



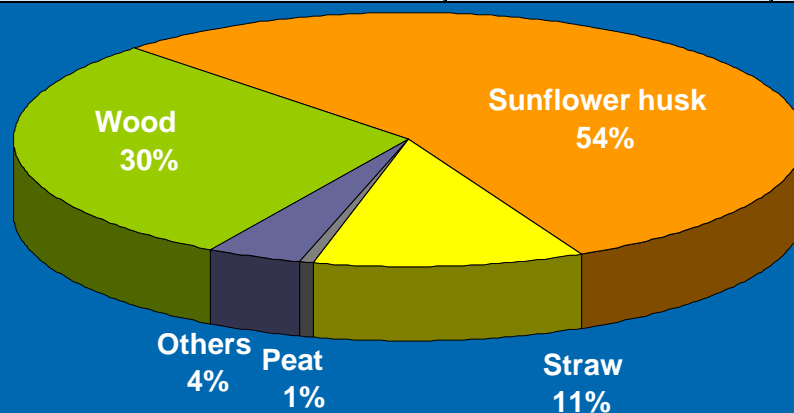
Analysis of the Ukrainian biomass pellets market

Georgiy Geletukha, PhD

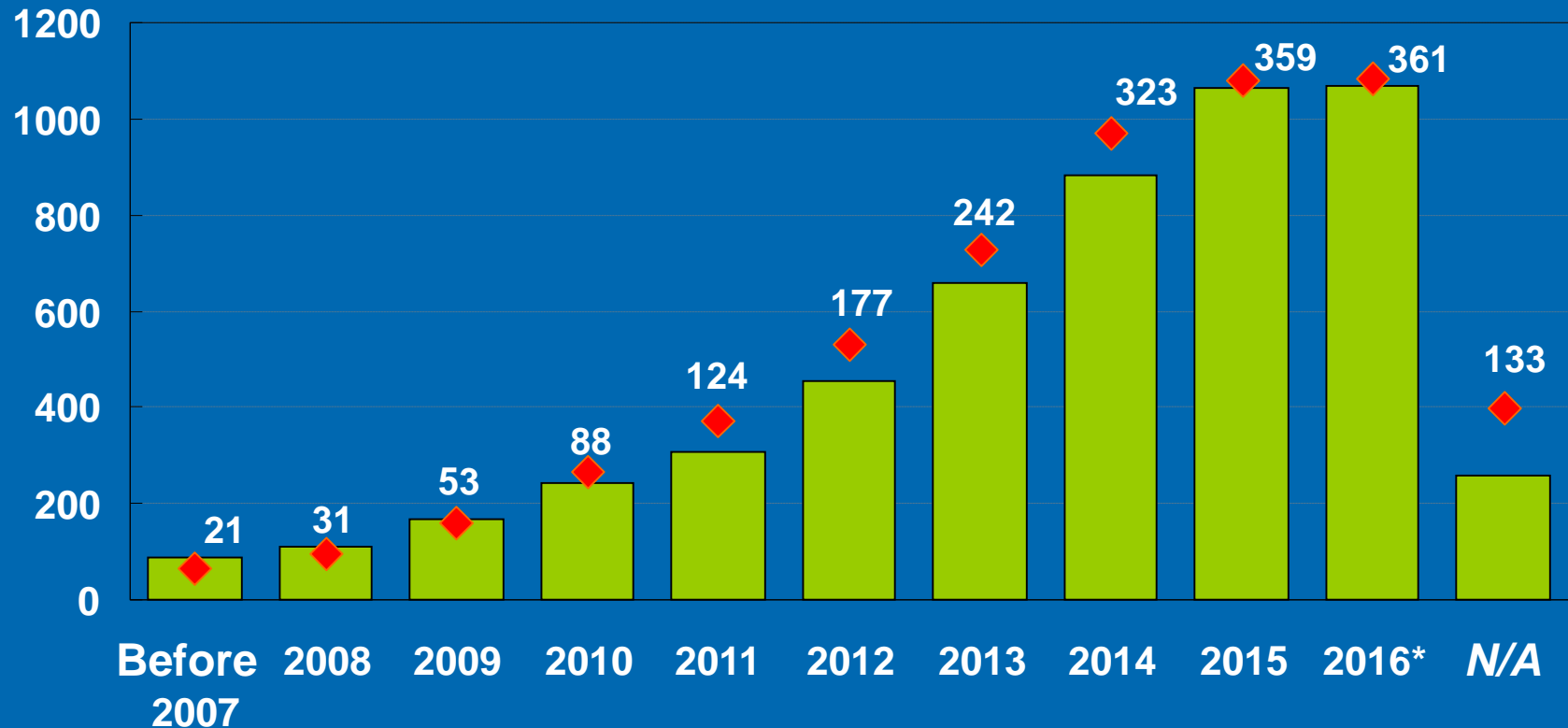
Chairman of the Board, Bioenergy Association of Ukraine

Pellets production, 2015, tons

Raw materials (incl. mixed)	Producers qnt.	Production in 2015
Wood	254	359 030
Sunflower husk	110	632 800
Straw	24	82 700
Peat	4	8 400
Wood, straw, sunflower husk	19	41 700
Wood, straw	11	18 000
Wood, sunflower husk	29	50 000
Straw, sunflower husk	11	80 000
Others	32	51 835
TOTAL:	494	1 324 465

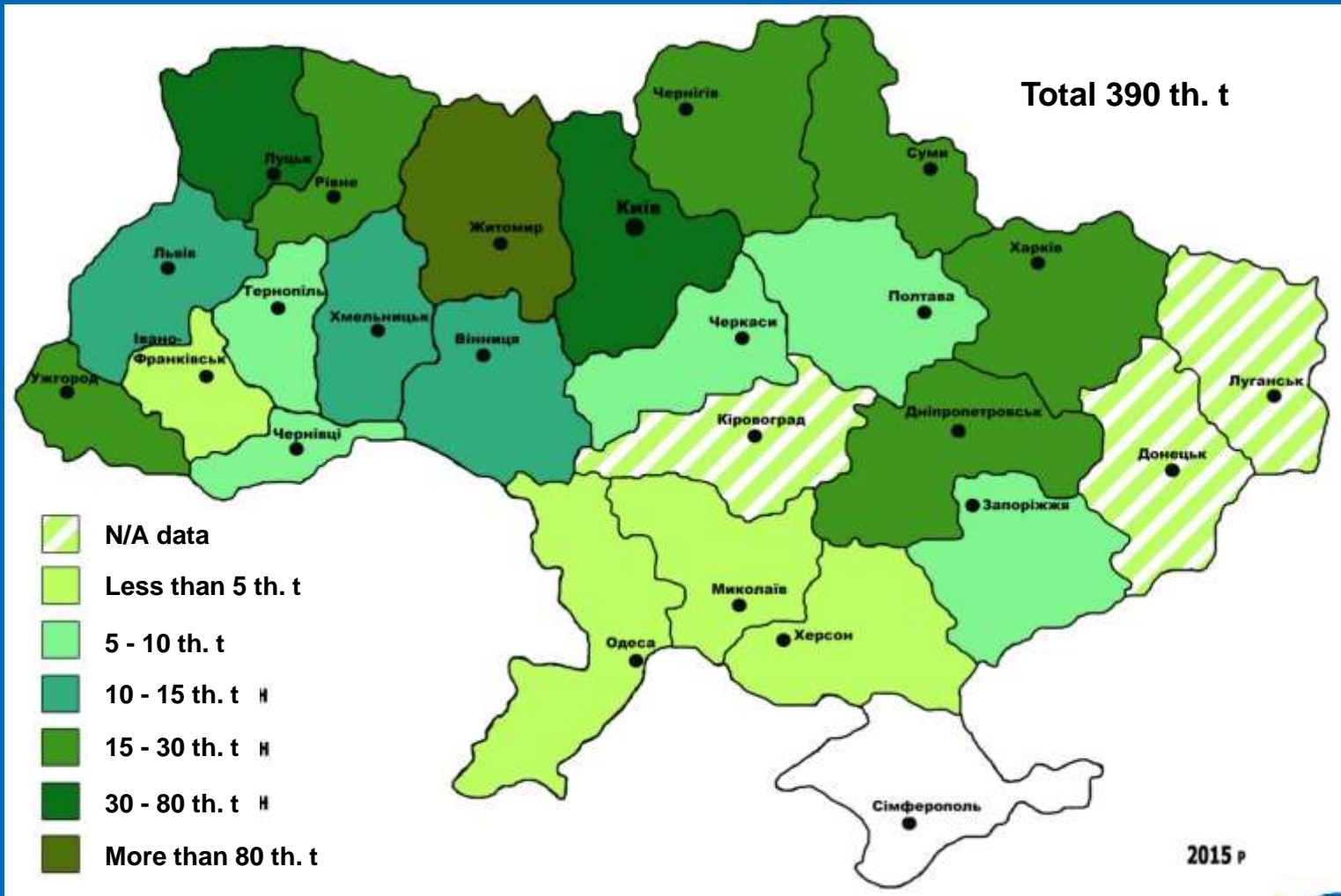


Pellet production: dynamic of setting into operation, 2007-2016, th. tones/year

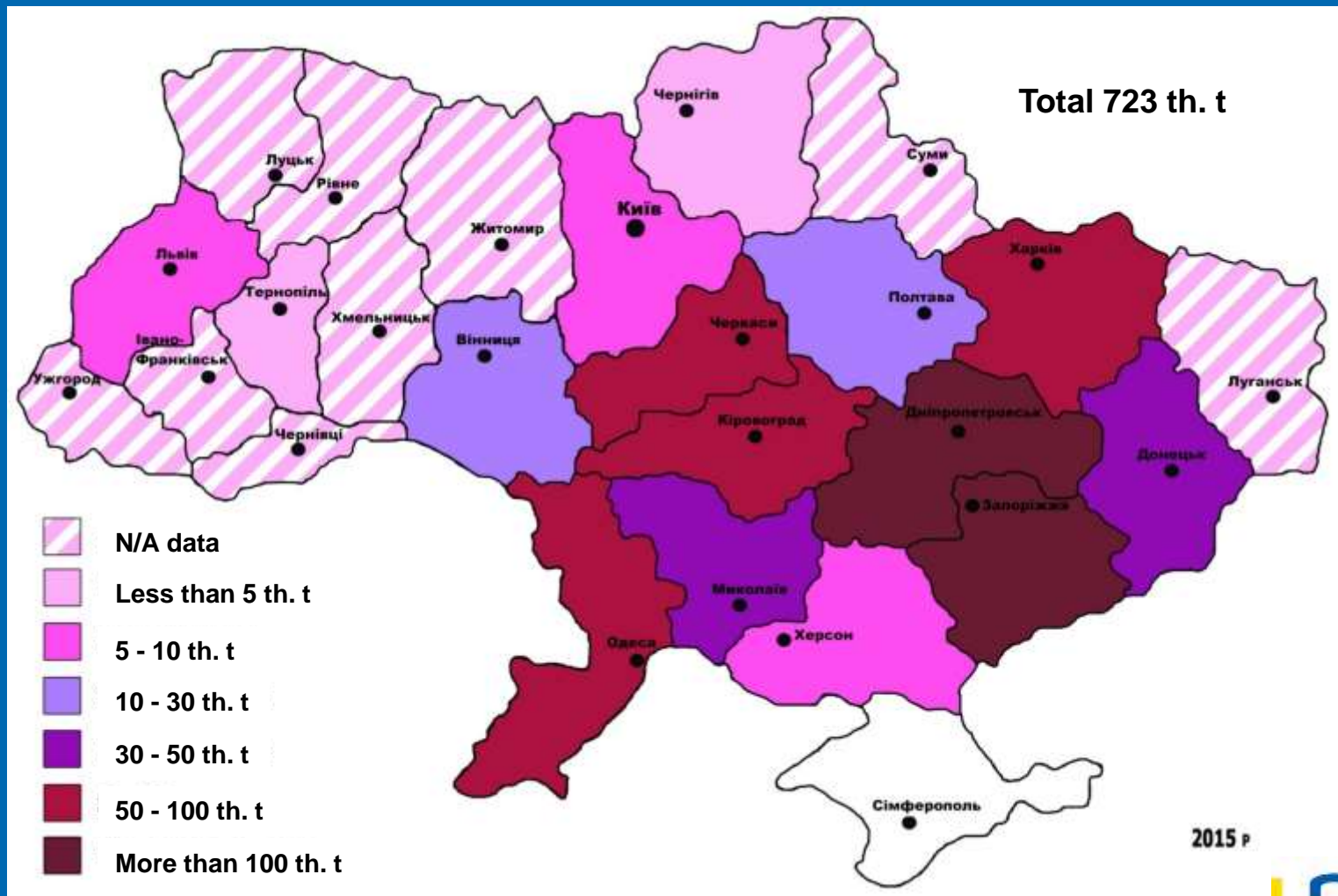


* - As of June 1, 2016

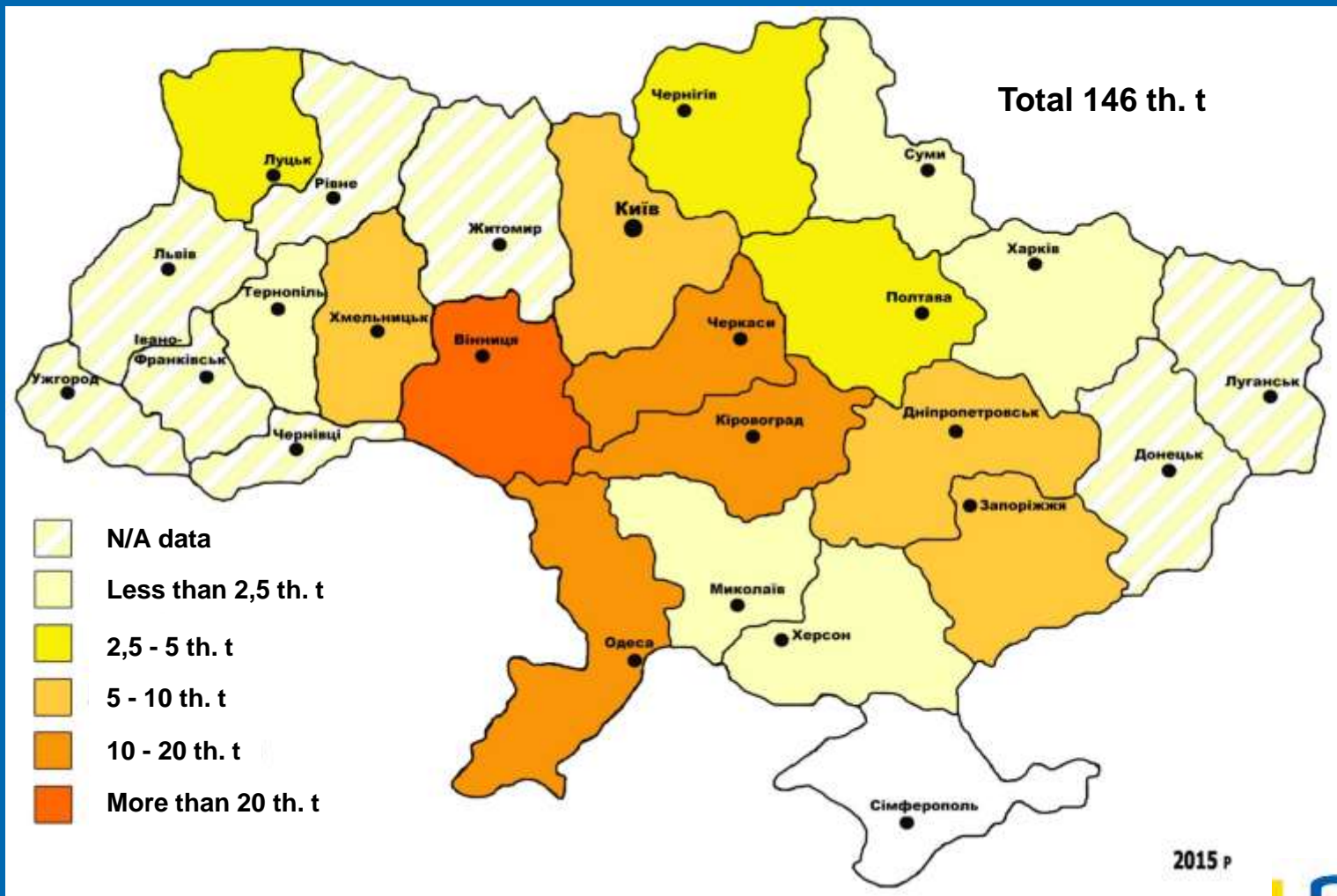
Wood pellet production



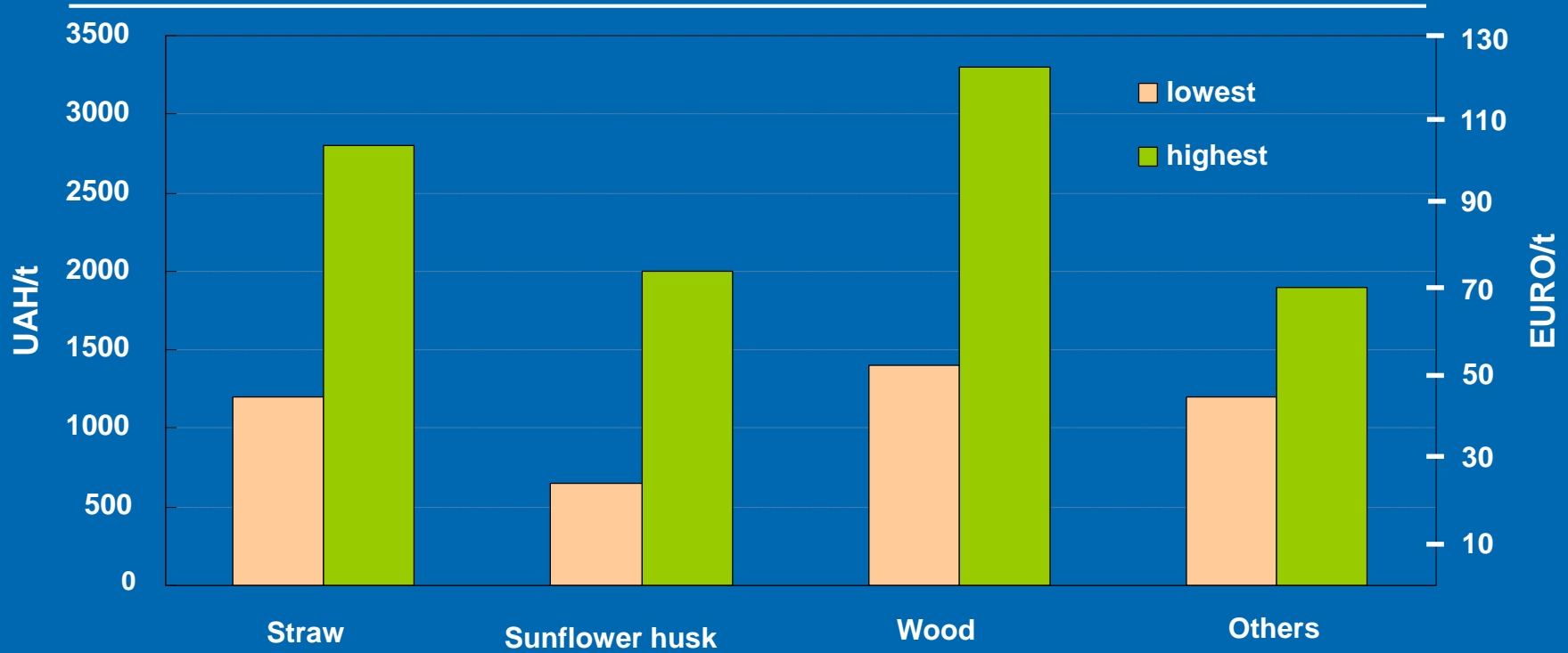
Sunflower husk pellet production



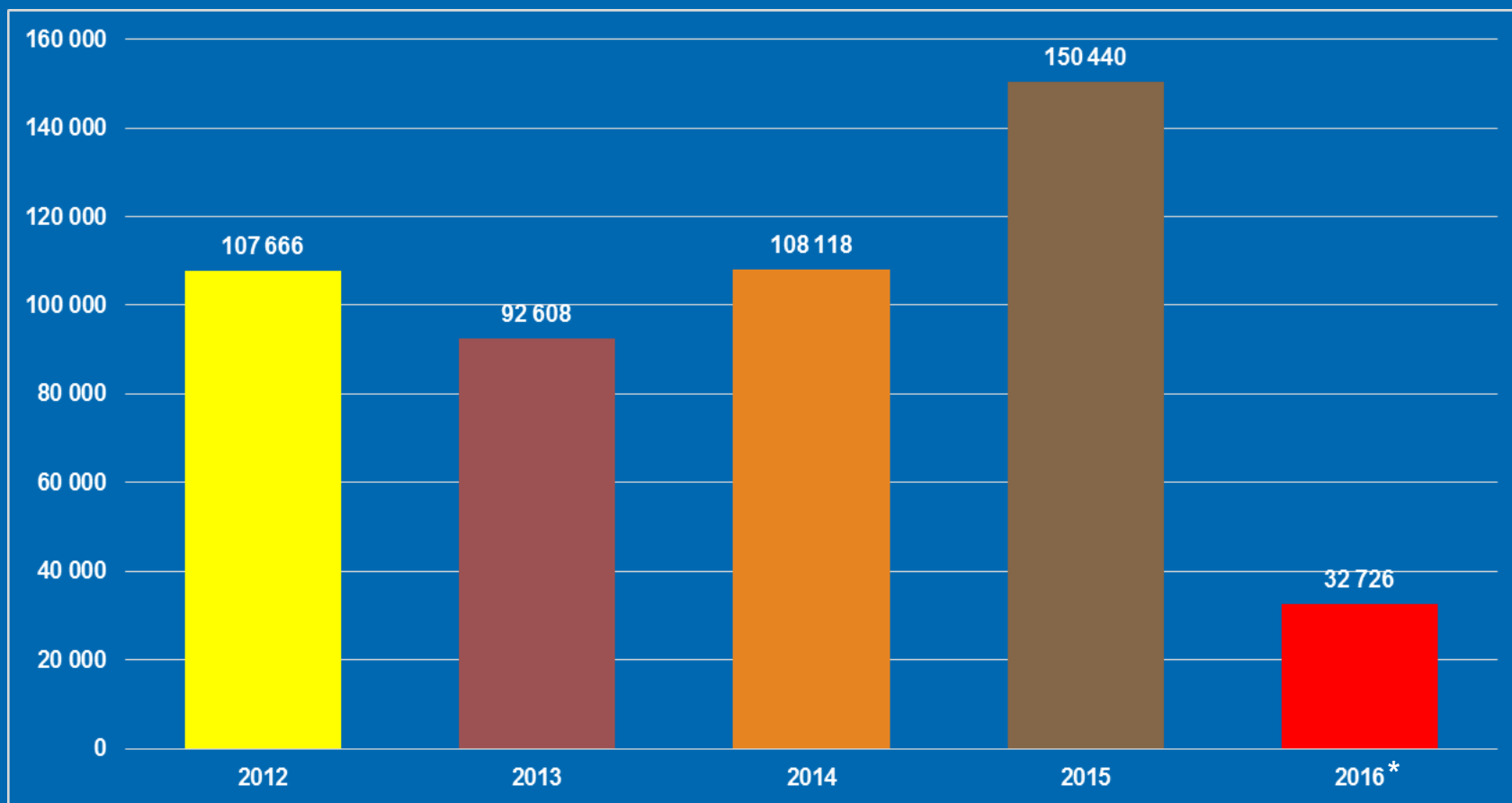
Straw pellet production



Producers pellet prices, April-July 2016

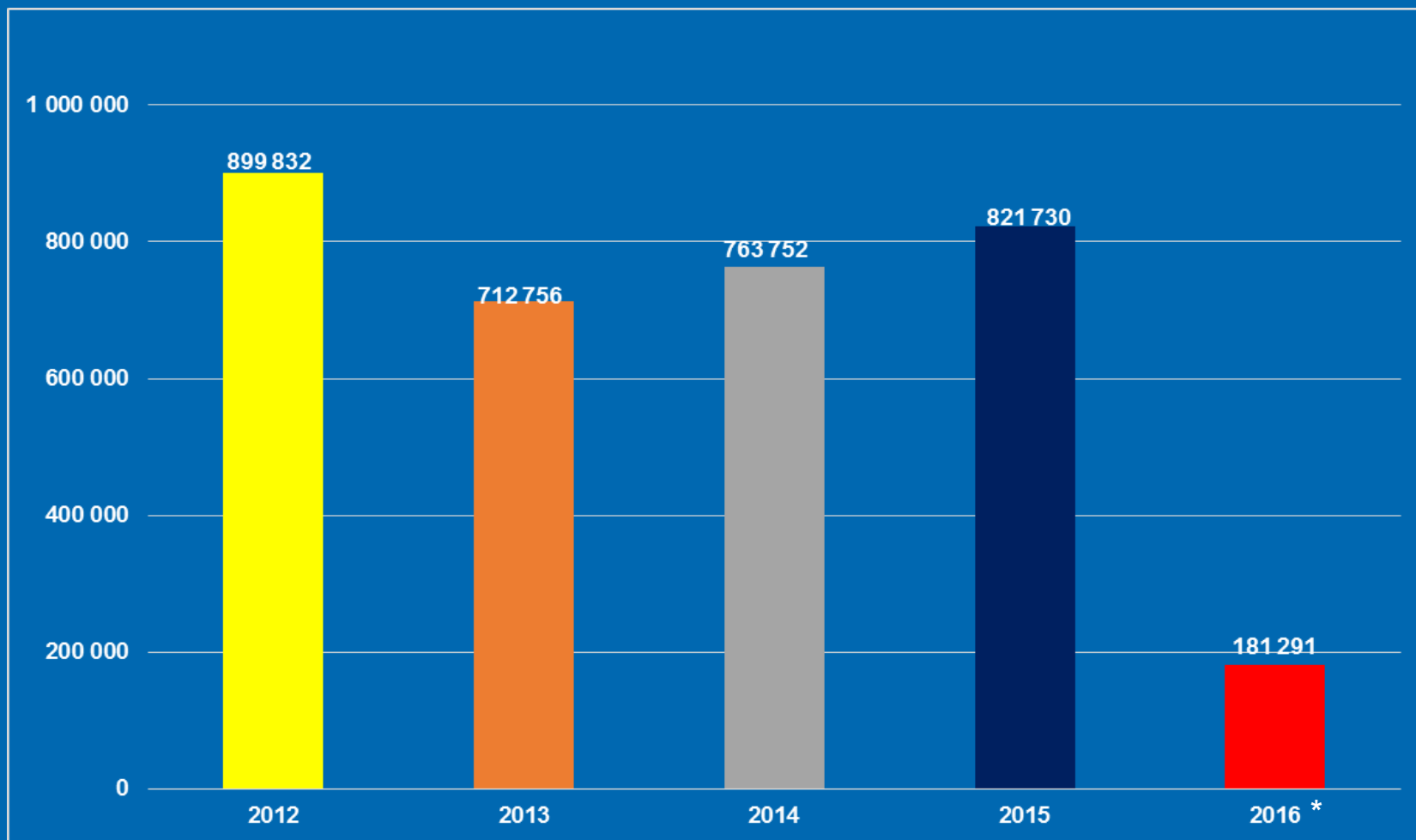


Annual wood pellet export, tons



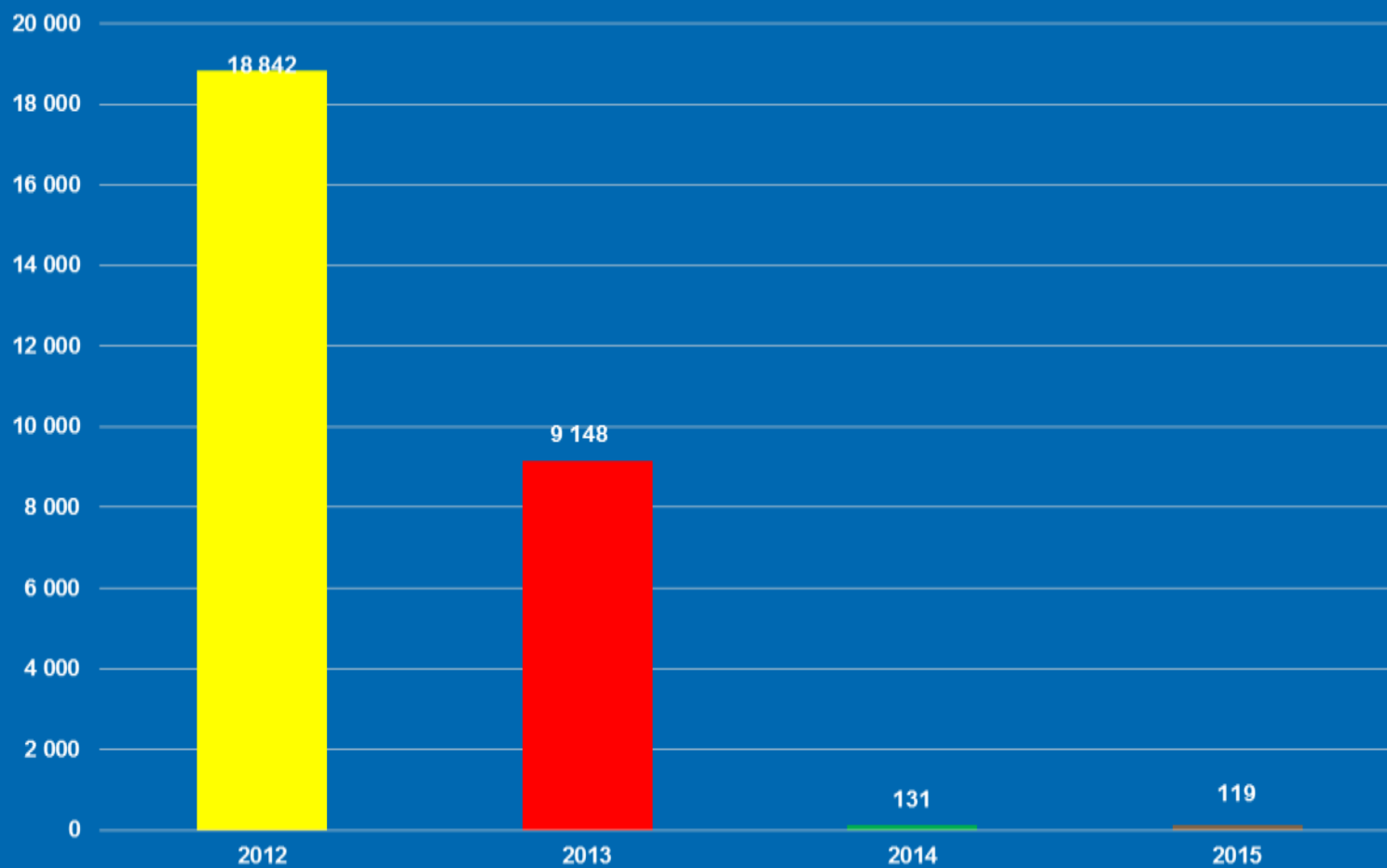
* - First quarter
of 2016

Annual sunflower husk pellet export, tons



* - First quarter
of 2016

Annual straw pellet export, tons



Major importers during 2012-2015

Wood

Importer	Export volume (4 years), th. tons	Share of overall export
Poland	189.0	38.4%
Italy	88.2	17.9%
Czech Republic	49.5	10.1%

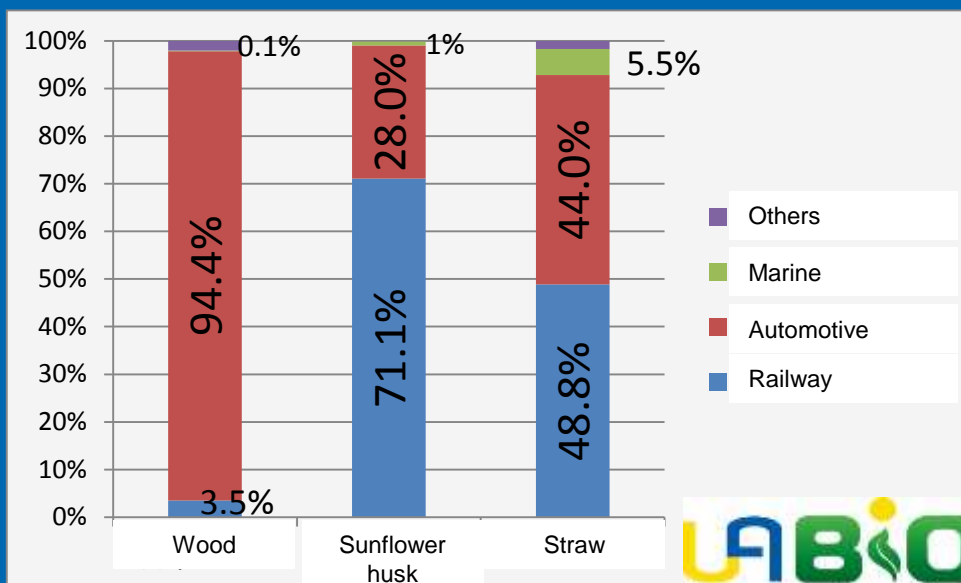
Sunflower husk

Importer	Export volume (4 years), th. tons	Share of overall export
Poland	3,250.5	95.3%
Czech Republic	96.7	2.8%
Switzerland	14.8	0.4%

Straw

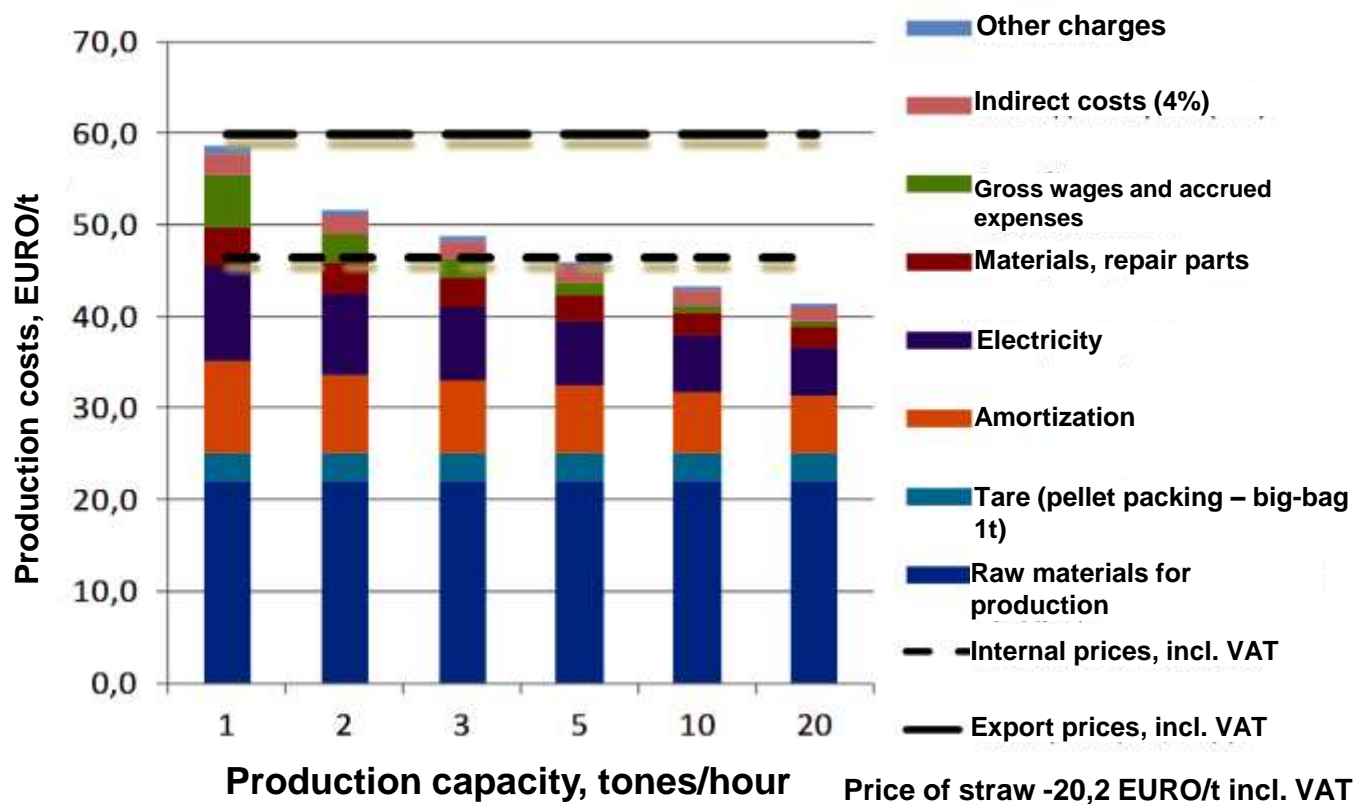
Importer	Export volume (4 years), th. tons	Share of overall export
Poland	20.7	73.4%
Germany	2.7	9.7%
Denmark	1.9	6.7%

Transport:



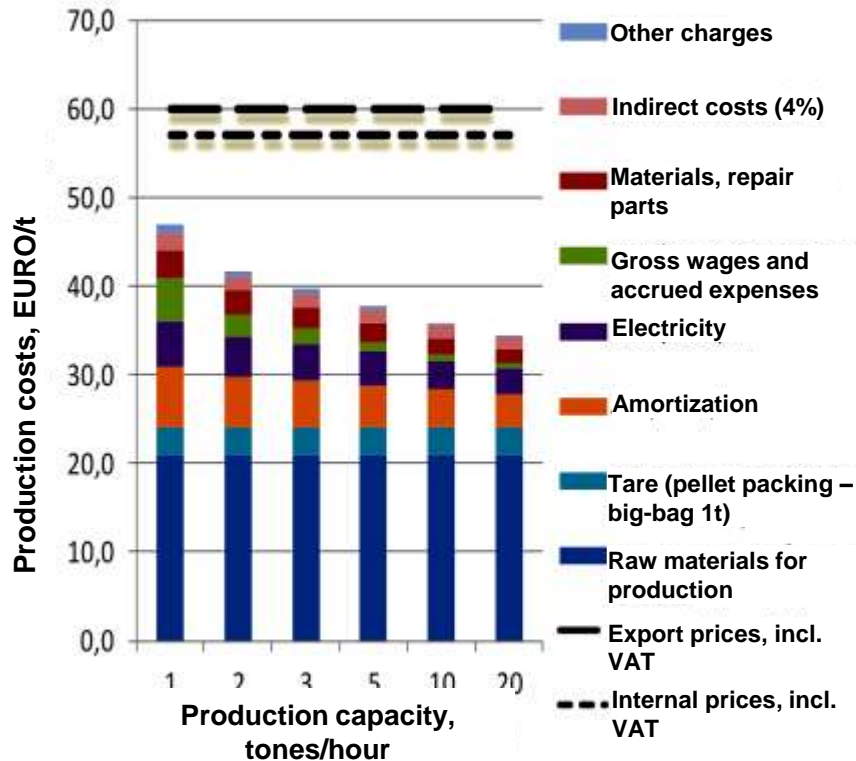
Straw pellet production cost

Raw material - purchased straw



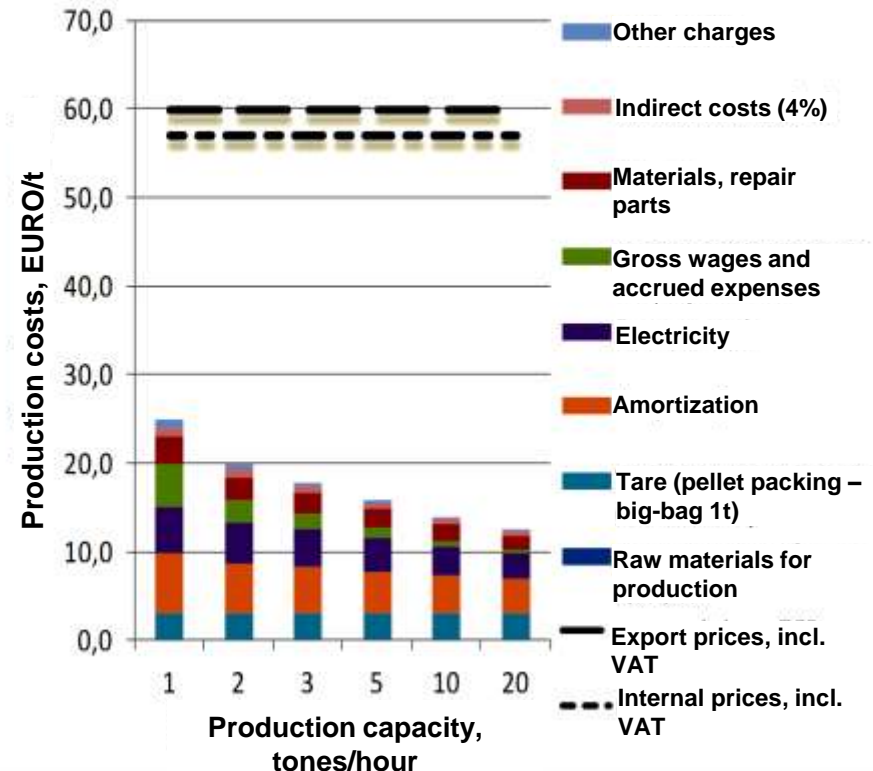
Sunflower husk pellet production cost

Raw material- purchased sunflower husk
(Price of sunflower husk is 20.1 EURO/t incl. VAT)



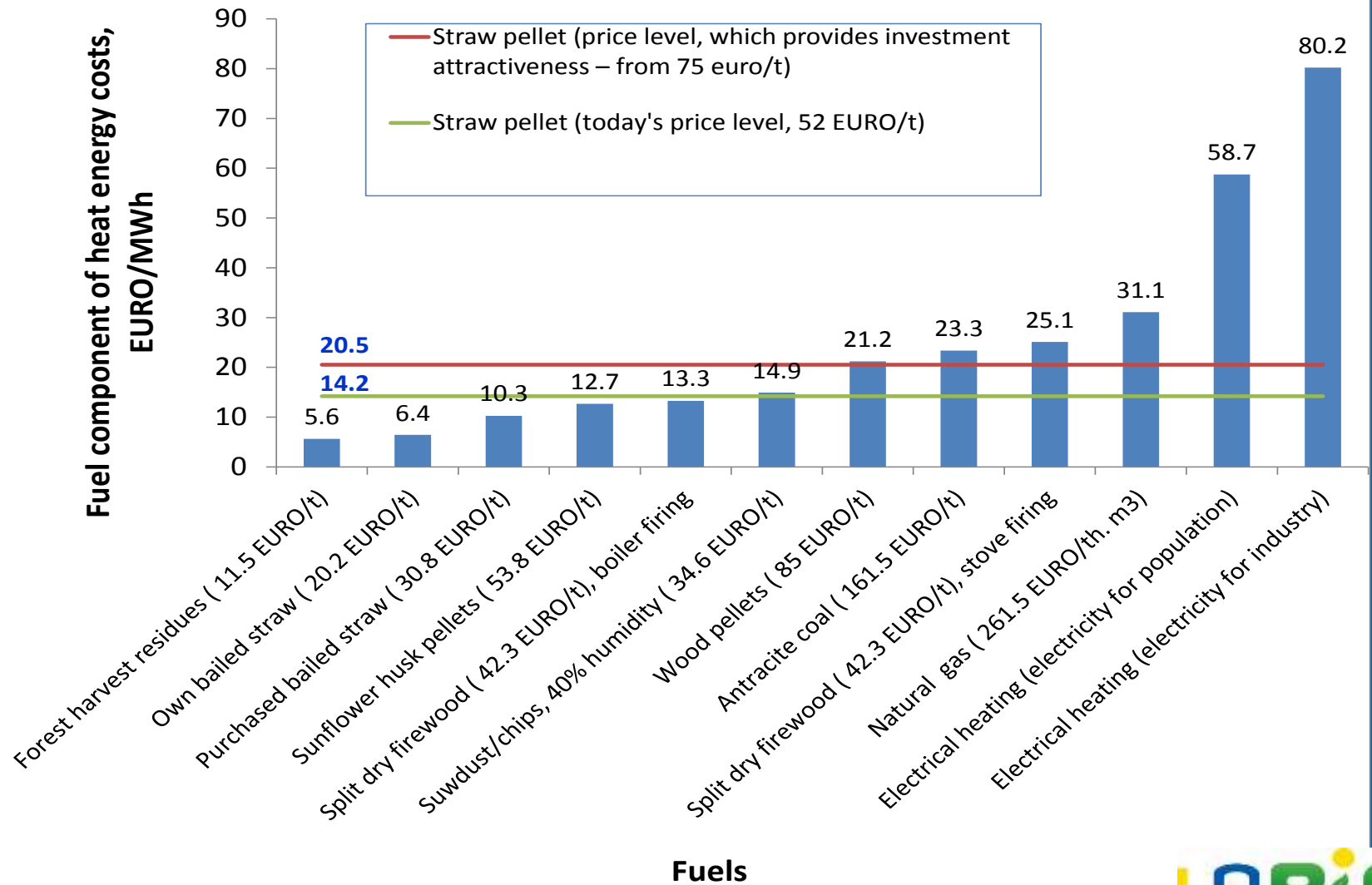
Own sunflower husk

(chargeless sunflower husk at the sunflower oil production)



As the result, payback period for sunflower husk pellet production is 2-5 years, and around 8-12 years for straw pellet production

Comparison of different fuel types based on useful heat energy



Preconditions for further development of agropellet production in Ukraine

- Increasing of domestic demand for pellets from agricultural biomass indirectly lead to pellet production increase.
- Expansion technologies and techniques for agro residues baling.
- Development of boiler equipment adapted for burning of agricultural biomass, including cereal straw pellets.
- Development of agropellet standard with requirements of quality or adapting the relevant European standards.
- Development of agropellet production from corn stalks, sunflower stalks.
- Introduction of co-firing coal and agropellet thermal power plants.
- In legislative terms, the impulse for further development of biomass using, including agropellet is introducing a competitive district heating market that will stimulate the implementation of appropriate equipment in district heating.

Thank you for attention!

Welcome to Ukraine and to UABio!

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We are greening the energy!

