



Ukraine: status and prospects

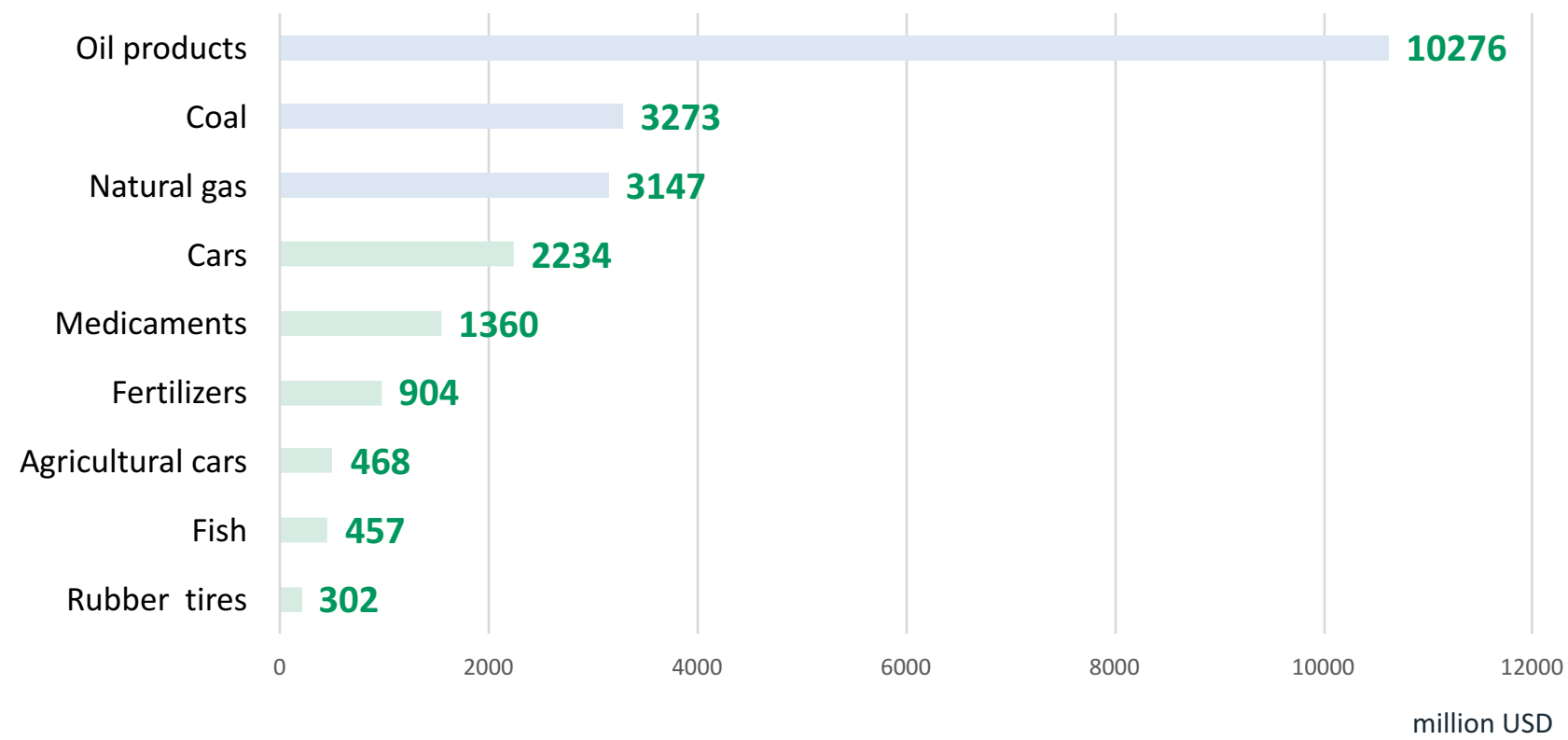
Sofiia Levinska

Project Manager and PR Manager,
Bioenergy Association of Ukraine (UABIO)

5 March 2020, Wels, Austria

Ukraine imports energy on 17 bill USD – 27% of total import in 2018

The structure of Ukraine’s net import in 2018. Principal items



Energy Potential of Biomass in Ukraine is enough to replace all gas and coal imports (2018)

Type of biomass	Theoretical potential, Mt	Potential available for energy	
		Share of theoretical potential, %	Mtoe
Straw of grain crops	32.8	30	3.36
Straw of rapeseed	4.9	40	0.68
By-products of grain corn production (stalks, cobs)	46.5	40	3.56
By-products of sunflower production (stalks, heads)	26.9	40	1.54
Secondary agricultural residues (sunflower husk)	2.4	100	1.00
Wood biomass (firewood, felling residues, wood processing waste)	8.8	96	2.06
Wood biomass (dead wood, wood from shelterbelt forests, pruning)	8.8	45	1.02
Biodiesel (rapeseed)	-	-	0.39
Bioethanol (corn and sugar beet)	-	-	0.82
Biogas from waste and by-products of agricultural sector	1.6 bln m ³ CH ₄	50	0.68
Landfill gas	0.6 bln m ³ CH ₄	34	0.18
Sewage gas (industrial and municipal wastewater)	1.0 bln m ³ CH ₄	23	0.19
Energy crops:			
- willow, poplar, miscanthus (1 mln ha*)	11.5	100	4.88
- corn for biogas (1 mln ha*)	3.0 bln m ³ CH ₄	100	2.58
TOTAL	-	-	22.93

44%

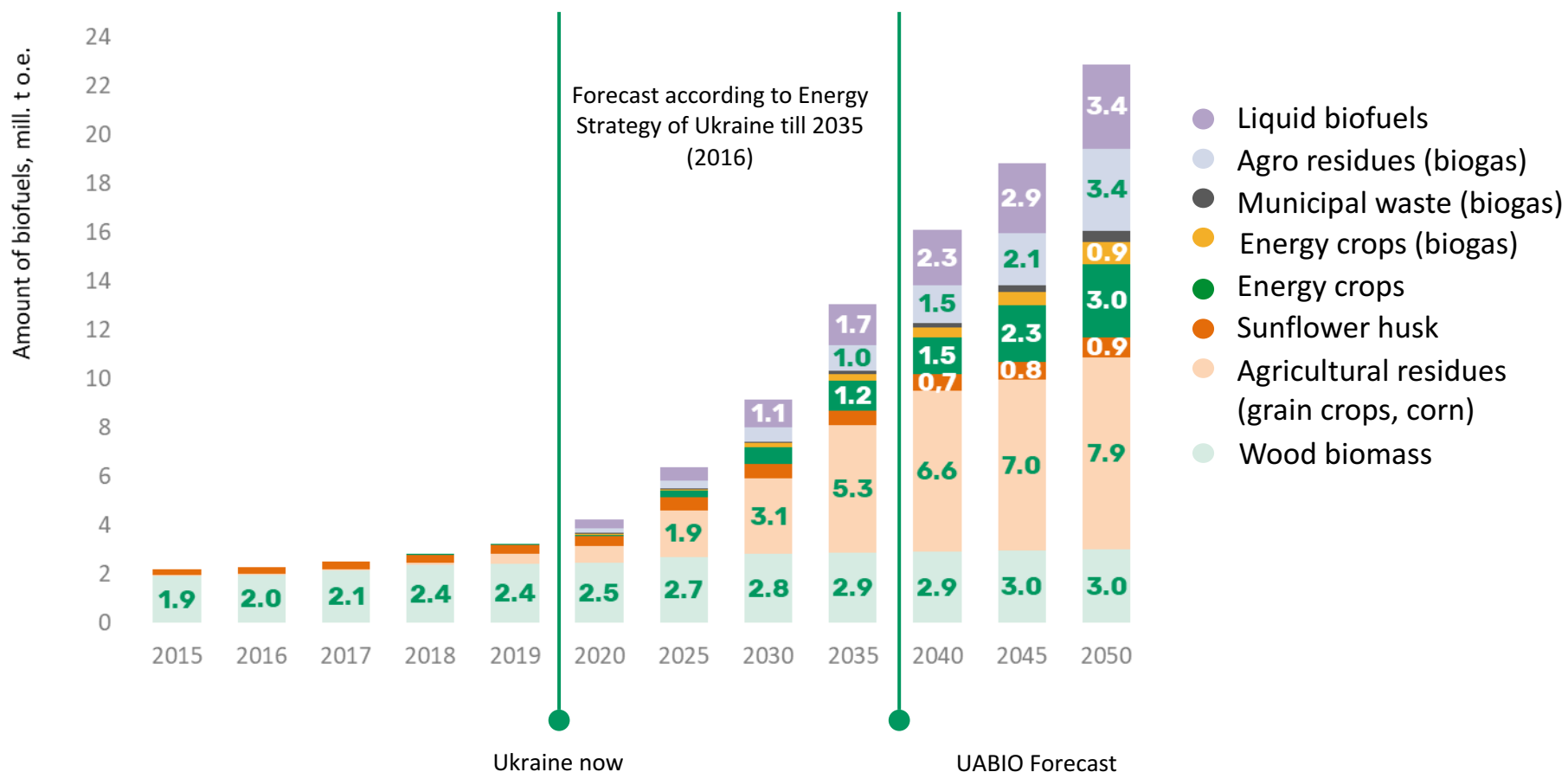
32%

* In case of growing on 1 mln ha of unused agricultural land.

Source: UABIO calculations

Agrobiomass and energy crops are the Future of Bioenergy in Ukraine

Total amount of consumption and structure of solid biofuels in Ukraine (2015 – 2050)



Biomass energy consumption in Ukraine

● Feedstock →



Woody biomass

Firewood,
wood industry residues

81%



Agricultural biomass

Straw, sunflower husk,
manure

17%



Biowaste

Solid municipal waste

2%

● Technology →



Individual

73%



Boilers



Stoves



Industrial

27%



Heat
plants



Power
plants



CHP



Biogas
plants

● Output



Heat

94%



Electricity

4%



Transport fuel

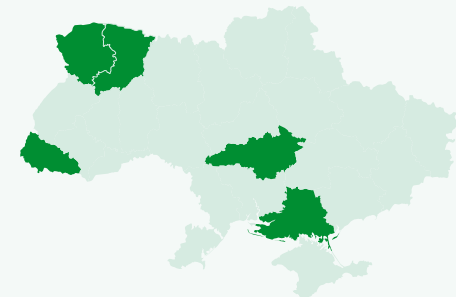
2%

Bioenergy growth in Ukraine

31%
per year*



⚡ Biofuels that were produced in 2018 are enough to energy supply of 5 regions of Ukraine during a year:



5 Volynska
Zakarpatska
Kirovohradka
Rivnenska
Khersonska

*average growth temp in 2010-2018



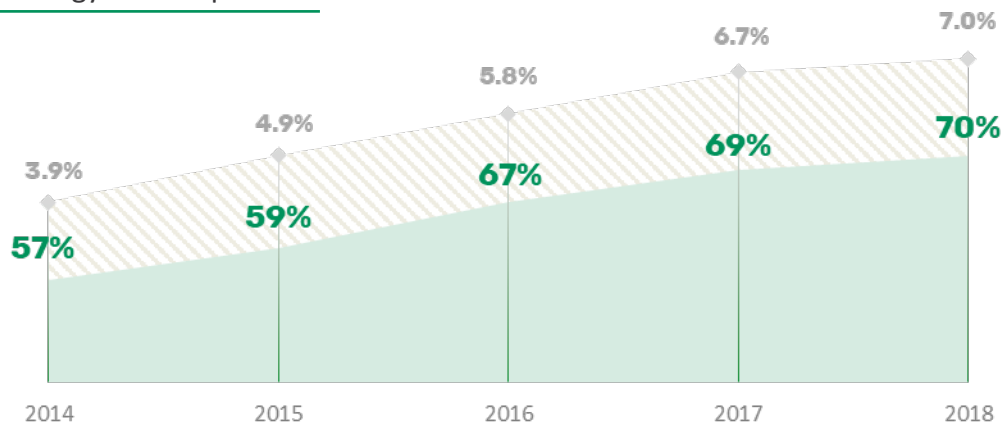
Source: State Statistics Service of Ukraine

UABIO

Bioenergy is a Key Sector of Renewable Energy in Ukraine

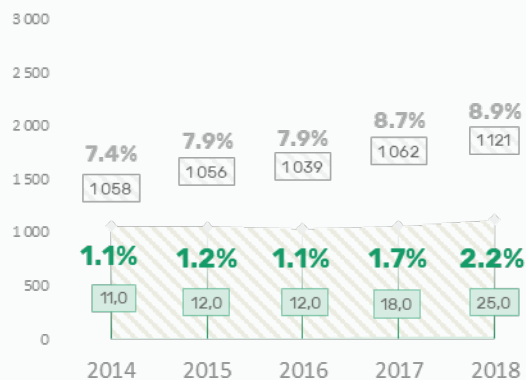
70% of all RES
in 2018

Final energy consumption



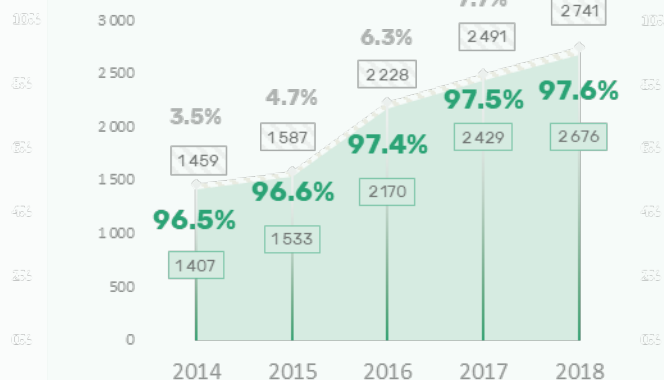
- 70%** Biofuel share from all RES in final energy consumption, %
- 7.0%** RES share in total final energy consumption, %
- 2741** Biofuel share in total final energy consumption, ktoe/year
- 2676** RES share in total final energy consumption, ktoe/year

Electricity *

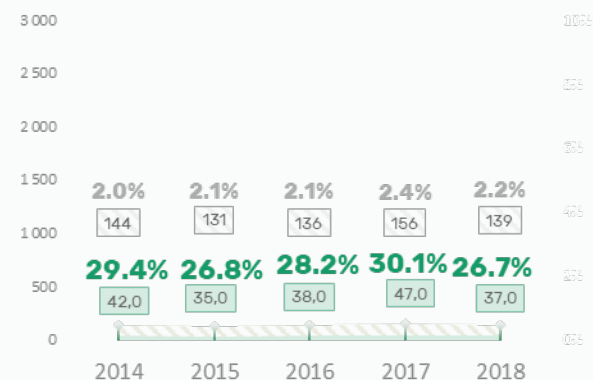


* Including large hydropower plants

Heat



Transport



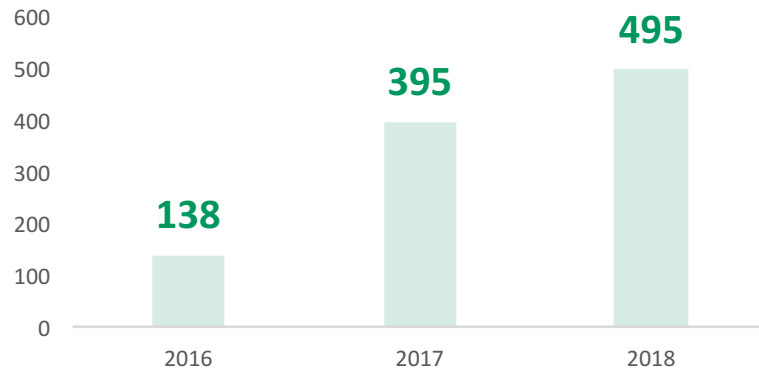
The graph is based on final energy consumption in Ukraine
Source: State Agency on Energy Efficiency and Energy Saving of Ukraine, UABIO calculations

UABIO

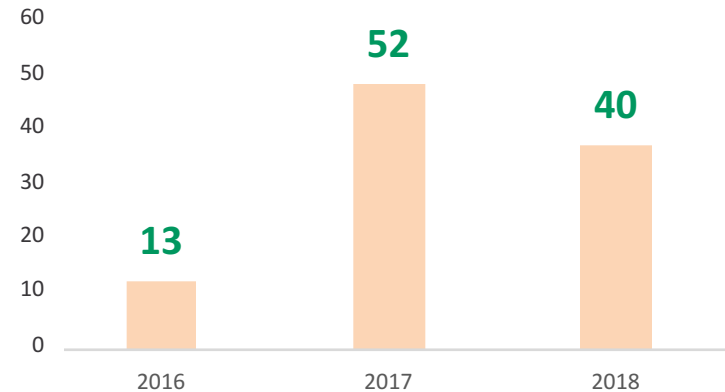
Pellet market volume grows in Ukraine in 2016-2018

Pellet market volume in Ukraine¹

thousand tons



million EUR



15 Ukrainian manufacturers producing about 250 thousand tones of pellets have been certified under EN plus in 2019³

The pellet factories in Ukraine are underloaded

313 pellet plants produced 390 thousand tones of pellets in Ukraine in 2018²

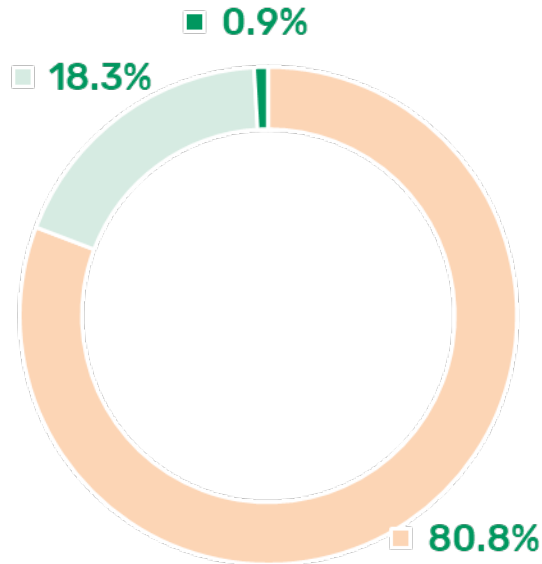
There is a problem of lack of statistics on pellets in Ukraine

i Source: 1. State Statistics Service of Ukraine, market operators, Pro-Consulting assessment,
2. Bioenergy Europe Statistical Report "Pellets" 2019
3. www.enplus-pellets.eu, 2019

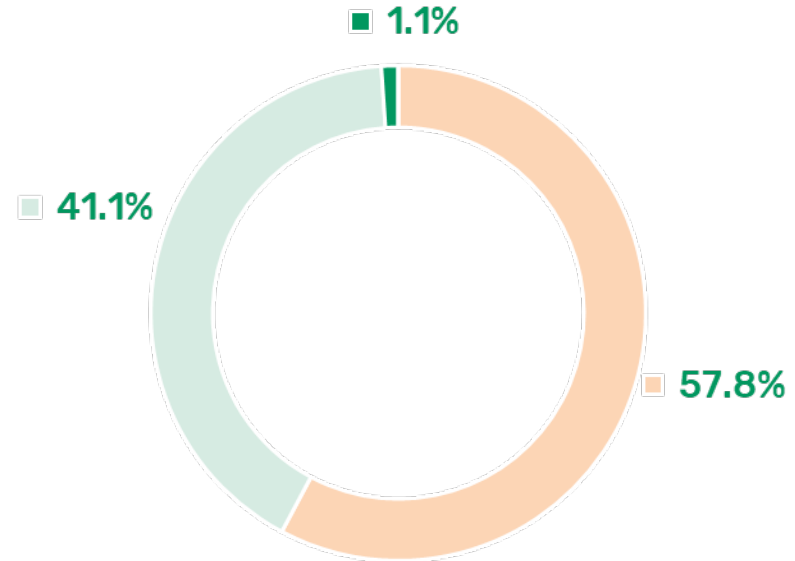
Sunflower husk pellets – main pellet type produced in Ukraine in 2016-2018

- Sunflower husk pellets
- Wood pellets
- Agrobiomass pellets

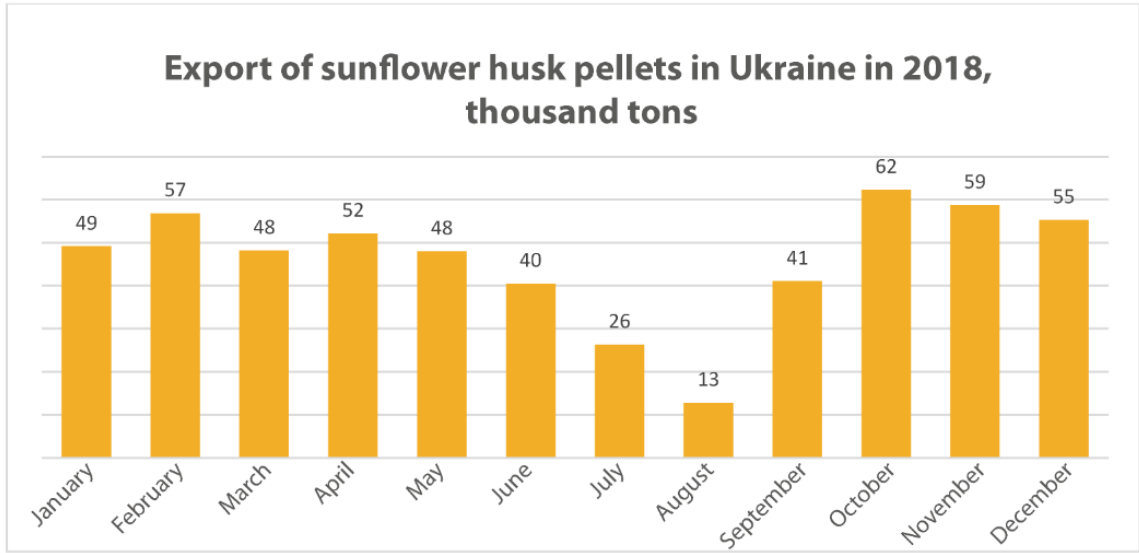
2016



2018

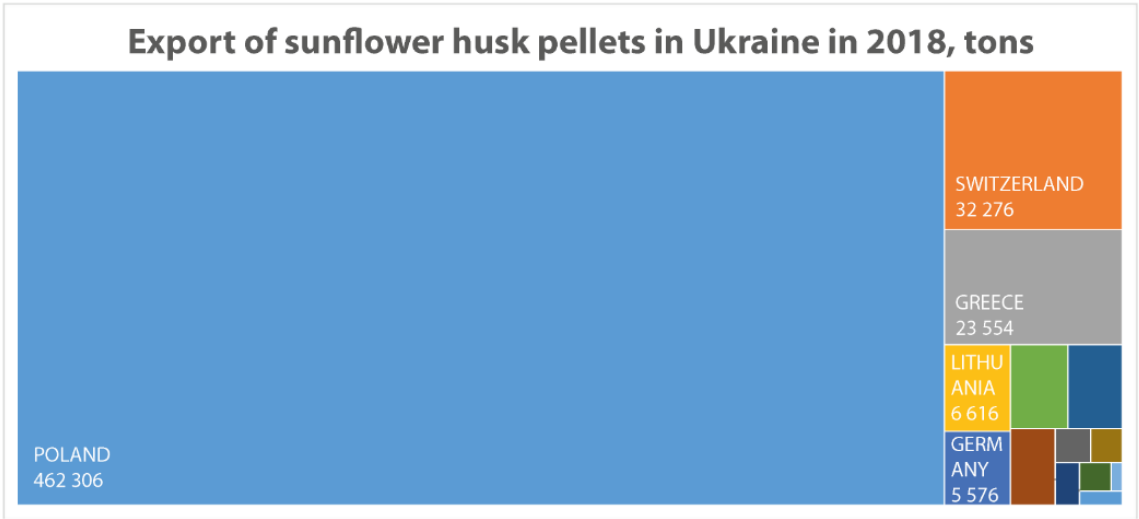


Majority of pellets produced in Ukraine are exported



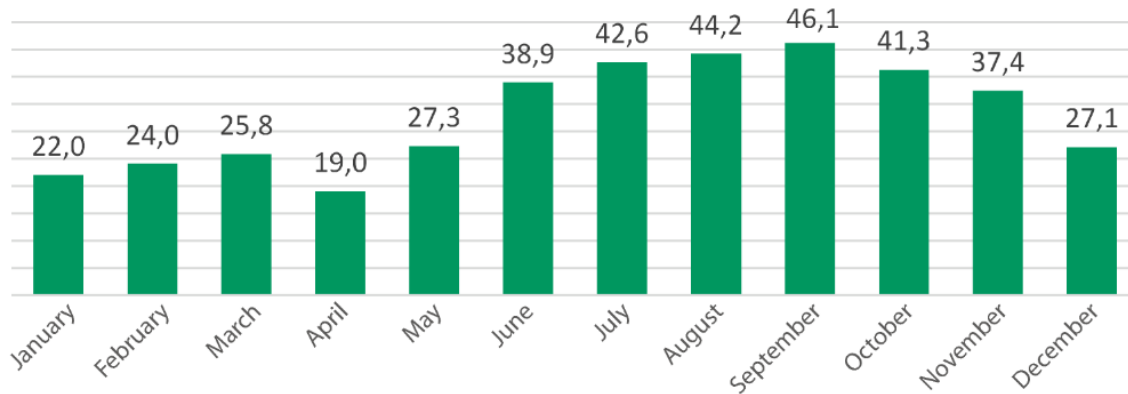
Sunflower husk pellets export in Ukraine in 2018:

550 thousand tons



Majority of pellets produced in Ukraine are exported

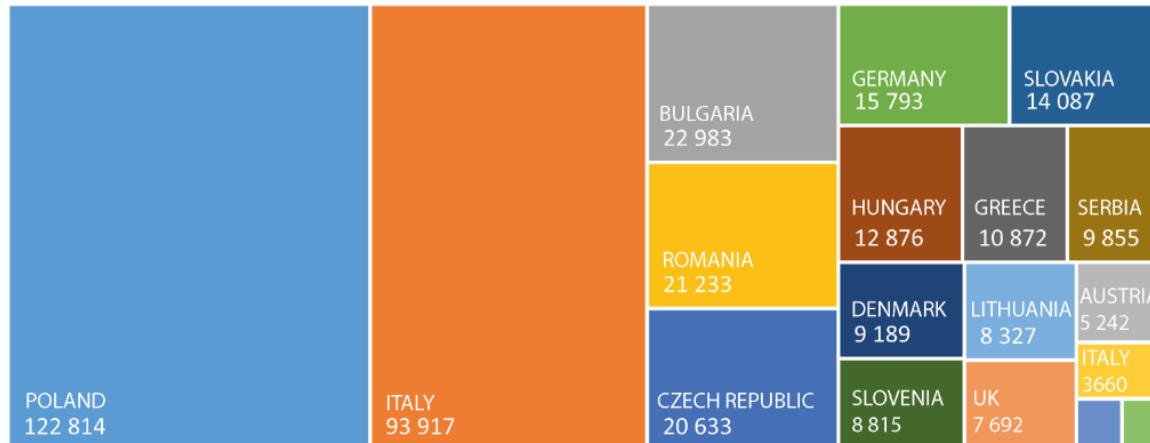
Export of wood pellets in Ukraine in 2018,
thousand tons



Wood pellet export
in Ukraine in 2018:

396 thousand tons

Export of wood pellets in Ukraine in 2018, tons



Source: SEC Biomass market study

Delivery Conditions

Delivery Conditions for sunflower husk pellets in Ukraine in 2018, tons



For sunflower husk pellets in Ukraine in 2018:

Mainly DAP

Delivery Conditions for wood pellets in Ukraine in 2018, tons



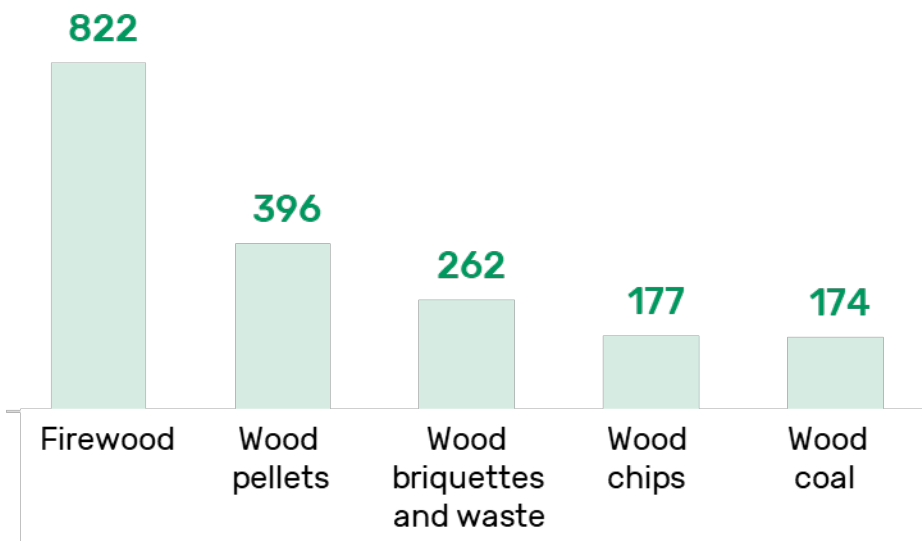
For wood pellets in Ukraine in 2018:

Mainly FCA

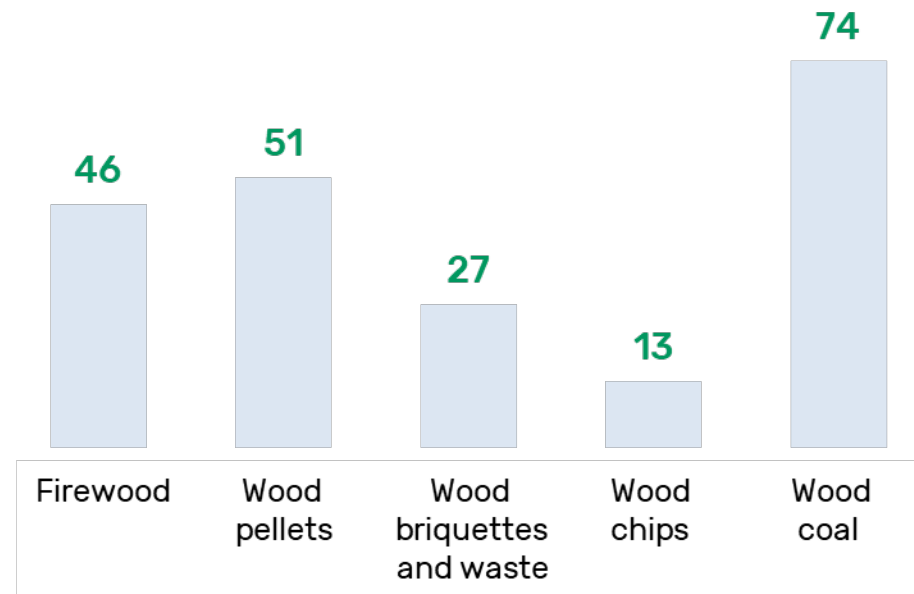


Wood pellets are second type of wood biomass by export volumes

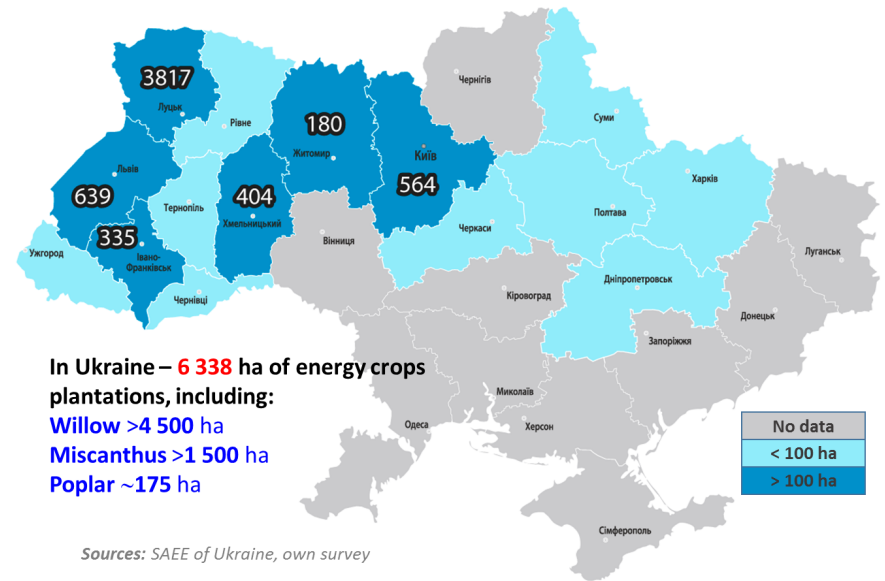
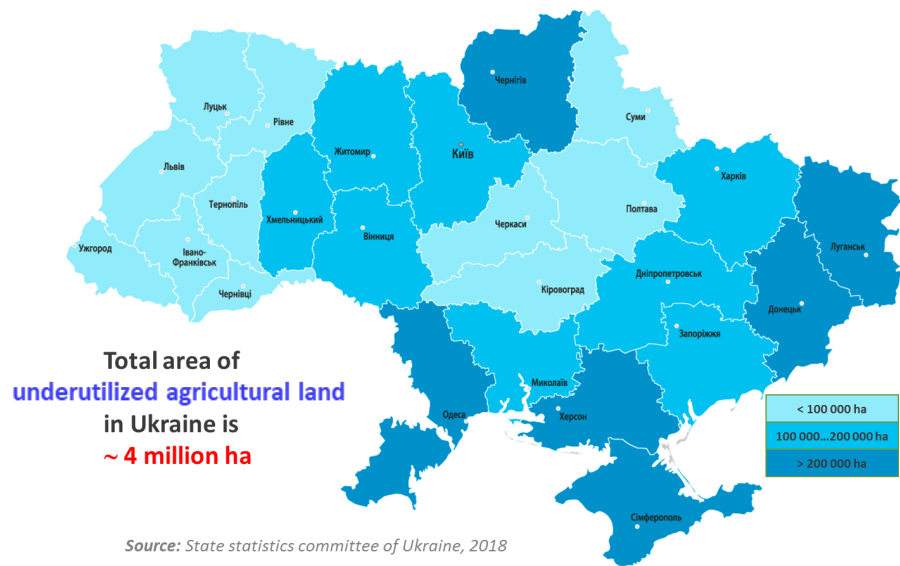
Export in 2018, thousand tons



Export in 2018, million EUR



Energy crops are the Future of Bioenergy and Feedstock for Pellets in Ukraine



Potential is 8.9 billion m³ of natural gas per year (for 2 million ha)

Type of biomass	Potential available for energy, Mtoe
Willow, poplar, miscanthus (for 1 Mha)	4.9
Corn for biogas (for 1 Mha)	2.6
TOTAL	7.5

UABIO

Bioenergy Association of Ukraine is a non-profit association that brings together business and experts and lobbies the bioenergy development in Ukraine.

7

years old

30

companies

15

individuals

20+

experts



UABIO is lobbying bioenergy at the legislative level



2013

Creating UABIO



Participation in the **development of the Energy Strategy of Ukraine** till 2035



2014

Participation in the development of the **National Renewable Energy Action Plan** till 2020



2015

Participation in the development of the adopted Law of Ukraine on improving the conditions of application of the **"green" tariff for bioenergy objects**



2017

Participation in the development of the adopted Law of Ukraine on **stimulation of heat production from alternative sources** with application of tariffs at the level of 90% of gas



Participation in the development of the Draft Law of Ukraine on the **competitive market of thermal energy**



2018

Participation in the development of the Draft Law of Ukraine on the introduction of the **e-commerce system for solid biofuels** in order to create a transparent biomass market



Through joint efforts of UABIO and other organizations, **the "green" tariff is not reduced** for biomass and biogas electricity production facilities



2019

Participation in the development of the Draft Law of Ukraine on **stimulating the cultivation of energy crops**



2020+

- Exemption from the CO2 tax biofuel and biogas plants;
- E-commerce system for solid biofuels;
- "Green" tariff for electricity produced from biomethane;
- Register of production and consumption of biomethane;
- Sustainability criteria for liquid biofuels;
- State support for the cultivation of energy crops;
- The competitive market for thermal energy.

Project «Promoting the penetration of agribiomass heating in European rural areas»



Funded through EU Program Horizon 2020

Duration: January 2019 – December 2021

Consortium: 13 partners from 9 European countries (Greece, Spain, Austria, Denmark, Belgium, Croatia, Romania, **Ukraine**, France).

Coordinator: Centre for Research and Technology Hellas (CERTH, Greece).

Bioenergy Association of Ukraine (UABio) is a project partner from Ukraine.

In AgroBioHeat, among others, UABio is Leader of Task 5.2 «National Strategic Plan», Task 5.3 «National policy workshops & Advocacy actions», and is primarily responsible for the preparation of a booklet on «**Maize Residues-to-Energy**».

Through its activities, AgroBioHeat aims **to raise confidence on agrobiomass**, empower local stakeholders to unblock the market and influence the development of the European and national framework in a way that is favourable to **agrobiomass heating solutions** market uptake. Actions will be mainly located in **6 European countries**: Greece, Spain, France, Romania, Croatia and **Ukraine**.

Contact person in Ukraine : Tetiana Zheliezna (UABio). T.: +30 44 453-28-56, zhelyezna@uabio.org

Project «REnewable GAs TRAdE Centre in Europe»



Funded through EU Program Horizon 2020
Duration: 36 months (June 2019 – May 2022)

Consortium: 15 partners in 10 countries: ISINNOVA, CIB (IT), EBA, AIB, ERGaR, Fluxys (BE), RFGI (IE), DENA, DBFZ (DE), AGCS (AT), Elering (EE), UPEBI (PL), ARBIO (RO), NEDGIA (ES), Amber (LT).
12 EBA (European Bioenergy Association) Linked Third Parties + 5 ERGaR (European Renewable Gas Registry) Linked Third Parties

Bioenergy Association of Ukraine (UABio) is linked to EBA and involved in the task «**Support for biomethane market uptake**»

REGATRACE project aims creating an efficient trade system based on issuing and trading biomethane/renewable gases Guarantees of Origin (GoO). This objective will be achieved through the founding pillars: - European biomethane/renewable gases GoO system - Set-up of national GoO issuing bodies - Integration of GoO from different renewable gas technologies with electric and hydrogen GoO systems - Integrated assessment and sustainable feedstock mobilisation strategies and technology synergies - Support for biomethane market uptake - Transferability of results beyond the project's countries.

Contact person in Ukraine: Yuri Matveev (UABio). T.: +380 44 453-28-56, matveev@uabio.org

BIOMASS for ENERGY

16th International Conference

2020

SEPTEMBER 29-30

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organizers

UABIO



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Sofiia Levinska

Project Manager and PR Manager,
Bioenergy Association of Ukraine (UABIO)
E-mail: levinska@uabio.org