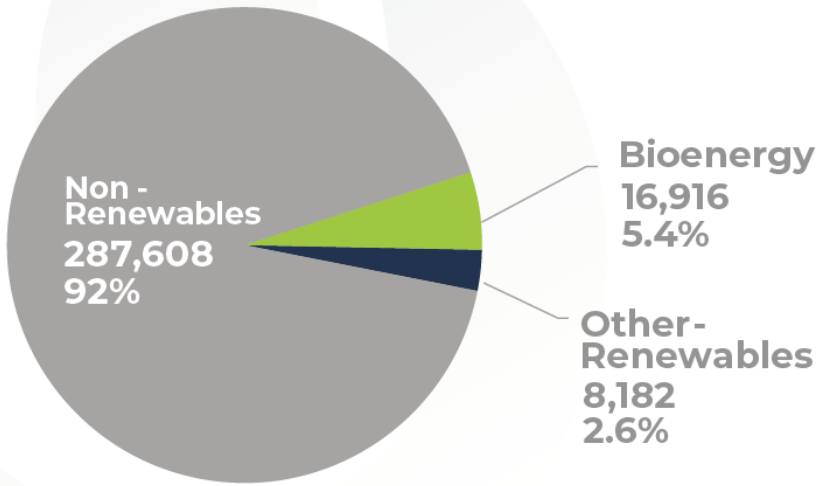
HEATING & COOLING



ELECTRICITY



TRANSPORT



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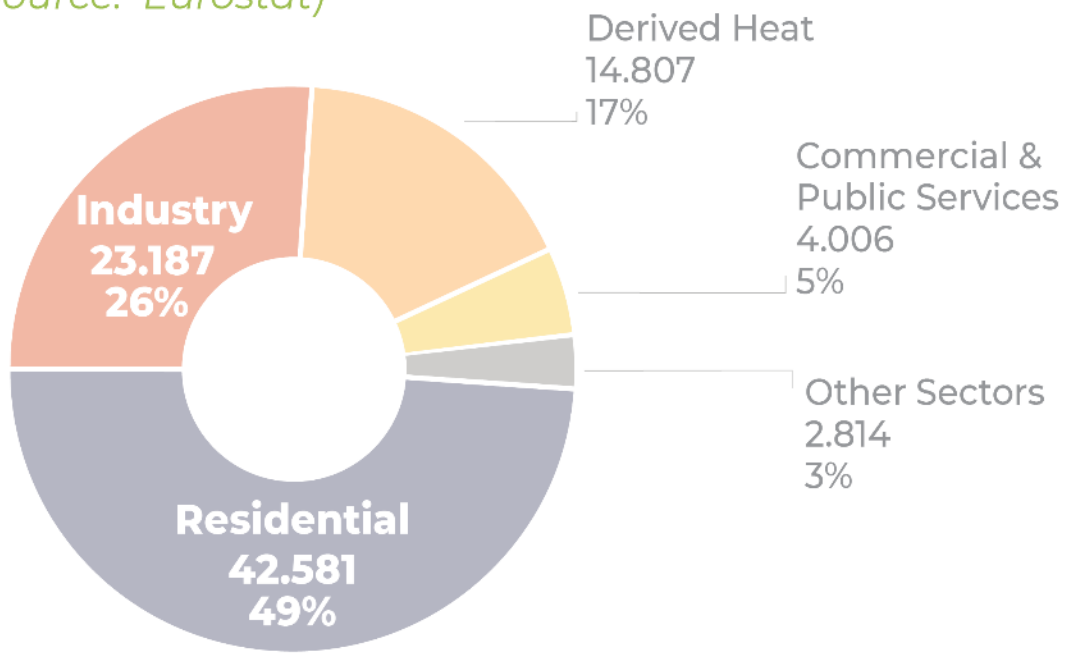
Heating

Final energy consumption of bioheat in the different sectors in EU28 in 2018 (in ktoe, %)

(Source: Eurostat)



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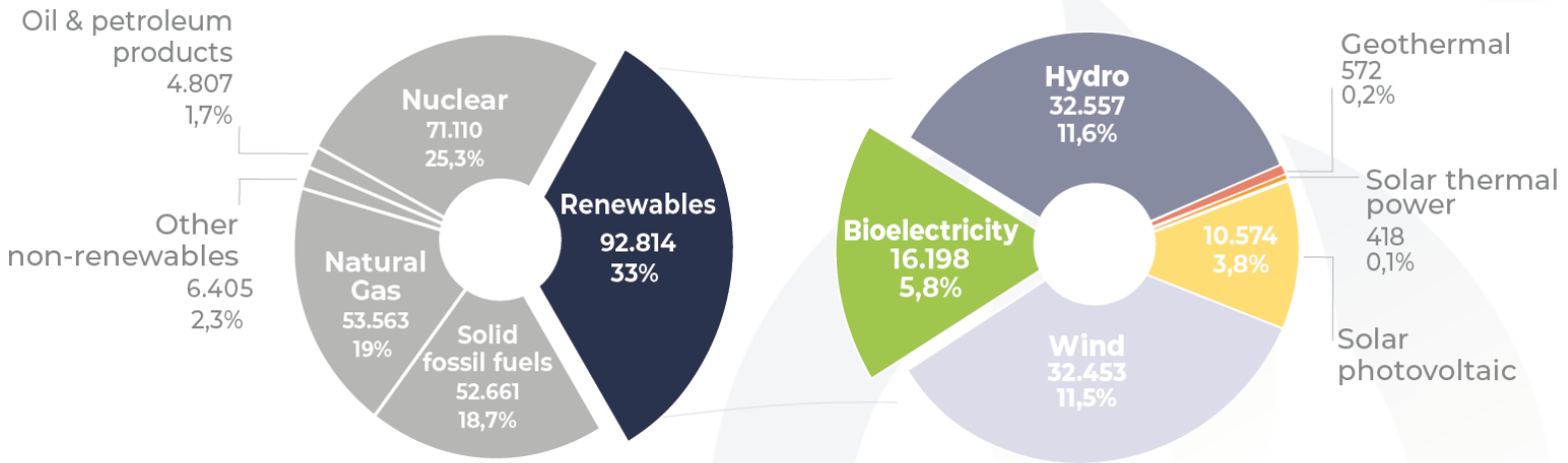
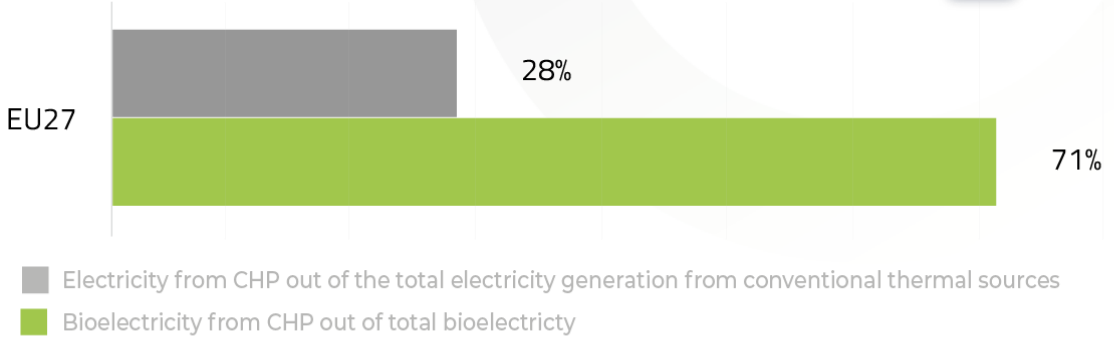
Electricity

Gross electricity generation by product type in the EU28 in 2018 (ktoe, %)

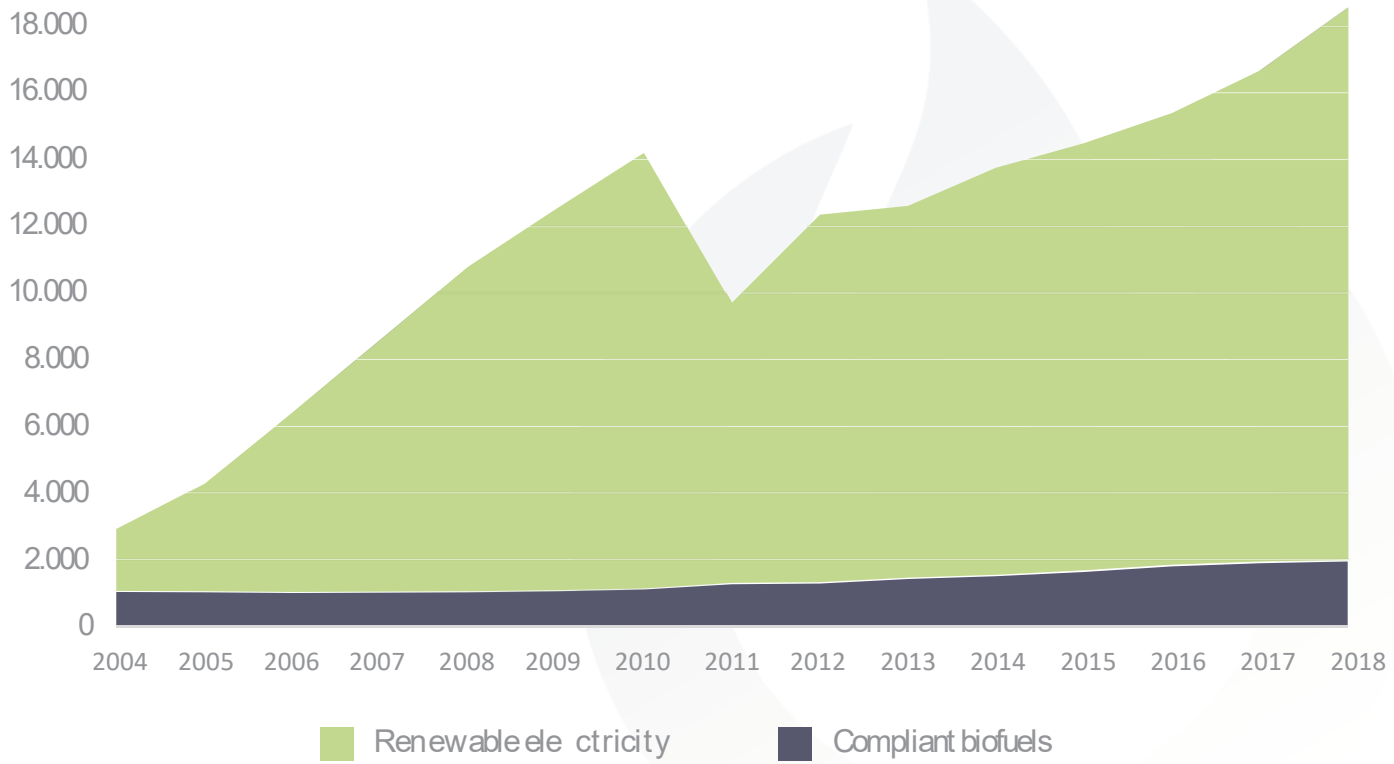


Share of gross electricity generation of conventional thermal power plants produced from CHP and share of bioelectricity produced from CHP in 2018 in EU Member States (%)



Transport

Evolution of renewable energy consumption in the transport sector in EU28* (in ktoe) by fuel type



RES in transport in EU27 in 2018*: 21.734 ktoe (8,03%)
* Without multipliers : 16.786 ktoe (6,25%)

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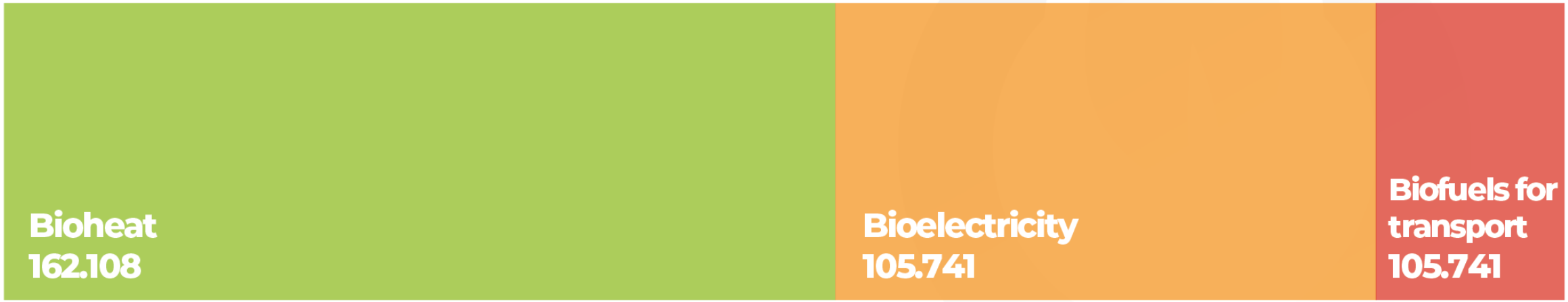
GHG impact of bioenergy industry

GHG savings due to bioenergy in the different sectors in 2018 in EU28 ($MtCO_2eq$)



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Sustainability criteria

1. To be accounted for **RES-target** and **sectorial sub-targets**
2. To be elibigible for **public financial support**
3. **be zero-rated in ETS system**

Sustainability requirements

LULUCF requirements

GHG emissions savings requirements

EXEMPTIONS

- **Biomass fuels produced from waste and residues**: only GHG criteria and soil quality requirements for agricultural biomass apply
- **Small installations** below 20 MW for solid biomass fuels and 2 MW for gaseous biomass fuels of thermal capacity are exempted (but Member States may set lower threshold)

Bioenergy economics

Bioenergy: an indigenous source of energy

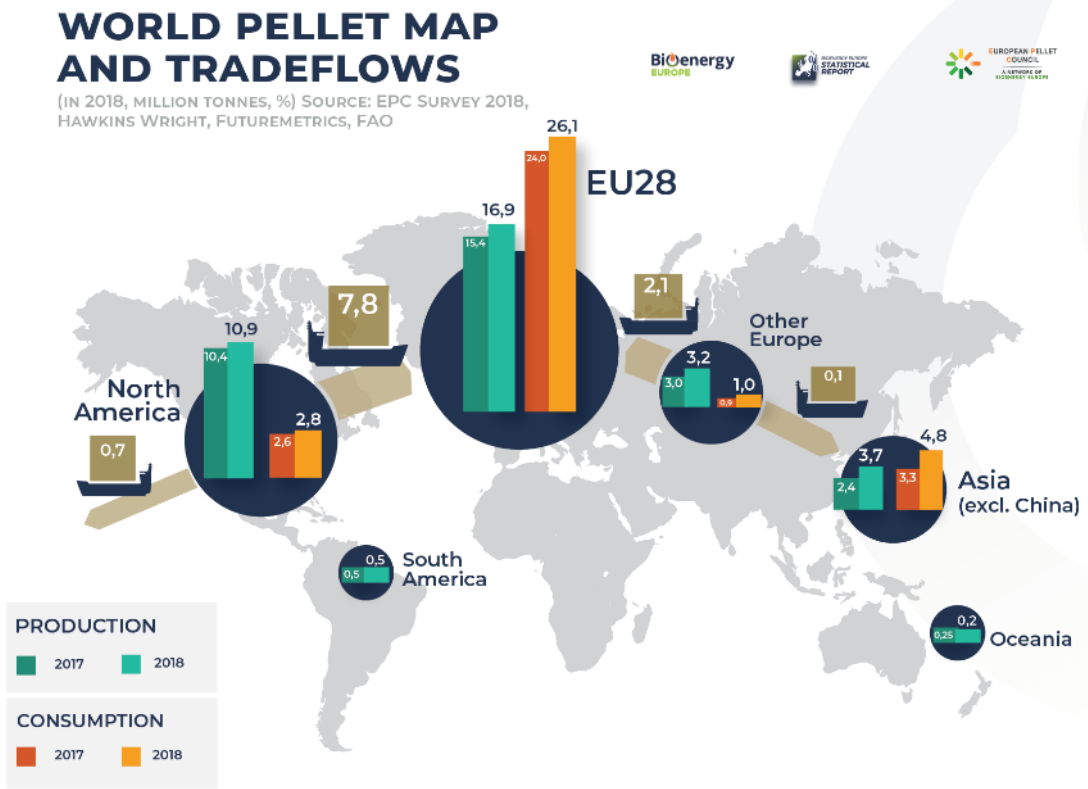
Key industrial player:

Bioenergy equipment suppliers* based in Europe

** Representing over 464 international suppliers of equipment to the bioenergy sector. This figure accounts only for companies engaged in export and/or have subsidiaries in other regions. It does not include small scale heating equipment suppliers.*

50.000 +
bioenergy businesses in the EU

Modern biomass fuels:



At the forefront of R&D:

€ 1,584 million
EU and national funding between 1995 - 2015

9713
patents related to bioenergy in 2016 in EU28

44%
of global publications (co-)authored by EU researchers between 1995 and 2017

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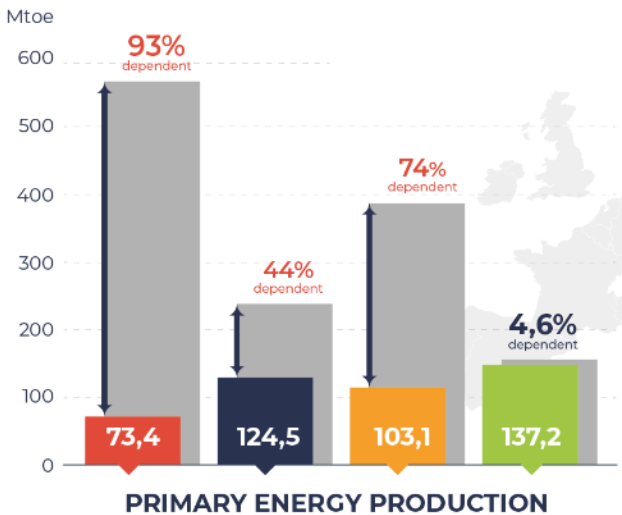
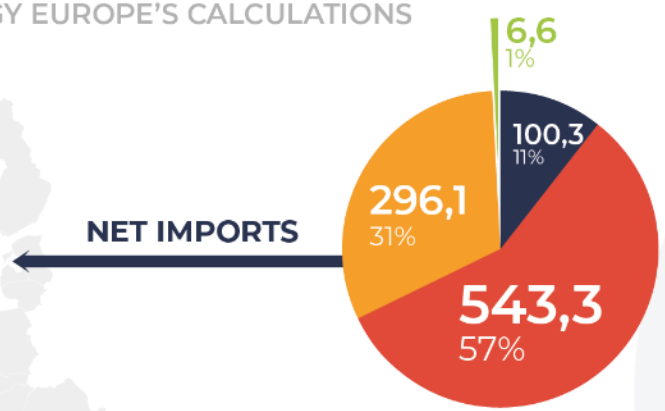
EU-28 ENERGY DEPENDENCY AND NET IMPORTS

(IN 2017, Mtoe, %) SOURCE: EUROSTAT, BIOENERGY EUROPE'S CALCULATIONS



PRIMARY ENERGY PRODUCTION

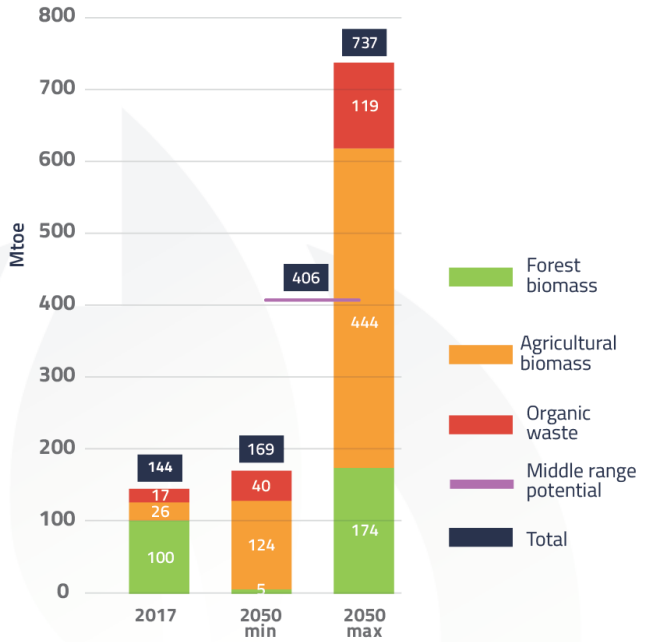


NET IMPORTS

- GROSS INLAND CONSUMPTION
- SOLID FOSSIL FUELS
- BIOMASS
- NATURAL GAS
- PETROLEUM AND PRODUCTS

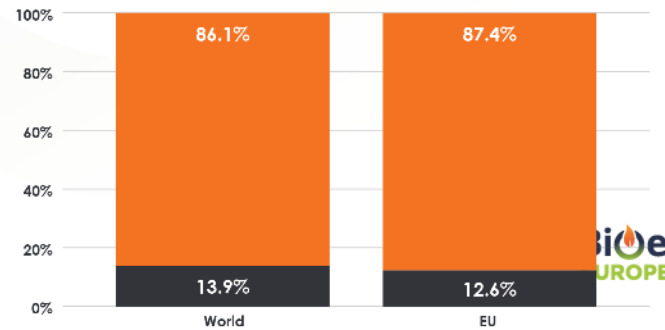
GROSS INLAND ENERGY CONSUMPTION OF BIOMASS IN 2017 AND POTENTIAL IN 2050 FOR THE EU28 (Mtoe)

Source: BIOENERGY EUROPE, FAAIJ (2018)

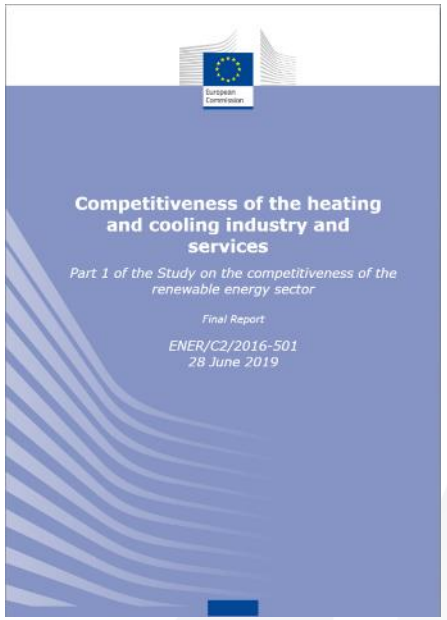


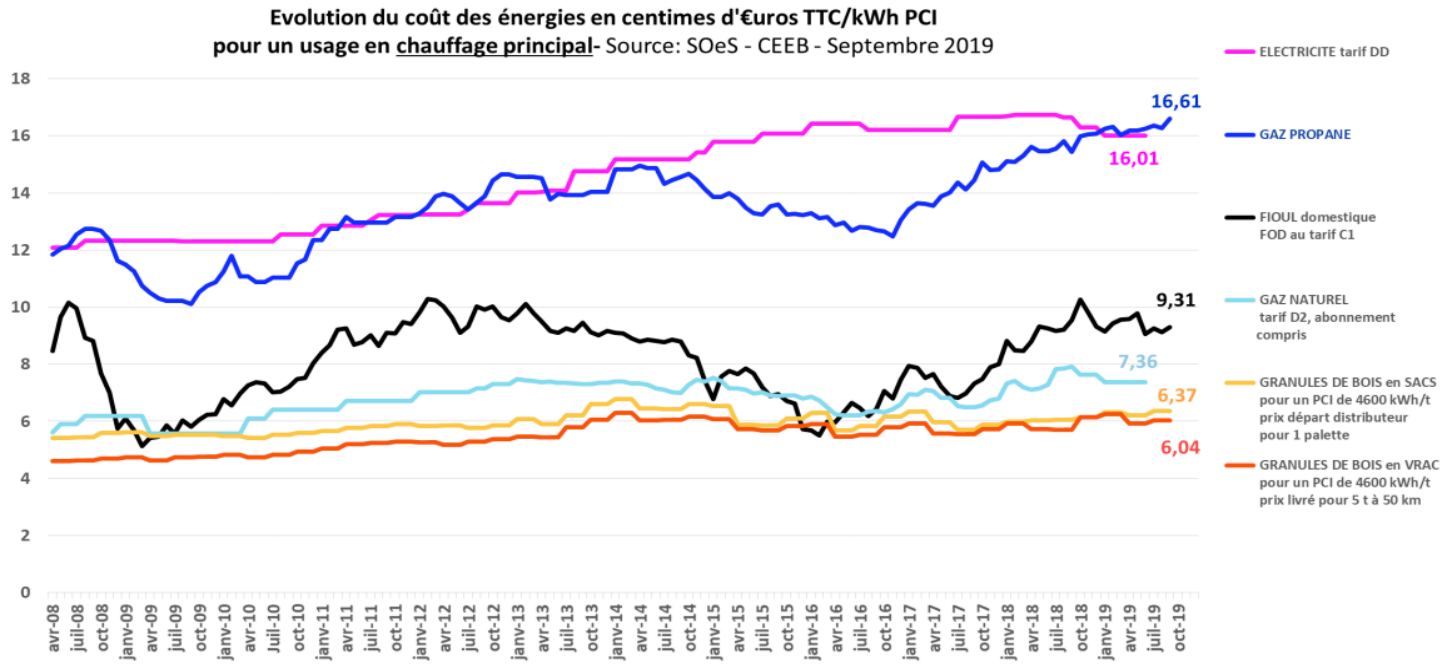
Type of raw material used for ENplus® certified pellets

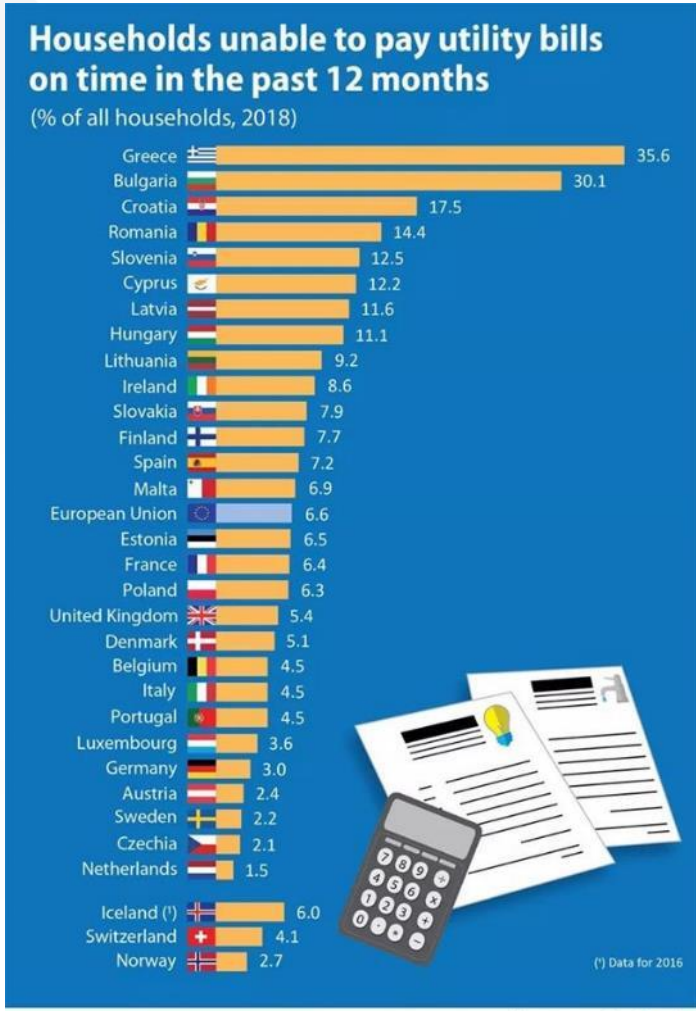
(September 2020)



Cost-competitiveness







Case example: Kaunas City (Lithuania)

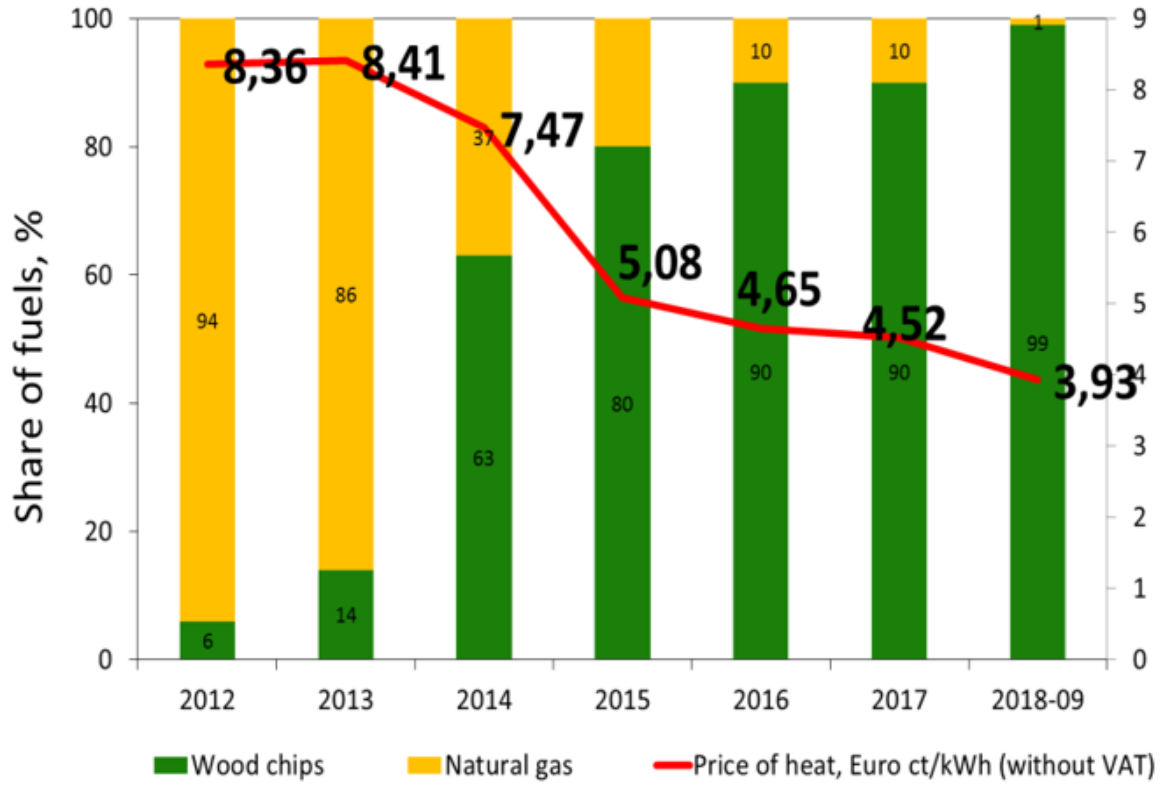


Figure 18. Share of fuels in the heat mix of Kaunas city, Lithuania, between 2012 and 2019[30].

EU-wide contribution

49%
Of RES jobs in the EU are in bioenergy

703.200
jobs in bioenergy in the EU

Bioenergy in total RES turnover

0,39%
of EU GDP in 2017

€ 5 bn
net exporter/year

€ 60,6 bn
annual turnover

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The European Green Deal

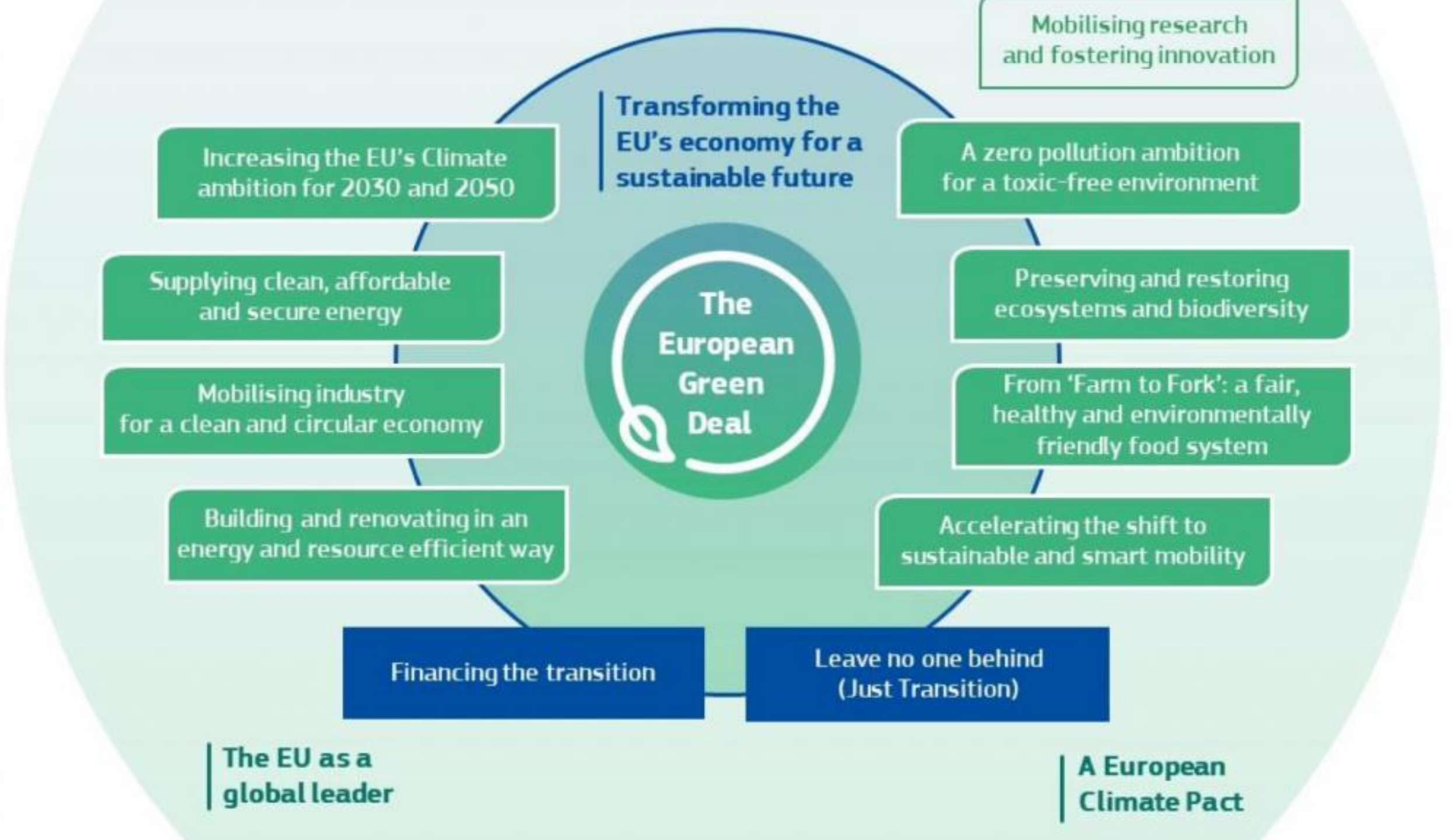
-50% GHG EMISSIONS by 2030

CARBON-NEUTRAL EU by 2050

CARBON BORDER TAX

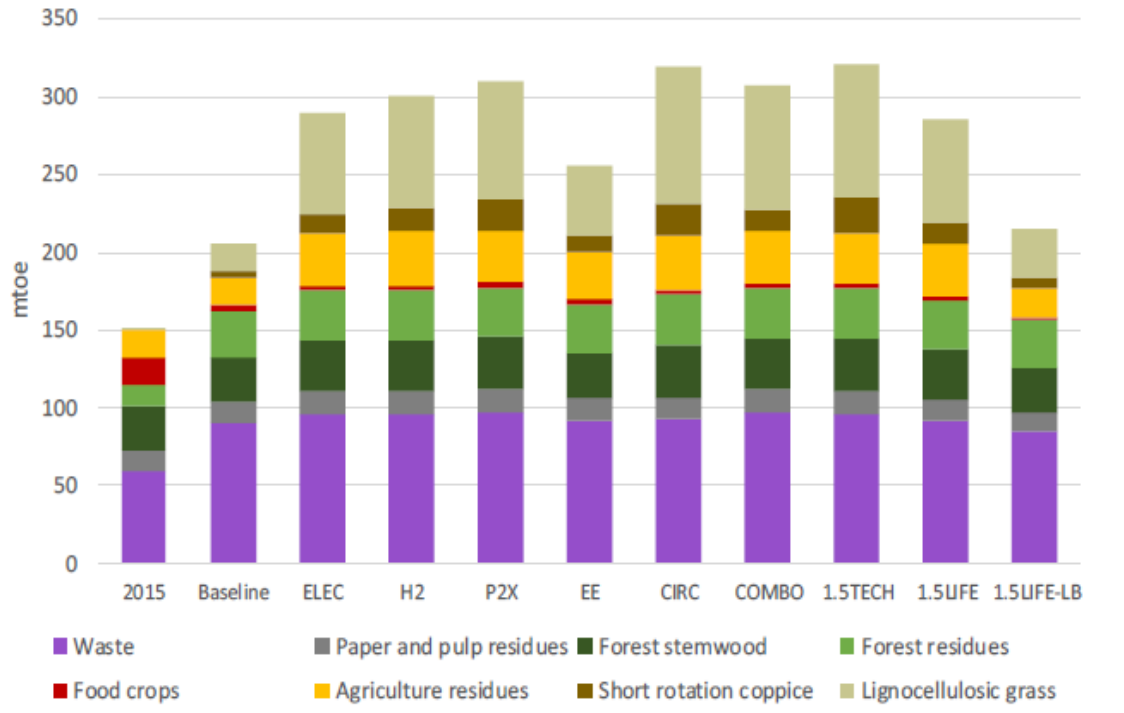
Review ETD

EU ETS


Mobilising research and fostering innovation
Transforming the EU's economy for a sustainable future
Increasing the EU's Climate ambition for 2030 and 2050
A zero pollution ambition for a toxic-free environment
Supplying clean, affordable and secure energy
Preserving and restoring ecosystems and biodiversity
The European Green Deal
Mobilising industry for a clean and circular economy
From 'Farm to Fork': a fair, healthy and environmentally friendly food system
Building and renovating in an energy and resource efficient way
Accelerating the shift to sustainable and smart mobility
Financing the transition
Leave no one behind (Just Transition)
The EU as a global leader
A European Climate Pact

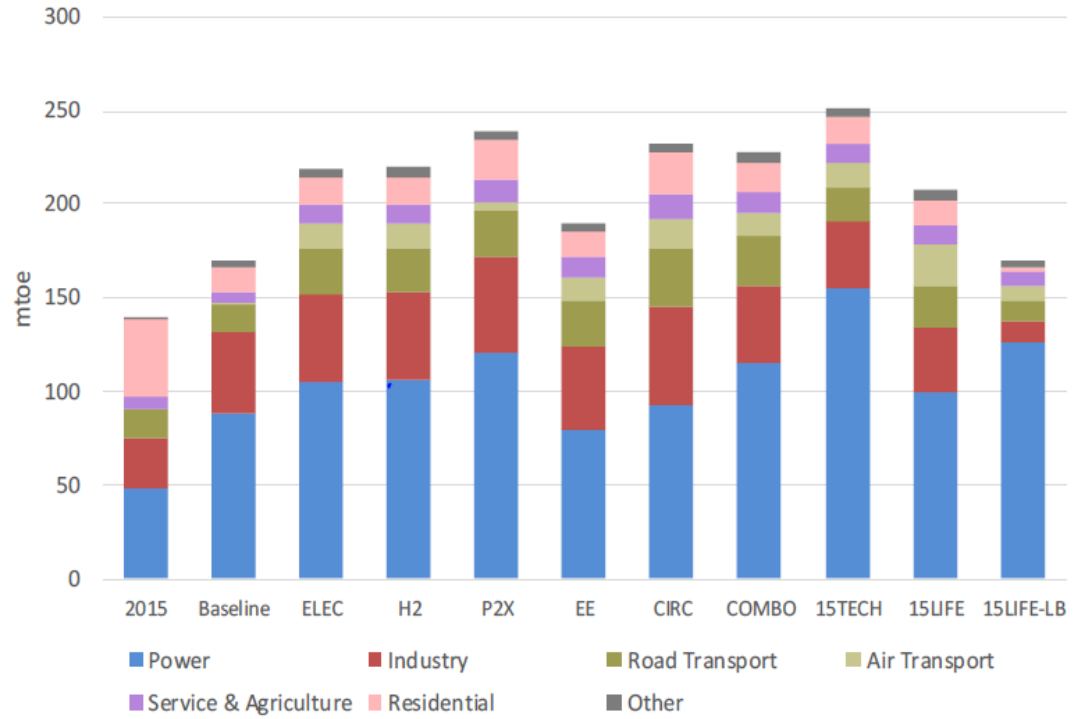
8 Commission scenarios:

Figure 84: Break down of bioenergy feedstock in 2050



Source: PRIMES, GLOBIOM.

Figure 83: Use of bioenergy by sectors and by scenario in 2050



Source: Primes, Globiom

Climate law - objectives of the regulation

- Sets the long-term direction to meet climate-neutrality objective by 2050
- Create a system for monitoring progress of the EU collectively and particular Member States
- Long term predictability for investors
- Ensure that the transition to climate neutrality is **irreversible**

Climate law – proposition of the European Commission

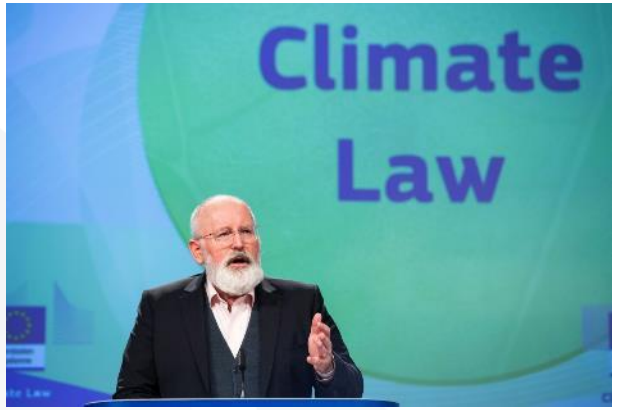
Concise piece of legislation - only 11 articles

Main elements

- Binding collective **climate neutrality target** by 2050
- Possible **upward revision of the 2030** GHG target
- Review and alignment of the existing legislation with climate neutrality target
- Trajectory for the period 2030-2050 set by the EC by mean of **delegated acts**

Substantially increases the EC's oversight over cross cutting energy and climate polices

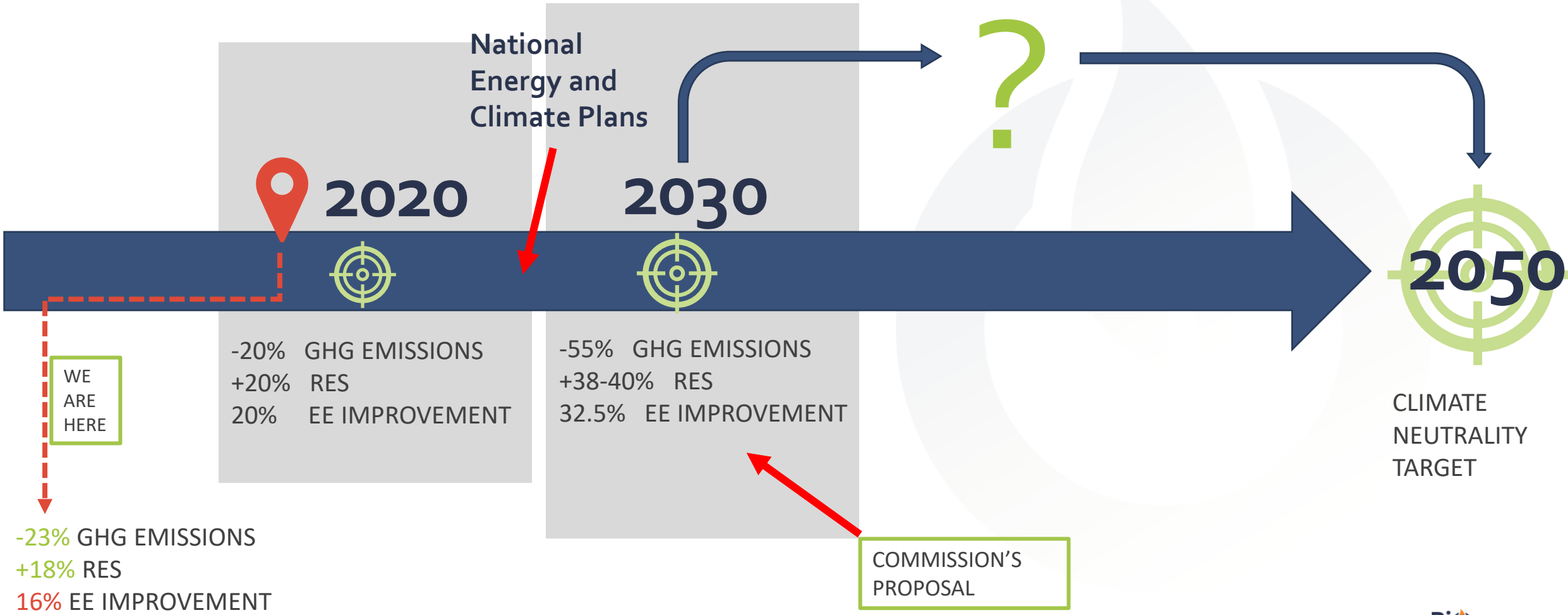
- Assessment of the EU's progress and consistency of legislation with carbon neutrality target
- Assessment of MS progress and possibility to issue recommendations for MS



WHAT'S IN IT FOR BIOENERGY?

- Strong climate oriented regulatory framework
- Higher RES target for 2030
- No financing for fossil fuels investments (CEF)
- EU ETS price and possible extension
- Necessity of the CO_2 removals development (**CEAP**)

2020 – Communications
2021 – Legislative review



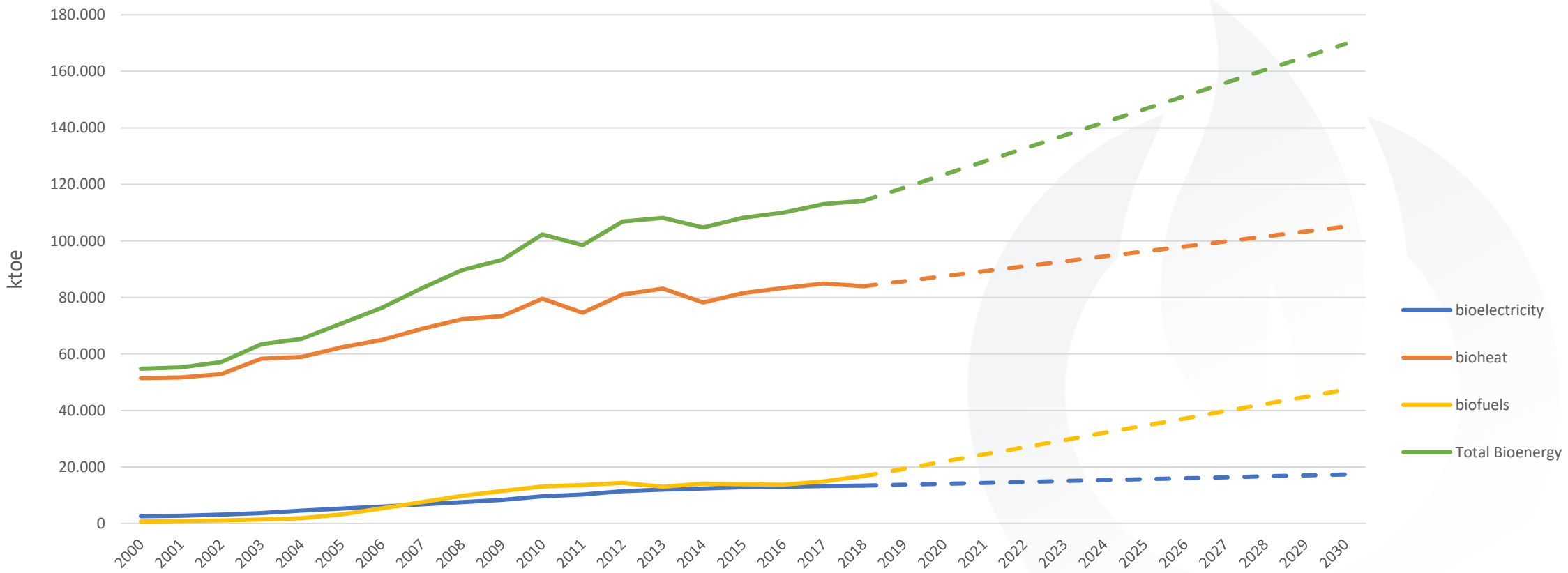
CLIMATE TARGET PLAN 2030 – THE NEW TARGETS

CURRENT TARGETS	COMMISSION'S PROPOSAL	COMMENT
-40% GHG emissions	-55% GHG emissions	• More competition, more carbon sinks (unlike before, moors, forests, etc. are included) • Final NECPS = current target overachieved -41% GHG emissions
32% RES	38-40% RES	• Electrification or the use of hydrogen can be a challenge for the sector • Final NECPS = current RES target overachieved 33.1%-33.7%
+1.3 pp /yearly	40% R HC	Art.23 REDII (1.1 pp/yearly if waste H&C is not used; waste H&C can only make 40% of the annual increase)

TOOLS

- **Higher RES Targets + Energy Savings: RED II AND EED review**
- Growing Forest Sinks (Woody biomass on cropland)
- EU ETS extension to Buildings and Transports
- Review ETD/CO_2 pricing

Forecast of bioenergy in the different sectors according to NECPs



"Renewables are resilient to the [COVID-19] crisis but not to policy uncertainties"

IEA Executive Director Fatih Birol

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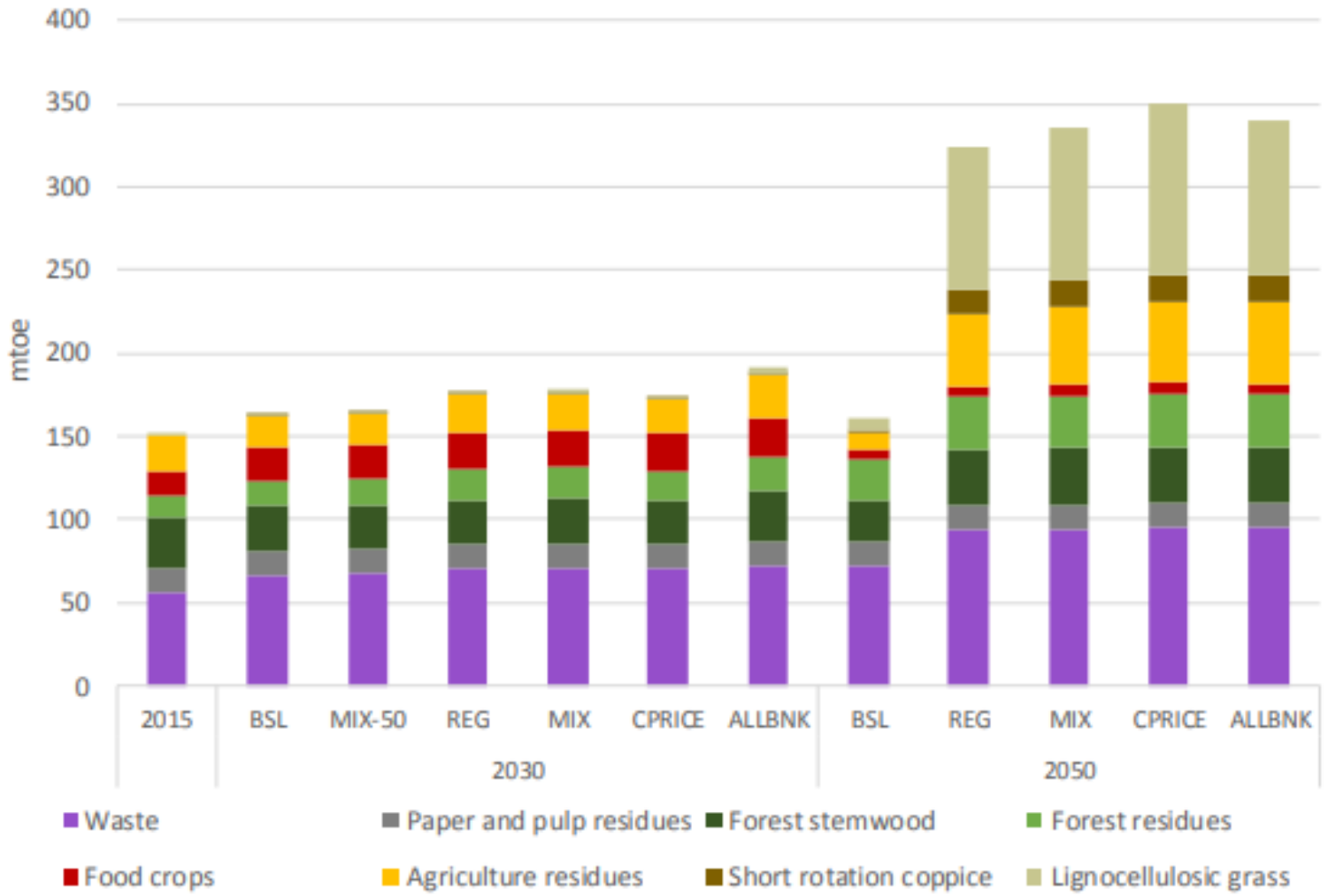
IMPACT ASSESSMENT: BIOENERGY FEEDSTOCK

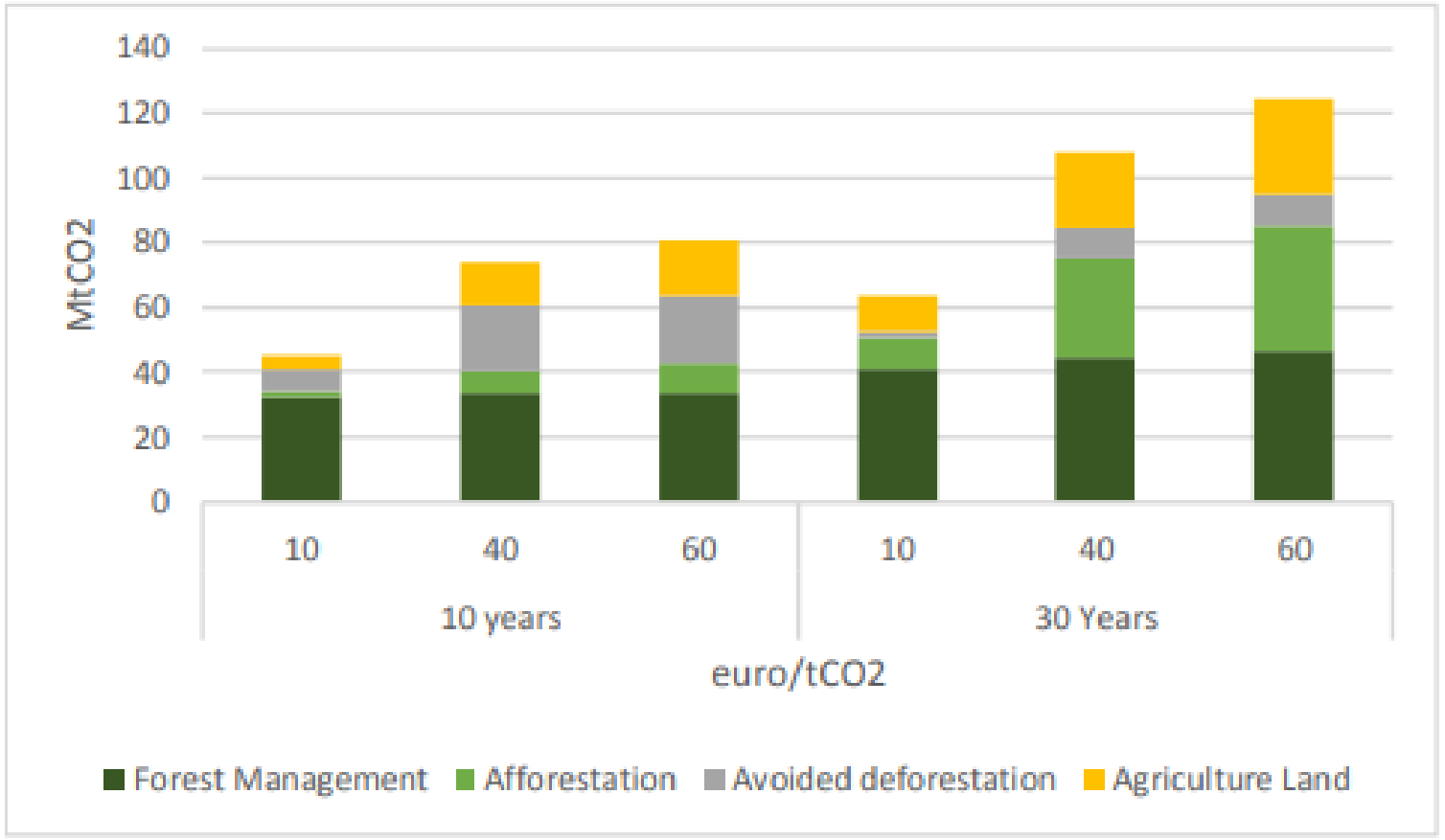
Figure 79: Break down of bioenergy feedstocks



- Imports in 2030 and 2050 stable at **6%**
- Imports increase only marginally from 2020 to 2030 to remain around 8 Mtoe or less
- The use of harvested stemwood increases slightly compared to 2015 level while the increase in the sustainable extraction of forest residues is more pronounced

ENHANCING THE LULUCF SINK

By 2050 about 500 MtCO2 of annual carbon dioxide removal is required to offset residual emissions too difficult to abate. Both nature-based and technological solutions.



Potential for carbon sequestration and LULUCF sink enhancement at different carbon prices in 2030 in 10 and 30 years

Policy options:

1. Strengthen current system
2. Increase flexibility with ESR
3. Create AFOLU target

Source: GLOBIOM model

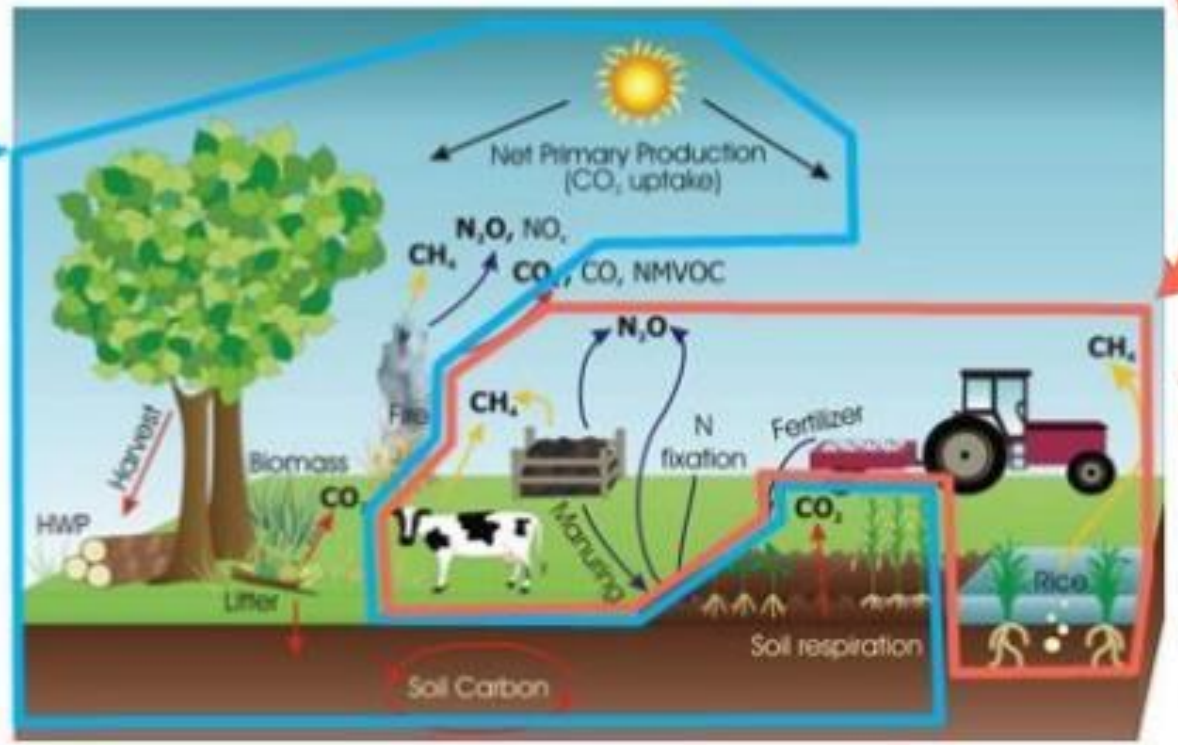
Land use and agriculture in LULUCF and in the ESR

Land Use, Land Use Change and Forestry (**LULUCF**): CO_2

AGRICULTURE *non-*CO_2 (CH_4, N_2O) – in the ESR

Partly human induced (linked to global natural carbon cycle)

Uncertainties?
Additionality?
Permanence?
Leakage?



All human-induced

Effort Sharing Regulation

- 60 % of GHG emissions vs 40% covered by the EU ETS
- Sectors include buildings, waste, transport and agriculture
- Diffuse emission and target per MS from 0 to -40%
- Flexibility over time (banking), among MS (borrowing) and with LULUCF
- Policy options are phasing it out as EU ETS extends, maintain it parallel or only for those sectors not covered by the EU ETS

The Common Agricultural Policy

4 Specific Objectives potentially interesting for Bioenergy (Art.6

- (d) Contribute to climate change mitigation and adaptation, as well as **sustainable energy**;
- (e) Foster sustainable development and efficient management of natural resources such as water, soil and air;
- (f) Contribute to the **protection of biodiversity**, enhance **ecosystem services** and preserve habitats and landscapes;
- (h) Promote employment, growth, social inclusion and local development in rural areas, including **bio-economy and sustainable forestry**;

What's new for 2021(2)-2027

- Trilogue phase
- Coupled income support including bioenergy
- Eco-schemes
- Rural development supported renewable energy in the previous funding period
- New delivery model: the Strategic Plans

AgroBioHeat

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- Reduction in fertilisers
- Biorefineries as examples

Farm to Fork

- Win-win solutions including bioenergy
- Emphasis in waste in contraposition of whole trees, energy crops and imports

Biodiversity

- Strengthening linkages between energy carriers
- DHC and energy storage
- Gas decarbonisation and industrial needs

Sector integration

Bioenergy contribution to the economic recovery

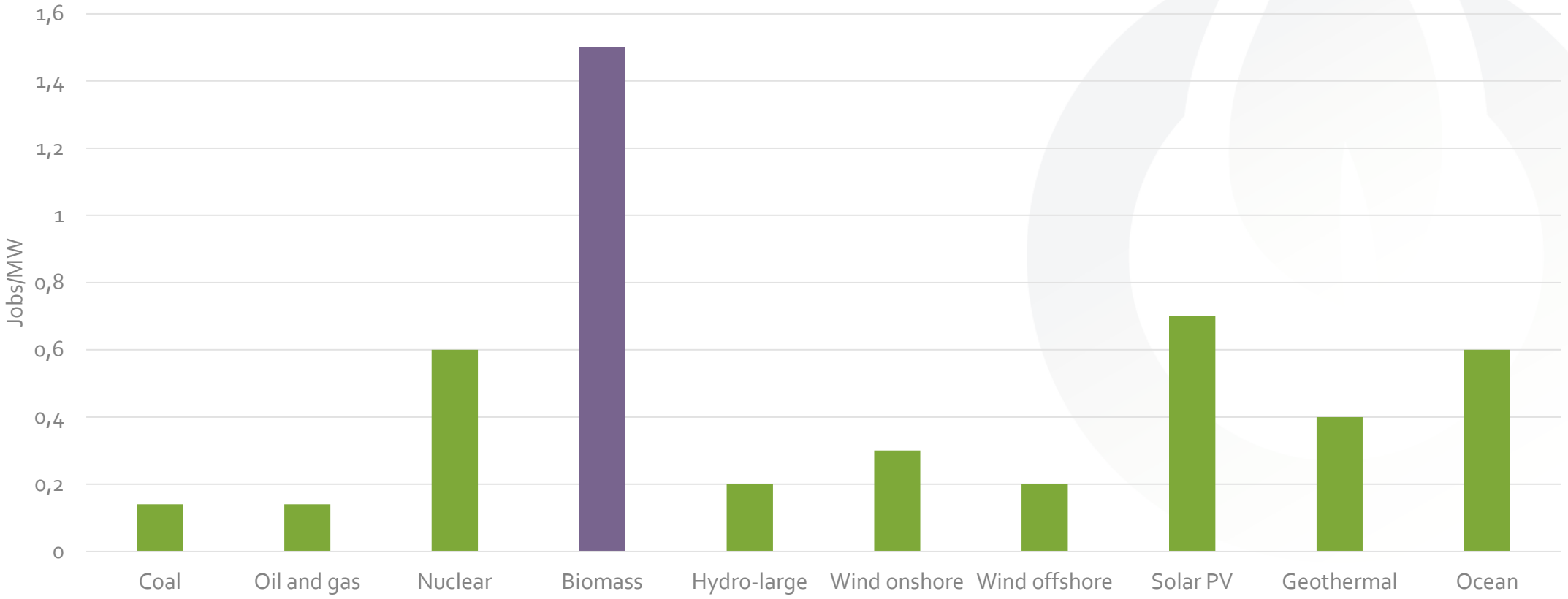
A wave of bankruptcies is coming in Europe

The Economist

And it will not be pretty

Unemployment rises in Europe as coronavirus ends labour market recovery

Employment factor in operations and maintenance by energy generation technology (Jobs/MW)



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Renovation Wave | Timeline

Renovation Wave | 7 Areas of intervention

What boxes do modern biomass appliances tick?

Decarbonisation and integration of renewables Speed up the integration of renewables in particular from local sources, integrate energy systems at local and regional levels helping to decarbonise heating and cooling

Life-cycle thinking and circularity. Promotion of green infrastructure made of sustainably-sourced wood

High health and environmental standards. Ensuring high air quality

Tackling the twin challenges of the green and digital transitions together. Smart buildings can enable efficient production and use of renewables at house, district or city level.

Sustainable Finance: Taxonomy

EU needs at least **€180 billion** a year of additional investments to achieve its 2030 climate and energy goals.

POLITICAL AGREEMENT DEC 2019

A/ Legislative text (Regulation on sustainable investment)

- ✓ Establishing the degree of environmental sustainability of an investment
- ✓ Applies to
  - ✓ EU or national measures setting requirements on market actors
  - ✓ Financial market participants

DELEGATED ACT

B/ Technical screening criteria (delegated act)

- ✓ Technical expert group developing **screening criteria** (metrics and thresholds) for all activities
- ✓ To be included in a **delegated act**

Thank you

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