BENEFITS,CHALLENGES AND SOLUTIONS

AGRICULTURAL BIOMASS IN EUROPE

uP_running | Towards a circular BIOeconomy scheme

Brussels, 30.04.2019

"The common voice of European bioenergy"

About us

Common voice of European bioenergy for the past 26 years.

Unites **30 national associations** and **90 companies** from Europe.

Umbrella organisation for the European Pellet Council and the International Biomass Torrefaction Council.

Aims at a **sustainable bioenergy market** based on fair business conditions.

Our activities

We carry **advocacy activities in key policy areas** & organise **dedicated working groups** to support the specific needs of our members.

We conceive and deploy **targeted publications & communication campaigns** to educate about bioenergy.

We **collect data on the evolution of the bioenergy market** and **produce tailored analyses** along the year.

We own and promote **international certification schemes** to guarantee high quality standard for fuels.

BIOenergy EUROPE

Our members

Companies

Associations

Academia & Research Centres

Our Working Groups

Agrobiomass & Energy Crops

Promotes specific types of biomass feedstocks such as solid vegetal residue streams from agriculture and dedicated perennial lignocellulosic crops, abundant feedstock sources that are largely underutilised.

Competitiveness

Contributes to a supportive business environment for our members to thrive in by formulating and disseminating Bioenergy Europe's common positions on EU competitiveness related legislations.

Sustainability

Created in 2012 in the context of the preparation of the EU legislative framework on bioenergy sustainability, key topics discussed include sustainable forest management, greenhouse gas emissions savings, and consequences of EU requirements on economic operators.

Biopower & CHP

Biopower has great potential and an important role to play in the development of an EU energy system with an increasing share of renewables.

Domestic Heating

In the framework of EU's long-term decarbonisation strategy, tackling the H&C sector is getting more and more attention. Biomass can offer a wide range of sustainable solutions, including in the residential sector.

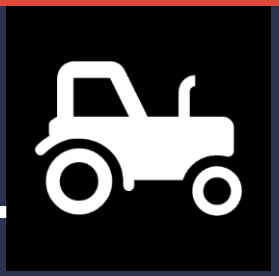
Pellets

Offers all pellet stakeholders a platform to meet and discuss common issues and concerns regarding the development of the EU pellet market, as well as identify and propose actions to overcome current barriers.

Wood Chips

Provides a space where our Members can actively exchange data, market trends, news in legislation and information on cutting-edge technologies with regards this expanding market.

Bioenergy EUROPE



1 BACKGROUND

Bioenergy in EU.

2 THE FUTURE

Agrobiomass in the 2050 LTS; Agrobiomass potential; Where do we stand?

3 THE PRESENT

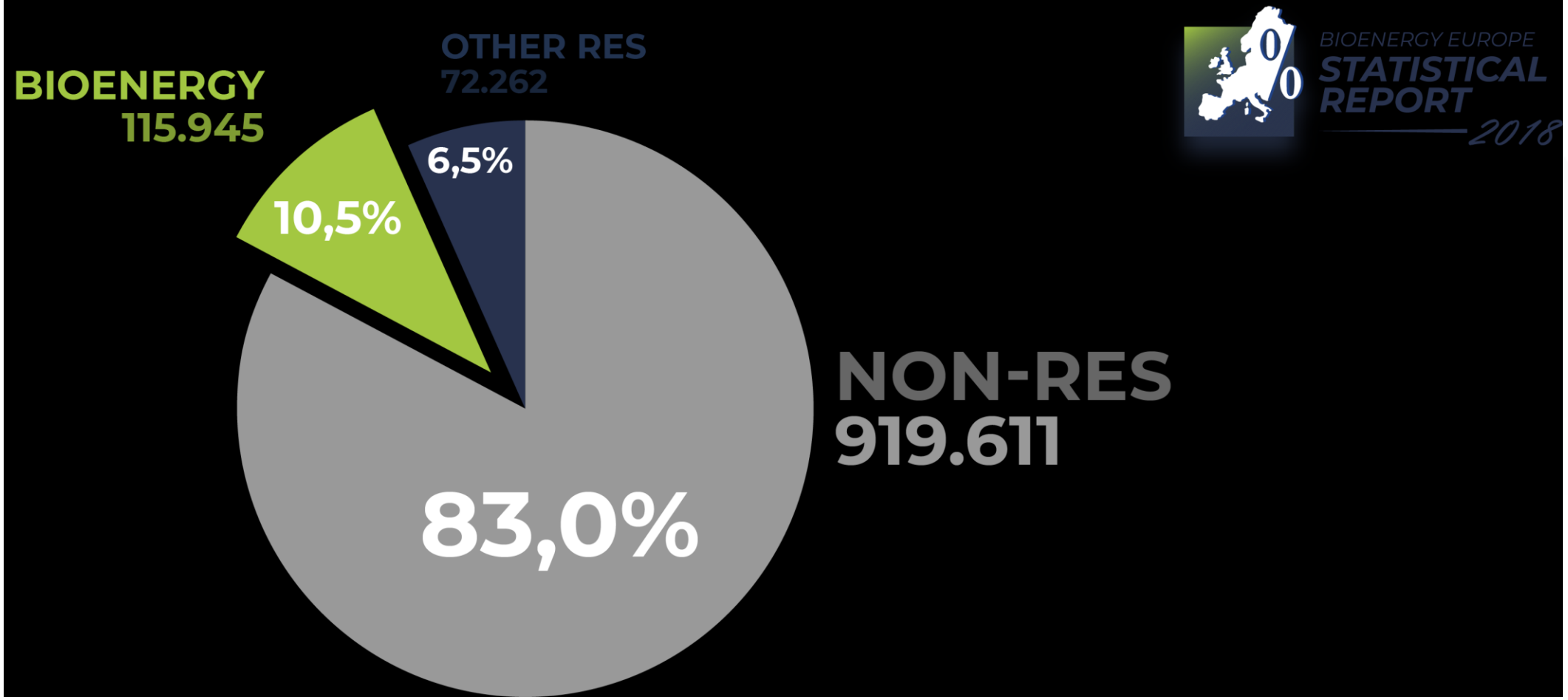
How do we get there? Current barriers and solutions.

BIOENERGY EUROPE

BIOENERGY IN THE EU

EU SHARE OF ENERGY FROM RENEWABLE SOURCES IN THE GROSS FINAL ENERGY CONSUMPTION

(IN KTOE, %) SOURCE: EUROSTAT, BIOENERGY EUROPE'S CALCULATIONS

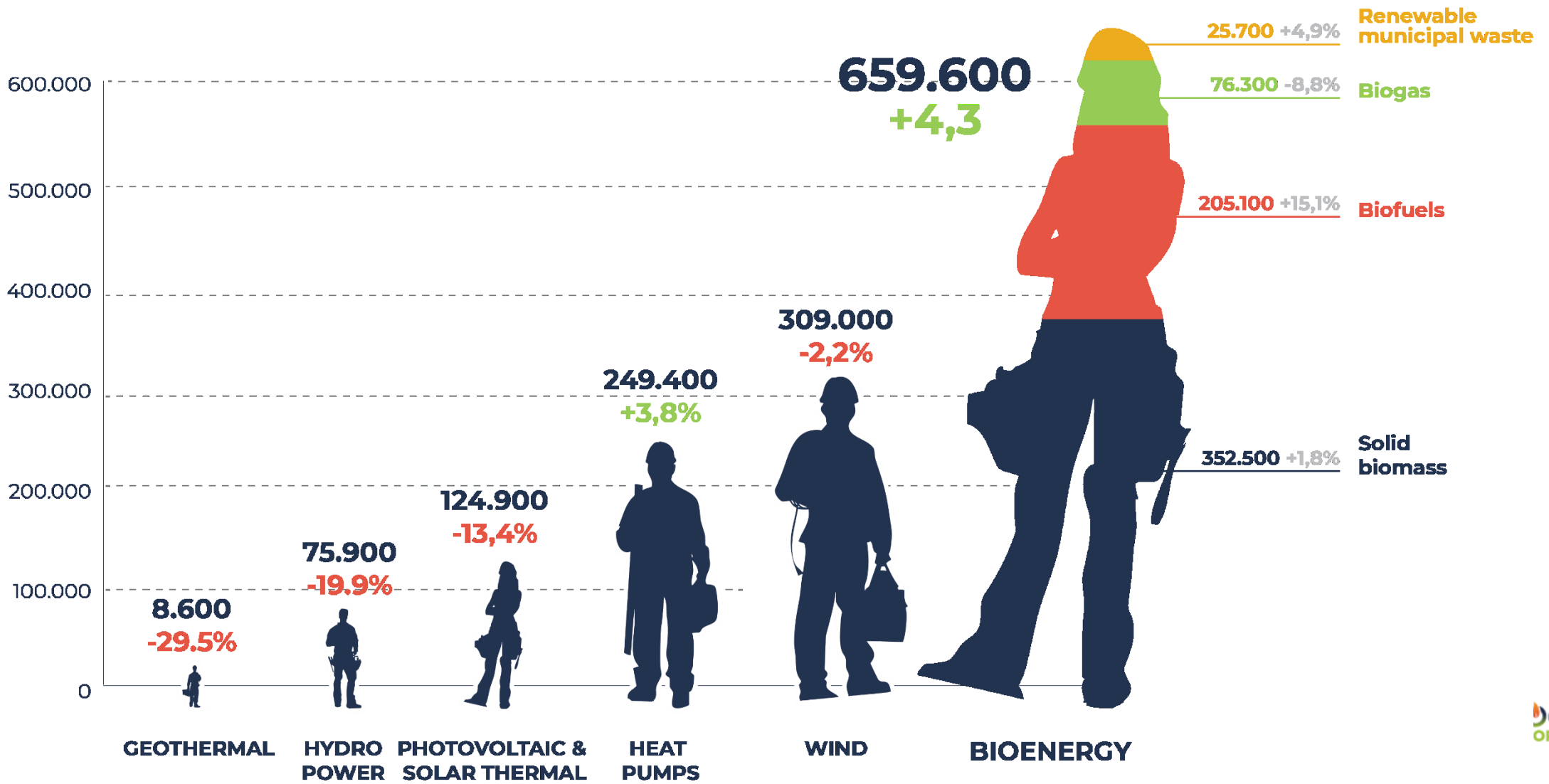


EU-28 EMPLOYMENT DISTRIBUTION IN RENEWABLE ENERGY

(IN 2016, % GROWTH 2015-2016, DIRECT AND INDIRECT EMPLOYMENT)

SOURCE: EUROBSERV'ER

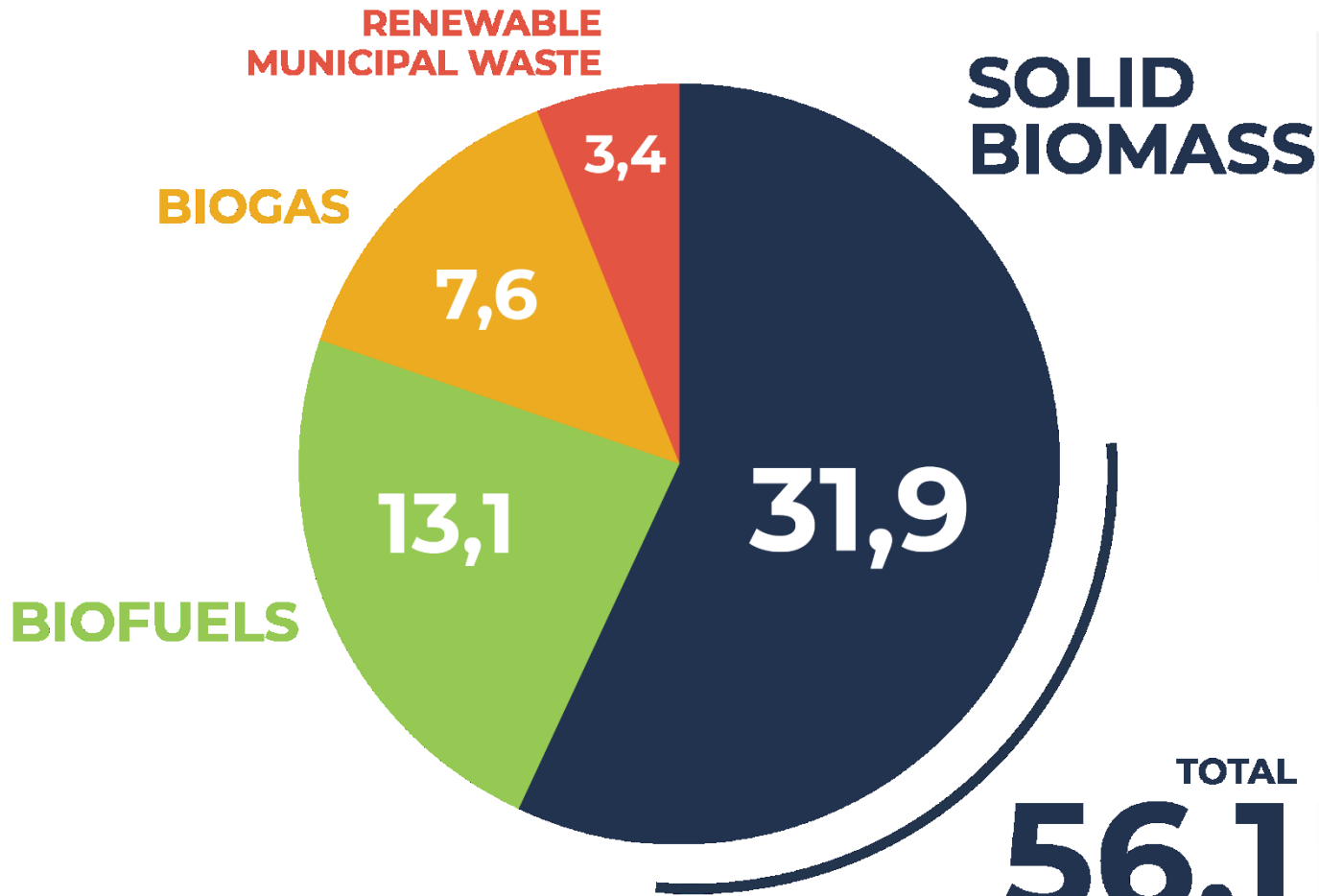
BIOENERGY EUROPE STATISTICAL REPORT 2018



TURNOVER OF THE BIOENERGY SECTOR

(IN 2016, BILLION €) SOURCE: EUROBSERV'ER

BIOENERGY EUROPE STATISTICAL REPORT 2018




BIOENERGY
EUROPE
THE FUTURE

European Commission Long Term Strategic View

WHAT'S IN IT FOR BIOENERGY?

The strategic vision to 2050 covers nearly all EU policies and explores 8 scenarios on how cut emissions and to meet the Paris Agreement objective to keep the global temperature increase to well below 2°C and pursue efforts to keep it to 1.5°C.

In all scenarios bioenergy use grows
(domestic feedstock from 214 Mtoe to 320 Mtoe)

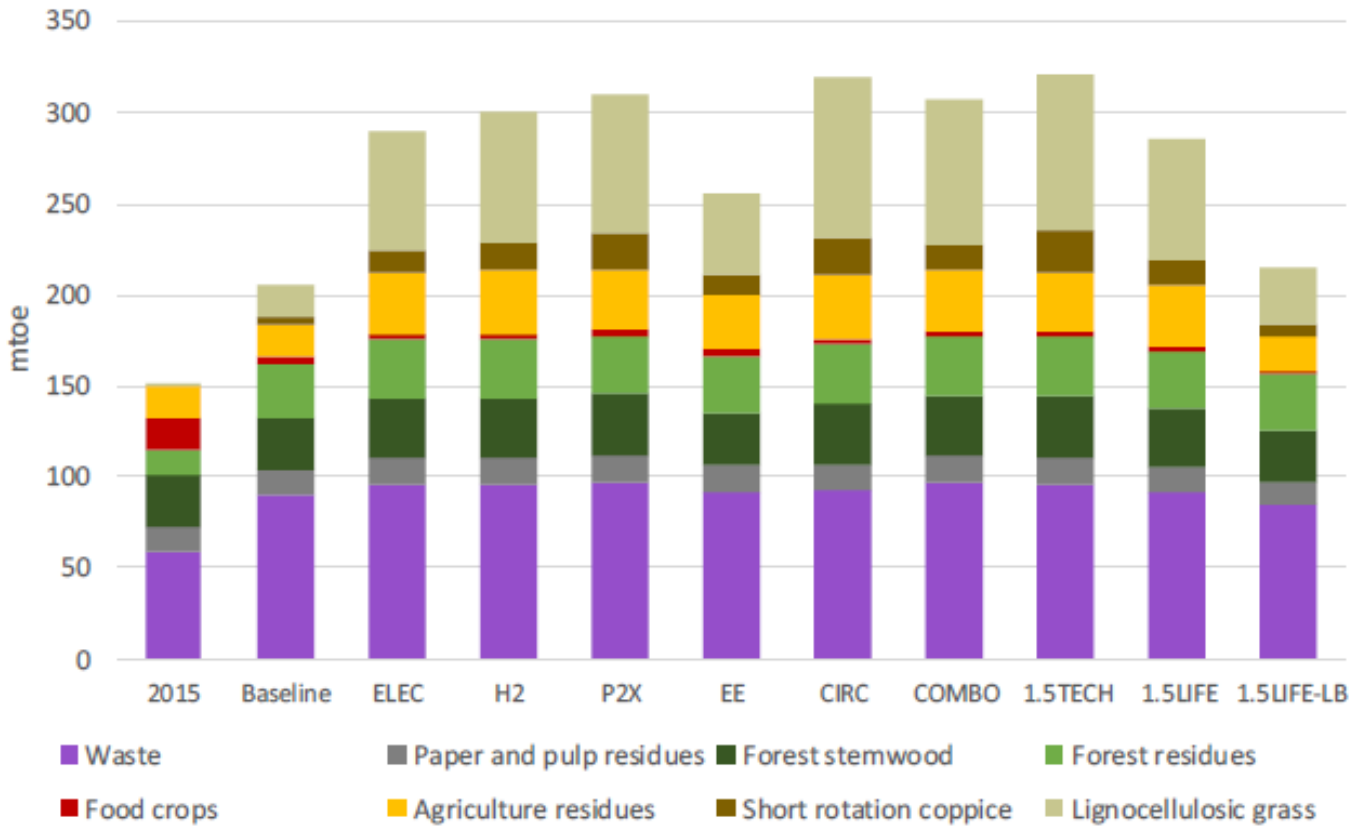
Land being used for new energy crops ranges from 9 Mha to 29 Mha

4 - 6% Share of solid biomass imported

ZOOMING IN

EC LTS – WHAT'S IN IT FOR AGROBIOMASS?

BREAKDOWN OF BIOENERGY FEEDSTOCK in 2050



SOURCE: In-Depth analysis in support of the commission communication COM (2018) 773

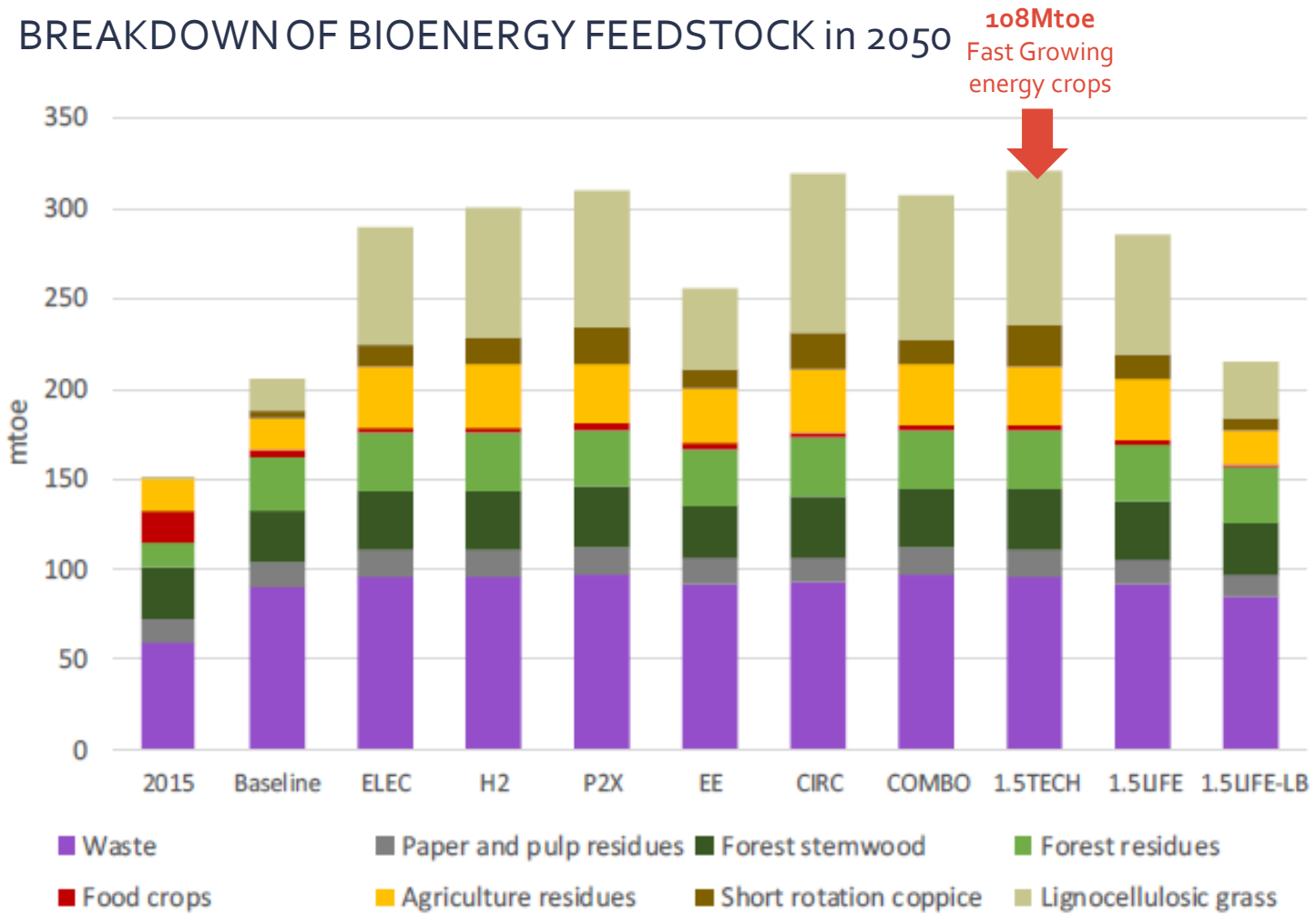
- ✓ More **agriculture residues** used for the production of biogas & solid biomass.
- ✓ Fast growing **energy crops** providing for substantial portion of biomass needs.
- ✓ Most of the demand is supplied via **lignocellulosic grass** such as switchgrass and miscanthus while **short rotation coppices** providing 20 to 25% of the demand in energy crops.

MACRO TRENDS

ZOOMING IN

EC LTS – WHAT'S IN IT FOR AGROBIOMASS?

BREAKDOWN OF BIOENERGY FEEDSTOCK in 2050



SOURCE: In-Depth analysis in support of the commission communication COM (2018) 773

TRENDS

WASTE SECTOR Improved collection

FOREST STEMWOOD at 2015 level in all scenarios

FOREST RESIDUES Increases

AGRICULTURAL RESIDUES Increased use

FOOD CROPS very marginal

FAST GROWING ENERGY CROPS (SRC + Lignocellulosic grass) will provide for the rest

100 Mtoe

60-65 Mtoe

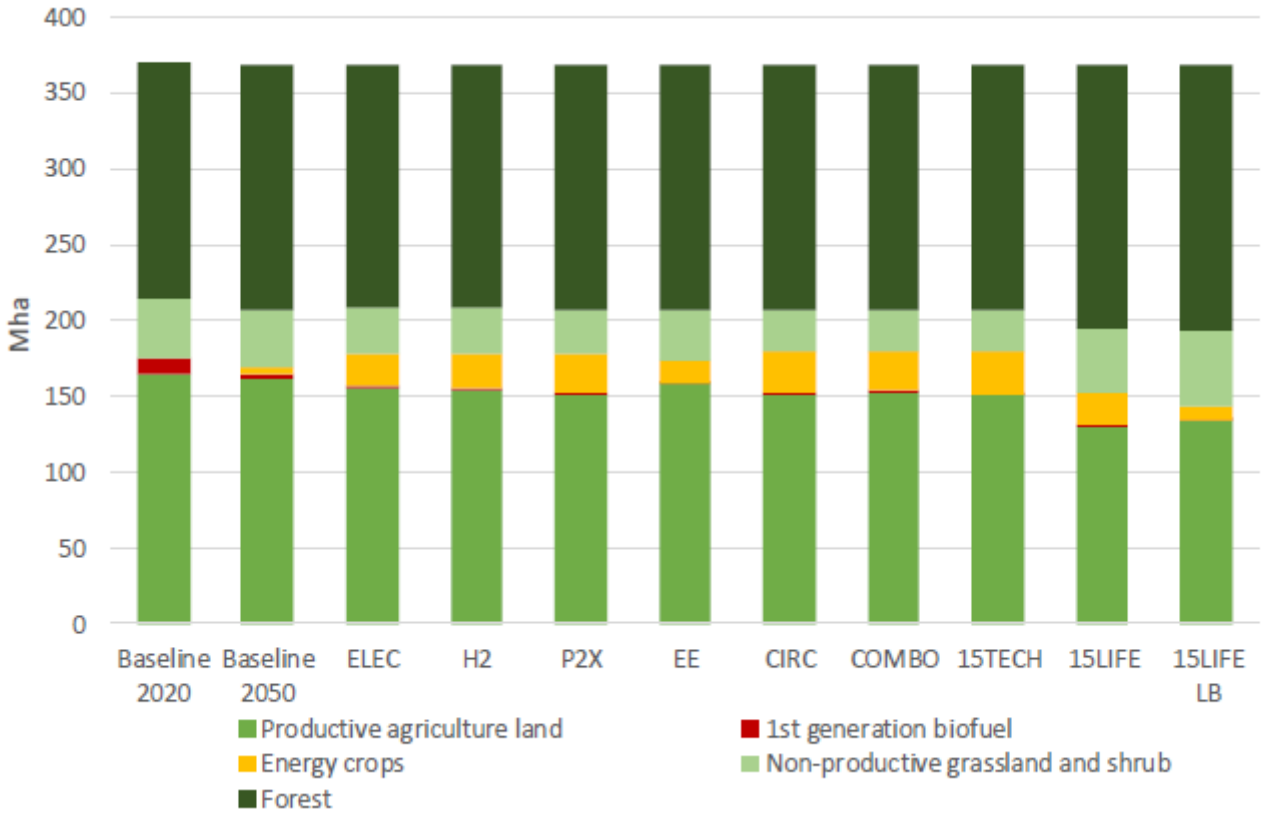
200 Mtoe

38 -108 Mtoe

ZOOMING IN

EC LTS – WHAT'S IN IT FOR AGROBIOMASS?

USE OF NATURAL LAND BY 2050

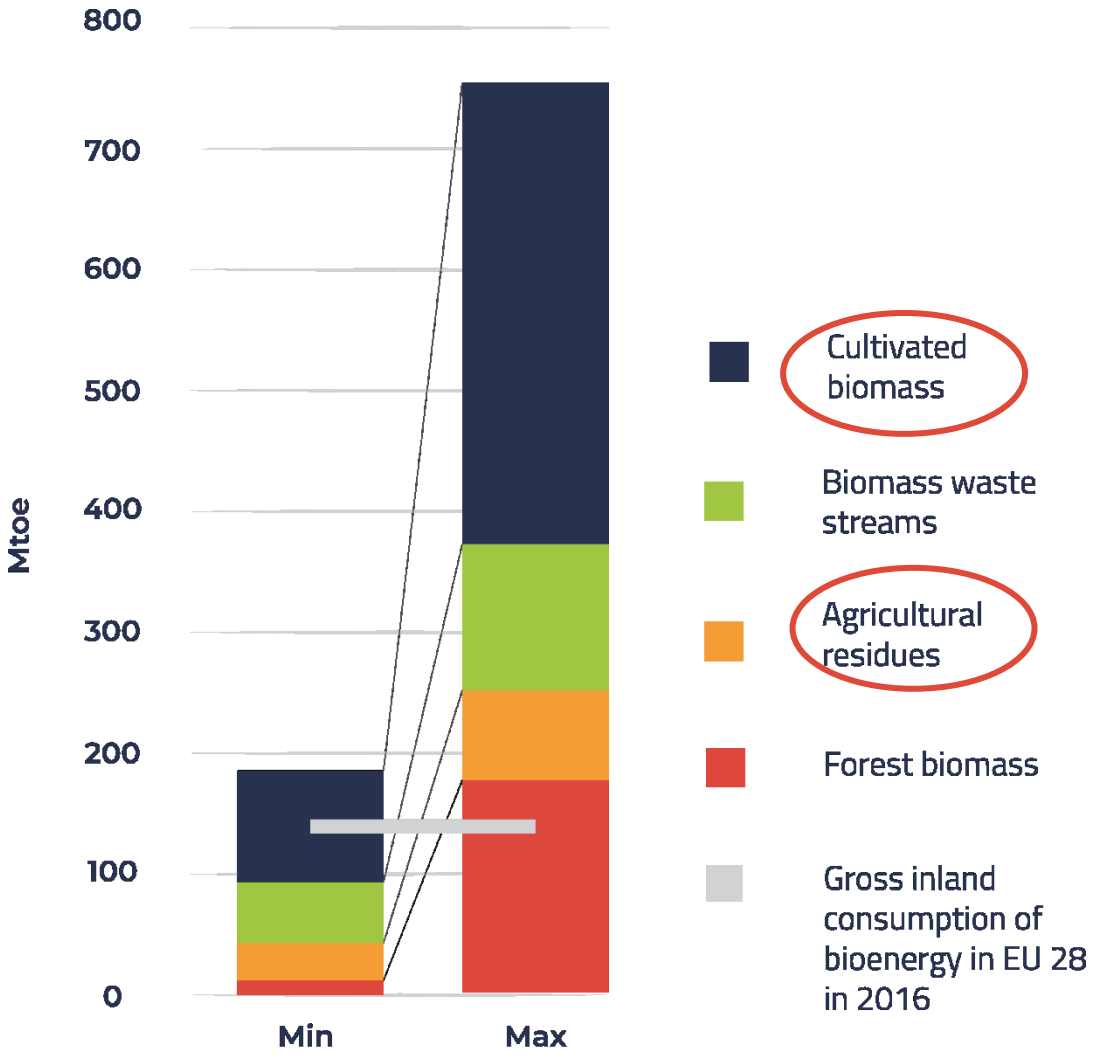


SOURCE: In-Depth analysis in support of the commission communication COM (2018) 773

- ✓ The scenarios with highest energy crop requirements see about **29 Mha** of land being used for new energy crops.
- ✓ The scenario with lowest energy crop requirements see about **9 Mha** of land for new energy crops.
- ✓ Most of the changes happen through a large switch towards **lignocellulosic grass** from **unused grassland** and through the availability of cropland currently used for the production of first generation biofuel.

MACRO TRENDS

WHERE MOST OF BIOMASS POTENTIAL LIES?



EU maximum and minimum biomass potential by 2050

Scientific Literature Review, University of Groningen

2050 Bioenergy can triple within sustainable and environmental limits and at a reasonable cost.

406 Mtoe Middle Range Potential

MOST OF THE GROWTH POTENTIAL LIES IN AGROBIOMASS

SOURCE: A. Faaij (2018), Securing sustainable resource availability of biomass for energy applications in Europe; review of recent literature.

Where are we?

ENERGY CROPS DEDICATED AREA
DATA COLLECTION

Lack of comprehensive EU database on surfaces dedicated to energy crops

Bioenergy Europe is collecting the data through interviews and desk research:

- Miscanthus
- Other grassy varieties
- Poplar
- Willow
- Other SRC

25 countries

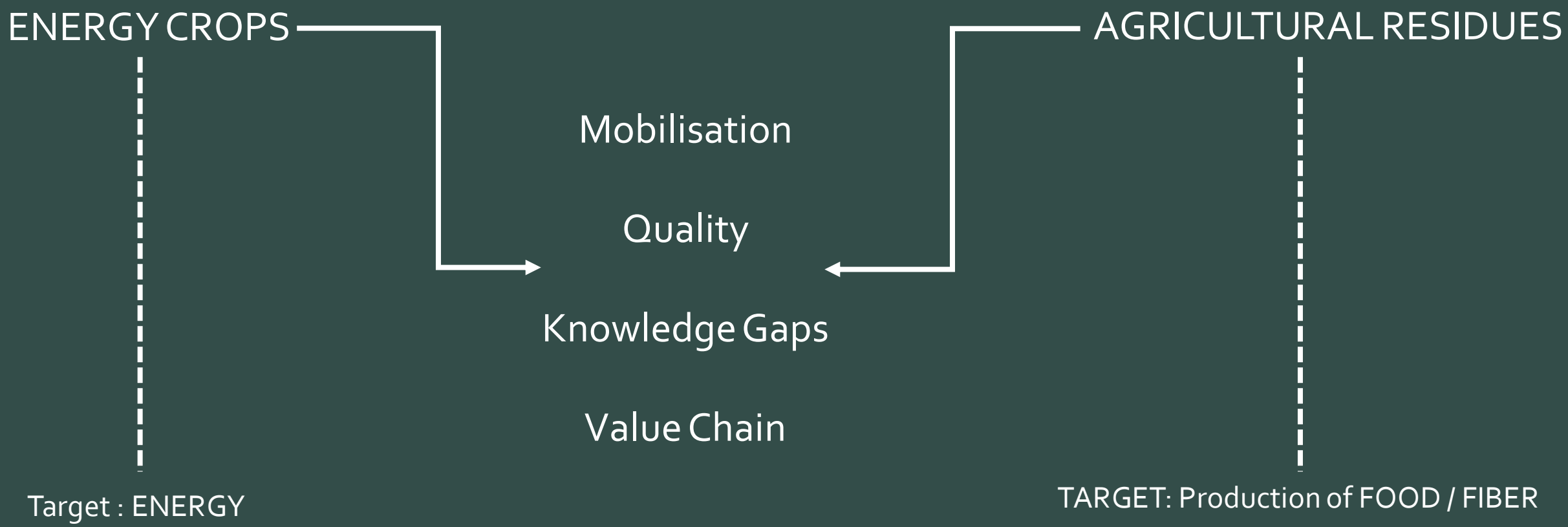
TOTAL: 108 Kha

Preliminary Data

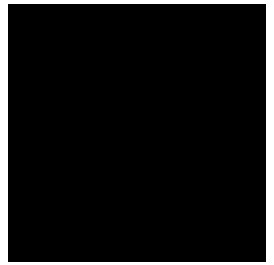
BioEnergy EUROPE

THE PRESENT

AGROBIOMASS: ONE WORLD MANY FEEDSTOKS



MOBILISATION OF BIOMASS



BARRIERS

DISPERSE NATURE OF BIOMASS
MOBILISATION IS KEY FOR FURTHER DEVELOPMENT
LACK OF ADVANCED LOGISTICS SYSTEM

SOLUTIONS

→ Further support agricultural productivity
→ Map contaminated and abandoned land at EU level and mobilise unutilised potentials to grow dedicated energy crops
→ Improve harvest logistics by stimulating the creation of clusters to share equipment and provide storage
→ Incentivise local supply chains and provide public financing to supper the SME's investments

QUALITY OF AGROBIOMASS

BARRIERS

VARIABLE QUALITY

OBSTACLES TO MARKETABILITY

SOLUTIONS

→ Promote good practices during harvesting, transportation and other logistic steps
→ Stimulate the process of developing technical standards (ISO) in order to turn lignocellulosic material into fully tradeable commodities.
→ Support the introduction of industry-led quality certification
→ Convert low quality material to intermediate product

KNOWLEDGE GAPS

BARRIERS

RESIDUES OFTEN REGARDED AS WORTHLESS LEFTOVERS

AGRICULTURAL PRACTICES IMPACTING THE QUALITY

SOLUTIONS

→ Promote good practices during harvesting, transportation and other logistic steps

→ Stimulate the process of developing technical standards (ISO) in order to turn lignocellulosic material into fully tradeable commodities.

→ Support the introduction of industry-led quality certification

→ Convert low quality material to intermediate product

VALUE CHAIN

BARRIERS

LOW MARKET PRICES

TIGHT PROFIT MARGINS

COST OF HARVESTING

SOLUTIONS

→ Upgrade residues on farm when needed
→ Economy of scale: considerable size end user (AD, biorefinery, pelleting, CHP)
→ Improve public acceptance: promote the agrobiomass fuels with the end-users to build a relationship if trust, promote intangible benefits
→ Improve harvest logistics

AGROBIOMASS: SOCIO ECONOMIC BENEFITS

#1 INCOME DIVERSIFICATION FOR FARMERS

#2 PROMOTE SOCIO-ECONOMIC DEVELOPMENT AT A LOCAL SCALE

#3 SELF-SUFFICIENCY

#4 TRIGGERS NEW FORMS OF AGRO-INDUSTRIAL INTEGRATION

EUROPE

AGROBIOMASS: ENVIRONMENTAL BENEFITS

#1 EMISSIONS SAVINGS

#2 RESOURCE EFFICIENCY

#3 IMPROVES SOIL QUALITY & CARBON CAPTATION

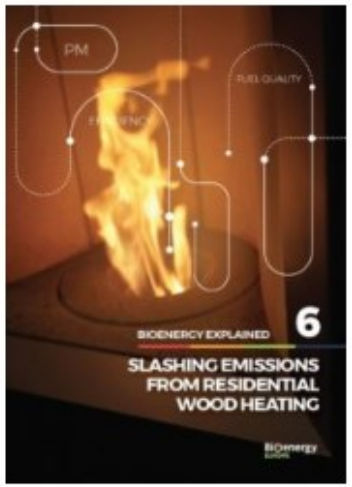
#4 PHYTOREMEDIATION

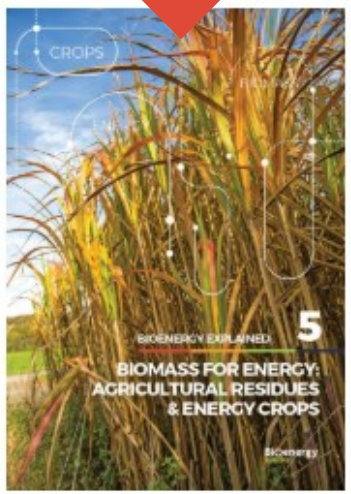
#5 IMPROVES WATER QUALITY AND BIODIVERSITY

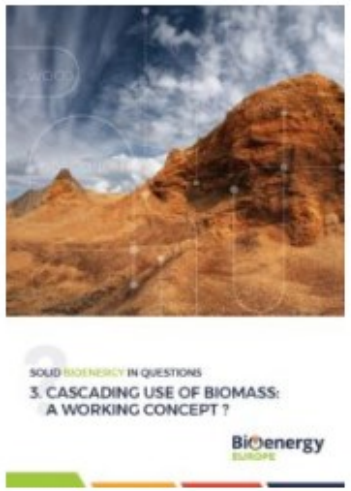
EUROPE

bioenergyeurope.org/factsheets

Factsheets







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THANK YOU!

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