

# Setting a target, development and implementation of National Energy Efficiency Action Plan (NEEAP)

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# Adopted targets in Ukraine in Energy Efficiency

**Strategy of Sustainable development "Ukraine 2020"**

**Adopted in January'15**



**Target is in energy intensity – 20% till 2020 according to IEA data**

**Energy Strategy until 2035 "Security, Energy Efficiency, Competitiveness"**

**Adopted in August'17**



**Target is in energy intensity also – 0,13 toe TPES/1000 USD, PPP in 2035**





# Adopted National Targets on Energy Efficiency and Renewables

## 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 million t.o.e.)**

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





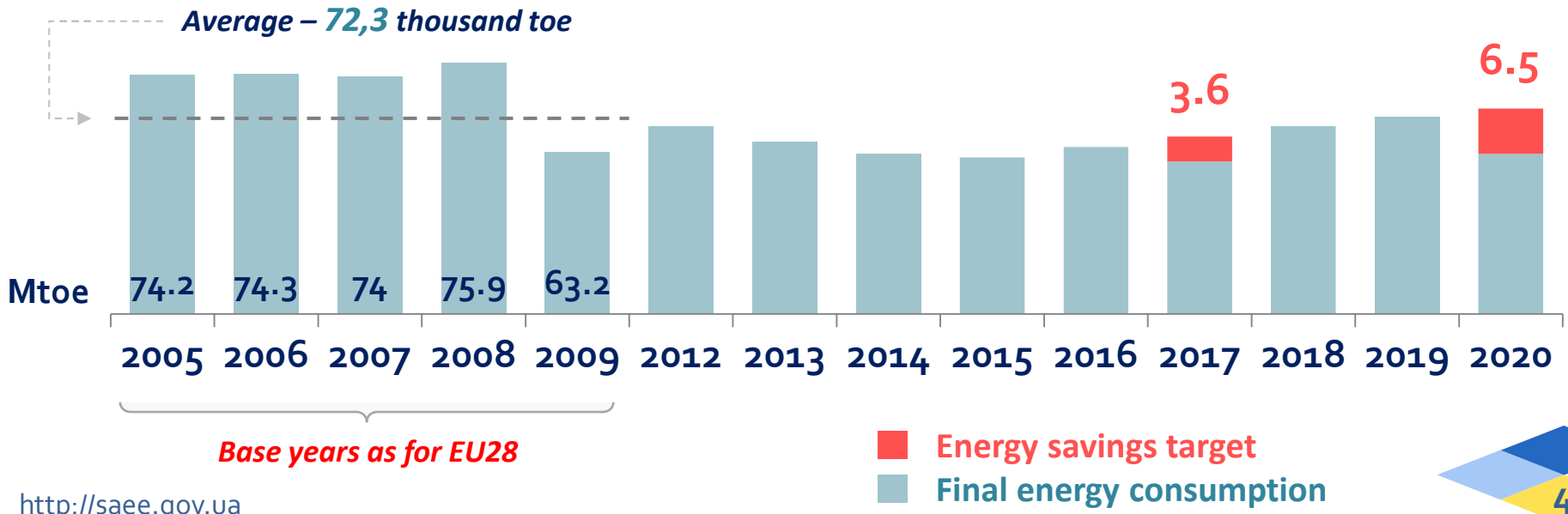
# National Indicative Target in the 1<sup>st</sup> Ukrainian NEEAP

TIMES-Ukraine model was used

NEEAP targets:

reduction (total target) of final energy consumption by **9%** in 2020 (-6,5 Mtoe)

*intermediate* energy savings target of **5%** in 2017 (-3,6 Mtoe)





## NEEAP is based on TIMES-Ukraine model

**TIMES-Ukraine model** is *developed by the State Institute of Economics and Forecasting of the National Academy of Sciences of Ukraine*

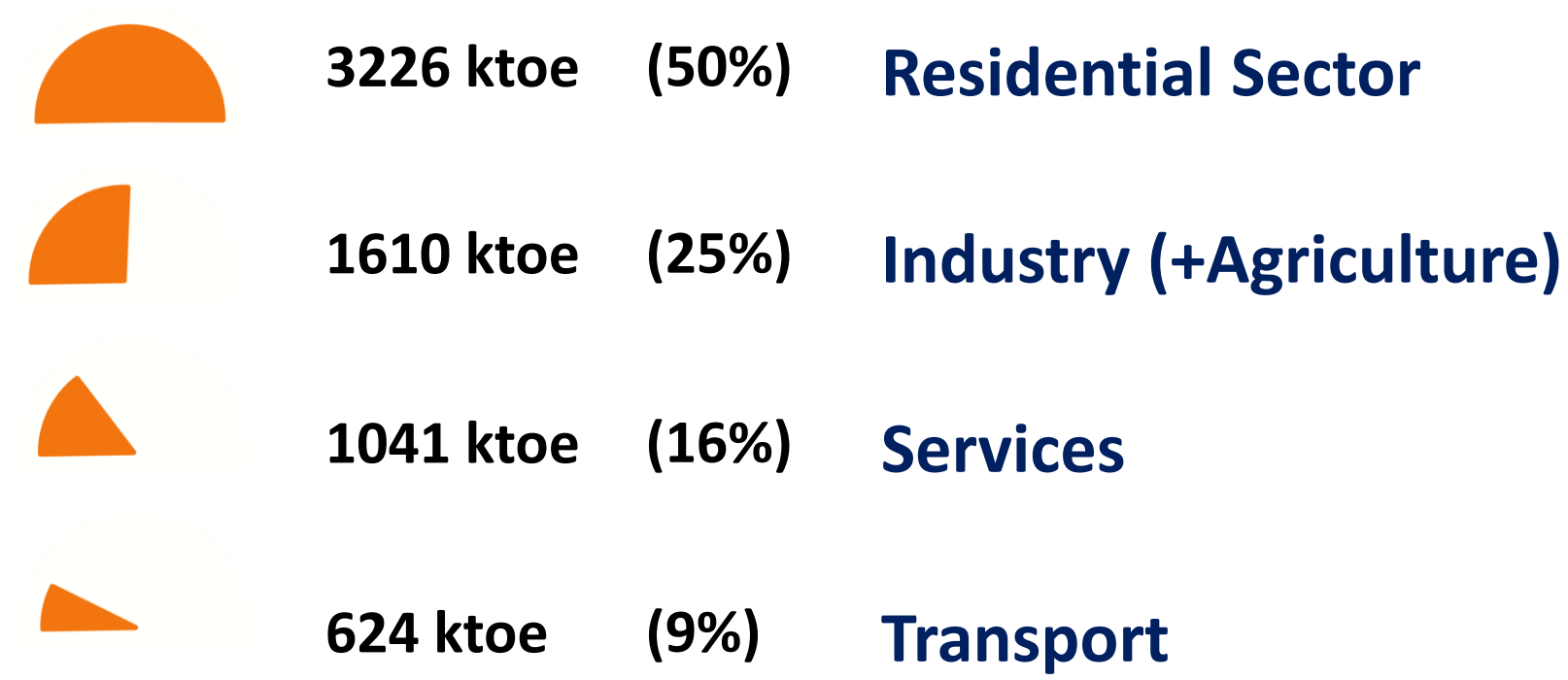
It is a linear dynamic optimization model where the demand is preset, which **describes the entire energy system of Ukraine** and enables the analysis of **long-term energy consumption dynamics** on the basis of estimated change in the consumer technological structure etc.

*In EU PRIMES Model is used*





# National Indicative Targets Allocated to 4 Main Sectors





# Energy Savings Measures under NEEAP

Residential	Industry
<ul style="list-style-type: none"><li>✓ renovation of buildings, financial support for households and establishment of the Energy Efficiency Fund;</li><li>✓ 100% metering and billing;</li><li>✓ energy audits and certification schemes;</li><li>✓ energy labeling;</li><li>✓ adaptation of building regulations, building codes and standards to the requirements of the European legislation etc.</li></ul>	<ul style="list-style-type: none"><li>✓ implementation of energy efficiency measures incl. via EPC;</li><li>✓ energy audit and energy management systems;</li><li>✓ energy labelling;</li><li>✓ eco-design;</li><li>✓ adoption of incentive tariff (RAB-regulation);</li><li>✓ unbundling of natural monopolies in the heat supply etc.</li></ul>
Services	Transport
<ul style="list-style-type: none"><li>✓ renovation of public buildings by involvement of energy service companies (energy performance contracts);</li><li>✓ implementation of energy monitoring and energy management;</li><li>✓ energy efficiency criteria in public procurement procedures;</li><li>✓ review of building codes and standards etc.</li></ul>	<ul style="list-style-type: none"><li>✓ optimizing the structure of passenger and freight traffic in cities;</li><li>✓ adaptation of fuel standards and its exploitation technologies to European standards;</li><li>✓ public and private transport fleet renovation;</li><li>✓ promotion and support of bicycles and conducting Car-free days etc.</li></ul>

The most important horizontal measure -  
**conducting of awareness campaigns in EE**





# Main legislative measures under the 1<sup>st</sup> NEEAP

- Law on Energy Efficiency in Buildings № 2118-VIII, (EPBD implementation) – *adopted 22/06/2017*
- Law on Metering in DH and WS № 2119-VIII, (EED implementation) – *adopted 22/06/2017*
- Law on Energy Efficiency Fund № 2095-VIII, (EED implementation) – *adopted 08.06.2017*
- Law on ESCO № 327-VIII, (EED implementation) – *adopted 09.04.2015*
- Law on e-procurement of EPCs for public buildings № 328-VIII, (EED implementation) – *adopted 23.03.2017*
- Draft Law on Energy Efficiency – *under interservice consultation*





State Agency on Energy Efficiency and Energy Saving of Ukraine

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

## 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>**.

Related Budget expenditures - **1.7 bln UAH** (for stated period).

**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)



# During last 2 years the number of regional programs for "warm" loans co-financing has increased by 3.8 times

2015 / 2016 / 2017\*



Number of local programs

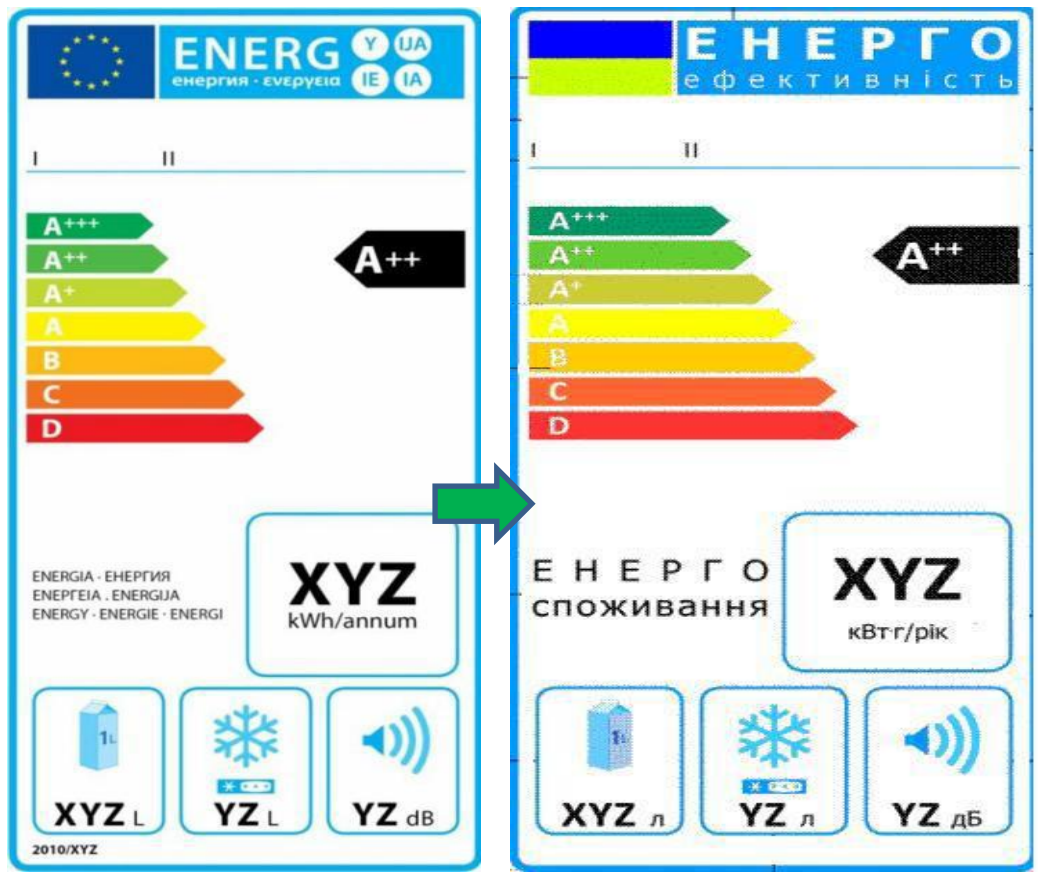


Total financing





# Implementation of the energy labeling system is important direction within NEAPP and EU-Ukraine Association Agreement



Approved Technical regulations for energy labeling of energy-consuming equipment:



Refrigerators



Electric lamps and fixtures



TV sets



Dishwashers



Washing machines



Drying machines



Air conditioners



Vacuum cleaners



## Directive 2006/32/EC (ESD) (old)

Focus on Final Energy  
Consumption (FEC)

Target:

National indicative energy savings  
target of **9 %** for the *ninth year of  
application of this Directive*



National Ukrainian Energy  
Efficiency Action Plan-2020

Target:

- **9% (6,5 million toe)** of energy saving  
comparing to the average final energy  
consumption in 2005-2009

## Directive 2012/27/EU (EED) (new)

Focus on Total Primary Energy  
Supply (TPES)

Target:

Reducing energy consumption by **20%  
by 2020** compared to projections (setting  
the targets ("caps") in PEC and FEC in  
2020)



Setting the new Ukraine's  
target is under development  
with TA of EU4Energy



EU4Energy





# According to Directive 2012/27/EU (EED)

## Article 3:

### 5 options

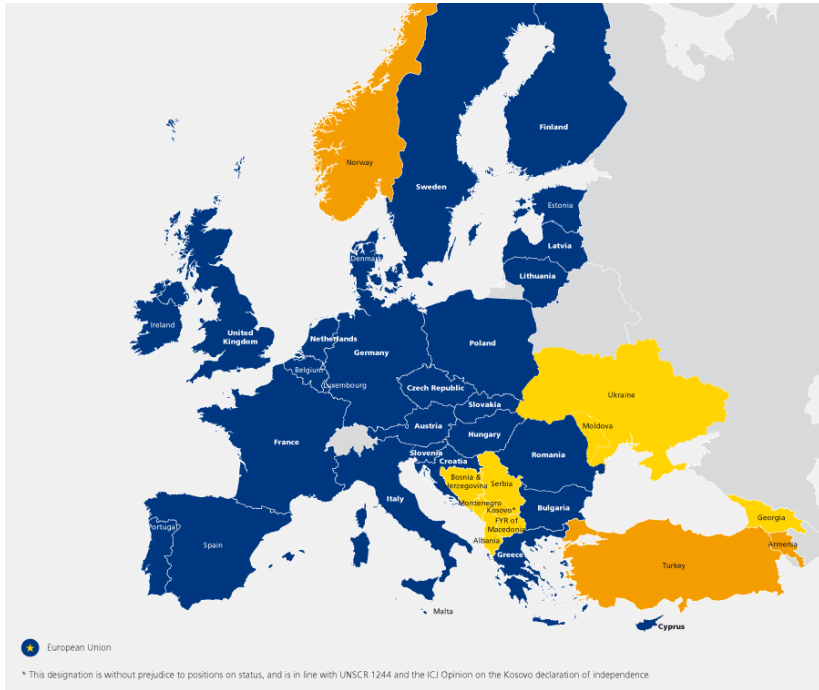
Each Contracting Party shall set **an indicative national energy efficiency target**, based on:

- primary energy consumption;
- final energy consumption;
- primary energy savings;
- final energy savings;
- energy intensity.

Contracting Parties shall express those targets in terms of an **absolute level of primary energy consumption and final energy consumption** in 2020 and shall explain how, and on the basis of which data, this has been calculated.



# According to Directive 2012/27/EU (EED)



*the Energy Community's 2020 energy consumption has to be no more than **187 Mtoe** of primary energy or no more than **133 Mtoe** of final energy (calculation is without Georgia!)*

Is that enough ambitious for Ukraine?



# While calculating the new EE target we should follow other EED provisions

## Article 5:

... each Contracting Party shall ensure that, as from 1 December 2017, **1 % of the total floor area of heated and/or cooled buildings owned and occupied by its central government** is renovated each year to meet at least the minimum energy performance requirements ...

The 1 % rate shall be calculated on the total floor area of buildings with a total useful floor area **over 500 m<sup>2</sup>** owned and occupied by the central government of the Contracting Party concerned that, on 1 January of each year, do not meet the national minimum energy performance requirements ...

That threshold shall be lowered to **250 m<sup>2</sup>** as of **1 January 2019**





# Most important to calculate the effect of Art 7 of EED

## Article 7:

Each Contracting Party shall set up an energy efficiency ***obligation scheme***. That scheme shall ensure that energy distributors and/or retail energy sales companies that are designated as obligated parties operating in each Contracting Party's territory achieve a cumulative end-use energy savings target by 31 December 2020.

That ***target*** shall be at least equivalent to achieving new savings each year from 1 January 2017 to 31 December 2020 of **0,7 % of the annual energy sales to final customers of all energy distributors or all retail energy sales companies** by volume, averaged over the most recent three-year period prior to 1 January 2016.





# Directive 2012/27/EU

## Article 7:

As an alternative to setting up an energy efficiency obligation scheme, Contracting Parties may opt to take other ***policy measures*** to achieve energy savings among final customers. The annual amount of new energy savings achieved through this approach shall be ***equivalent to the amount of required new energy savings***. The policy measures referred to may include, but are not restricted to, the following policy measures or combinations thereof:

- (a) **energy or CO<sub>2</sub> taxes** that have the effect of reducing end-use energy consumption;
- (b) **financing schemes and instruments or fiscal incentives** that lead to the application of energy-efficient technology or techniques and have the effect of reducing end-use energy consumption;
- (c) **regulations or voluntary agreements** that lead to the application of energy-efficient technology or techniques and have the effect of reducing end-use energy consumption;
- (d) **standards and norms** that aim at improving the energy efficiency of products and services, including buildings and vehicles, except where these are mandatory and applicable in Contracting Parties under Energy Community law;
- (e) **energy labelling schemes**, with the exception of those that are mandatory and applicable in the Contracting Parties under Energy Community law;
- (f) **training and education**, including energy advisory programmes, that lead to the application of energy efficient technology or techniques and have the effect of reducing end-use energy consumption.



# Requirements in reporting

Моніторинг прогресу досягнення національних цілей Державами-членами Енергетичного Співтовариства відбувається шляхом надання щорічних звітів. Звіти мають включати оцінку наступних показників у передостанній рік (Рік X-2, де X – це поточний рік):

Первинне енергоспоживання

Загальне кінцеве енергоспоживання

Кінцеве енергоспоживання - Транспорт

Кінцеве енергоспоживання - Промисловість

Кінцеве енергоспоживання - Домогосподарства

Кінцеве енергоспоживання - Послуги

Валова додана вартість - Промисловість

Валова додана вартість - Послуги

Наявний дохід домогосподарств

Валовий внутрішній продукт (ВВП)

Обсяг електроенергії, виробленої теплоелектростанціями

Обсяг електроенергії, виробленої при комбінованому виробництві електроенергії та тепла

Обсяг тепла, виробленого тепловою генерацією

Обсяг тепла, виробленого теплоелектроцентралями, у т.ч. промислового відхідного тепла

Витрати палива на виробництво теплової енергії

Кількість пасажиро-кілометрів(пкм), за наявності

Кількість тонно-кілометрів(ткм), за наявності

Загальна кількість транспортних кілометрів(пкм+ткм)

Чисельність населення



# Next Steps

- 1. Calculation and a new EE target with EU<sub>4</sub>Energy Assistance;**
- 2. Development and implementation of Monitoring and Verification system (M&V);**
- 3. Drafting a new NEEAP based on EED and new templates (in 2019)**



# Thank you!

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**EU4Energy**

