

A large background image of wood pellets, which are small, cylindrical pieces of compressed wood. The pellets are arranged in a dense, textured pattern. A large, dark green, leaf-like shape is overlaid on the left side of the image, pointing towards the top right.

# Update on the European pellet market: on the crossroads of the energy crisis, existing & emerging market segments and policy developments

## Nordic Pellets Conference

1 – 2 February 2023 | Gothenburg, Sweden

**Manolis Karampinis**  
Bioenergy Europe, Business Development &  
Membership Director | EPC Manager

**BiOenergy**  
EUROPE

#bepartofbioenergy

1. THE ENERGY CRISIS AND THE PELLET SECTOR
2. POLICY UPDATES (AND UNCERTAINTIES)
3. EMERGING MARKET SEGMENTS: ENERGY INTENSIVE INDUSTRIES
4. FINAL MESSAGES AND CONCLUSIONS

# About Us



Common voice of European bioenergy since 1990



Unites 40+ national associations and 150+ companies



Hosting the European Pellet Council (EPC)



Quality & Sustainability Certifications



## Our Services:



EU Policy Monitoring & Influence



Market Data



Visibility



Networking



Free & Discounted Events

# Our Working Groups

Members Only



## Domestic Heating

Next Date: 21<sup>st</sup> February 2023

Promotes biomass in the domestic heating sector and discusses building regulations, air emissions and stove & boilers certifications.



## Pellets

Next Date: 22<sup>nd</sup> March 2023

Discusses common issues and opportunities regarding the development of the European pellet market (residential, commercial, industrial) and proposes actions to overcome current barriers.



## Agro-biomass

Next Date: 30<sup>th</sup> May 2023

Promotes underutilized biomass feedstocks (e.g. residues from agriculture, dedicated perennial lignocellulosic crops) through ad hoc policies.



## Wood Supply

Next Date: 23<sup>rd</sup> May 2023

Provides with active exchanges of data, market trends and news in legislation.



## Competitiveness

Next Date: 28<sup>th</sup> March 2023

Provides updates on key existing and emerging policy topics determining the competitiveness of bioenergy sector within the EU (e.g. carbon tax, state aid)



## Sustainability

Next Date: 7<sup>th</sup> March 2023

Monitors climate and energy legislation impacting the European bioenergy sector and advocates for an efficient EU sustainability policy for biomass for heating and electricity production.



## Carbon Dioxide Removals

Next Date: 4<sup>th</sup> April 2023

Establishes an interactive forum to explore policy options for the creation of negative emission certificates and incentives within EU energy and climate policies.



## Task Force National Advocacy

Provides regular updates for national associations on relevant EU policies and enhances cooperation between EU and national levels.



## REPORT PELLETS



Every year, our members are provided with unique new statistics and findings on 7 specific sectors of bioenergy, namely:



**Bioelectricity**



**Biogas**



**Biofuels for Transport**



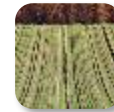
**Bioheat**



**Pellets**



**Biomass Supply**



**Bioenergy Landscape**

# European Pellet Council

A Bioenergy Europe Network

- Bioenergy Europe's Network
- Created in 2010
- Members: national pellet associations



EUROPEAN PELLET  
COUNCIL

A NETWORK OF  
BIOENERGY EUROPE

## Mission

- Quality - ENplus® Management
- Lobbying
- Promotion
- Market information
- Networking

### EPC Members



# ENplus®



ENplus® is the world-leading certification scheme for wood pellet quality. The scheme's trademark is widely recognized and trusted by producers, traders, service providers, and pellet consumers alike.

- The certification scheme guarantees high quality along the entire supply chain, from pellet production to the delivery. Its stringent fuel requirements go beyond the international standard ISO 17225-2.
- ENplus® operates as a third-party certification scheme. The conformity assessment is run by external Certification Bodies, accredited and listed by ENplus®, but performing their duties in complete independence.
- ENplus® is managed by the European Pellet Council (EPC), the voice of the European pellet sector and a network of Bioenergy Europe. In addition to the Head Office, the scheme is locally managed and promoted by National Licensers and National Promoting Associations in 14 countries.

1235

Certified Companies

12.9 million

Estimated Production in 2022 (in tonnes)

912

Fraud cases solved

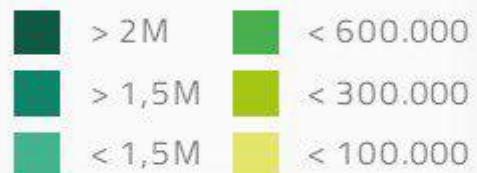
**NEW in ENplus® revision:** A producer or trader that is a member of Bioenergy Europe at 1 of January of the respective invoicing year and receives its trademark license from the ENplus® International Management is charged 0,15 € per tonne instead of 0,18 € per tonne (volume fee).

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# European/EU27 Wood Pellet Production

(in 2021, tonnes, %) Source: EPC Survey 2022

## Actual Production (tonnes/year)



2021 European Production

**21,6**

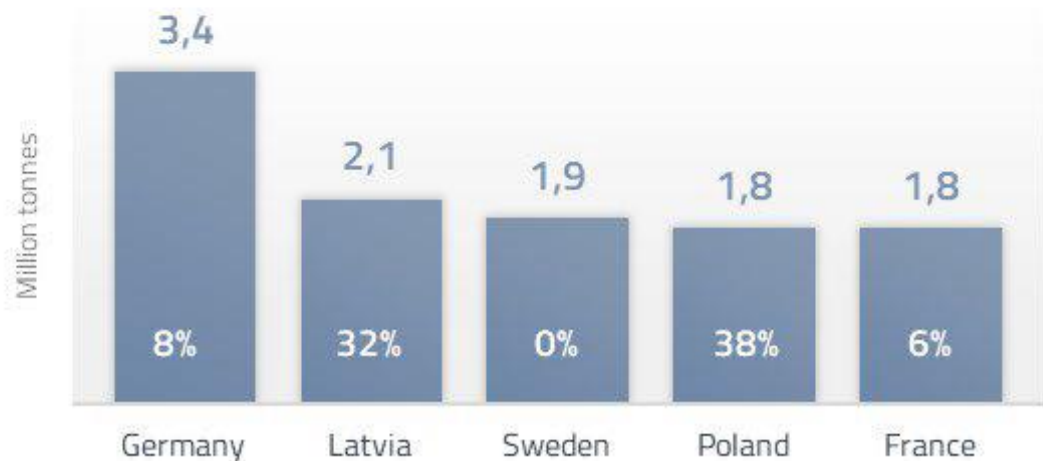
Million tonnes

2021 EU-27 Production

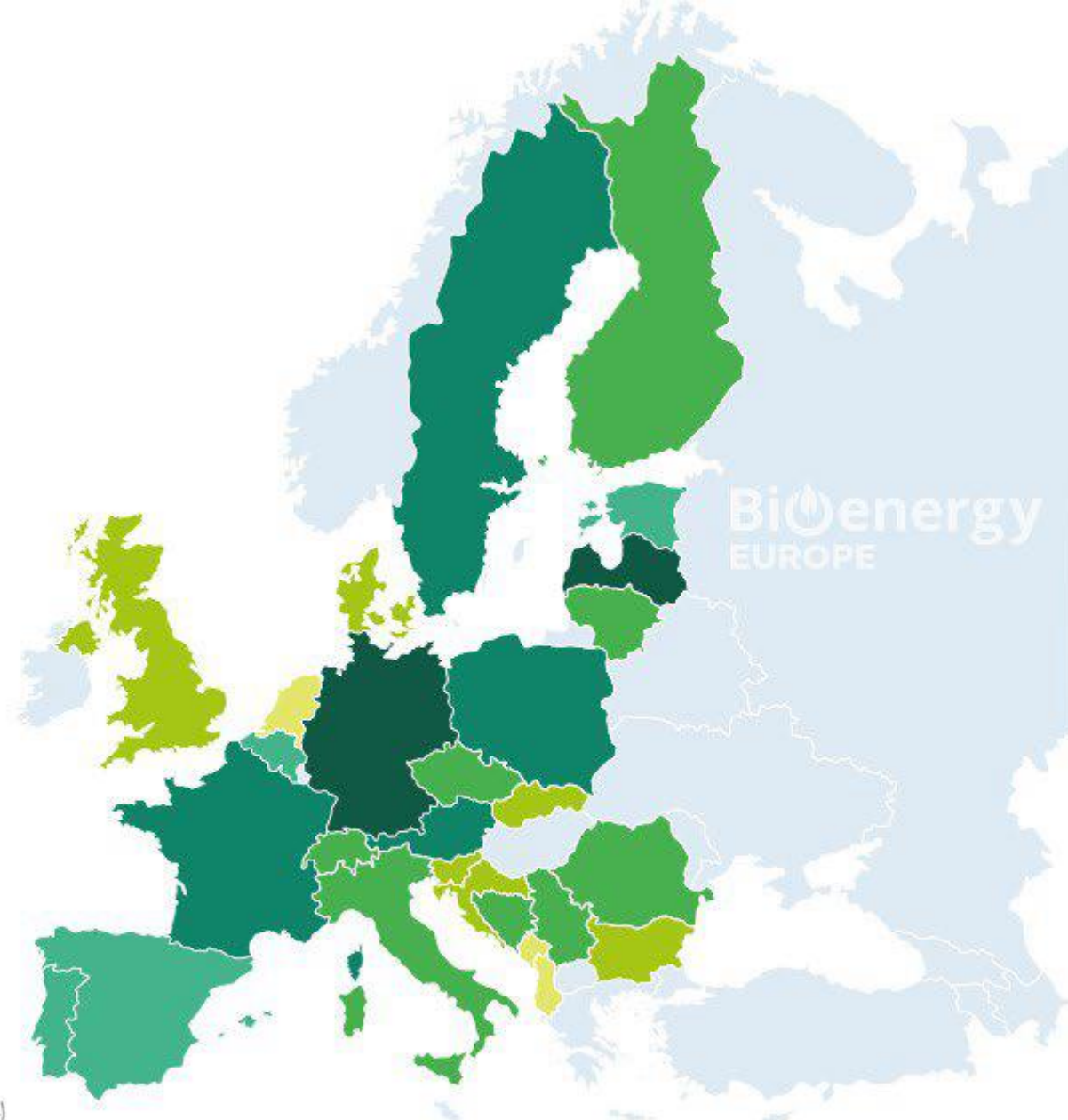
**20**

Million tonnes

## Production in top 5 European countries in 2021



Annual growth (%)  
2020-2021



Bienergy  
EUROPE

Bienergy  
EUROPE

BIOENERGY EUROPE  
STATISTICAL  
REPORT  
2022



EUROPEAN PELLET  
COUNCIL  
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# European Wood Pellet Consumption

(in 2021, tonnes, %) Source: EPC Survey 2022, Hawkins Wright

## Actual Consumption (tonnes/year)



EU-27 consumption increased by **18%** between 2020 and 2021

2021 European Consumption

**35,6**

Million tonnes

2021 EU-27 Consumption

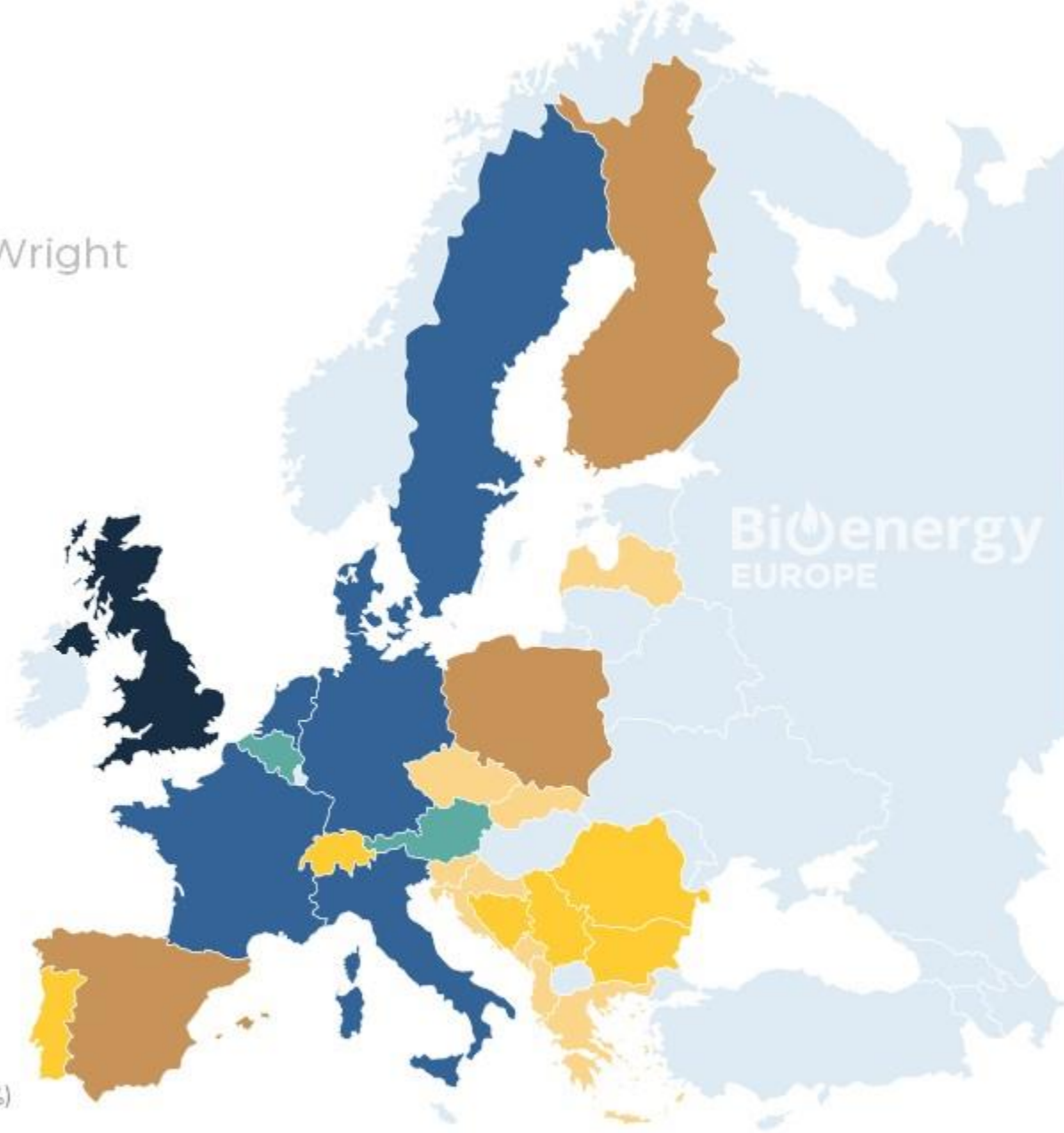
**24,5**

Million tonnes

## Consumption in top 5 European countries in 2021



Annual growth (%) 2020-2021



Bienergy EUROPE

Bienergy EUROPE

BIOENERGY EUROPE STATISTICAL REPORT 2022

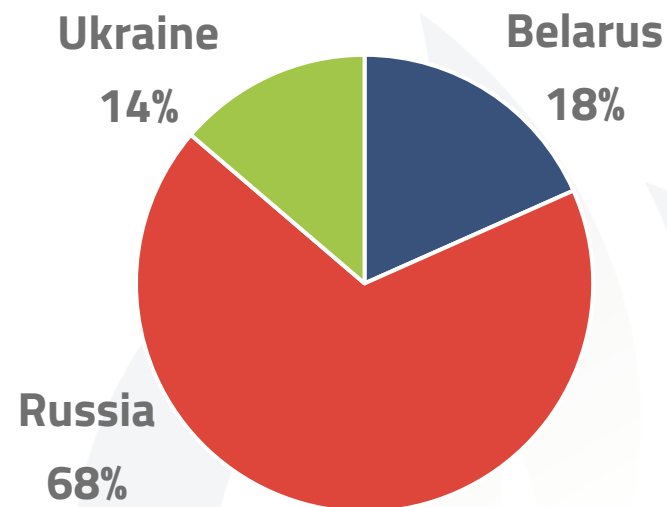


EUROPEAN PELLET COUNCIL  
A NETWORK OF BIOENERGY EUROPE

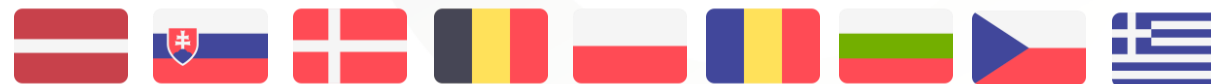
	Sum of exports from Belarus, Russia and Ukraine (tons)
Austria	4.338
Belgium	388.856
Bulgaria	57.035
Croatia	2.569
Cyprus	404
Czechia	25.176
Denmark	1.172.892
Estonia	3.253
Finland	100.882
France	53.564
Germany	76.288
Greece	16.861
Hungary	13.717
Ireland	20
Italy	213.802
Latvia	177.207
Lithuania	191.243
Luxembourg	126
Netherlands	108.114
Poland	234.230
Romania	68.805
Slovakia	35.403
Slovenia	17.619
Spain	124
Sweden	24.280
UK	146.145



**3.132.954** tons to compensate



**9 Member States** have more than 15% of their annual consumption impacted



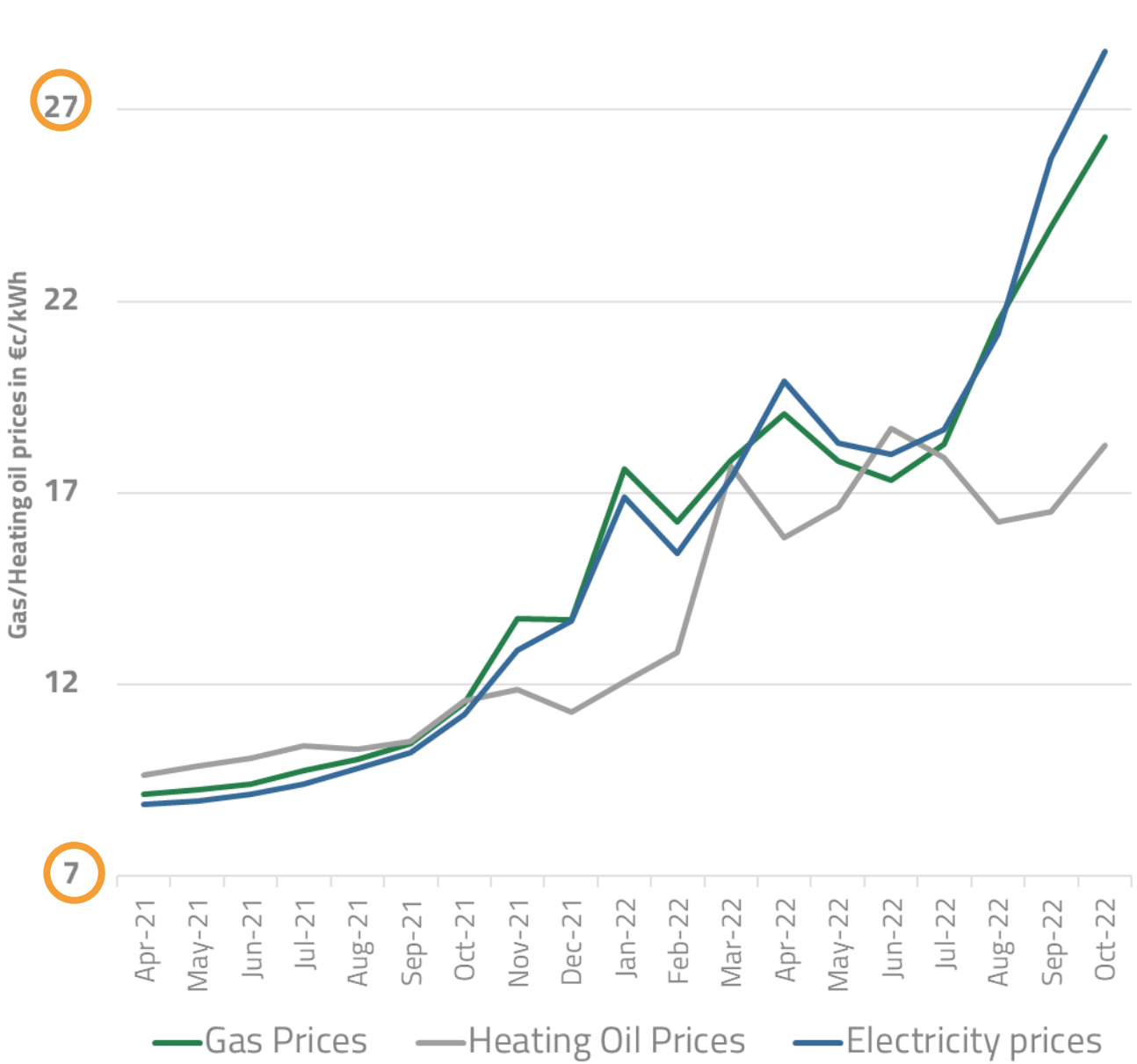
Highest relative importance

Lowest relative importance




Source: Bioenergy Europe, UNcomtrade


# Prices of Gas, Electricity and Heating oil for the residential user in some EU Member States (€/kWh)




- Sample of **10 Member states** (AT, BE, CZ, DE, DK, ES, FR, IT, NL, SE)
- April 2021 – November 2022



**+185%**



**+91%**



**+135%**

Source: Bioenergy Europe, HEPI, Weekly Oil Bulletin

# Bagged pellet prices in Germany and Belgium, January 2020 – November 2022 (Retail price, 1 pallet in €/tonne VAT incl.)



- Similar trend across the member states → Record increases
- September 2022 : 857€/ton in Germany
- October/November 2022 → beginning of price decreases
- Governmental responses: VAT decreases (Italy, Spain, Portugal), temporary export bans (Bosnia, Greece, Serbia)

Source: Bioenergy Europe, C.A.R.M.E.N, Valbiom

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# REDIII IN THE EU DECISION-MARKING PROCESS



**EC** - Represents the EU's general interests and submits legislative proposals

Co-legislators



**Council** - Internal prioritisation and first meetings of the ministers.  
Council's WPs to meet every week.

**EP** - The files are shared among political groups and EP committees

**EP** - Political debate to appoint rapporteurs and shadows

14 July 2021:  
EC proposal

16-17 May:  
vote REDIII  
ENVI

13 July:  
vote REDIII  
ITRE

*Trilogues*  
negotiations



March 2022:  
REPower EU  
Comms

18 May:  
REPower EU  
plan & RED IV

14 September:  
vote EP plenary

Implementation  
after 2+ years



*We are here*

sweden  
2023.eu



# WHAT IS CHANGING COMPARED TO REDII?



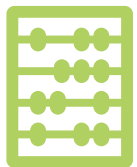
## No-Go areas

Limiting biomass sourcing



## Details on SFM practices

EP stricter version than EC



Lower exemption threshold  
**for plants above 5MW**



**Retroactive application of GHG emissions saving thresholds**



Stricter regulation on **cascading use of biomass**



**2027 stop subsidies for Power only** using Forest-Biomass



**Ban on primary woody biomass (EP \*NEW\*)**

# sweden 2023.eu



## Trilogue Schedule

- 12 January – technical trilogue (transport)
- 17 January – technical trilogue
- 20 January – technical trilogue (bioenergy)
- 27 January – technical trilogue (bioenergy)
- 03 February – technical trilogue

## 7 February – Political Trilogue (Bioenergy)

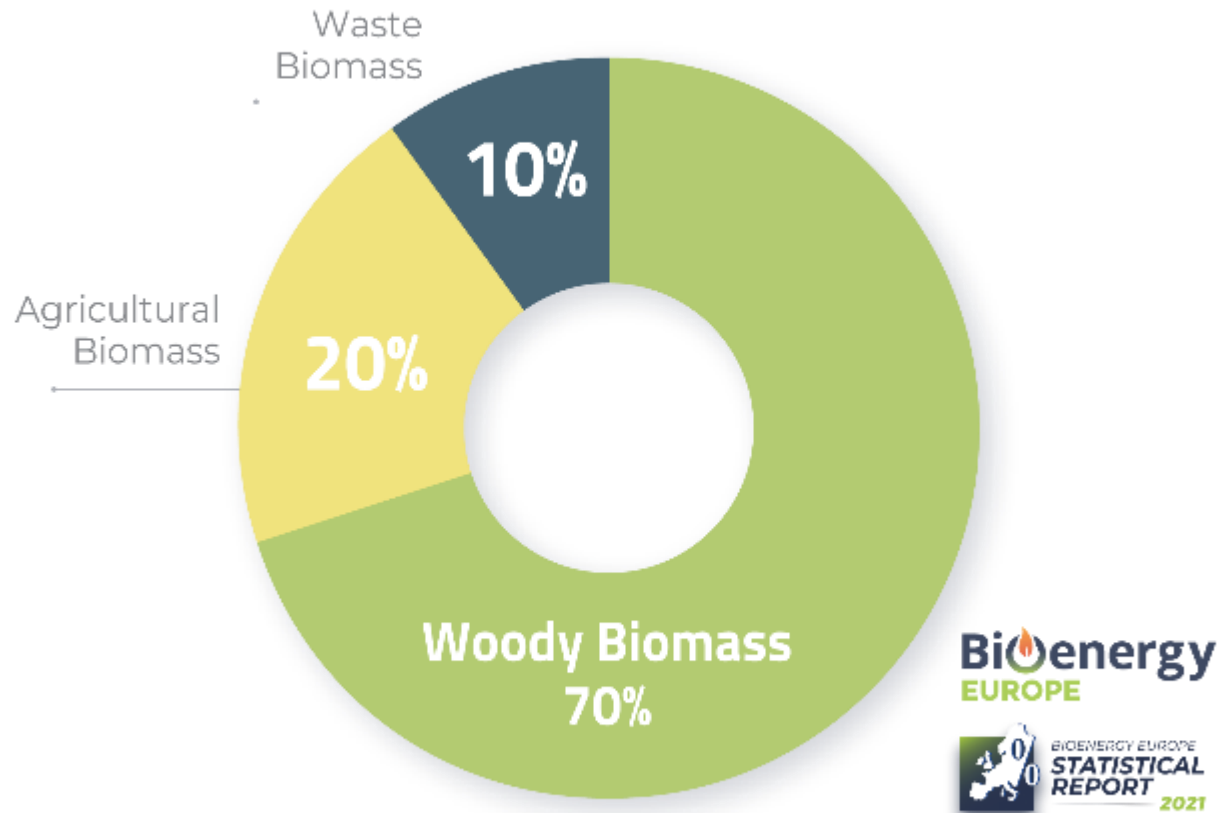
## 6 March – Political Trilogue

## 29 March – Final Political Trilogue

→ **Expected end of the negotiations**

# HOW IMPORTANT IS PRIMARY WOODY BIOMASS?

*Distribution of the different biomass feedstock for energy in 2019 (%)*



Source: Eurostat and Bioenergy Europe's estimates

- Primary woody biomass represents between **25.9% and 35.7% of the feedstock for bioenergy**
- Bioenergy from primary woody biomass is between **14.9% and 20.5% of renewable energy**
- Bioenergy from primary woody biomass is between **3% and 4.1% of the total energy**

# PRIMARY DOES NOT MEAN HIGH QUALITY



Pictures by Christian Rakos

Primary woody biomass can be cracked, bent, rotten, or has some other defect that causes it to be rejected by other industries



# ECODESIGN REGULATIONS

## Regulation (EU) 2015/1189 – Ecodesign requirements for solid fuel boilers

- Mandatory for new products entering the market from 1 January 2020. Covers woody biomass boilers up to 500 kW, setting efficiency and emission limits
- Review no later than 1 January 2022 – scope of revision:
  - (a) include solid fuel boilers with a rated heat output of up to 1 000 kilowatt;
  - (b) include non-woody biomass boilers, with ecodesign requirements for their specific types of pollutant emissions;
  - (c) set stricter ecodesign requirements beyond 2020 for energy efficiency and for emissions of particulate matter, organic gaseous compounds and carbon monoxide; and
  - (d) vary the verification tolerances.

# ECODESIGN REGULATIONS

## Regulation (EU) 2015/1185 – Ecodesign requirements for solid fuel local space heaters

- Mandatory for new products entering the market from 1 January 2022. Covers woody biomass local space heaters up to 50 kW, setting efficiency and emission limits
- Review no later than 1 January 2024 – scope of revision:
  - whether it is appropriate to set stricter ecodesign requirements for energy efficiency and for emissions of particulate matter (PM), organic gaseous compounds (OGCs), carbon monoxide (CO) and nitrogen oxides (NO<sub>x</sub>),
  - whether the verification tolerances should be modified.

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# Two ongoing EU H2020 projects addressing bioenergy use by the energy intensive industries



Increased renewable energy use in the European Energy Intensive Industries (EII) sector.

Website: <https://re4industry.eu/>



Focus on Intermediate Bioenergy Carriers (IBCs): torrefied biomass, fast pyrolysis bio-oil, microbial oil.

Website: <https://www.music-h2020.eu/>



The RE4Industry and MUSIC projects have received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 952936 and 857806 respectively.

# Bioenergy and Energy consumption in Energy Intensive Industries

Energy demand by industry and share of bioenergy for sectors dealing with biomass wastes and residues and for other sectors in EU27 in 2020 (ktoe and %)

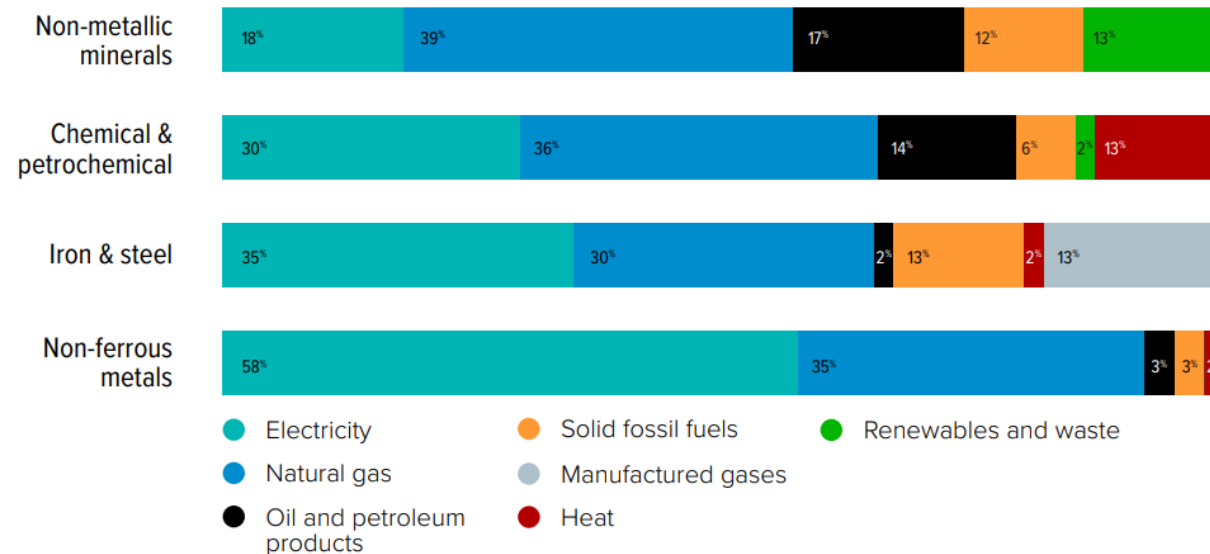
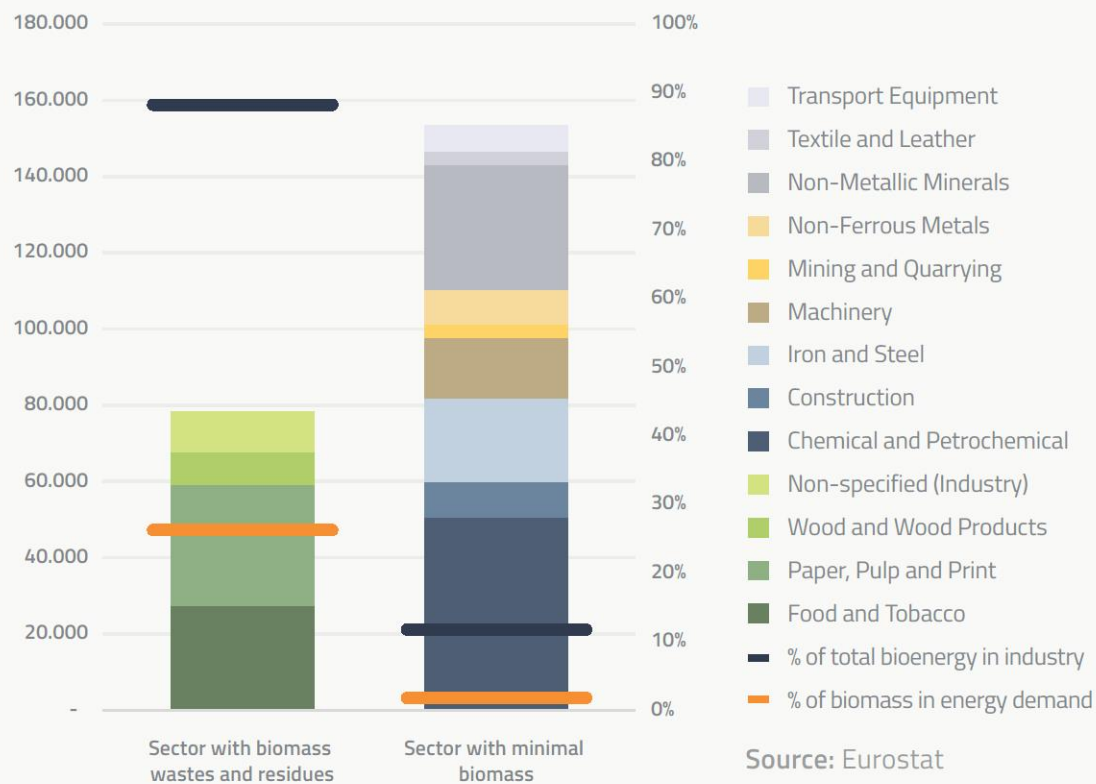


Figure 20: Relative shares of energy carriers in the final energy use of select energy intensive industries (2017) (Source: Eurostat, 2018)

Institute for European Studies (IES), Metals for a Climate Neutral Europe: A 2050 Blueprint

Quote: [IEA Bioenergy - Bioenergy for High Temperature Heat in Industry](#)

Bioenergy Europe, Statistical Report 2022 / Heat

# Bioenergy and the cement industry

- Average thermal energy consumption: 3,733 MJ/t clinker
- A few individual cement plants may go to almost 100 % thermal energy substitution by alternative fuels
- Cement plants typically use low/negative value biomass feedstocks: animal meal, sewage sludge, waste wood, sawdust
- As of early 2022, 15 Mt of cement production with carbon capture use or storage) have been announced → potential role for high quality / high-price biomass fuels?



Fuels in EU cement industry	2018	2030	2050
Alternative fuels – total	48 %	60 %	90 %
Biomass waste fuels	17 %	30 %	> 50 %

Sources: CEMBUREAU, Material Economics (2022) Scaling up Europe  
 Images: HERACLES / Holcim Milaki Cement Plant (Greece) – RE4Industry case study

# Bioenergy and the lime industry

- Average thermal energy consumption: 4,250 MJ/t quicklime
- Biomass around 2 % of fuel consumption in EU lime industry (EULA, 2012) – definitely higher for some lime plants
- > 470 lime kilns in almost all EU countries
- Nordics: around 20 operating installations in EU-ETS, with around 1.4 Mt CO<sub>2</sub> emissions (2020)
- Generally small-sized companies, with some exceptions → challenges in logistics
- With rising fossil fuel prices, using biomass makes increasing economic sense for the lime industry



Sources: EuLA, [RE4Industry mapping tool](#) data  
Image: CaO Hellas / Thessaloniki plant

# Bioenergy and the magnesia industry

- Average thermal energy consumption: up to 10,250 MJ/t of calcined products – very high temperatures (~ 2,000 °C) to produce DBM
- EU production concentrated in a few plants in Austria, Greece, Spain and Slovakia
- Up to 2016, no biomass use reported by the sector; at least one initiative has emerged since
- Sector targets 10 – 30 % biomass use as part of its emission reduction roadmap



Sources: Euromines (2022) The European Magnesite / Magnesia Industry: enabler in the transition to a low-carbon economy, [BAMBOO H2020 project](#)  
Image: Grecian Magnesite / Gerakini plant

# Bioenergy / biomass and the steel

- Projects to replace metallurgical coal with thermally treated biomass fractions (e.g. torrefied biomass, biocarbon from pyrolysis)
- In the framework of the MUSIC project and in Bioenergy Europe organizes a workshop on the **prospects of the use of biocoal for the metallurgical industry** along with a **field visit at ArcelorMittal Ghent** steel mill on 15-16 Feb 2023 – VERY FEW SEATS LEFT



Images: ArcelorMittal – the TORERO & Steelanol projects in the Ghent Steel mill

# Bioenergy / biomass and the chemical industry

## Chemical industry – Energy

- Substituting fossil fuels used for steam production with biomass may be a low-hanging fruit for decarbonizing the energy consumption of chemical industries



## Chemical industry – Renewable chemicals

- Interest in wood as feedstock for biorefineries, producing various renewable intermediate biochemicals for further use in production of cleaning agents, deicing fluids, fragrances, cosmetics, etc.



Images: Solvay Rheinberger plant (left); UPM biorefinery in Leuna, Germany (right)

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- Many uncertainties, but difficulties may still be expected for the pellet sector in the next heating season... afterwards improvement?
- **Regaining trust of consumers may be one of the major long-term challenges of the pellet sector**
- Political developments - in particular, REDIII – foster uncertainties and may jeopardize investments, either in pellet production capacity or pellet end-user uptake
- Interesting movements in new market segments – Energy Intensive Industries and SAF (USA) – at the moment, still a small part of consumption



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**SURE** ✓

SUSTAINABLE RESOURCES  
Verification Scheme GmbH

**For registration:**



## **Webinar – SURE sustainability certification for premium pellet producers | Tuesday February 7th (15:30 – 17:00 CET)**

- Overview of the SURE sustainability scheme
- Discussion on development of add-ons that go beyond current regulatory requirements – biomass origin, locality, etc.
- Experience of premium pellet producer already certified with SURE scheme

Thank you for  
your attention!