

Ukraine space heating: Enabling Energy Savings and Increased Comfort

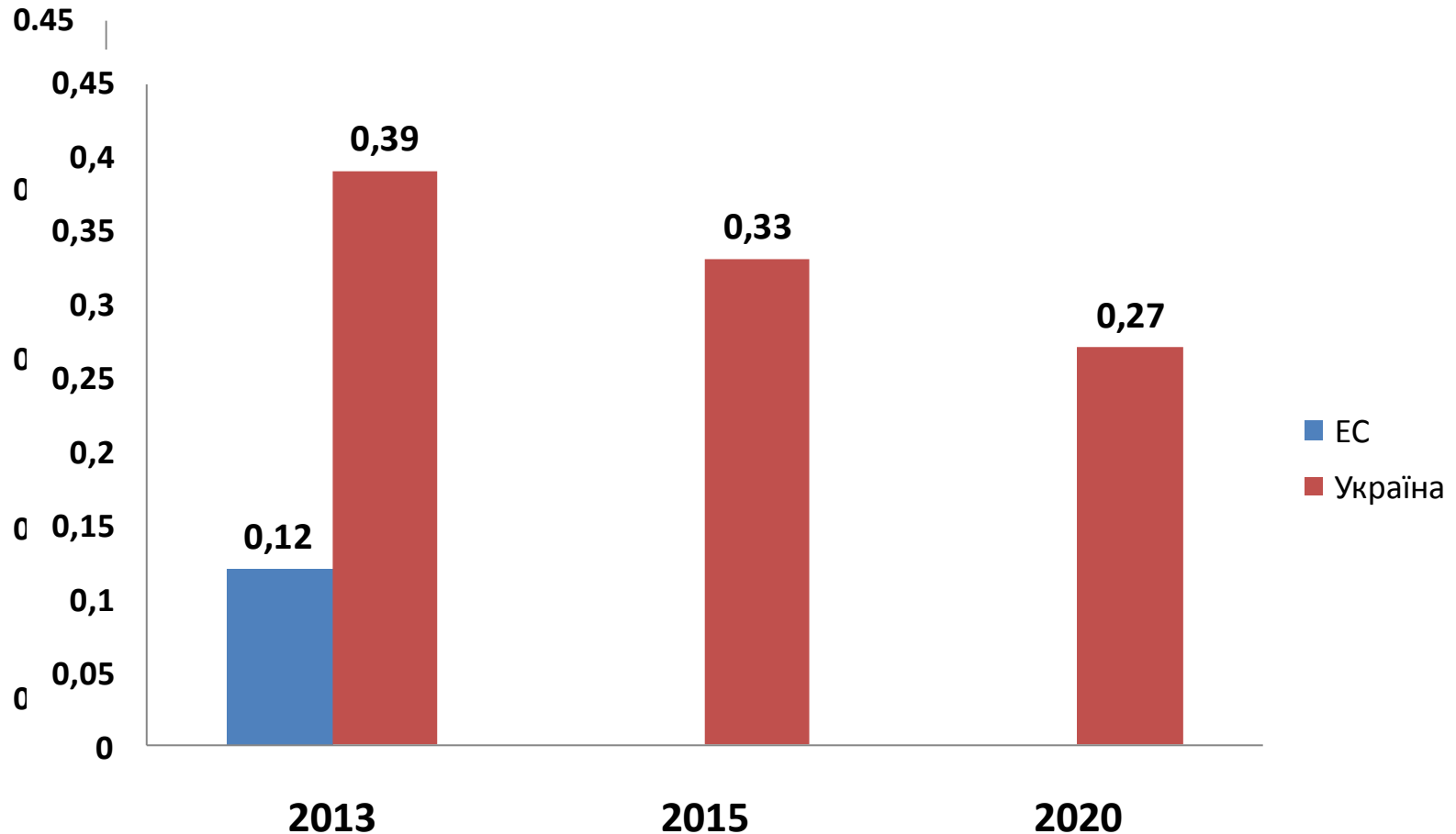


Background

- Many multi-apartment buildings in Ukraine are generally in poor condition, most (up to 80%) are energy inefficient
- Residential sector - mainly multi-apartment buildings, represent 20-30% of the country's energy use
- Residential Energy sector (electricity, district heating, gas supply) used to be heavily subsidized, practically not metered, billed by “normative” consumption, not by what the consumers use
- Government started to eliminate subsidies to energy suppliers (by 2017), banks would like to expand residential lending, industry wants to create jobs, residents want to reduce energy bills and have nicer, more comfortable homes.
- This situation presents enormous opportunity for energy savings, expansion of market for construction industry and for the financial sector

Energy indicators

energy intensity of Ukrainian economy in kg o.e./US dollar



Source: Enerdata, «Global Energy Statistical Yearbook 2014»;

Specific energy consumption for heating by buildings

Sweden

30 - 60

kWh/m²/year

Germany

50 - 100

kWh/m²/year

Poland

90 - 120

kWh/m²/year

Ukraine

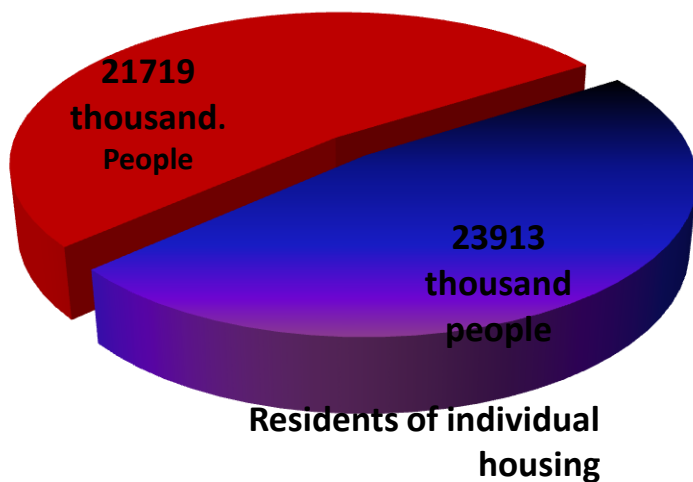
210 – 260

kWh /m²/year

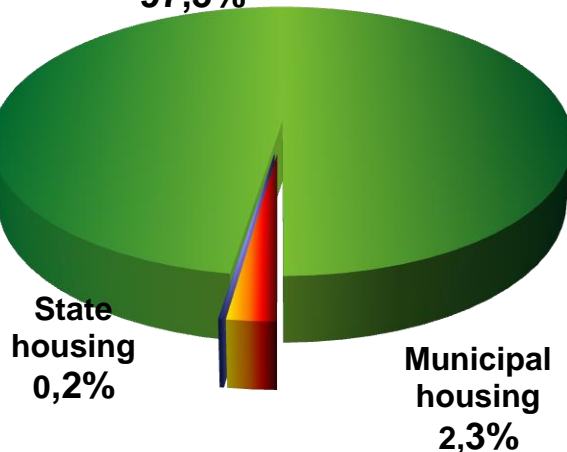
HOUSING STOCK OF UKRAINE (source: Minregion 2013)

Type of construction	Area (mln. m ²)	Buildings (thousands)	Population (thousands)
Individual housing	622,0	6500	23913
Multifamily	464,0	240 Incl.. 82,5 - multistorey)	21719
TOTAL	1086,0	6740	45632

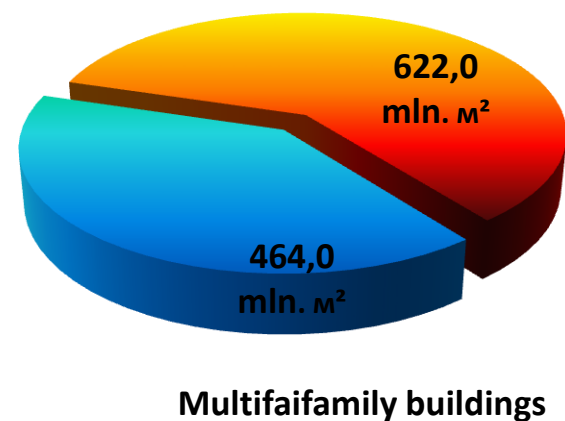
Residents of multifamily buildings



private housing
97,5%



Individual housing

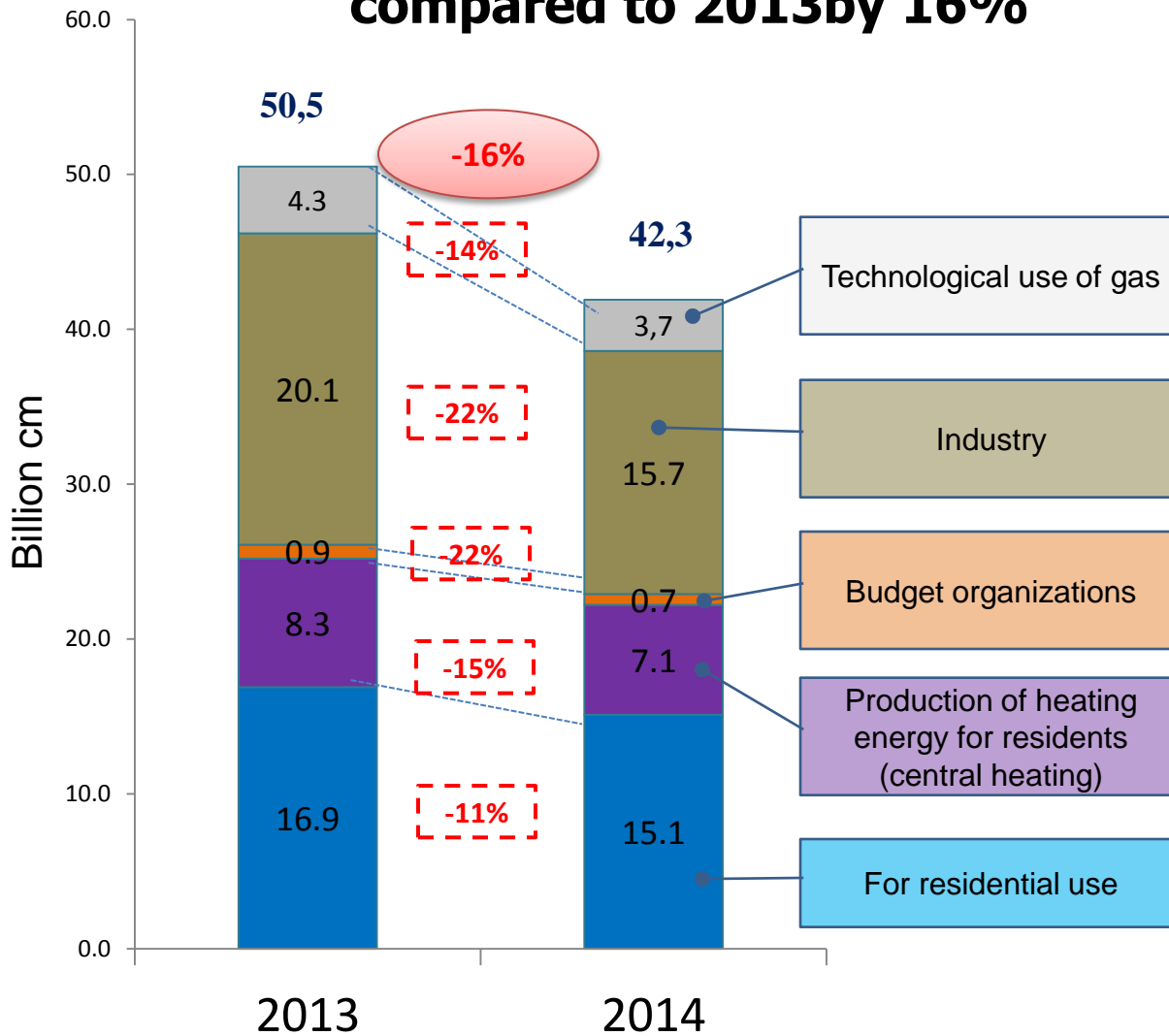


Break down of multifamily building Housing Stock of Ukraine by the period of construction

Source: Minregion

Construction period	Area, millions sq.m.	%
Before 1961	76,8	16
1961-1970	71,4	15
1970-1980	105,1	22
1981-1990	134,5	27
1991-2000	62,1	13
2001-2011	34,7	7
Total	484,6	100,0

Decrease of gas consumption in 2014 compared to 2013 by 16%



EE potential of the housing sector of Ukraine



Individual Houses

Gas consumption of the housing sector for heating

18 bln cubic m

Or about 45% of the total gas consumption in 2014*

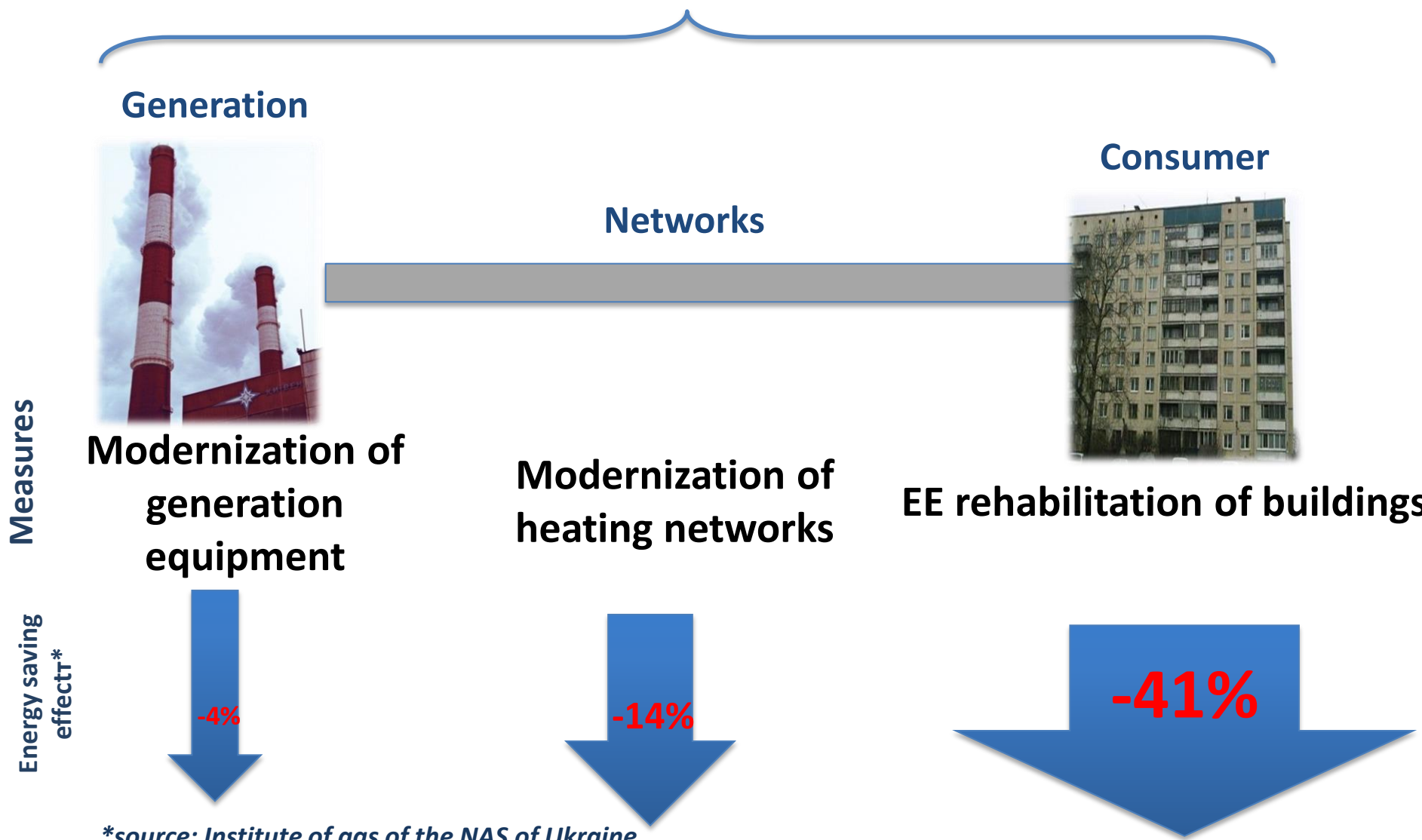
- 6.5 mln buildings with the total area 622 mln sqm
- **80%** require thermal modernization
- Potential to decrease gas consumption – **8.0 bln. cubic m***
- Estimated EE financing needs **300 bln. UAH*** (\$14 bln.)



Multifamily buildings

- 255 000 buildings with the total area 464 mln sqm (17 000 HOA's created)
- **80%** require thermal modernization
- Potential to decrease gas consumption – **3.5 bln. cubic m.***
- Estimated EE financing needs **400 bln. UAH*** (\$18 bln.)

Implementation of EE measures at the end user is twice more effective than implementation of measure at other stages of heat supply system.



**source: Institute of gas of the NAS of Ukraine*

Stakeholders

Government:

- Legislative changes needed for improved management of the housing stock has been very slow, but within the last year have improved
- Transition to full cost recovery tariffs, targeted need-based subsidies is complicated, painful as it involves social and political risks but it started

Home Owners:

- Often unwilling to assume the ownership and accept responsibility for proper operation and maintenance of their own building
- Lack of resources, economic incentive and often passive attitude.
- Strong influence of the past housing maintenance system

Stakeholders

Donors:

- Many donors/projects prefer working with public buildings, with a “single owner”, budget resources and simpler decision making process

Banks:

- Readily recognize large market potential offered by the residential sector.
- Mostly unwilling to share larger portion of the risks, viewing HOAs as risky borrowers

Stakeholders

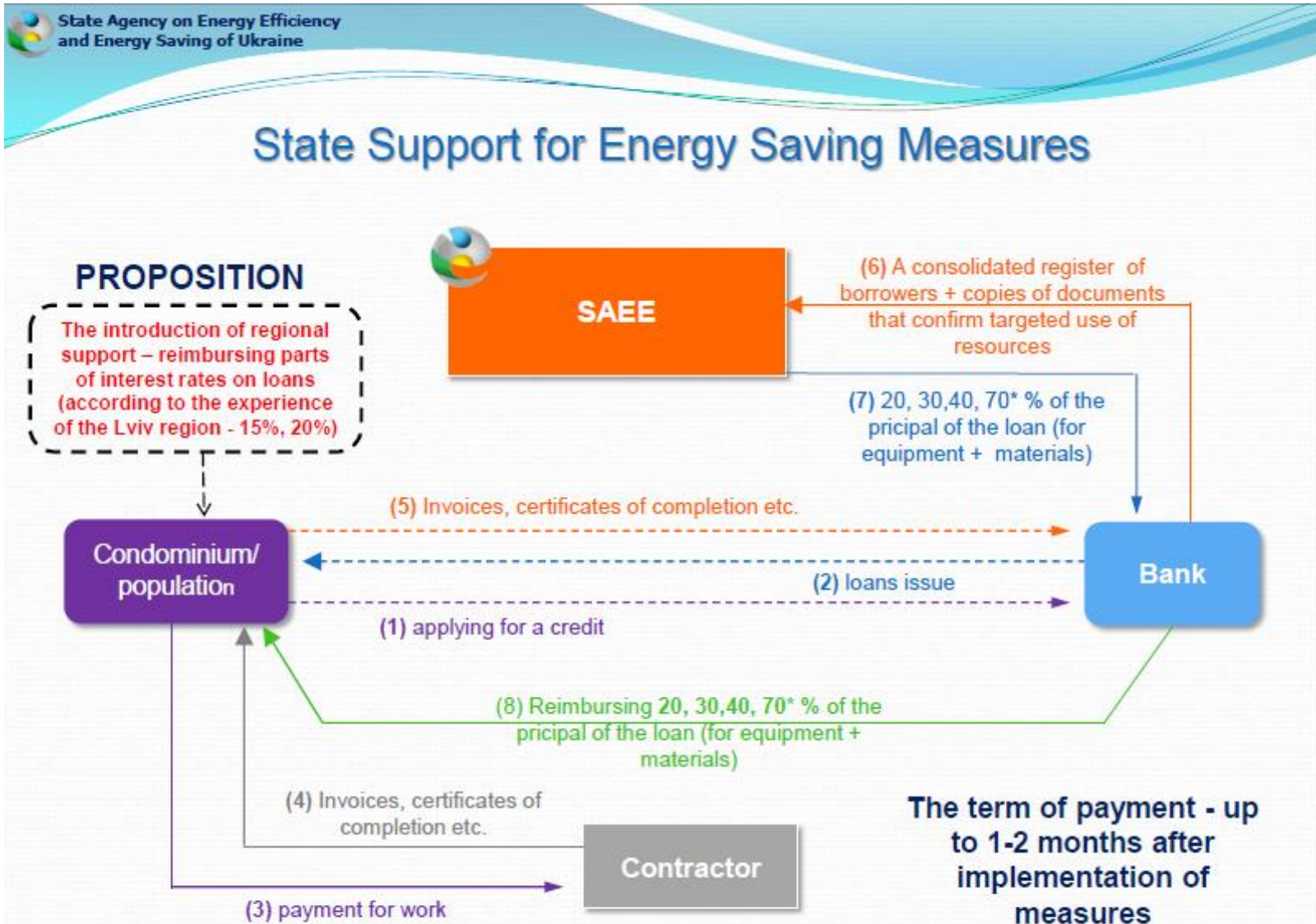
Utilities:

- Gas, electricity, heat and water suppliers are very slow with implementing metering and billing by actual consumption
- Billing by “normative consumption” does not provide incentive for energy efficiency, and lacks transparency
- Lack of investment resources for investment in energy efficiency improvement
- Available resources used usually for emergency repair
- Very often complains of service quality

Support programs to invest in Housing Energy Efficiency in Ukraine

- State program to Support EE investments in Housing (started in 2014, second stage 2015) to be continued 2016)
- UREEFF Program by EBRD (expected to start 2016)

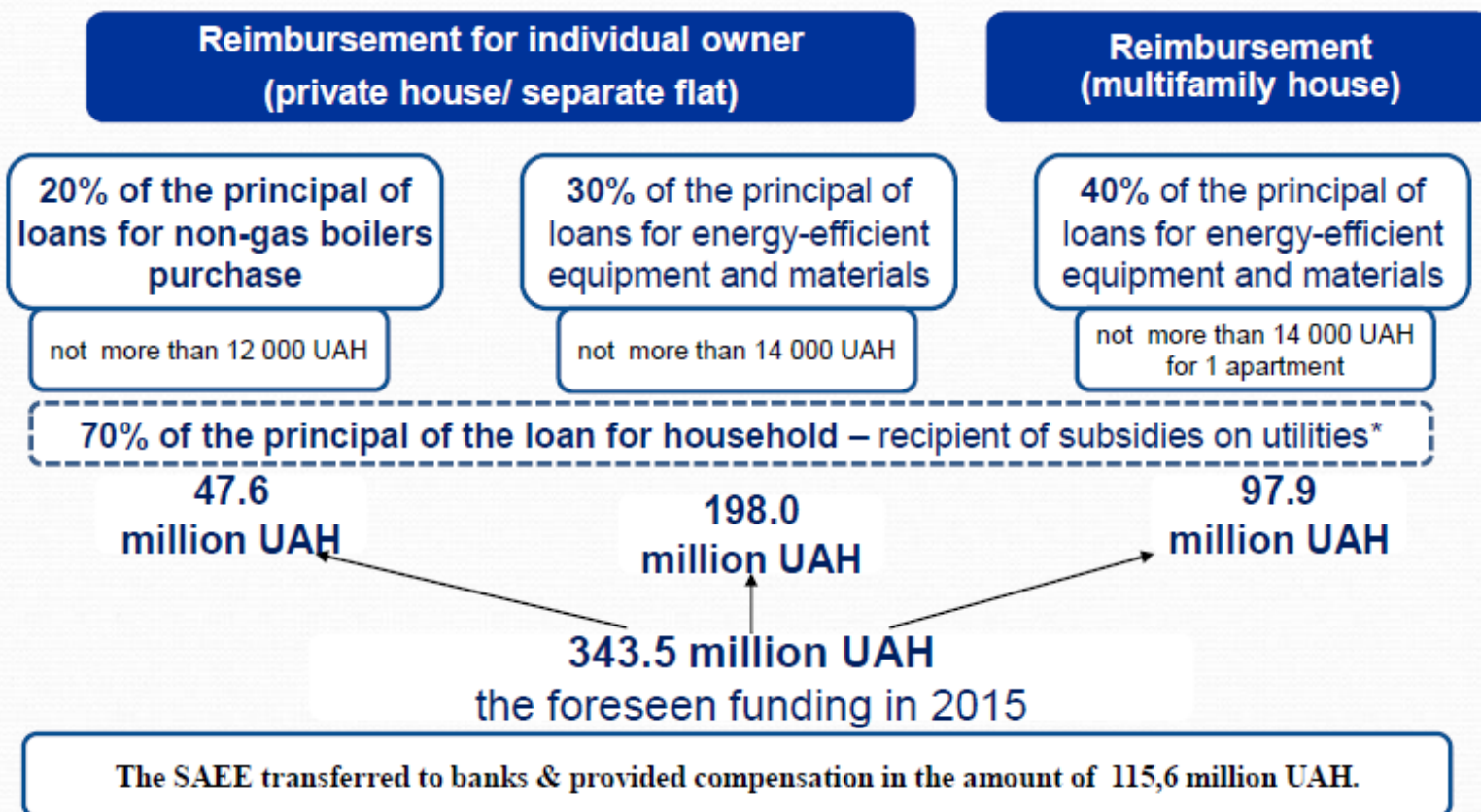
State Program to Support EE measures



*Since 27.08.2015 the amount of compensation for recipients of subsidies on utilities is increased up to 70%

State Program to Support EE measures

Energy Efficiency State Support in 2015



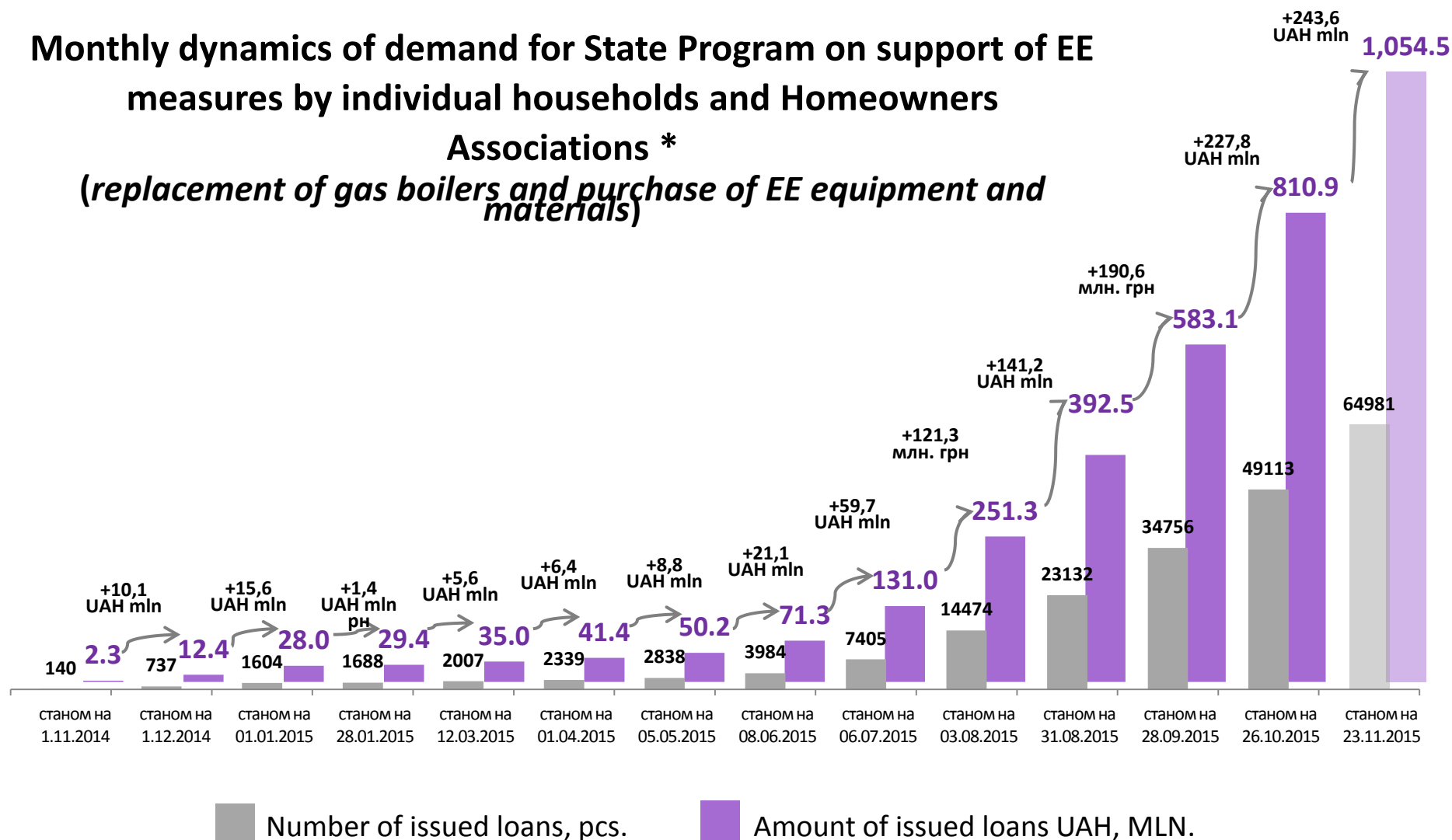
* Decree of the Cabinet of Ministers of Ukraine dated 12.08.2015 № 614

Initial results of the State Program to Support EE in residential sector:

Monthly dynamics of demand for State Program on support of EE measures by individual households and Homeowners

Associations *

(replacement of gas boilers and purchase of EE equipment and materials)



* According to the data of participating banks, Source: SAEE State Agency for Energy Efficiency of Ukraine

Alternative Programs to Support EE measures:

Ukrainian Residential Energy Efficiency Finance Facility (UREEFF) Program by EBRD

- **mln 75 Euro finance facility**
- **mln 15 Euro grant component**
- LEME/LESI lists for selection of the best technologies and suppliers/installers
- Grant component:
 - **15%-20%** for individuals
 - **25% - 35%** for Home owners associations
- 100% verification (10% on site)
- Special support to building level projects

UREEFF Program by EBRD

- What UREEFF offers for individual **sub-borrowers**:
 - Affordable access to sizable finance – up to **EUR 15'000** per a sub-loan
 - Maximum investment incentive is **EUR 3'000** (about **UAH 75 000**) per borrower –UREEF program incentive covers not only the cost of materials and equipment but also installation costs
 - Structured approach to energy efficiency – LEME items are carefully selected for their above-average energy efficiency.

Two Things Needed for Implementing Energy Efficiency

INCENTIVE

Effort to save must be rewarded

- ✓ Pay for what you consume - metering of consumption
- ✓ Investment must have attractive return –no subsidies to energy suppliers

MEANS

Be able to control consumption

- ✓ ability to control energy use
- ✓ Enabling energy saving investment
- ✓ Enabling legal/regulatory environment – functioning HOA
- ✓ Government support programs

Thank you

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