

# Ukraine: EED Transposition and Implementation Status

**15<sup>th</sup> EECG Meeting**  
**Vienna**  
**Nov. 22, 2017**

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State Agency on Energy Efficiency and  
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# **1. Art. 28 - Transposition status and Art. 24 - Report on the progress of achieving the energy efficiency target**



## Legislative Measures - Laws

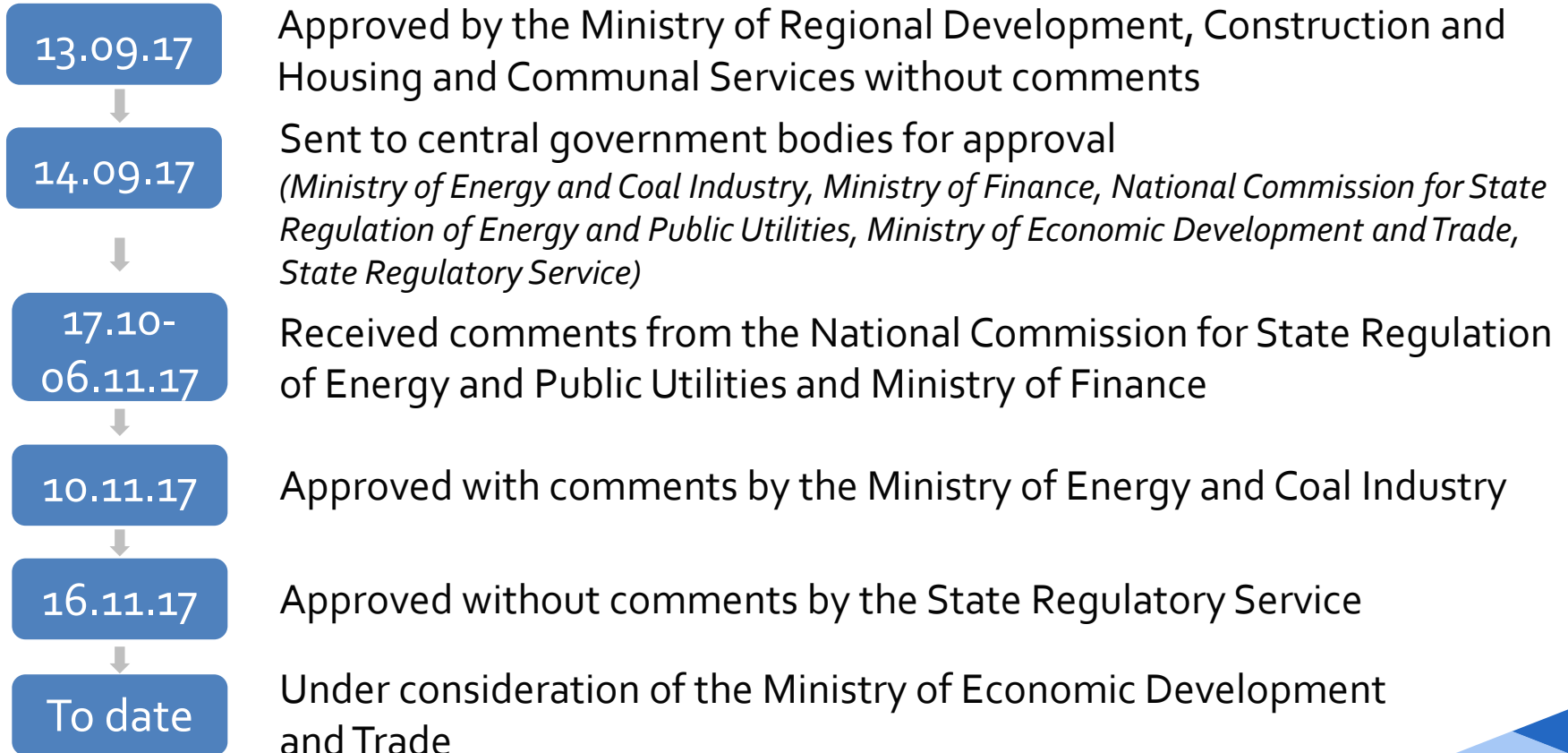
- **Law “On Energy Efficiency of Buildings” № 2118-VIII** – adopted 22/06/2017
- **Law “On Commercial Metering of Heat and Water Supply” № 2119-VIII** – adopted 22/06/2017
- **Law “On the Energy Efficiency Fund” № 2095-VIII** – adopted 08/06/2017
- **Draft Law “On High-Efficiency Cogeneration”** – submitted to the CMU 10/10/2017
- **Draft Law of Ukraine “On Energy Efficiency”** – under interservice consultation (9 sub-decrees should be adopted)



# The Draft Law of Ukraine "On Energy Efficiency"

Developed with the assistance of Energy Community Secretariat

Defines the legal and organizational basis for activities in the field of energy efficiency according to EED





# Legislative Measures – Energy Labeling

Adopted technical regulations on energy labeling of:

- **energy related products** (Resolution of the Cabinet of Ministers of Ukraine dated 07.08.13 No.702);
- **domestic electric refrigerators** (Resolution of the Cabinet of Ministers of Ukraine dated 07.08.13 No.702);
- **household washing machines** (Resolution of the Cabinet of Ministers of Ukraine dated 07.08.13 No.702);
- **electric lamps and luminaries** (Resolution of the Cabinet of Ministers of Ukraine dated 27.05.15, No.340);
- **household dishwashers** (Resolution of the Cabinet of Ministers of Ukraine dated 17.07.15, No. 514);
- **air conditioners** (Resolution of the Cabinet of Ministers of Ukraine dated 24.05.17, No. 360);
- **televisions** (Resolution of the Cabinet of Ministers of Ukraine dated 24.05.17 No. 359);
- **vacuum cleaners** (Resolution of the Cabinet of Ministers of Ukraine dated 31.05.17, No. 381);
- **household tumble driers** (Resolution of the Cabinet of Ministers of Ukraine dated 31.05.17, No. 380).

In addition, the SAEЕ has developed a draft Technical Regulation on energy labeling of **household ovens and range hoods**.

The draft Technical Regulation is now undergoing the process of ministerial approval



## Legislative Measures – Eco-Design

The SAEE is currently working with EBRD experts on the preparation of the following Technical Regulations for the establishment of requirements for eco-design for:

- industrial fans
- water pumps
- transformers
- electric motors
- lamps
- circulators

All Technical Regulations are now undergoing the process of inter-service consultation



# Energy Strategy of Ukraine by 2035 "Safety, Energy Efficiency, Competitiveness"

adopted by the Cabinet of Ministers of Ukraine on August 18, 2017  
(No. 605-p)

- reduce the primary energy intensity of Ukraine by 2035 by half from 0.28 toe/1000 USD GDP PPP in 2015 **to 0.13 toe/ USD GDP PPP in 2035;**
- transition of the Ukrainian energy sector to the market principles of functioning and competition that will stimulate the increase of economic performance of energy companies and the efficiency of energy use by economic entities;
- technological renovation of the energy sector ensuring its competitiveness in the European energy market by creating favorable conditions for attraction of investment and technical modernization of energy facilities.





# Non-Legislative Measures

Raising public awareness on energy efficiency is permanently being implemented by the SAEE. Following activities are held regularly:

- national forums,
- regional and national workshops,
- roundtables,
- visual advertising etc.

New governmental website [teplo.gov.ua](http://teplo.gov.ua) highlights the most important issues and news on energy efficiency



The screenshot shows the website [teplo.gov.ua](http://teplo.gov.ua). At the top, there is a navigation menu with links: СУБСИДІЇ, ТАРИФИ, ЕНЕРГОЕФЕКТИВНІСТЬ, МАСТЕ ЗАПИТАННЯ?. Below the menu is a large banner with the text: **ЕНЕРГОМОДЕРНІЗАЦІЯ ЖИТЛА – НАЙРОЗУМНІШИЙ СПОСІБ МЕНШЕ ПЛАТИТИ ЗА КОМУНАЛЬНІ ПОСЛУГИ**. Below the banner is a section titled **НОВИНИ** (News) with three articles:

- «ЗИМОВІ» СУБСИДІЇ ОТРИМАЛИ 6,6 МІЛЬЙОНА УКРАЇНСЬКИХ СІМЕЙ
- ПРОГРАМУ ДІЇ «ТЕПЛИХ КРЕДИТІВ» ПРОДОВЖЕНО НА ТРИ НАСТУПНІ РОКИ
- ПРЕМІЮ ЗА ЕНЕРГОЕФЕКТИВНІСТЬ ВІД УРАДУ ОТРИМАЮТЬ 1 МІЛЬЙОН 755 ТИСЯЧ УКРАЇНСЬКИХ РОДИН

Below the news section, there are three more articles with images:

- ПІДВИЩЕННЯ ПЕНСІЙ НЕ ВПЛИВАЄ НА РОЗМІР «ЗИМОВОЇ» СУБСИДІЇ (Image: document with text «ЯК СТВОРИТИ ОСББ?»)
- «ЗИМОВІ» СУБСИДІЇ УСІМ СУБСИДІАНТАМ НАРАХУЮТЬ АВТОМАТИЧНО (Image: group of people)
- СУБСИДІЇ ОФОРМЛЮЄТЬСЯ НА ФАКТИЧНИХ, А НЕ НА ВСІХ ПРОПИСАНИХ МЕШКАНЦІВ ЖИТЛА (Image: cartoon family and houses)

At the bottom right of the news section, there is a button labeled **Всі новини**.





## The First Annual Report (Art. 24 (1) and Annex XIV)

The preliminary draft was submitted in June, 2017

is currently being finalized within the technical assistance of the **EU4ENERGY Governance** with involvement of the Institute for Economics and Forecasting (National Academy of Science of Ukraine)



EU4Energy





# The First Annual Report - National energy efficiency target for 2020

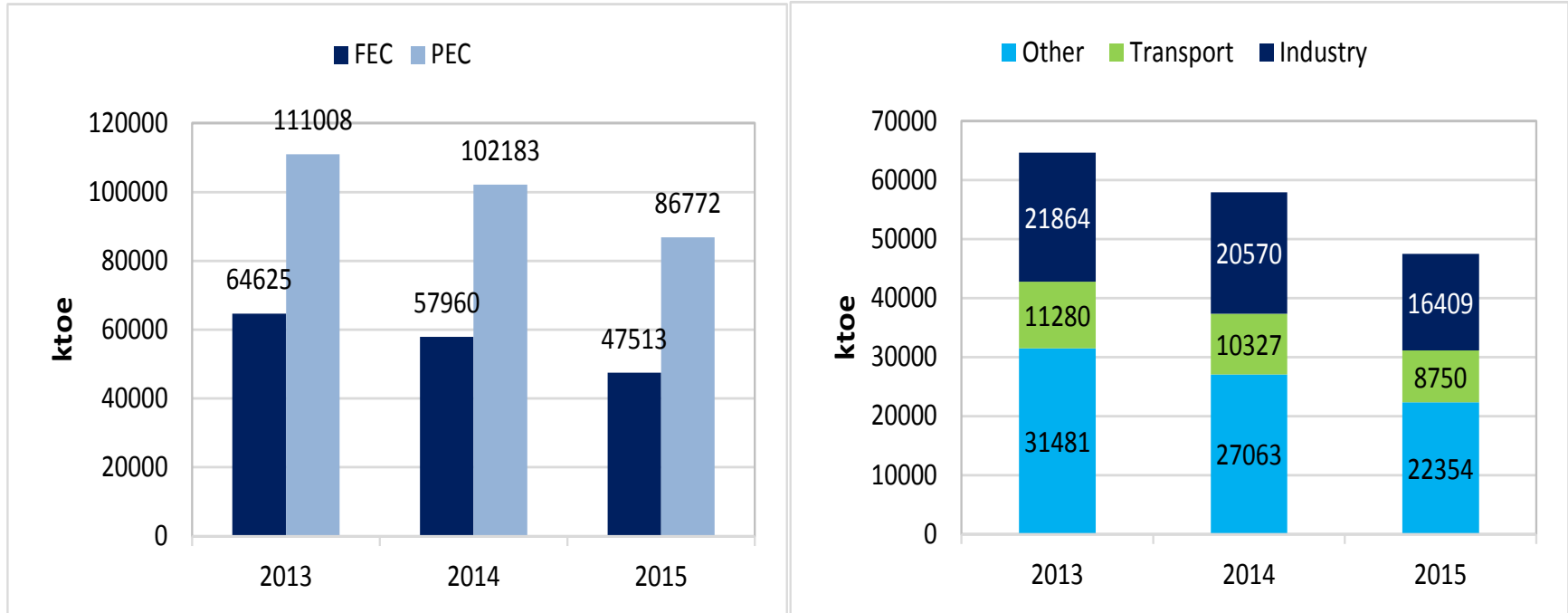
<b>UKRAINE TARGETS</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>
<b>BUILDINGS [ktoe]</b>	2 160*			3 226*
<b>INDUSTRY [ktoe]</b>	581*			1 610*
<b>TRANSPORT [ktoe]</b>	274*			624*
<b>OTHER [ktoe]</b>	598*			1 041*
<b>ARTICLE 3 [ktoe]</b>				13 877**
<b>ARTICLE 5 [ktoe]</b>				
<b>ARTICLE 7 [ktoe]</b>		466**	792**	1 118**
<b>FEC [ktoe]</b>				55 507**
<b>PEC [ktoe]</b>				101 316 **

\* First National energy efficiency action plan

\*\* Draft of the new energy efficiency target calculation according to Art.3 of EED



# The First Annual Report - Overview of Energy Consumption Trends



*Final and primary energy consumption (left) and final energy consumption per sectors (right) in 2013 – 2015*



# The First Annual Report - Key Statistics Data (Energy Data)

	Estimation of key statistics related to energy consumption in 2015 (*)	Value	Unit
(i)	Primary energy consumption	86 772	ktoe
(ii)	Total final energy consumption	47 513	ktoe
(iii)	Final Energy consumption – Industry	21 145	ktoe
(iii)	Final energy consumption – Transport	8 750	ktoe
	Final energy consumption in pipeline transport	1 582	ktoe
(iii)	Final energy consumption – Households	16 554	ktoe
(iii)	Final energy consumption – Services	3 838	ktoe
	Final energy consumption – Agriculture	1 957	ktoe
	Final energy consumption – Other sectors	22 353	ktoe
(vii)	Electricity generation from thermal power generation	155 150	mInkWh
(viii)	Electricity generation from combined heat and power	12 339	mInkWh
(ix)	Heat generation from thermal power generation	90 332	thousand Gcal
(x)	Heat generation from combined heat and power plants, incl. industrial waste heat	36 943	thousand Gcal
(xi)	Fuel input for thermal power generation	48 796	ktoe

(\*) Data provided by the State Statistics Service of Ukraine



## The First Annual Report - Key Statistics Data (General Data)

	Estimation of key statistics related to energy consumption in 2015 (*)	Value	Unit
(iv)	Gross value added– Industry	432 070	mIn UAH
(iv)	Gross value added by sector – Services	1 017 511	mIn UAH
(v)	Disposable income of households	1 330 089	mIn UAH
(vi)	Gross domestic product (GDP)	1 988 544	mIn UAH
(xii)	Passenger kilometres (pkm)	97 036 395,1	thousand pkm
(xiii)	Tonne kilometres (tkm)	334 668 706,5	thousand tkm
(xv)	Population	42 760,5	thousand

All statistic data will be officially checked by State Statistic Office (SAEE's letter as of 20<sup>th</sup> of November)

(\*) Data provided by the State Statistics Service of Ukraine



## **2. 2020 target and progress in implementation of NEEAP (new/continued policy measures)**





# Working Group was established:

SAEE;

Ministry of Regional Development; Construction and Housing and Communal Services;

Ministry of Energy and Coal Industry;

Ministry of Economic Development and Trade;

Ministry of Ecology and Natural Resources;

Ministry of Infrastructure;

State Statistic Service;

**Institute for Economics and Forecasting ;**

**Energy Community Secretariat**

*The TIMES-Ukraine model\* was used, that is linear quasi-dynamic optimization perfect foreseen energy system model which provides a technology-rich basis for estimating energy dynamics over a long-term, multi-period time horizon.*

**Scenario analysis**



**Macroeconomic Assumptions**



**Demographic Assumptions**



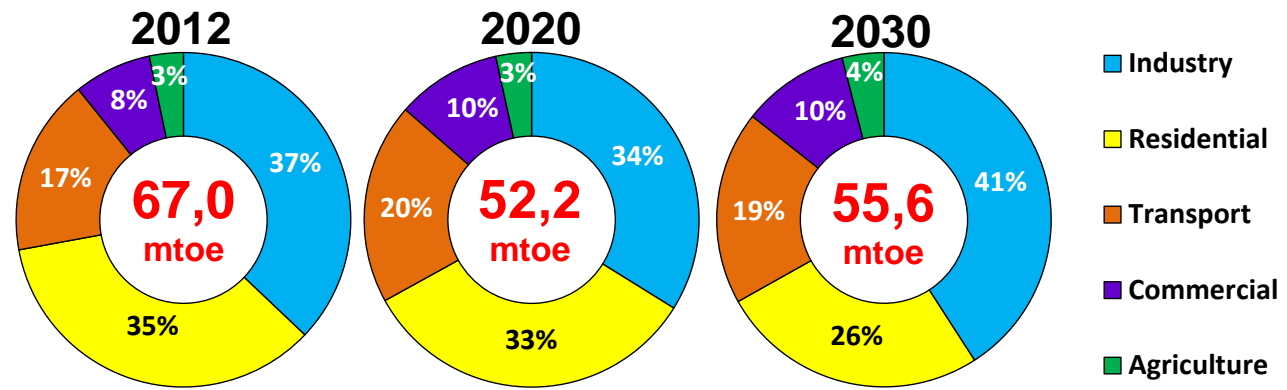
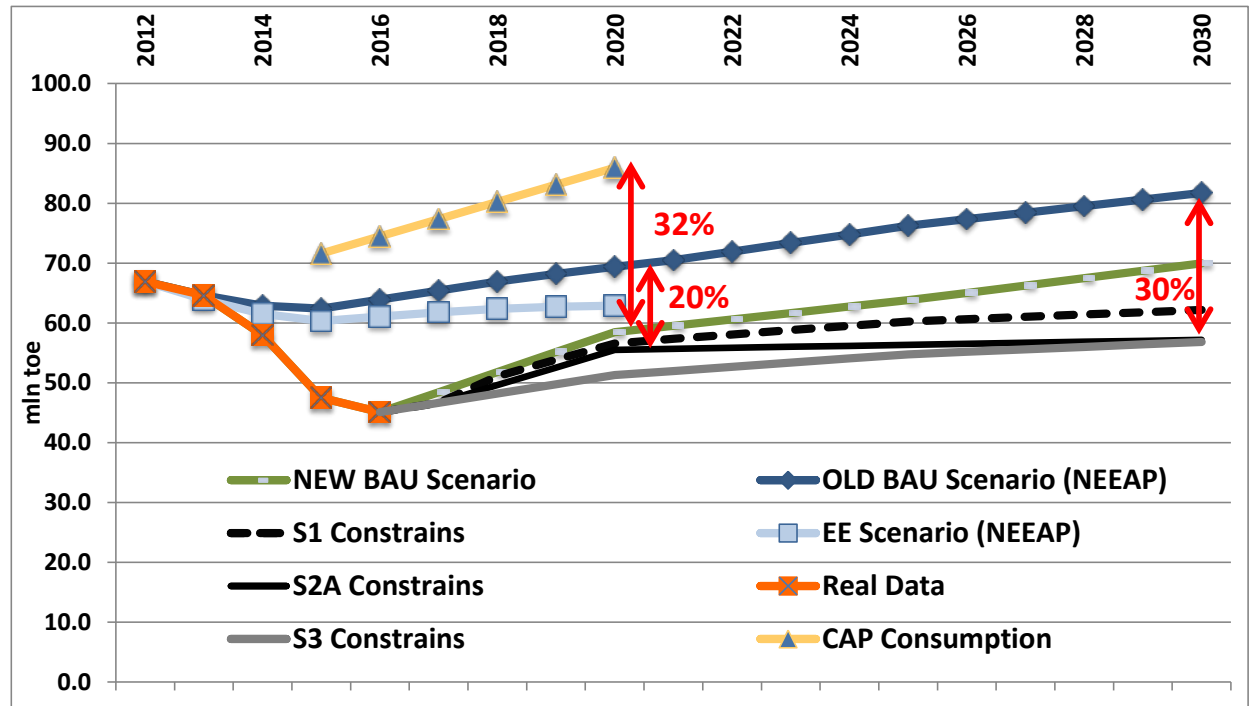
**Energy Prices Projection**

\*Podolets, R.Z., Diachuk, O.A. Strategic Planning in Fuel and Energy Complex Based on TIMES-Ukraine Model: Scientific Report/NAS of Ukraine; Institute for Economics and Forecasting. – Kyiv, 2011. – 150 pages.





# Final Energy Consumption by Sector



Scenario "S2A"



# Scenario assumptions for Article 5 of the Directive 2012/27/EU on energy efficiency (EED)

The energy savings measures being a subject to Article 5 EED should start being implemented from December 2017. The scenario assumptions relevant to requirements of Article 5 EED were drawn up in the following table.

Reduction of energy consumption by end-use demand comparing to the New BAU scenario	In 2020		In 2030	
	%	ktoe	%	ktoe
Space heating	0.387	11.725	1.354	47.352
Space cooling	0.212	0.673	0.742	2.464
Lightning	0.308	0.749	1.079	3.157



# Scenario assumptions for Article 7 of the Directive 2012/27/EU on energy efficiency (EED)

For the modelling purpose the target for 2030 has been estimated by extrapolation of Article 7 requirements and gradual annual increase of energy savings by 0.7%. Considering above stated, the scenario assumptions relevant to requirements of Article 7 EED are imposed on the FEC (final consumption without non-energy consumption and final consumption in Transport sector) and formulated as follows:

In **2020**: FEC reduction by **1188** ktoe comparing to new BAU.

In **2030**: FEC reduction by **4378** ktoe comparing to new BAU.

2017	0.7%	326	ktoe
2018	1.4%	652	ktoe
2019	2.1%	978	ktoe
2020	2.8%	1 304	ktoe
For 2017-2020		3 260	ktoe



2017	0.5%	233	ktoe
2018	1.0%	466	ktoe
2019	1.7%	792	ktoe
2020	2.4%	1118	ktoe
For 2017-2020		2608	ktoe



# Scenario Design

Scenarios	Art. 5	Art. 7	EED Target
<b>NEW BAU Scenario</b>	A hypothetical scenario without implementing energy efficiency policy and measures. In BAU scenario the characteristics of current technologies remain unchanged till 2030.		
<b>Scenario S1</b>	✓	✓	None
<b>Scenario S2A</b>	✓	✓	Reduction of the final consumption comparing to the Old BAU scenario by 20% in 2020 and by 30% in 2030, resulting in FEC being not larger than 55 507 ktoe in 2020, and 57 199 ktoe in 2030
<b>Scenario S2B</b>	✓	✓	Reduction of the primary supply comparing to the Old BAU scenario by 20% in 2020 and by 30% in 2030, resulting in TPES being not larger than 101 843 ktoe in 2020, and 104 947 ktoe in 2030
<b>Scenario S3</b>	✓	✓	Annual reduction of the final energy consumption by 1% of the averaged level of 2005-2009, resulting in a reduction of FEC (excluding aviation and navigation) of 2 890 ktoe comparing to the New BAU scenario in 2020, and of 7 946 ktoe in 2030 (approach used in the first NEEAP)



# Conclusions - Consensus Meeting of WG (17th of November)

## Proposed target definition:

These targets represent an absolute level of primary energy consumption of 101 316 ktoe in 2020 and 109 124 ktoe in 2030, and of final energy consumption of 55 507 ktoe in 2020, respectively 57 199 ktoe in 2030.

**Draft Government Decree will be prepared by  
SAEE and EU<sub>4</sub>Energy experts**



State Agency on Energy Efficiency and Energy Saving of Ukraine

# State support program for households (“Warm Loans Program”) is a key element of NEEAP measures

Government resolution as of 8<sup>th</sup> of November On prolongation of “Warm Loans Program” till 2020

## Duration:

Active since Oct'2014

## Mechanism:

Partial reimbursement of the loans obtained by participants (Individual Households & Home Owners Associations (multi-dwelling buildings))

## Support Share:

**20%** - for biomass boilers (**35%** for obtainers of housing subsidies)

**35%** - for energy efficiency measures for individual households

**40%** - for Home Owner Associations (**70%** for obtainers of housing subsidies)

## Funding:

**EUR 150,3 million** has been distributed to 362 000 households

**EUR 52,3 million** – reimbursed by the Government

## Effect:

Estimated overall savings of resources in natural gas equivalent for 2014-2017 is **150,4 mln m<sup>3</sup>**.

**The multiplier of gas economy is nearly 0.1 m<sup>3</sup> per 1 UAH of budget expenditures.**

+ **310 regional programs** for extra reimbursement of «warm» loans

(from local budgets due to fiscal decentralization)



# Thank you!

**Vienna**

**Nov. 22, 2017**

**Ihor Horovykh**

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Department of Strategic Development.  
State Agency on Energy Efficiency and  
Energy Saving of Ukraine

