Market and policy trends for solid biomass fuels

BULK TERMINALS LISBON 2023
25-26 OCTOBER 2023

ASSOCIATION OF BULK TERMINAL OPERATORS (ABTO)

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#bepartofbioenergy

1. ABOUT BIOENERGY EUROPE
2. POLICY DEVELOPMENTS
3. MARKET TRENDS
4. FINAL MESSAGES AND CONCLUSIONS

Bioenergy EUROPE

About Us

Common voice of European bioenergy since 1990

Unites more than **40 associations** and around **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 Members

*as of October 2023

Companies

Associations

Academia

Our Working Groups

Members Only

Pellets
Next Date: H1 2024 (TBD)

Main topics: updates on European and global pellet markets (residential, commercial, industrial); pelletization technologies; agropellets and advanced pellets; communication and promotion of pellet usage

Competitiveness
Next Date: 16 Nov 2023

Main topics: policy files affecting the competitiveness of bioenergy sector within the EU (e.g. carbon tax, state aid, RePowerEU, Net Zero Industry Act, etc.)

Agro-biomass
Next Date: H1 2024 (TBD)

Main topics: markets and emerging initiatives for the use of agricultural residues, agro-industrial residues and energy crops; interconnections between agriculture & energy policy files

Sustainability
Next Date: 31 Oct 2023

Main topics: EU legislation impacting the sustainable mobilization of biomass feedstocks for energy production, e.g. RED II, RED III, Taxonomy, etc.

Wood Supply
Next Date: H1 2024 (TBD)

Main topics: markets for wood fuels (e.g. wood chips, sawdust, firewood, etc.); market and policy factors affecting wood supply; forest management & interaction with wood fuels markets

Domestic Heating
Next Date: H1 2024 (TBD)

Main topics: policy files related to biomass use for the domestic heating sector, such as building regulations, air emissions, Ecodesign and Ecolabelling regulations for biomass stove & boilers

Carbon Dioxide Removals
Next Date: 8 Nov 2023

Main topics: policy files regarding negative emissions (e.g carbon removals certification framework); technologies and projects for carbon removals from biomass (e.g. BECCS and biochar)

Task Force National Advocacy
Next Date: TBD

Scope: enhance cooperation between Bioenergy Europe and National biomass associations for more effective advocacy on EU and national levels

Task Force Communications
Next Date: TBD

Scope: share experiences and coordinate efforts on issues related to bioenergy communication for policy makers, stakeholders and the general public

Statistical Reports

Members Only

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Every year, our members are provided with unique new statistics and findings on 6 specific sectors of bioenergy, namely:

Bioenergy Europe's annual Statistical Reports – the leading sources of bioenergy statistics since 2007.

Enhanced Visibility & Sponsorship Exclusively for Members

The full reports are free for all Bioenergy Europe members, while non-members can gain a sample version. For more information, please contact Jérémie Geelen.

https://bioenergyeurope.org/statistical-report.html

	Bioelectricity	Published
	Biogas	Published
	Bioheat	Published
	Pellets	Published
	Bioenergy Landscape & Biofuels for Transport	Release date: November
	Biomass Supply	Release date: November

BIOENERGY EUROPE STATISTICAL REPORT 2023

Sponsored by:

SURE SUSTAINABLE RESOURCES Verification Scheme GmbH

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RED EVOLUTION THROUGHOUT THE YEARS

- 1997: Energy for the future: RES indicative target of 12% by 2010.
- 2001: Directive on electricity from renewables: national indicative targets.
- 2003: Directive on biofuels: national targets.
- 2009: RED: EU target of 20% target by 2020 and national binding targets.
- 2018: RED II: 32% renewables by 2030, indicative targets.
- 2021: RED III proposal in Fit for 55 package: 40% renewables by 2030
- 2023: REDIII to be finalized, 42.5% renewables target by 2030

Why are RED Sustainability criteria so important?

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

Harvesting requirements

LULUCF requirements

GHG emissions savings requirements

EXEMPTIONS (in REDII)

- **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 MS may set lower threshold)
- **Energy efficiency criteria** apply only to large-scale bioelectricity installations (above 50 MW)

Renewable Energy Directive (REDIII) Timeline

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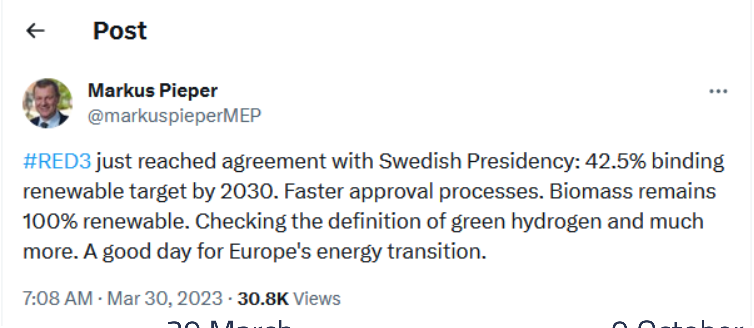
Post

Markus Pieper
@markuspieperMEP

#RED3 just reached agreement with Swedish Presidency: 42.5% binding renewable target by 2030. Faster approval processes. Biomass remains 100% renewable. Checking the definition of green hydrogen and much more. A good day for Europe's energy transition.

7:08 AM · Mar 30, 2023 · 30.8K Views

- 14 July 2021 EC REDIII Proposal
- 18 May 2022 – EC REPowerEU Proposal
- 6 October 2022 – First REDIII Trilogue
- 6 October 2022 – Emergency Measures Adopted (Expire June 2024)
- 19 December 2022 – REPowerEU added to REDIII Trilouge
- 29 March 2023 – Last REDIII Trilogue
- 12 September 2023 – EP Plenary Adoption
- 9 October 2023 – Council Adoption
- *We are here*
- November? 2023 – Publication in Official Journal
- December? 2023 – Entry into Force
- 1 July 2024 – Transposition Deadline for Emergency Measures
- June? 2025 – Transposition Deadline (18 months after EiF)

REDIII: Main Changes

Lower exemption threshold, covering smaller plants
(7.5 MW thermal capacity)

Ban on feedstocks
(No new definitions, such as primary woody biomass, and no bans)

GHG emissions saving thresholds
(All installations will have to reach 80% with a grace-period for existing installations)

Cascading use of biomass
(Regulated in the text, allows for exceptions)

No-Go areas:
(Risk-based approach for A-level countries, strictly applied for B-level countries)

Ability to provide support
(End of subsidies for industrial grade roundwood and stumps and roots, restrictions on new power-only plants using forest-biomass)

Details on SFM practices
(stricter language, explicit references to clear cuts and deadwood extraction)

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EU Deforestation Regulation (EUDR)

- Law entered into force **29 June 2023**
- Date for Compliance **24 December 2024 (25 May 2025 for SMEs)**
- Applies to everyone on the EU market (no capacity size restrictions)
- Requires Traceability, Reporting, Due Diligence
- **Requires geolocation of origin, date and time range of production**
- Will not allow for mass balance systems common in sustainability certification
- **Many unanswered questions on implementation, non-compliance, and fines**

Bioenergy in the Net Zero Industry Act (NZIA)

- Meeting with Commissioner for Internal Market Thierry Breton with delegation of CEOs on 6 June
- Letter with around 400 signatories to include bioenergy as a strategic technology in NZIA
- **Read more and sign the petition here: https://bioenergyeurope.org/articles/424-open-letter-europe-can-count-on-the-bioenergy-industry-for-its-net-zero-goals.html**

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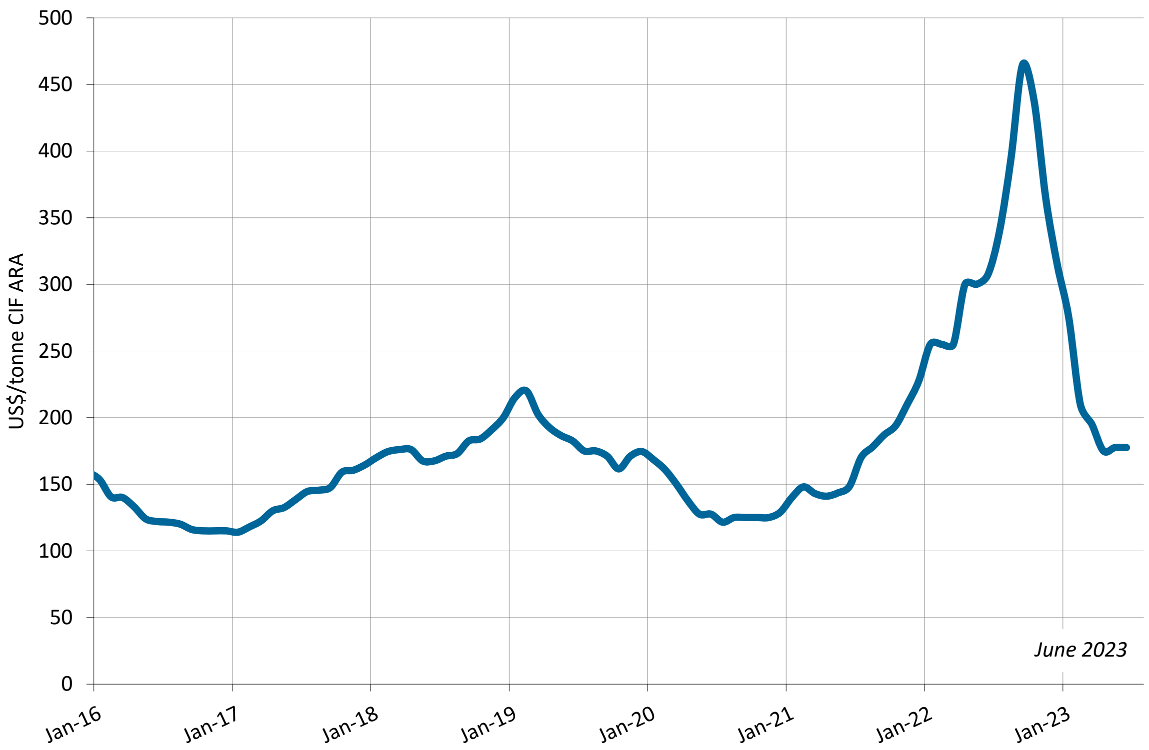
Pellet prices and market trends

Wood pellet spot prices, $/t CIF ARA



Source: Hawkins Wright Forest Energy Monitor

- Energy crisis: pellets following trend of other energy commodities, with prices starting to rise in H2 2021
- Trend continues following the Russian invasion of Ukraine
- Suspension of EN*plus*® certificates for Russian/Belarusian producers as of 15 April 2022
- EU sanctions stopping Russian pellet exports to Europe since July 2022
- Panic buys (especially in residential markets) result in short demand, driving prices still upwards
- Prices reach unprecedent peaks in autumn 2022…
- … then dropping due to a combination of factors: reduced industrial demand, mild weather, VAT reductions for residential consumers in some member states
- Currently, situation more stable (or "frozen"), with spot prices being somewhat higher than the historical average (rising material costs, inflation, etc.)

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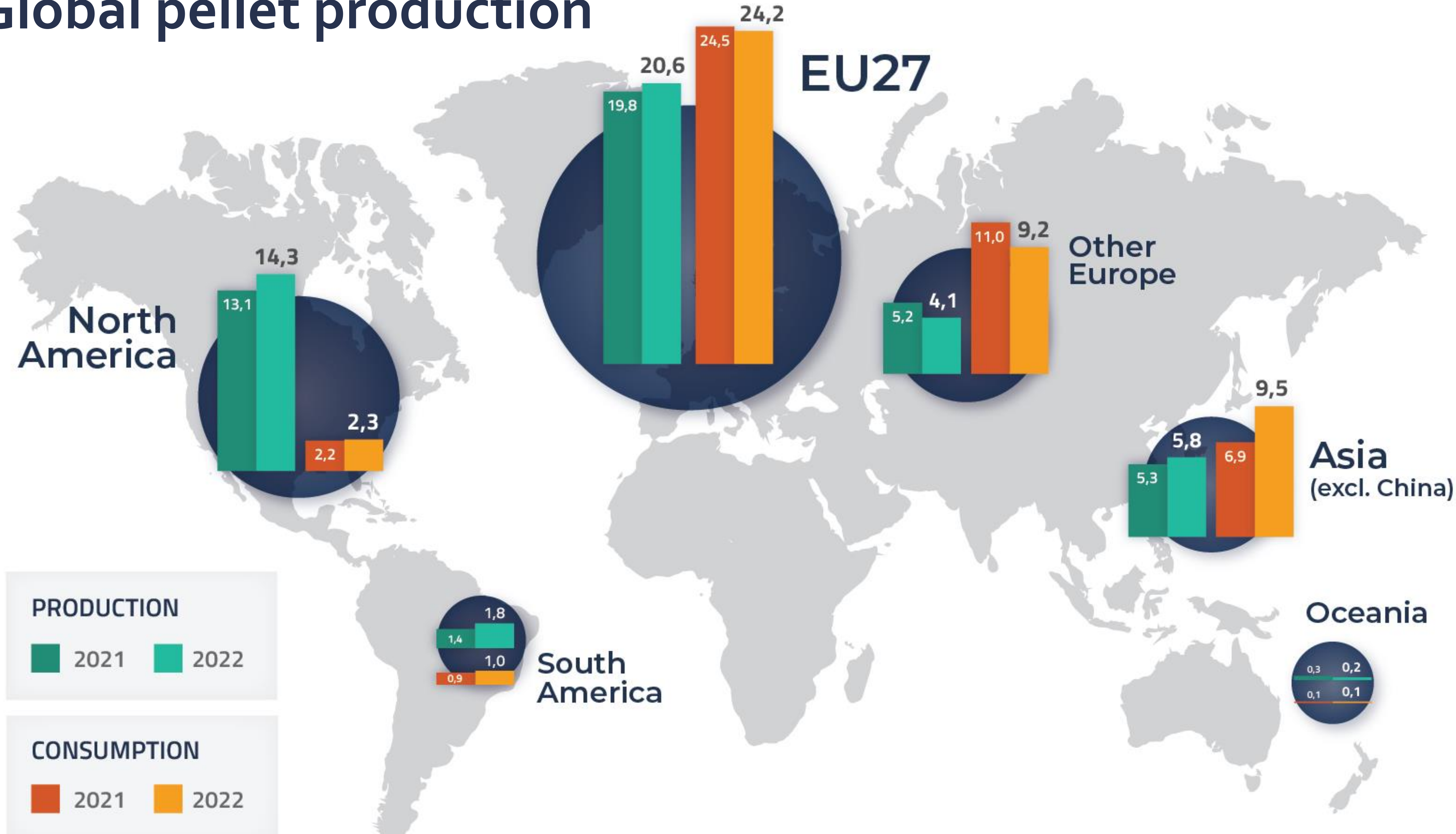
Global pellet production



European Wood Pellet Production in 2022

Source: EPC survey 2023, En*plus*, FAO, Argus Media

Actual Production (tonnes/year)

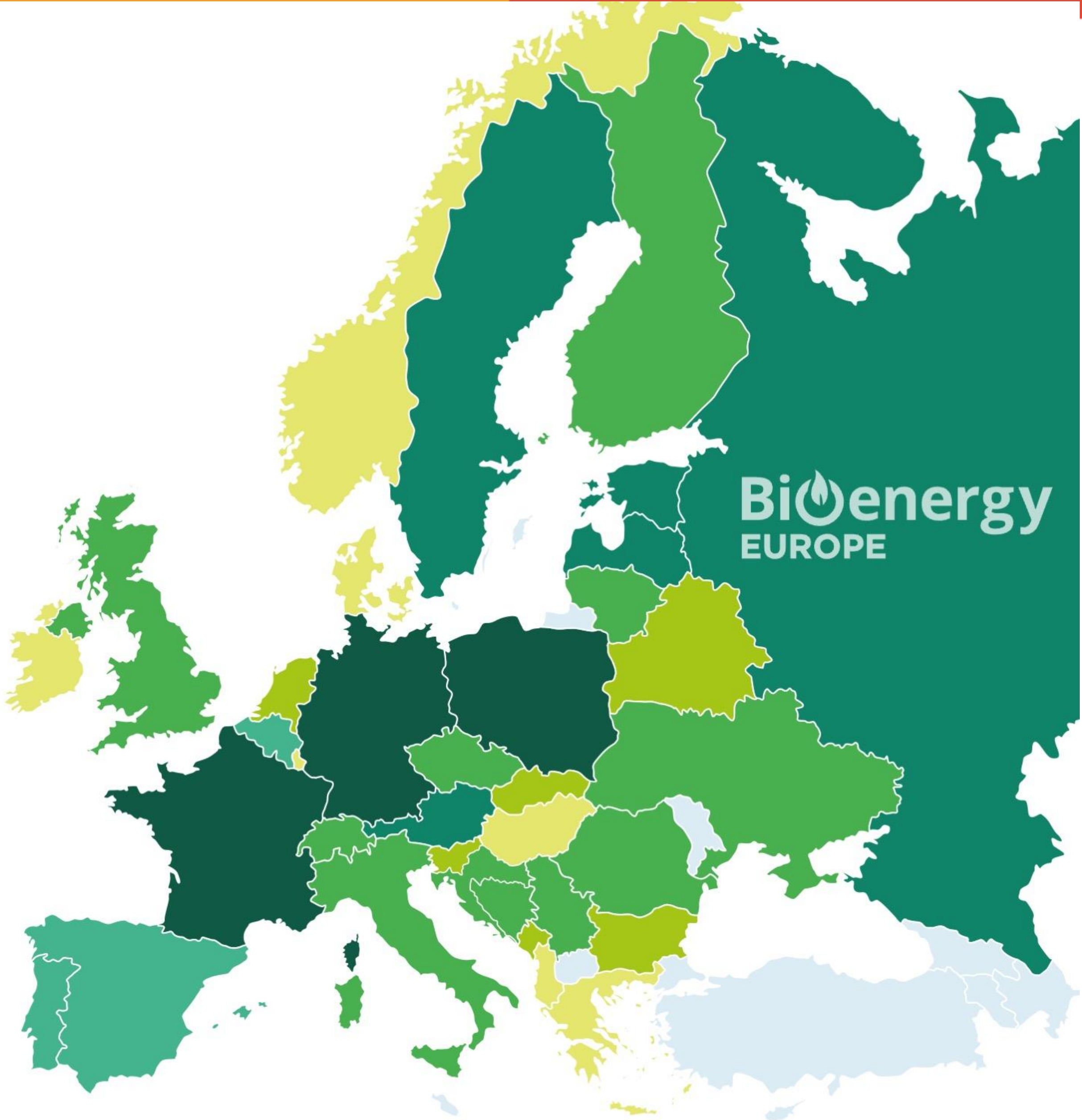
< 4M	< 600.000
< 2M	< 300.000
< 1M	< 100.000

*European production **decreased** by **1,6%** between 2021 and 2022*

2021 European Production
25,1
Million tonnes

2022 European Production
24,7
Million tonnes

Production in top 5 European countries in 2022



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European Wood Pellet Consumption in 2022

Source: EPC survey 2023, Hawkins Wright, Argus Media

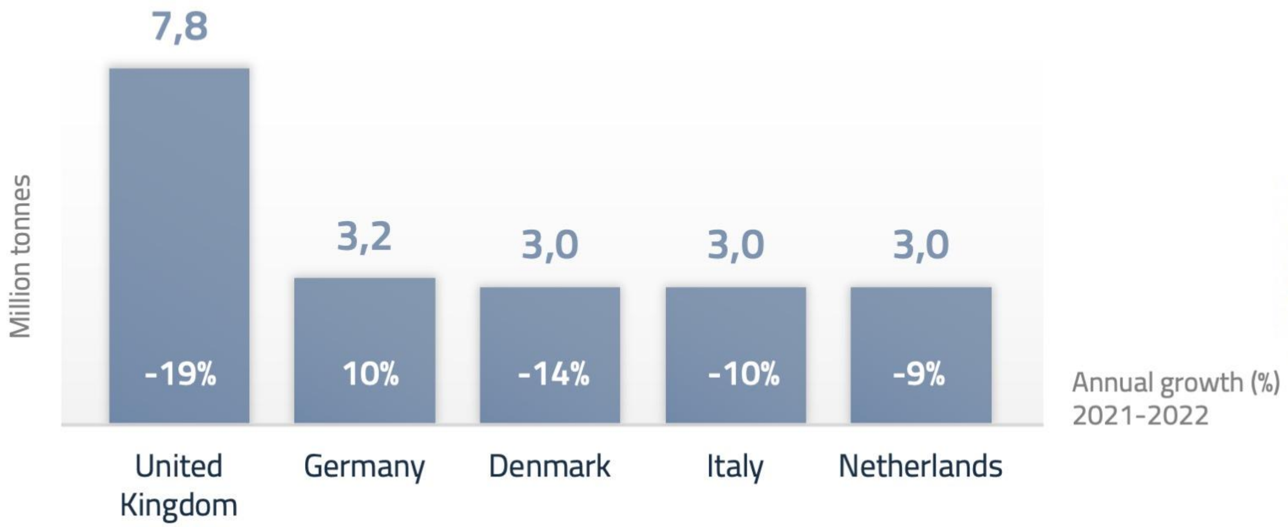
Actual Consumption (tonnes/year)

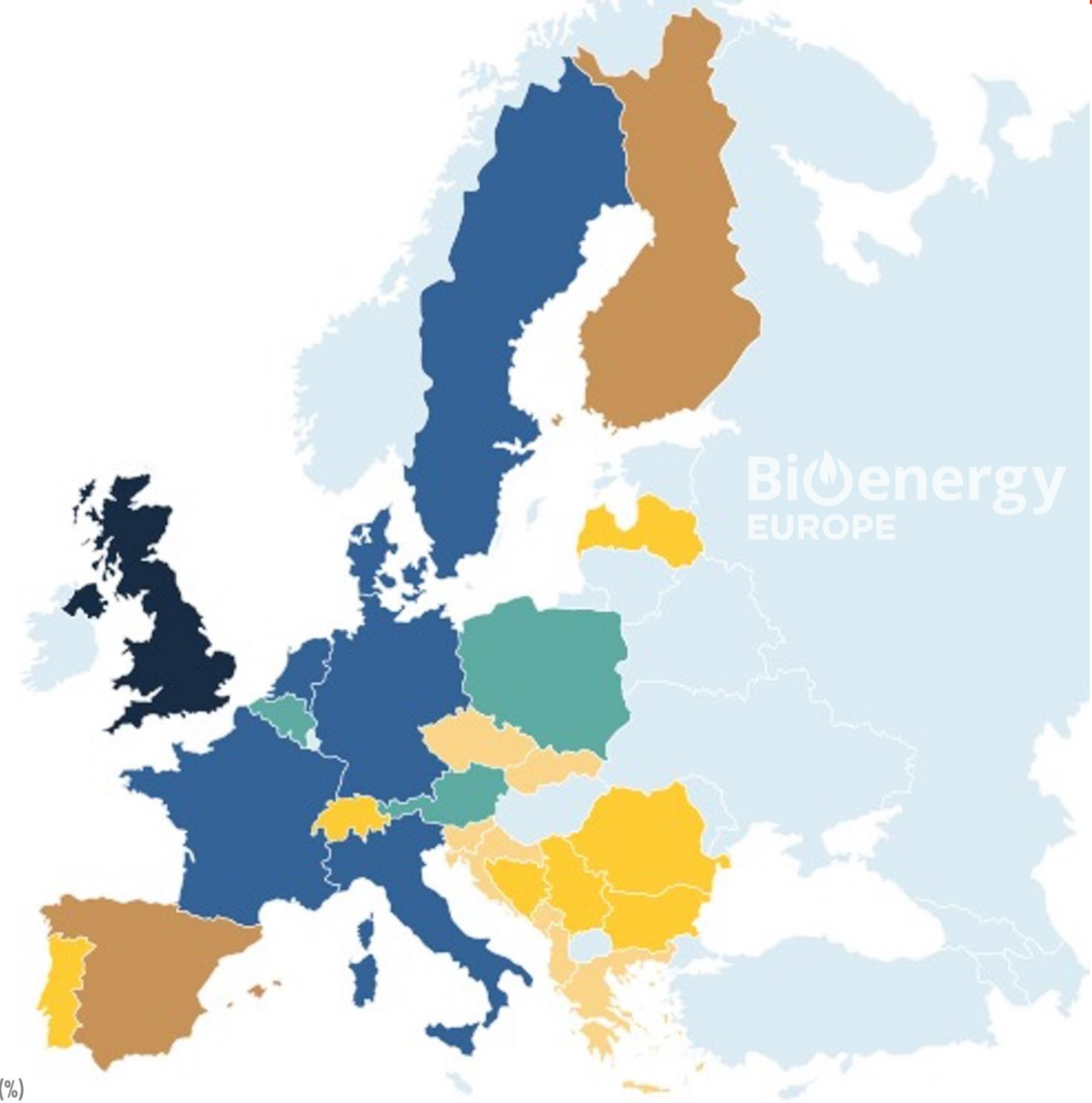
- > 4M
- < 4M
- < 2M
- < 1M
- < 500.000
- < 200.000

European consumption decreased by 6% between 2021 and 2022

2021 European Consumption	2022 European Consumption
35,5 Million tonnes	**33,4** Million tonnes

Consumption in top 5 European countries in 2022





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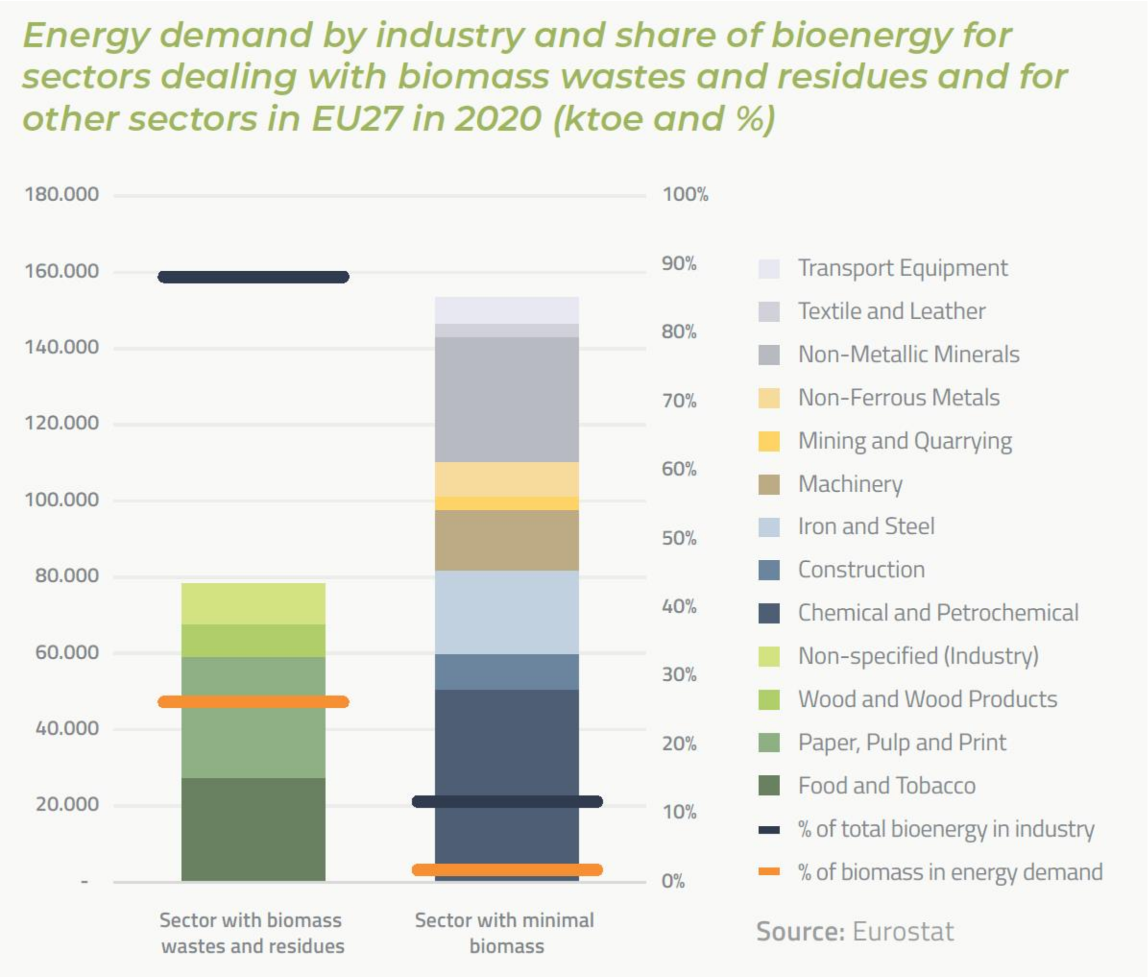
Residential pellet supply and demand - market situation & trends

- New pellet production capacity in Europe, primarily geared to residential markets
- Interest of non-EU countries to supply European markets with premium pellets: Turkey, Brazil, China, etc.
- Slowdown in consumption due to very mild weather and accumulated stocks
- Significant reduction of sales of pellet appliances vs. very high numbers of H1 2022 → impact of pellet prices, but also political discussions (German heating law)
- How to regain the trust of consumers?

Industrial pellet supply and demand - market situation & trends

- European demand destruction in 2022/2023 for several reasons: impact of CfD scheme in UK, mild weather, planned and unplanned outages, possibility of units to use coal in Netherlands, etc.
- Demand expected to start increasing again in H4 2023
- New demand expected to come from MGT Teesside (UK), which is starting commercial operations
- All European utilities are announcing plants for BECCS that will allow them to continue operating beyond 2026/2027
- Asian demand still growing strong, although somewhat supressed in H1 2023
- Limited industrial capacity growth in Europe, but increases in North America (US) primarily geared for Asian markets
- New market segments attract a lot of attention…

Bioenergy and Energy consumption in Energy Intensive Industries



Bioenergy Europe, Statistical Report 2022 / Heat

Biomass is a well-established option for wood & food processing industries – but interest in **Energy Intensive Industries and other hard-to-abate sectors is growing**

Quote: IEA Bioenergy - Bioenergy for High Temperature Heat in Industry

The role that bioenergy plays in the global energy mix has expanded over the last decades, from predominantly domestic space heating and industrial heat until the 1990's to increased use in the electricity sector and more recently also large scale production of transportation fuels. According to the IEA 2DS scenario, the use of biomass to produce high temperature heat in industry will not decrease, but quadruple from 8 EJ today to about 24 EJ in 2060.

New prospects for biomass markets

- Cement industry: very high targets for use of alternative fuels – biomass is mostly waste fuels
- Lime industry: interest in biomass fuels reflected both in industry plans & sector roadmaps. Wood pellets and chips are well positioned to support a fuel transition. Movements also in other industrial mineral sectors (e.g. magnesia)
- Steel industry: interest and projects to replace metallurgical coal with thermally treated biomass (torrefaction, biochar).
- Chemical industry: biomass for the production of steam or as a carbon molecule for various products
- Aviation fuels: movements with potentially huge implications for SAF production
- Maritime fuels: some interest, primarily through methanol & pyrolysis oil pathways, but more competition with alternatives there
- Combination with (BE)CCS/U of high interest to such applications

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

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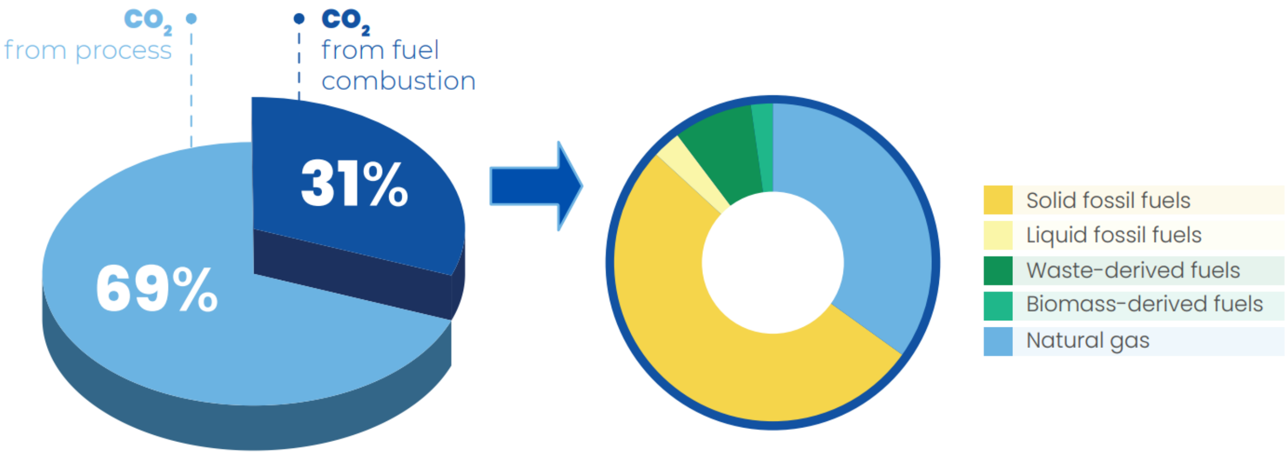
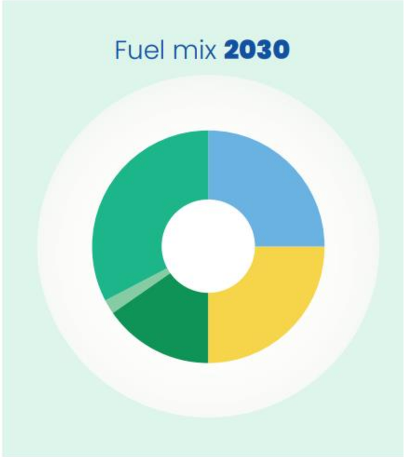
Fuel switching in the EU lime industry

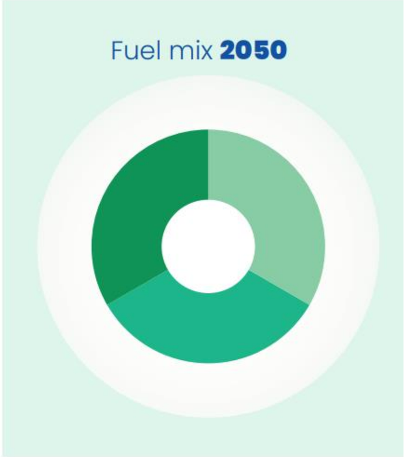
Current situation



By 2030



By 2050



About 1/3 of the fuel demand of the EU lime industry is expected to be covered by biomass fuels by 2030

Sources EuLA (2023) A PATHWAY TO NEGATIVE CO2 EMISSIONS BY 2050 - The contribution of the lime industry to a carbon-neutral Europe

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- European biomass markets very much affected by political developments – some (REDIII & biomass sustainability criteria) now hopefully settled
- BECCS → enabler of industrial wood pellet demand in Europe
- Very interesting movements in new market segments: energy intensive industries & SAF
- In the long run, industrial pellet consumption – and hence bulk handling – is more likely to increase than decrease

North America wood chips to Europe?

- Up to now, limited trade due to high cost of heat phytosanitation
- Sea container phytosanitation → first test shipments arrived in Europe in Aug 2023
- Lower costs, but can handle only smaller volumes → ideal for testing in new production pathways
- Chemical treatment options for bulk transportation under consideration

European Bioenergy Future

November 2023 at BluePoint Brussels

28-29: Main conference 30: Technical sessions

Info and Registration:
www.bioenergyeurope.org/events/ebf2023

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Thank you for your attention!

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