

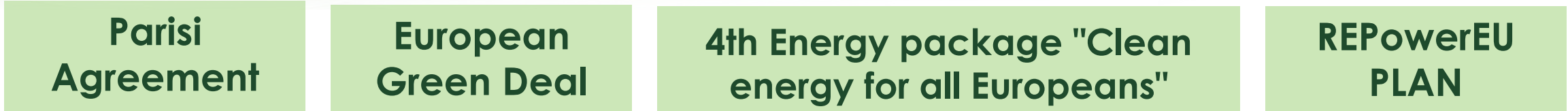


Recovery of the power system The potential of using local types of fuel



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Decarbonization of the economy



OBLIGATIONS FOR RENEWABLE ENERGY UNTIL 2030

share of renewable sources
in total energy consumption 27%

✓ the share of RES in
electricity 25%

✓ share of RES in
heating 35%

✓ share of RES on
transport 14%



Decentralization of energy

Challenges

A waste of control/destruction

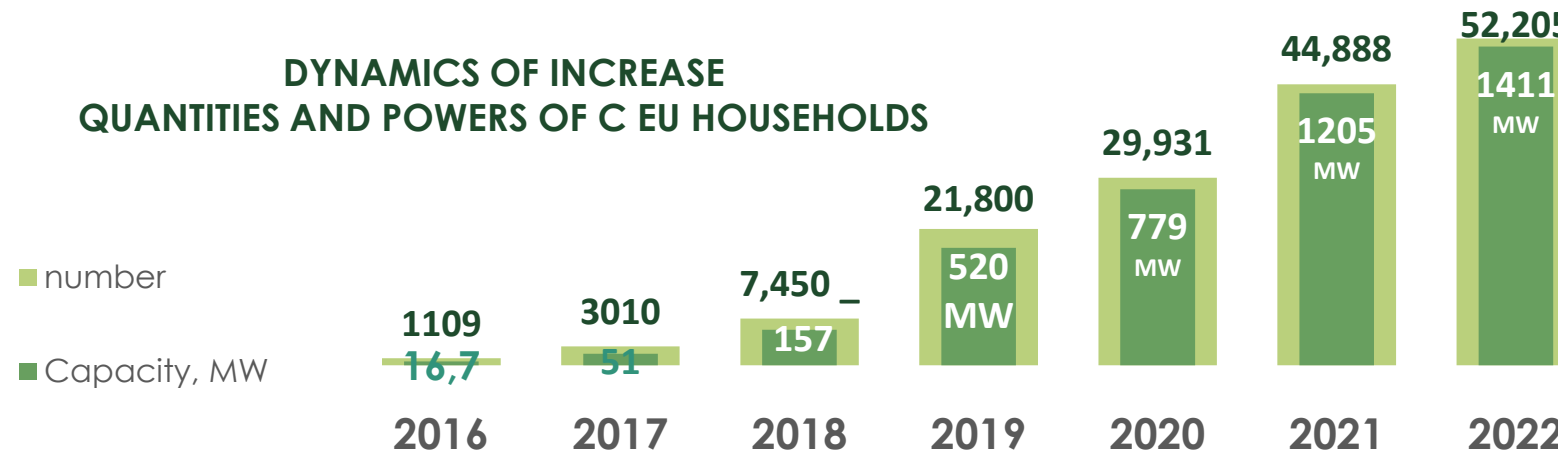
30% of power generation capacity:

- more than 10 GW of thermal generation
- about 6 GW of nuclear power plants
- 80% of Wind station
- 20% of Solar station
- Kakhovka hydroelectric power station

Advantages of distributed generation

- ✓ reducing the vulnerability of the power system during attacks
- ✓ reducing balancing needs
- ✓ reduction of losses in the network
- ✓ increasing maneuverability and flexibility
- ✓ increasing controllability
- ✓ increasing the use of local energy sources and types of fuel

The role of RES in distributed generation

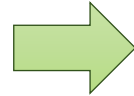




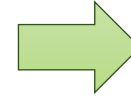
HIGH EFFICIENCY COGENERATION

European integration

Directive 2012/27/EU "On energy efficiency"



Law No. 2955-IX
dated February 24, 2023

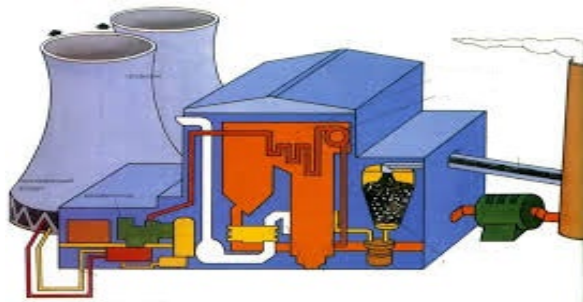


- qualification of high efficiency cogeneration ;
- methodology for determining the efficiency of the cogeneration process
- introduction of a guarantee of the origin of electricity produced by high efficiency cogeneration

signs of high efficiency cogeneration

- ✓ Savings of primary energy over 10%* (CHP over 1 MW)
 - ✓ Savings of primary energy more than 0% (for small and micro CGUs)
- * compared to reference values of separate production of electricity and heat

Energy production by cogeneration plants (year 2020)



30% of the total thermal energy generation
(40 GW thermal, 26 million Gcal)

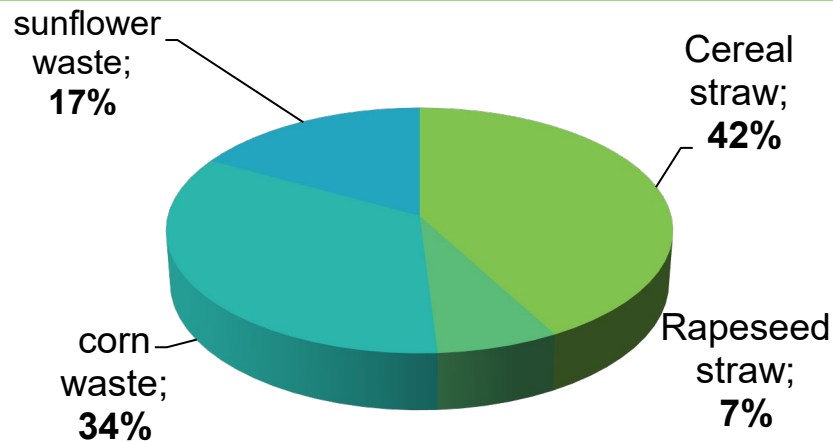


30% of total electricity generation
(28 GW electric, 49 billion kWh)



THE STRUCTURE AND VOLUME OF AGRICULTURAL CROP WASTE

	The total amount of, million tons	The share is available to obtain energy, %	Economic potential, million tons
Cereal straw	33.5	30%	10.05
Rapeseed straw	3.9	40%	1.56
Corn waste	37.0	40%	14.8
Sunflower waste, incl. husk	19.1	40%	7.64
Total:	93.5	37%	34.05



Substitution potential
9.3 billion m³ gas

! ≈ 30% of the total annual gas needs of
Ukraine



INITIATIVES IN THE FIELD OF BIOENERGY DEVELOPMENT

DRAFT LAWS



DEVELOPMENT OF SOLID FUEL
TRADE (№ 8052)



PROMOTION OF CULTIVATION OF
ENERGY CROPS (№ 5227)



DEVELOPMENT OF THE MARKET OF
LIQUID BIOFUELS IN TRANSPORT
(№ 3356)



BIOFUEL TAX EXEMPTION (№ 9596)

BASIC PROVISIONS

- creation of a single e-commerce system
- introduction of requirements for the quality of biofuels

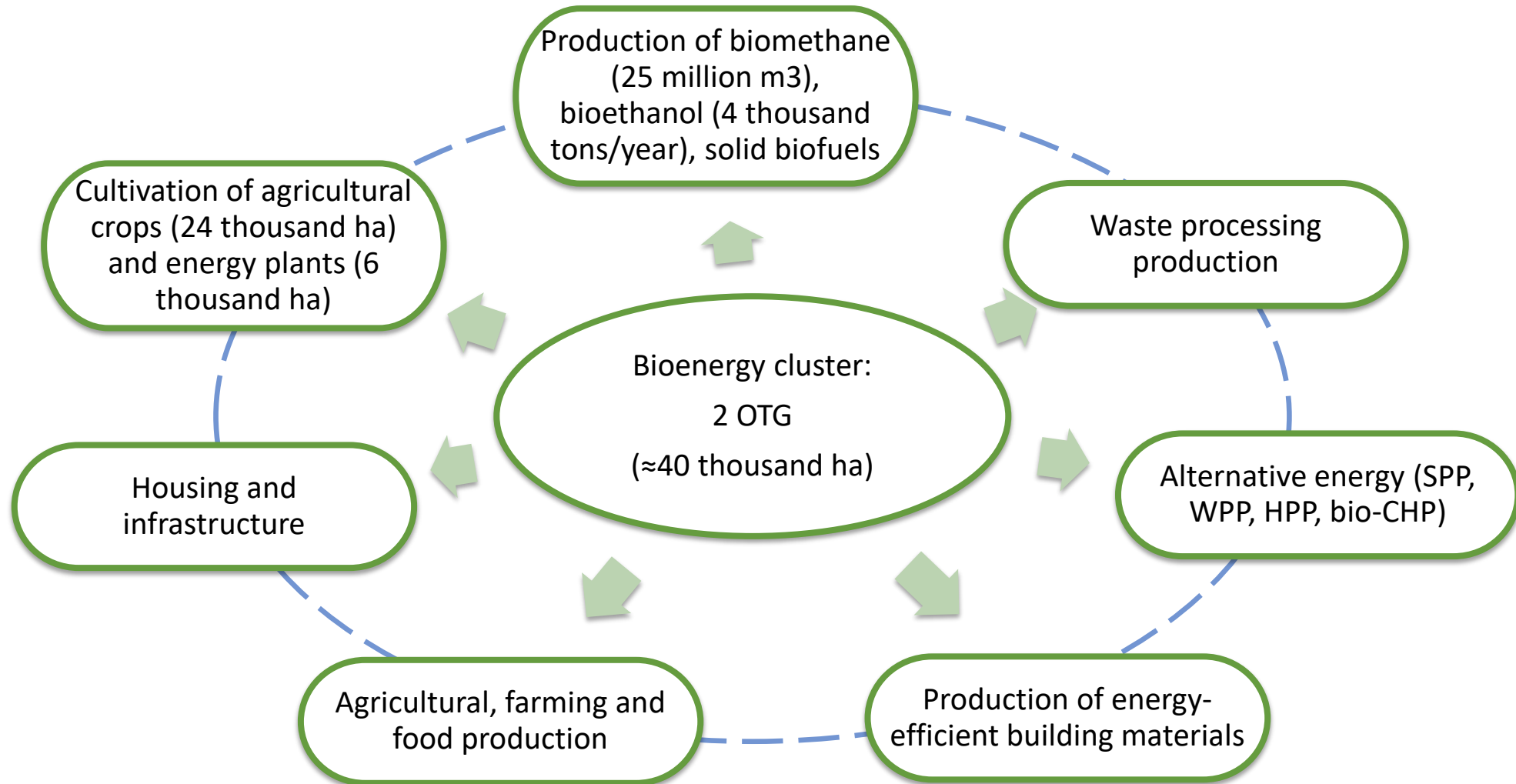
- improving the conditions for growing energy crops
- envisaging state support

- introduction of a mandatory share of biofuels
- introduction of sustainability criteria for biofuels

- reducing the tax burden for bioenergy
- improving the investment attractiveness of projects



THE CONCEPT OF IDENTIFYING REGIONS AT THE ACCOUNT OF ENERGY CLUSTER (example)





Thank you for
attention!