

UKRAINE: Country Report

Liubava Radiychuk



State Agency on Energy Efficiency
and Energy Saving of Ukraine

Kyivan Rus

IX – mid XIII

(Kyiv – established ~ V century)

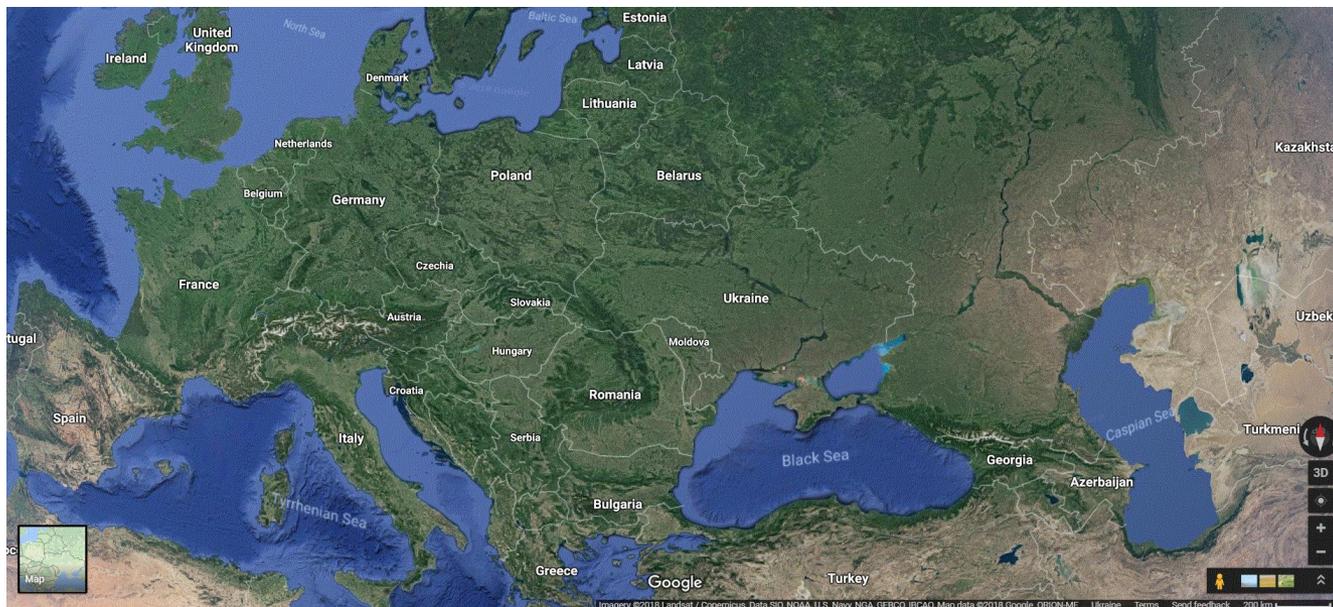


Source: Wikipedia, author: SeikoEn



Source: kanalukraina.tv

Ukraine



603,6 km2 (including Crimea and annexed regions - 46,2 km2)

Independence – 1991

Parliamentary - presidential republic

Christians - 94%



Source: ukraineunderattack.org

Ukraine's Territories, Occupied by Russia and Pro-Russian Militants

Indicator	Value
Population density (2016), inhab. per km2	78
Population, female (2016), %	53.7
Life expectancy at birth – men (2015), years	66.4
Life expectancy at birth – women (2015), years	76.2
Average age, years	40.6
Average household, persons	2.58
Urbanization, %	70.1
Unemployment rate, %	10



Author: Майстерня Треті Півні



Source: ukraine-kostum.blogspot.com



Source: patrioty.org.ua

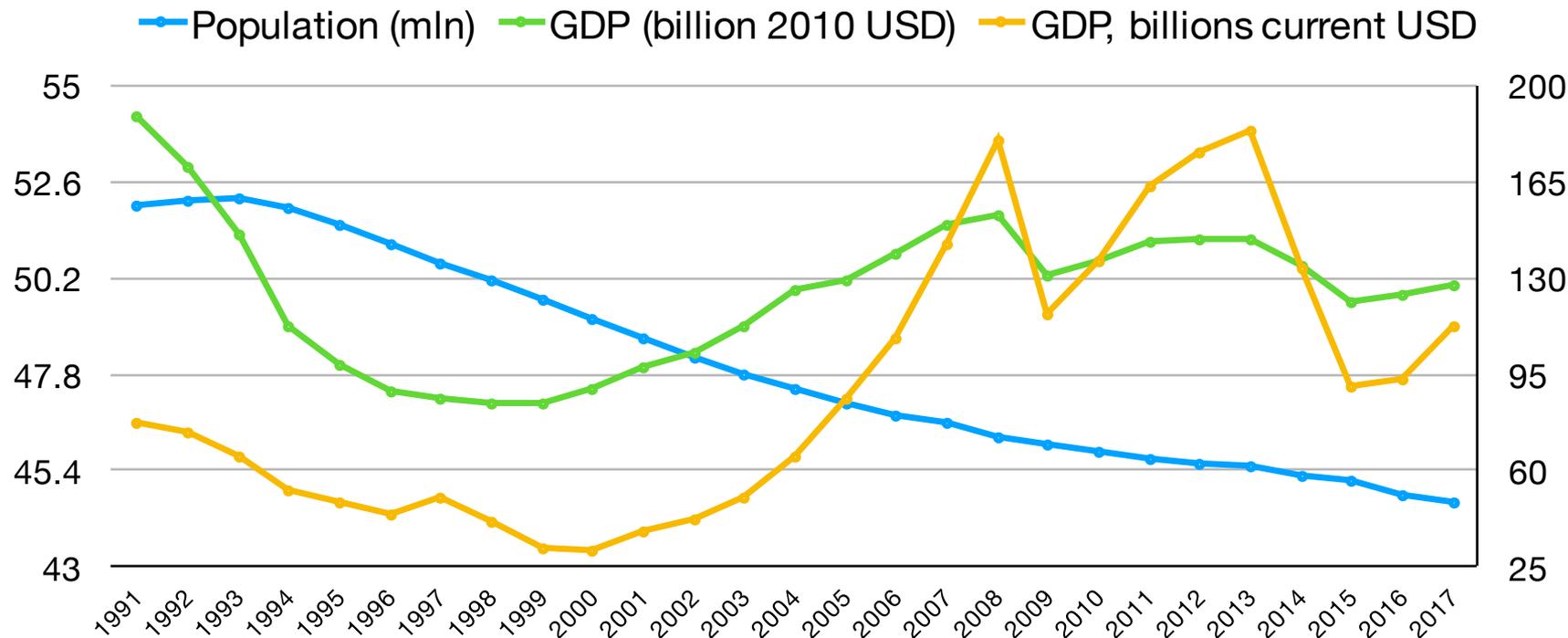


Source: guywebster.com



Source: www.uapost.us

Population and GDP



	2014	2015	2016	2017
Inflation rate (CPI, annual variation in %)	12,1	48,5	14,9	14,5

Organizational Structure Related Energy

Cabinet of Ministers

Ministry of Energy and Coal
Industry of Ukraine

Ministry of Ecology and Natural
Resources of Ukraine

Ministry of Infrastructure of
Ukraine

Ministry of Regional Development,
Construction and Housing and
Communal Services of Ukraine



The State Agency on Energy
Efficiency and Energy Saving of
Ukraine

President

National Commission for
State Regulation of Energy
and Public Utilities

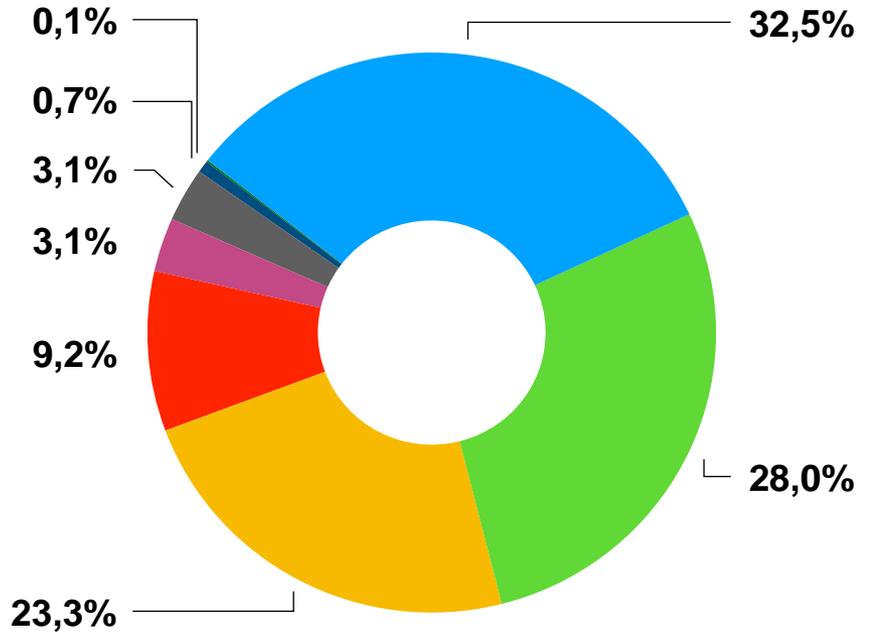
National Academy of Sciences

Institute of Economics and
Forecasting

Renewable Energy Institute

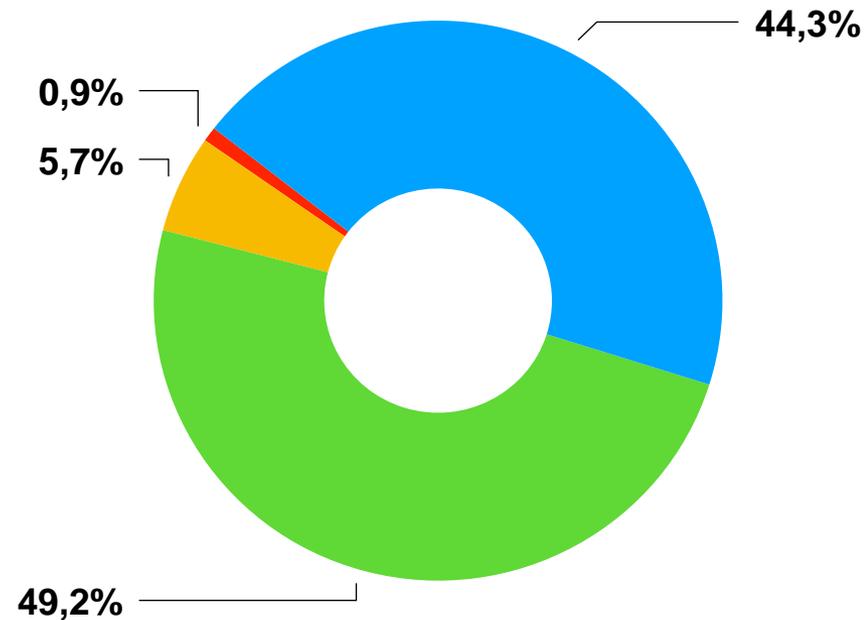
Institute of General Energy

Total primary energy supply in 2016 – 91,7 Mtoe



- Coal and peat
- Nuclear energy
- Crude oil
- Hydro
- Natural gas
- Petroleum products
- Biofuels and waste
- Wind and solar

Electricity generation in 2016 – 164,6 TWh



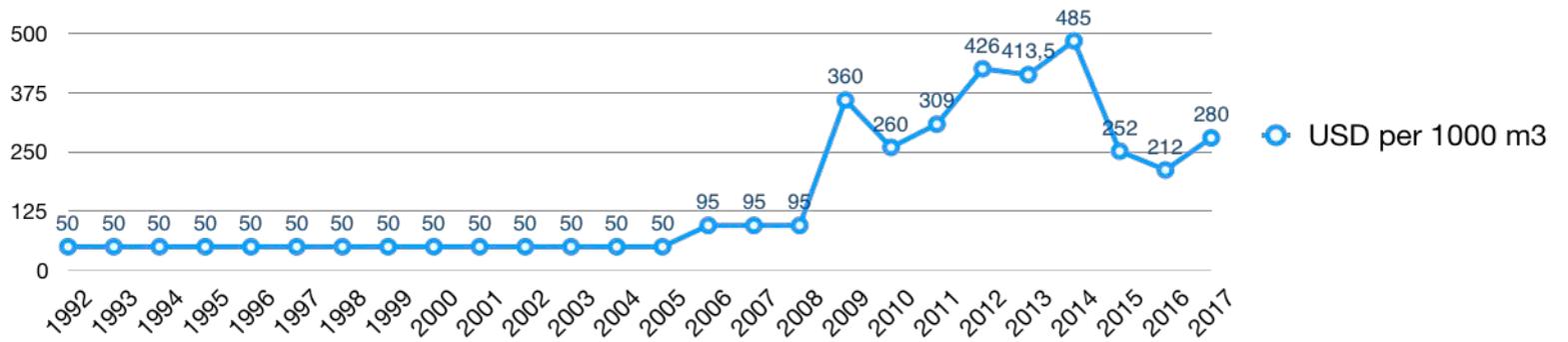
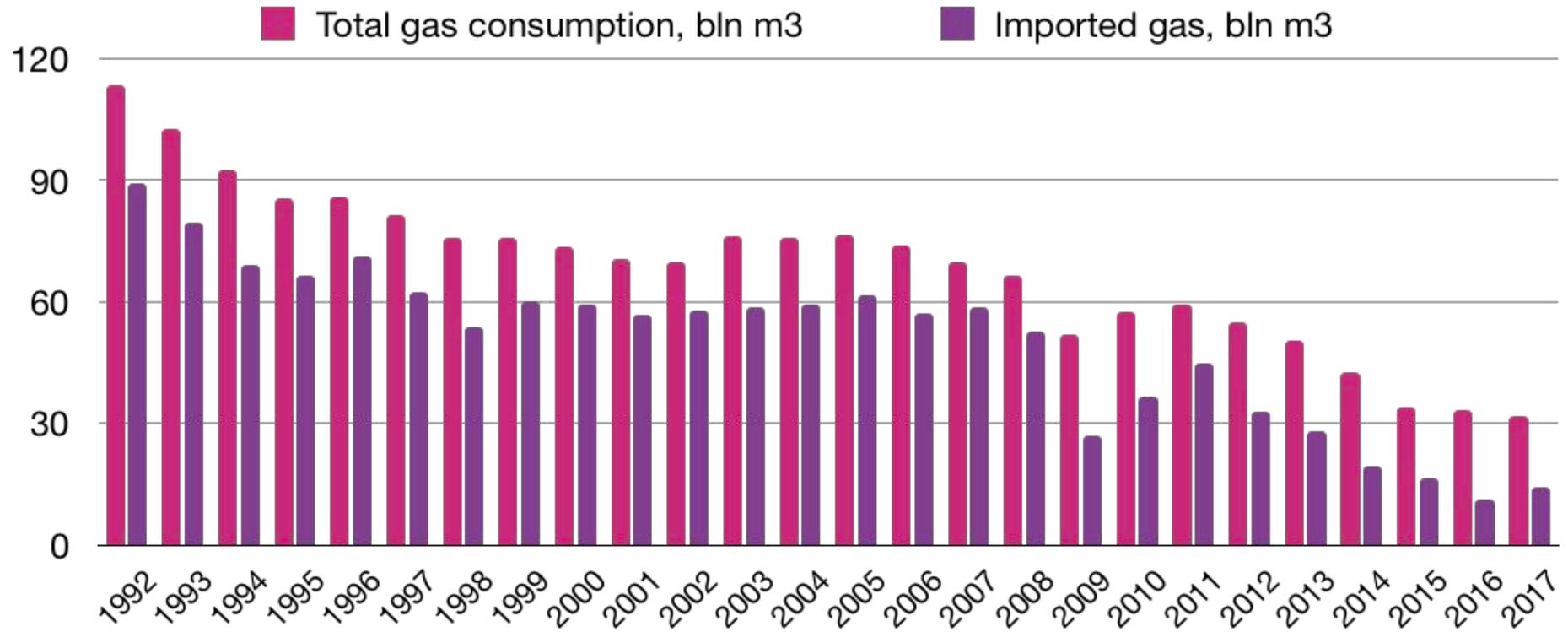
- Thermal power stations
- Nuclear power plants
- Hydroelectric power stations
- Other (wind, solar)

Chornobyl NPS



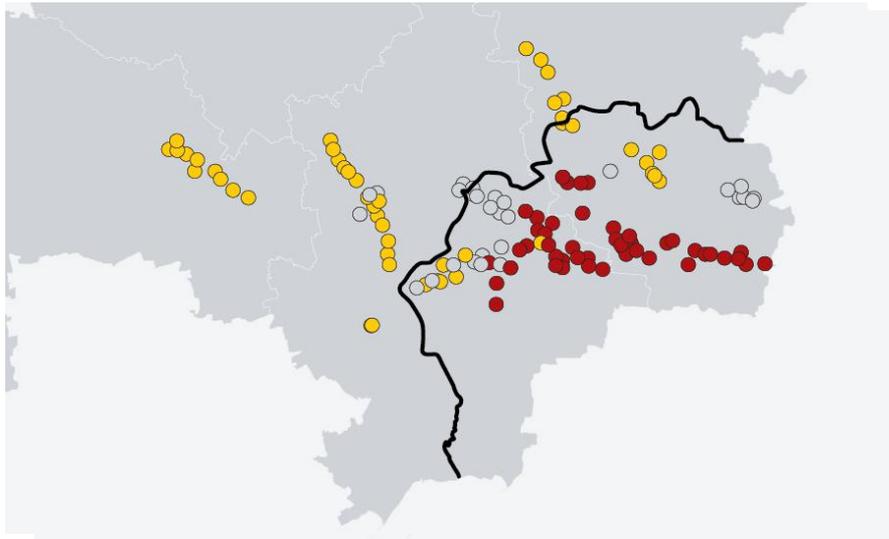
**Nuclear energy – one of the priorities of the
National Energy Strategy till 2035**

Natural Gas



Coal

2013 - 83,7 mln tonnes



Source: ТЕКСТИ.ORG.UA

Shale Gas

Total reserves ~ 5.6 trillion cubic meters

2 major deposits:

- 2.15 trillion cubic meters
- 1,47 trillion cubic meters



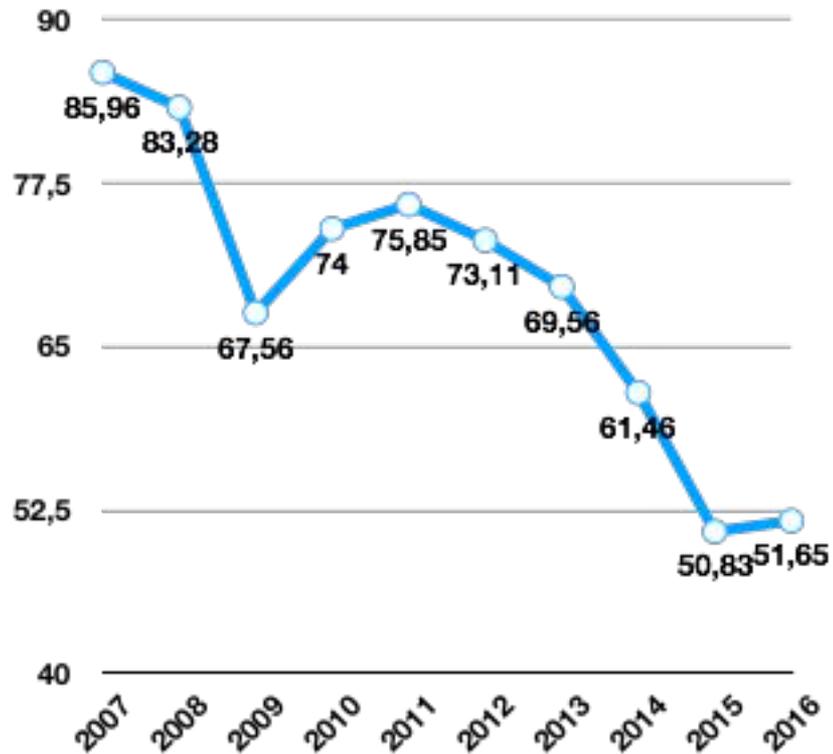
Source: Wikipedia, author: Fordman

7800 km²

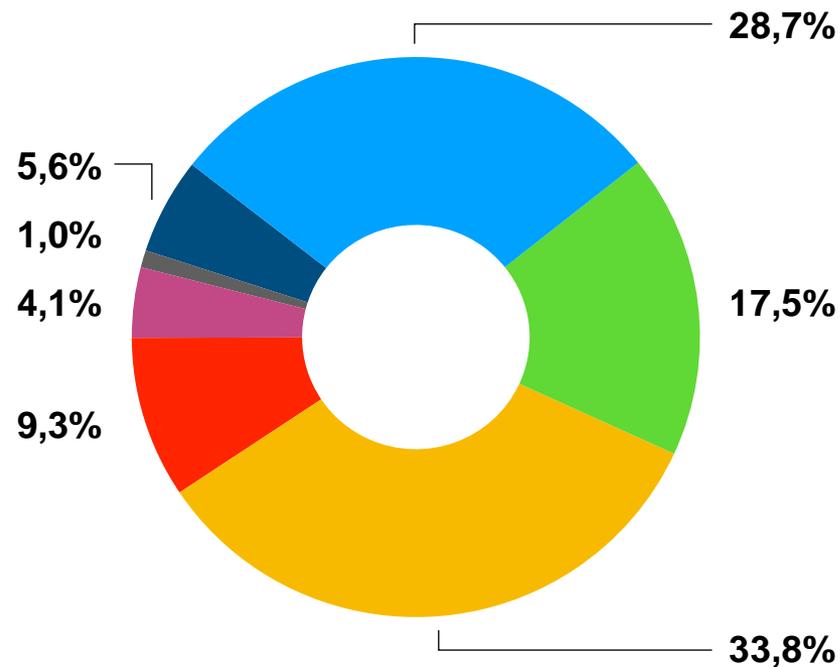


Source: ТЕКСТИ.ORG.UA

Final energy consumption, Mtoe



Final energy consumption in 2016 – 51,6 Mtoe



- Industry
- Transport
- Households
- Sector of services
- Agriculture, forestry and fisheries
- Other
- Non-energy use

NATIONAL TARGETS ON ENERGY EFFICIENCY AND RENEWABLES Requirements of Directives 2012/28/EU and 2012/27/EU

National Renewable Energy Action Plan-2020

as of Oct.1, 2014, № 902-p

11%

of Renewables in final
energy consumption

National Energy Efficiency Action Plan-2020

as of Nov. 25, 2015, № 1228-p

-9 % (6,5 mln t.o.e.)

of energy saving comparing
to the average final energy
consumption in 2005-2009

Ukraine was the 20th country to ratify the Paris Agreement

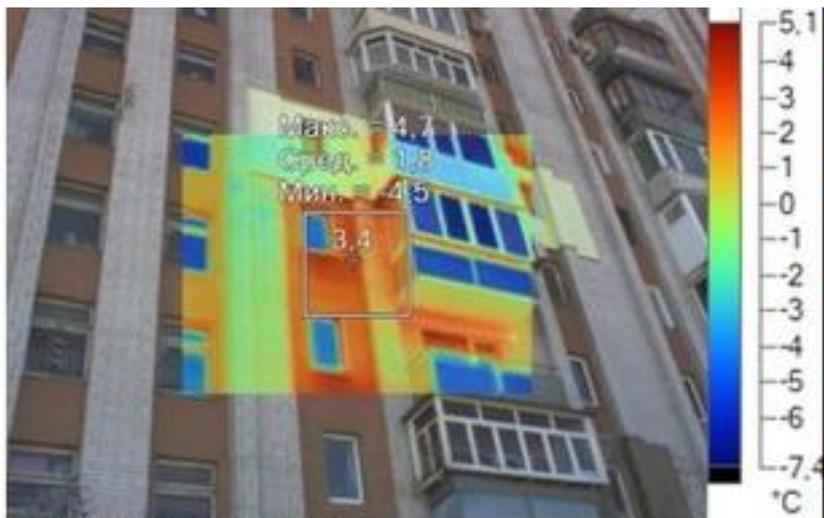
**The share of renewables in primary energy supply should be 25%
according to New Energy Strategy till 2035**

ENERGY EFFICIENCY IN BUILDINGS

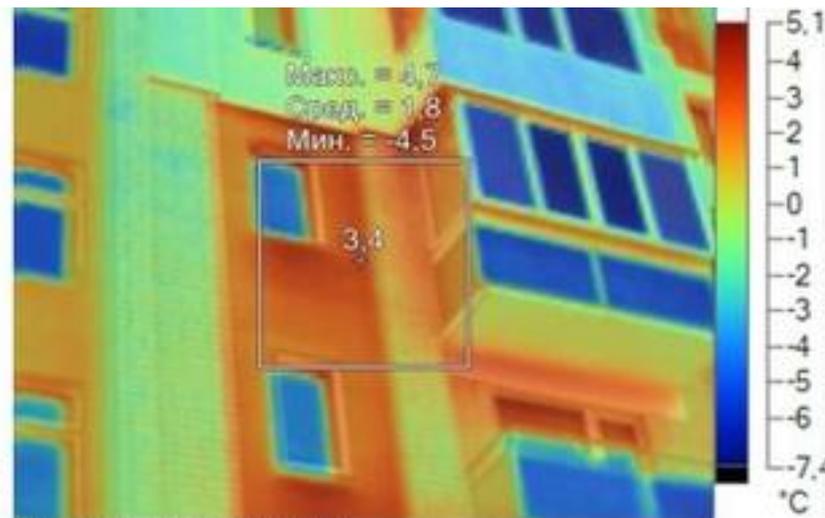


Residential buildings		Public entities
Multi-Apartment	Private (Individual)	
Number of Buildings		
≈ 80 000	≈ 6,5 mln	≈ 100 000
Necessary Investment		
≈ from 50 to 85 bln USD*		≈ from 4 to 8 bln USD*
Annual Saving Potential (in gas equivalent)		
8 bln cubic meters		800 mln cubic meters

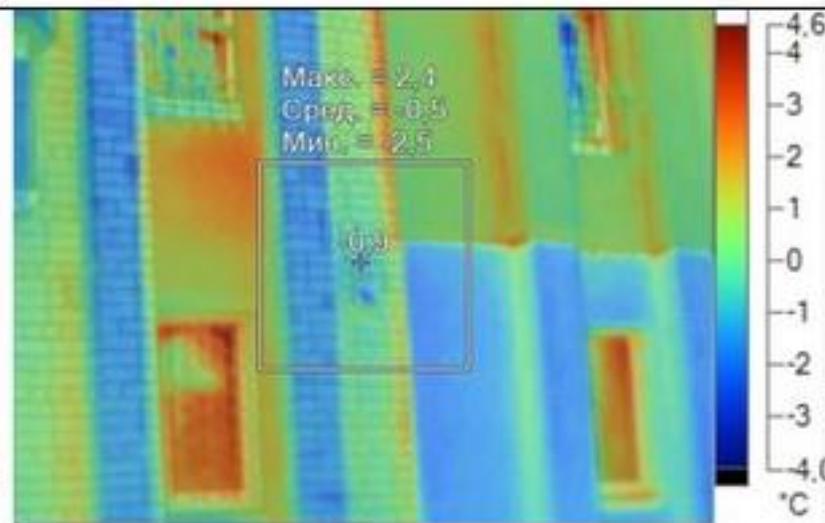
*depending on the thermal modernization level



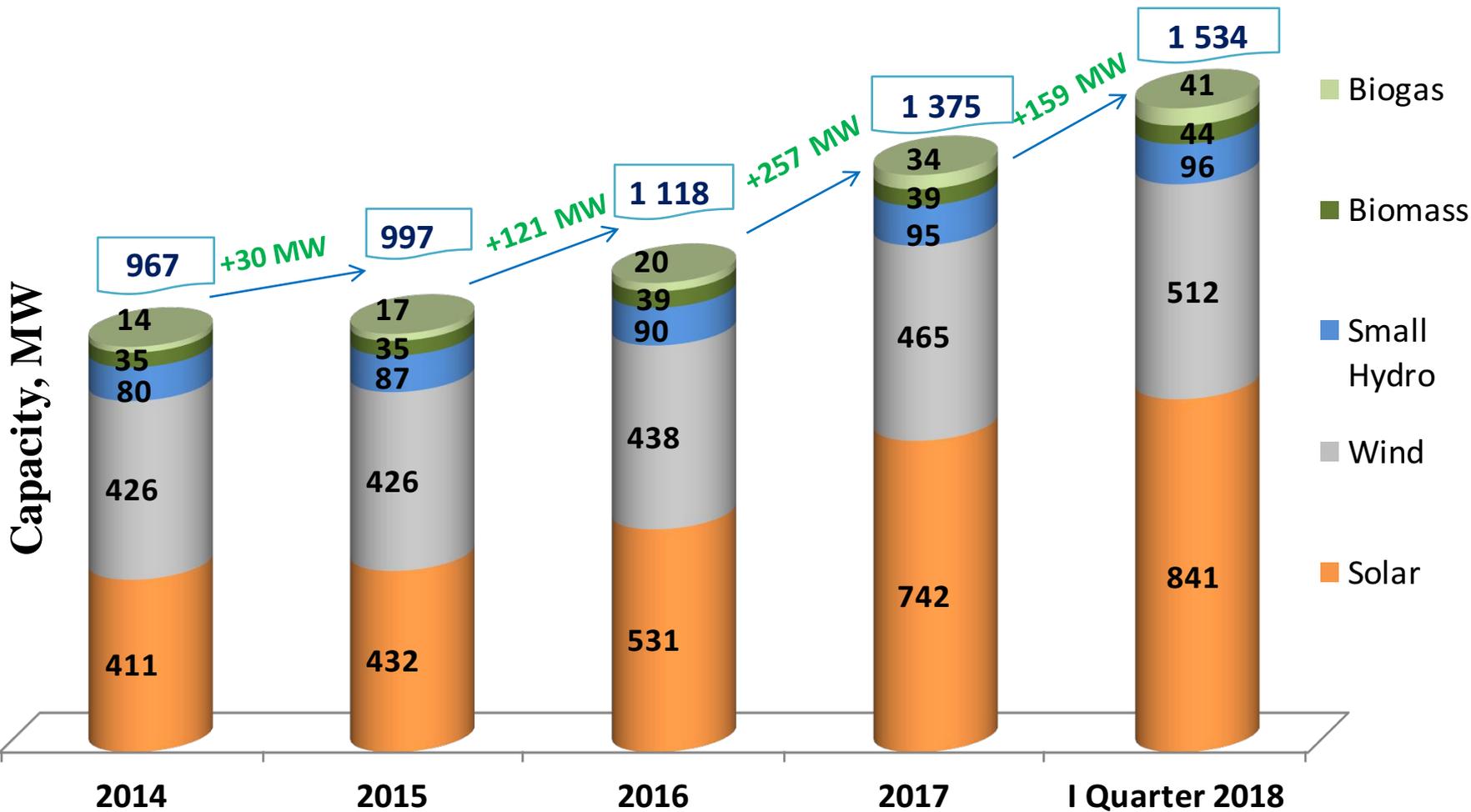
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INSTALLED CAPACITY OF RENEWABLE ENERGY OBJECTS WORKING UNDER THE "GREEN" TARIFF

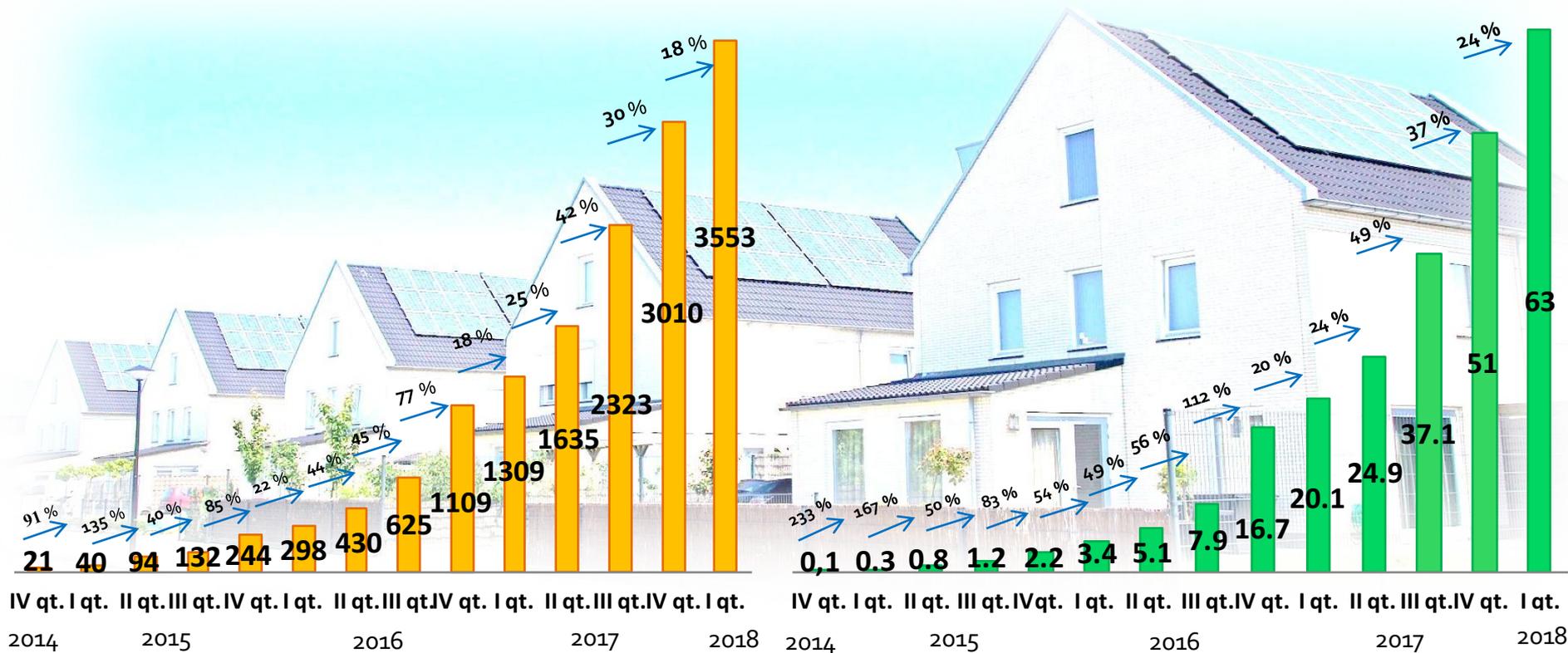


From the beginning of 2015, 567 MW were introduced and more than € 550 mln were invested.

DYNAMICS OF SOLAR INSTALLATIONS IN PRIVATE HOUSES

Number of private houses

Installed capacity, MW



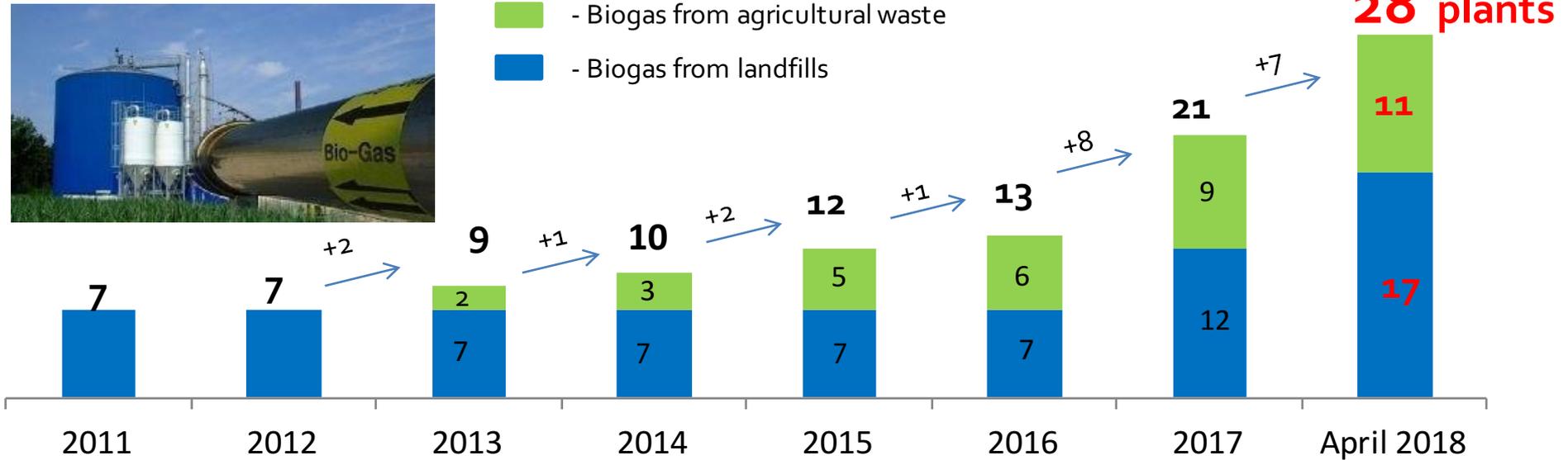
Invested more than 64 mln EURO

The number of private houses eligible for solar panels installation is 6,5 mln

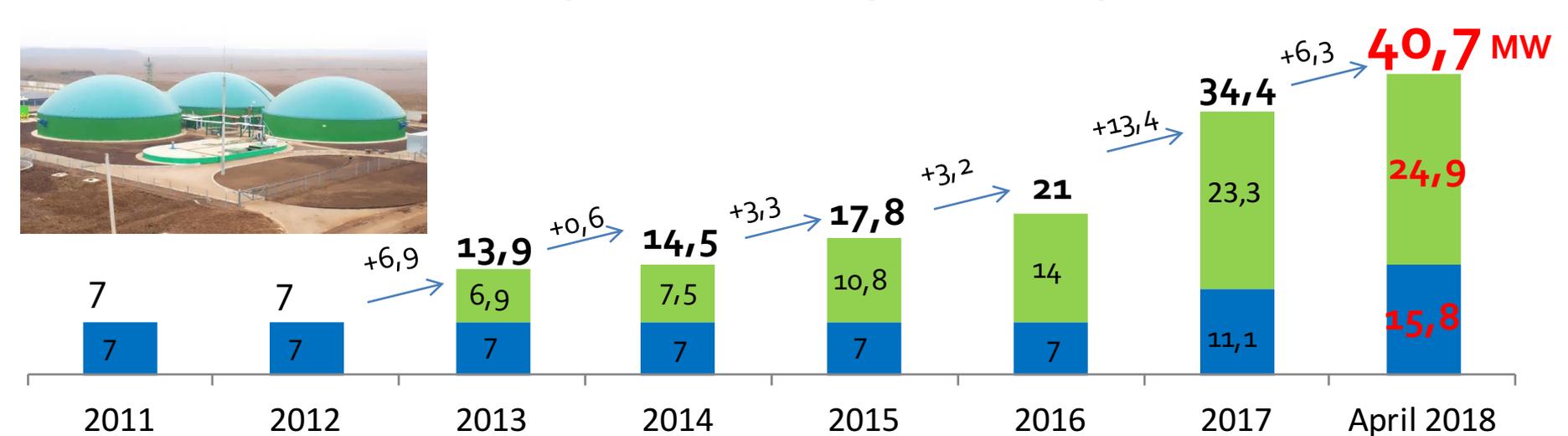
BIOGAS CAPACITY INCREASE IN UKRAINE

Biogas plants working under the "green" tariff, units

- - Biogas from agricultural waste
- - Biogas from landfills



Installed capacity of biogas plants working under the "green" tariff, MW



Current situation in Ukraine with generation of household solid waste (HSW)

Annually:

300 – 350 kg
of household solid waste



is produced by one person in Ukraine

10 mln tons
of household waste



removed to the landfills in Ukraine

gas equivalent
≈ 1 bln m³



3,5 mln Gcal
of thermal energy



1,2 billion kWh
of electric energy



Major difficulties and bottlenecks

1. Economic and financial barriers as the most powerful obstacles:
 - lack of liquid assets to obtain loans;
 - high interest rates and lack of long-term loans;
 - inflation and currency fluctuations;
1. Institutional barriers - insufficient communication between overstuffed government institutions;
2. Technical barrier - insufficient amount of energy services companies;



**Thank you for your
attention!**

Tokyo, July 2018