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Irish Wood Heating Market Perception

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WOOD HEAT 2024: UK Biomass Heat Industry Conference

The Delta Nottingham Belfry

16th October 2024

SmallScale



FarmBIOGAS



About the Irish Bioenergy Association (IrBEA)

- ESTABLISHED IN 1999
- REPRESENTATIVE VOICE OF THE IRISH BIOENERGY INDUSTRY ON THE ISLAND OF IRELAND, WORKING ON BEHALF OF:
- BIOMASS, BIOGAS/BIOMETHANE, BIOFUELS, BIOCHAR, WOODFUELS & ENERGY CROP SECTORS.
- POLICY, LOBBYING & ADVOCACY, KNOWLEDGE TRANSFER.
 - BROAD AND DIVERSE MEMBERSHIP INCLUDING: FARMERS, FORESTERS, SMEs, TECHNOLOGY PROVIDERS, CONSULTANTS, SEMI-STATE ORGS, FUEL SUPPLIERS, ACADEMIC BODIES, FINANCIAL INSTITUTIONS ETC.
- CURRENT PROJECTS: WFQA, EIP SBDP, CASCADE, MBDP

• FIND OUT MORE AT WWW.IRBEA.ORG

“Working Towards a Sustainable Energy Future with Bioenergy”



External Affiliations

Bioenergy
EUROPE

EBA
European Biogas
Association

Renewable Energy
Ireland

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IrBEA Factsheet Series

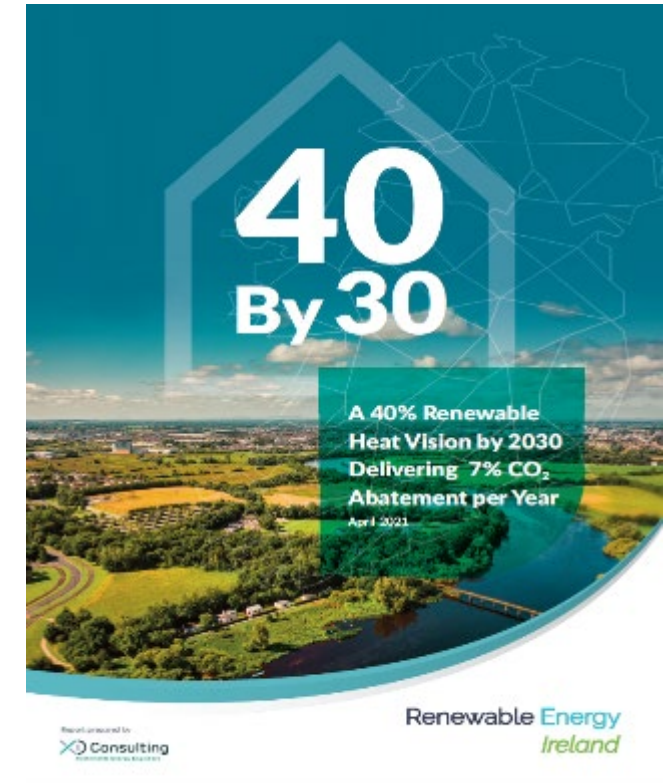
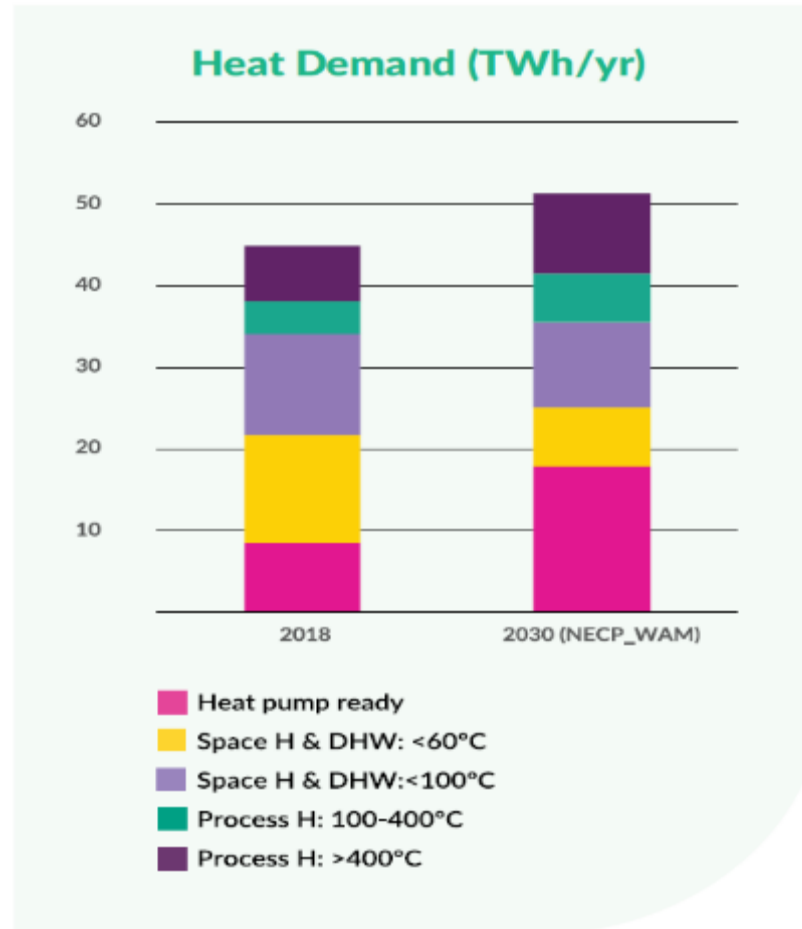
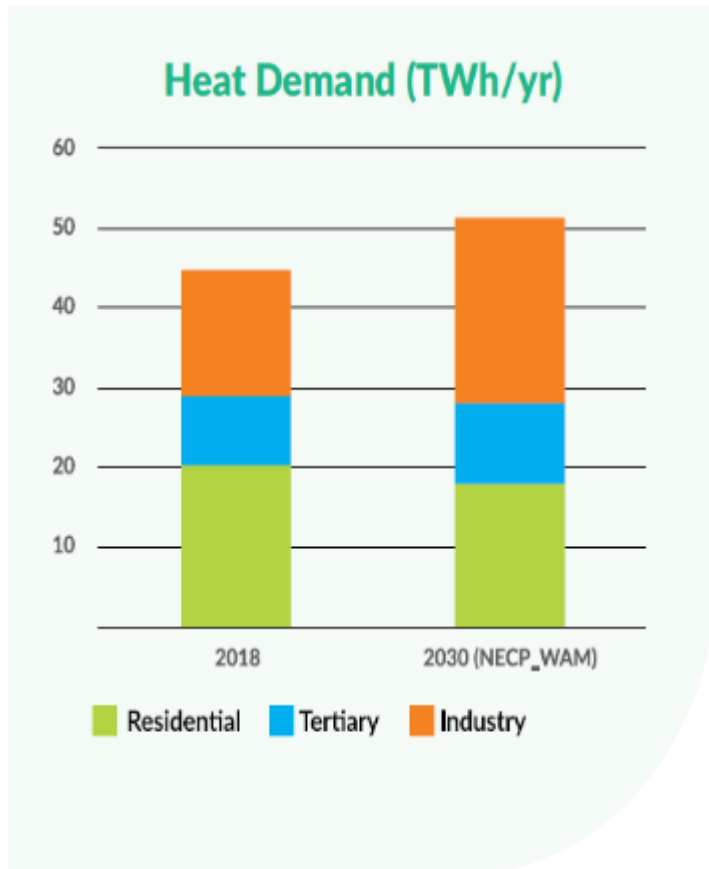
- Series launched 2022 – available at:
<https://www.irbea.org/irbea-factsheets-2022/>



IrBEA Bioenergy Webinar Series

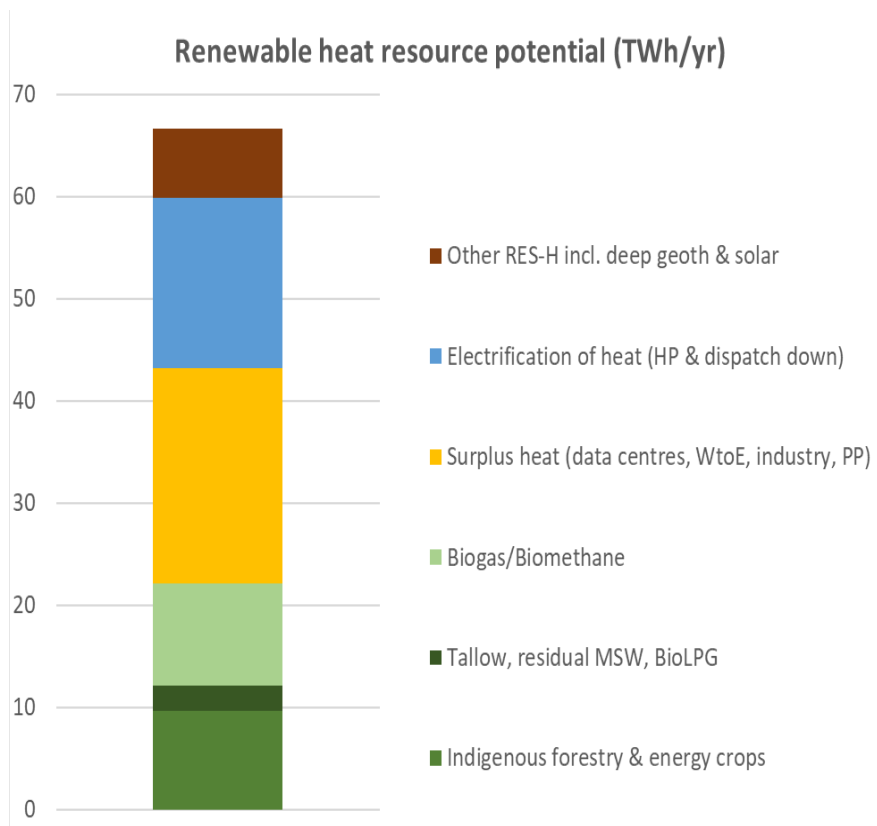
Webinar 1: Using the right fuel, the right way in the right appliance	Webinar 26: Transport in Ireland - A Pathway to Halving Emissions
Webinar 2: District Heating - Decarbonising our heat demands	Webinar 27: Balcas Energy - Delivering decarbonised heat, hot water and process steam through wood pellet biomass
Webinar 3: Biodiesel and bioethanol reducing transport emissions	Webinar 28: Celnis Analytical - The Role of Analytics in maximising bioenergy feedstock potential
Webinar 4: Sustainable Bioenergy – Achieving Carbon neutrality and compliance with RED II	Webinar 29: Energy Supply Contracts delivering decarbonised biomass heating without the capex
Webinar 5: Producing quality wood fuels for the Irish market	Webinar 30: MyGug Micro Scale AD – A food waste solution providing biogas to small businesses & households
Webinar 6: Biomass options for Domestic Heating	Webinar 31: Ireland's Forest Resource and Potential to 2040and WFQA Animation launch
Webinar 7: The Role of Edenderry Power Limited in the Irish Biomass Supply Chain	Webinar 32: The Agrobioheat Project and the role of agro biomass in renewable heat
Webinar 8: Policy and Action needed to mobilise a Biogas Industry	Webinar 33: Bioenergy - The Swedish experience to the largest energy source
Webinar 9: Potential for small scale AD on Irish farms	Webinar 34: Bioenergy - Launching IrBEA's Factsheet Series
Webinar 10: Digestate from Biogas as a Biofertiliser	Webinar 35: Highlights from the National Bioenergy Conference – conversations and next steps
Webinar 11: Biogas - An update from a European perspective	Webinar 36: The new Irish Solid Fuel Regulations explained
Webinar 12: The role of Bioenergy meeting the global decarbonisation challenge	Webinar 37: Sustainable Aviation Fuel – The potential and opportunity for bioenergy
Webinar 13: The value of Ireland's private forests - timber, energy and the bioeconomy	Webinar 38: The Danish Biogas industry as a model for Ireland
Webinar 14 Addressing Air Quality concerns using dry wood fuel	Webinar 39: NNFFC's 2023 Irish anaerobic digestion report explores current deployment & growth in Ireland
Webinar 15: Showcasing Europe's most advanced Irish owned biorefinery	Webinar 40: An update on the Midlands Bioenergy Development Project
Webinar 16: Biochar Addressing the Environmental and Climate Challenges	Webinar 41: Exploring the sustainable management of agricultural green waste
Webinar 17: Running a successful bioenergy business in rural Ireland - The Cotter Bros story	Webinar 42: The EBA statistical report 2023: Highlighting the rapid growth in European biomethane production
Webinar 18: Green Generation - An organisation harnessing the circular economy to decarbonise Ireland.	Webinar 43: Explaining Specified Biomass Harvesting: Realising the Biomass Opportunity
Webinar 19: Sustainable Bioenergy - Update from Brussels on a fast changing legislative framework	Webinar 44: Launching the Interreg Cascade project and updates from the Irish Biochar sector
Webinar 20: Biomass Trade Centres - Mobilising Irelands Bioenergy Res to meet the Climate Change Challenge	Webinar 45: The Biomethane Strategy – Industry insights, Feedback and Analysis
Webinar 21: Incorporating Bioenergy in District Heating Networks	
Webinar 22: One Stop Shop - A platform to assist community energy projects	CHECK OUT THE RECORDING OF EACH WEBINAR ON WWW.IRBEA.ORG OR IrBEA's U TUBE CHANNEL
Webinar 23: 40by30 - Bioenergy's contribution to a 40% Renewable Heat Target by 2030	
Webinar 24: Support Scheme for Renewable Heat (SSRH)	
Webinar 25: Outlining the Proposed Renewable Heat Obligation Scheme	

Heat demand in Ireland to grow by 14% by 2030

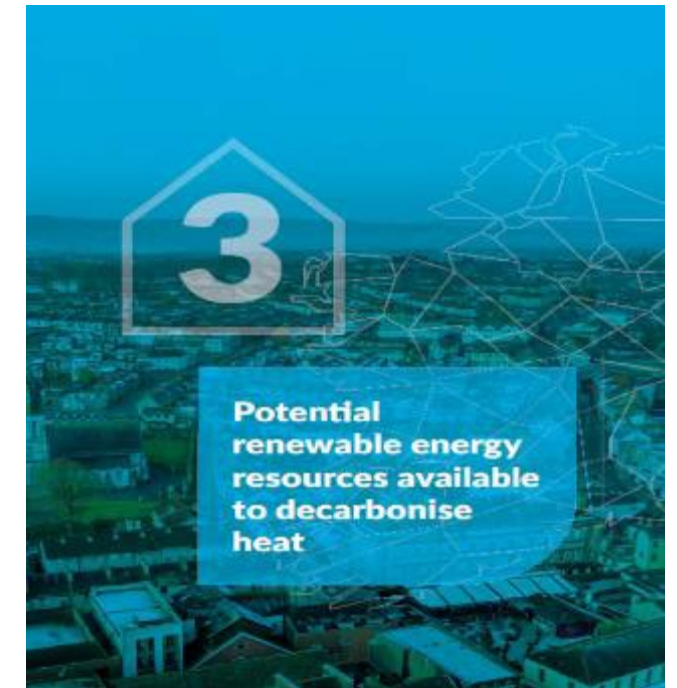
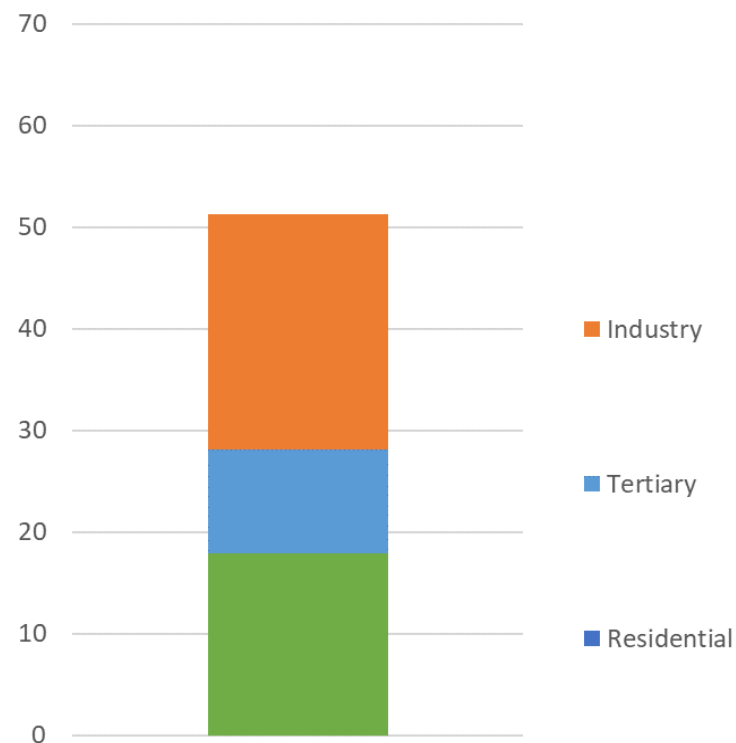


Ireland RES - Heat Resources

- Ireland is endowed with enough RES-H resources to meet 100% of our future heat demand



Sectorial Heat Demand Projection for 2030



Biomass in domestic sector at a European level

Types of energy sources used for heating and cooling in the residential sector by EU27 Member States in 2021 (%)

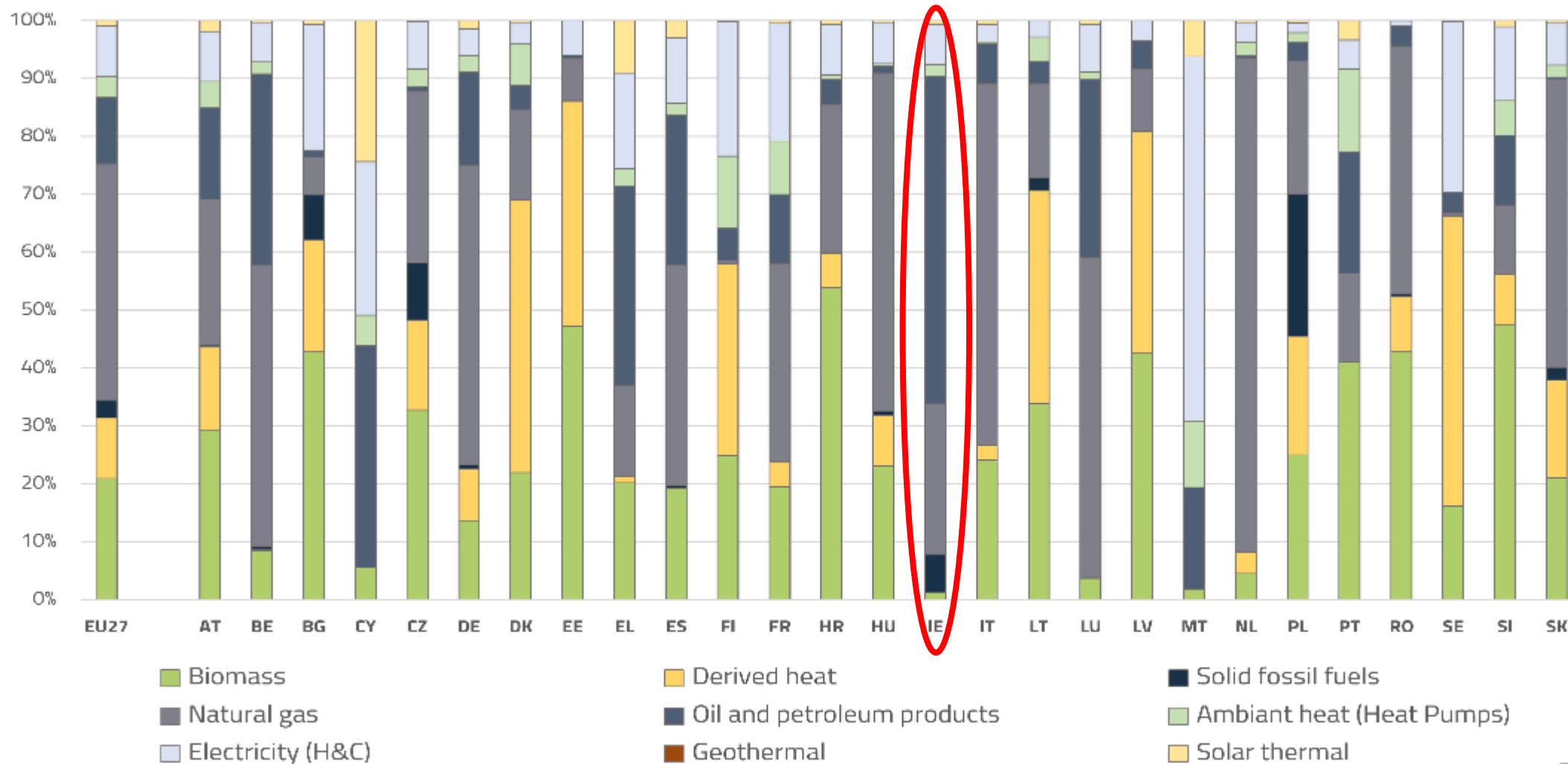
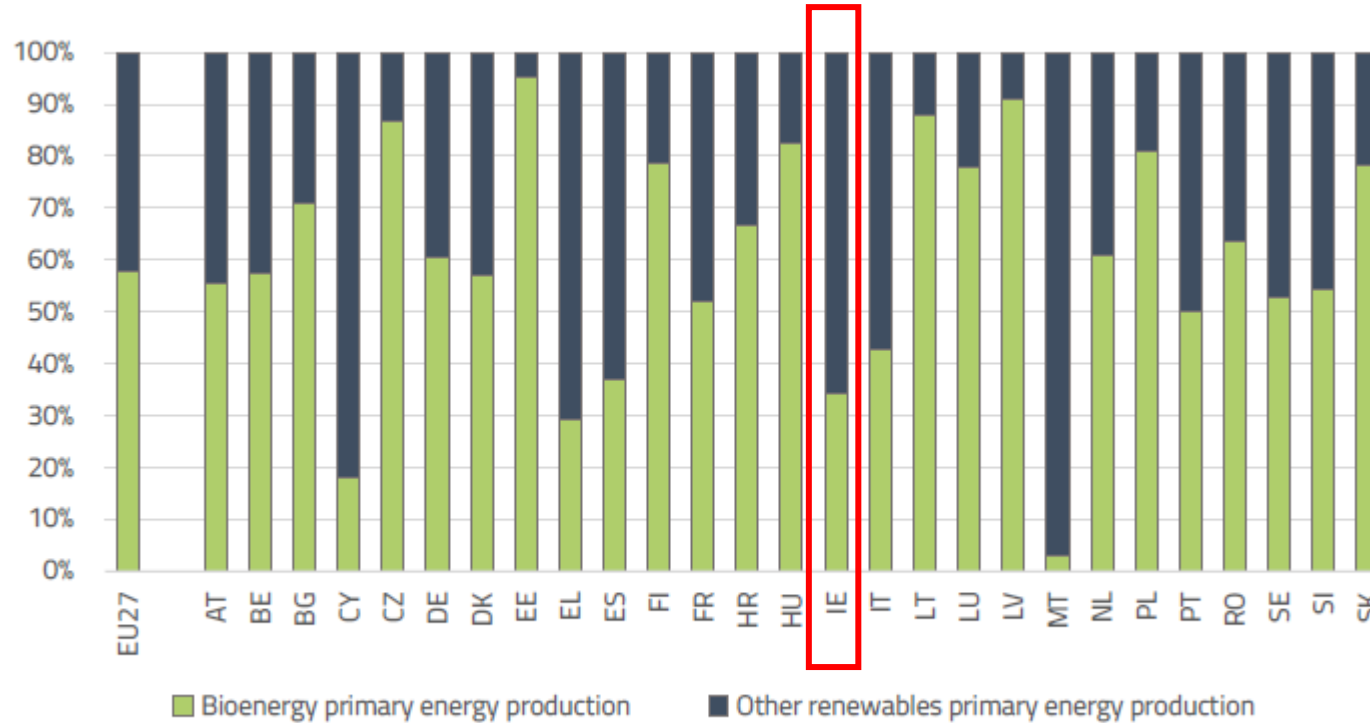


Figure 14 Contribution of biomass to primary renewable energy production in EU27 MS in 2021 (%)

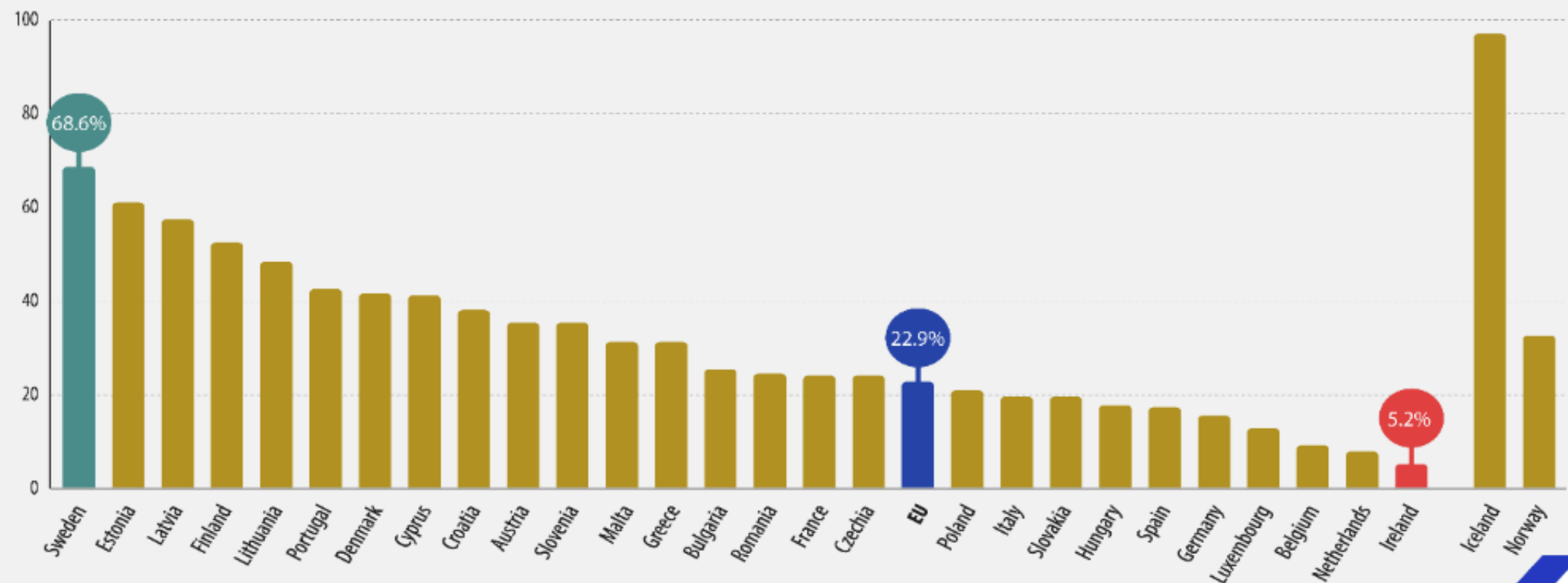


Source: Eurostat

Bioenergy represents 1/3 of total renewables
Vs almost 2/3 at EU level

Share of energy from renewable sources for heating and cooling, 2021

(%)



eurostat 

Industrial

- No direct financial support from government
- Distracted policy for past 5 years (electrification)
 - Fear of unsupportive policy
 - Electrical connection problems
 - Running cost fears
- Corporate responsibility now a catalyst for advance on bioenergy
 - Individual decisions by industrial sectors
 - Considerable growth of interest in 12 months
- Dairy & pharma processing

Large Biomass Plants, Ireland

Danone

4MW Biomass
Steam boiler
Worlds First Certified
Carbon Neutral plant

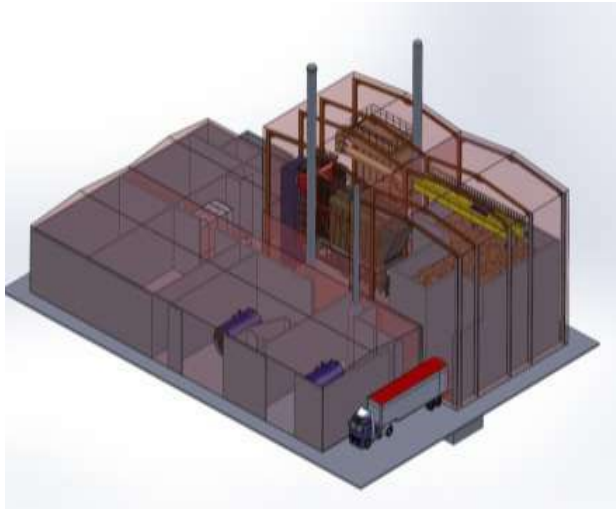


Astellas Pharma, Killorglin

1.8MW Biomass Steam Generator
30% Energy cost savings
ISO 50001 Energy Management

Aurivo

10MW Biomass
Steam boiler
Dairy Processing



Laois Sawmills (Green Wood Pellets)

8MW biomass furnace
40,000t wood pellet production

Commercial (SSRH)

- Supported by the Support Scheme for Renewable Heat (SSRH)
- Most progress in agriculture and hospitality
- Slow to start
- Administrative barriers
- Genuine political support questionable
- 60 systems “on the payment cycle”
- 36 systems in progress
- 38 applicants not progressing
- Comparative HP scheme received 17 applications

Commercial

- High heat demands
- SSRH Eligible
- Infrastructure / space
- Track History
- Simple business models



Support Scheme For Renewable Heat

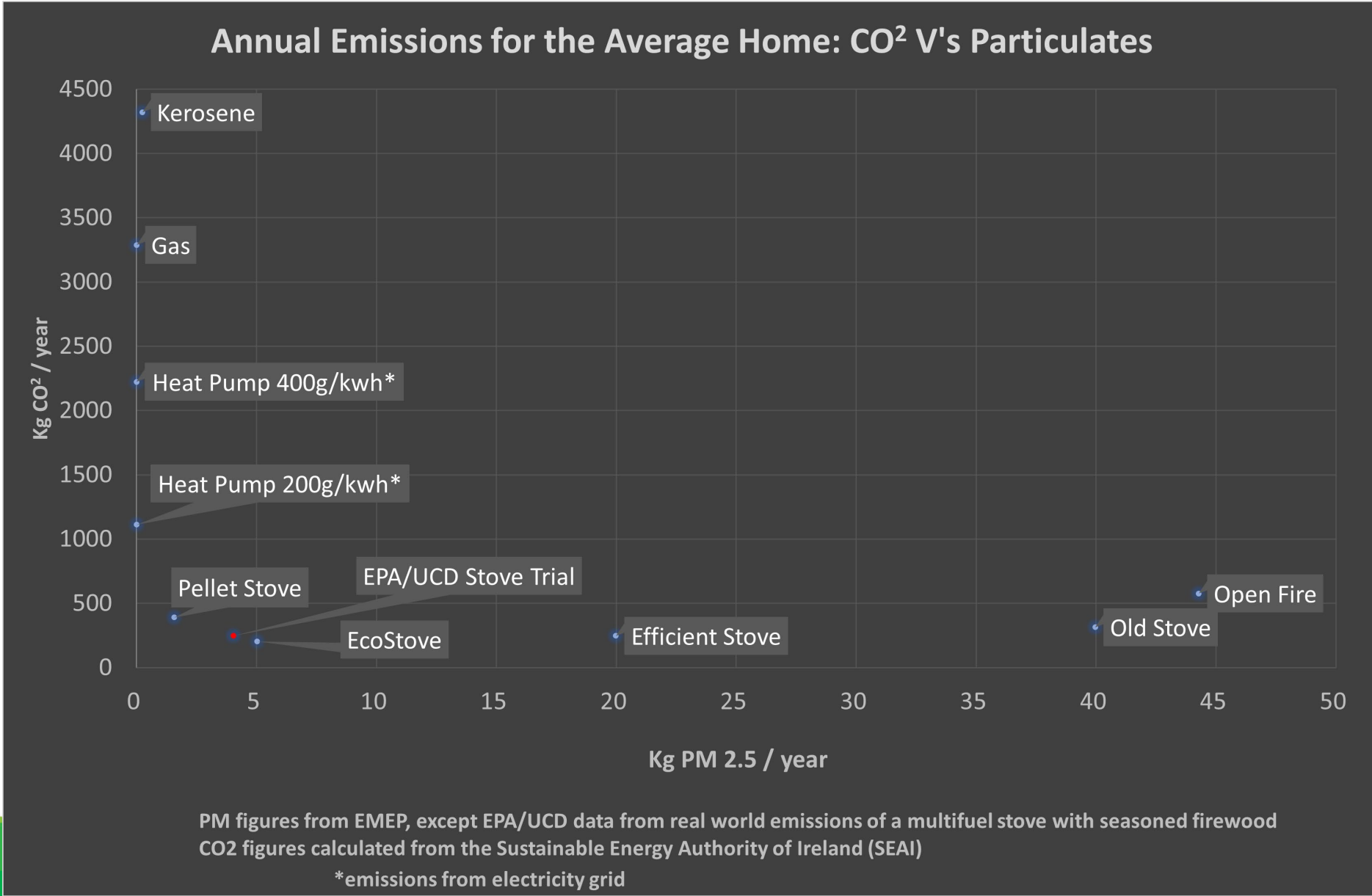
SSRH Tiers and Rates					WORKED EXAMPLES			
Tier(s)	MWh Limit	c/kWh	Tier Value	Total Value	Pellets 95% Efficient Boiler		Woodchip 90% Efficient Boiler	
							Moisture Content	25%
					Tonnes	Rate/ tonne	Tonnes	Rate/ tonne
1	300	5.66	€ 16,980	€ 16,980	65	€ 261.32	86	€ 196.72
2	1000	3.02	€ 21,140	€ 38,120	152	€ 139.43	201	€ 104.96
3 & 4	10000	0.50	€ 45,000	€ 83,120	1,949	€ 23.09	2,589	€ 17.38
5	50000	0.37	€ 148,000	€ 231,120	8,664	€ 17.08	11,509	€ 12.86

Biomass READY RECONER		100kw	250kw	500kw	1MW	2MW	4MW	8MW
	1000hrs	€ 5,660	€ 14,150	€ 23,020	€ 38,120	€ 43,120	€ 53,120	€ 73,120
	1500hrs	€ 8,490	€ 19,245	€ 30,570	€ 40,620	€ 48,120	€ 63,120	€ 90,520
	2000hrs	€ 11,320	€ 23,020	€ 38,120	€ 43,120	€ 53,120	€ 73,120	€ 105,320
	3000hrs	€ 16,980	€ 30,570	€ 40,620	€ 48,120	€ 63,120	€ 90,520	€ 134,920
	5000hrs	€ 23,020	€ 39,370	€ 45,620	€ 58,120	€ 83,120	€ 120,120	€ 194,120
	7000hrs	€ 29,060	€ 41,870	€ 50,620	€ 68,120	€ 97,920	€ 149,720	€ 231,120

Domestic

- No (current) Government Support
 - Direct supports for building upgrades and heat pumps, not biomass
 - Biomass systems discriminated against in DEAP Software
 - Public desire far exceeds governments ambition
- Considerable private investment in stoves
- Marginal investment in biomass boiler systems
- Certification of all solid fuels required since Oct 2022
 - Significant growth in certified firewood and briquettes

Annual emission levels for the average home





Certification of wood fuels, wood pellets, chip, firewood, briquettes

98 WFQA certified suppliers in total

29 Chip

69 Firewood

5 Pellet

5 Briquette

-  Woodchip
-  Firewood
-  Wood Pellets
-  Briquettes



Biomass Sustainability RED 3 Requirements

RED III Directive sets out detailed criteria around sustainability of all bioenergy fuels, solid biomass, liquid biofuels, gaseous fuels.

Land Use Criteria

Legality of land use and harvest

Sustainability of forest production capacity

Green House Gas Criteria

Minimum reduction for Electricity and thermal
70% by 2021
80% by 2026

Minimum reduction of 65% by 2021 for transport fuels

Biodiversity protection

Forest regeneration

Protection of sensitive areas e.g. waterways, wetlands & peatlands.

Soil quality and biodiversity



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