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

http://saee.gov.ua
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)

Average – 72,3 thousand toe
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

http://saee.gov.ua
National Indicative Targets Allocated to 4 Main Sectors

- Residential Sector: 3226 ktoe (50%)
- Industry (+Agriculture): 1610 ktoe (25%)
- Services: 1041 ktoe (16%)
- Transport: 624 ktoe (9%)
## Energy Savings Measures under NEEAP

### Residential
- renovation of buildings, financial support for households and establishment of the Energy Efficiency Fund;
- 100% metering and billing;
- energy audits and certification schemes;
- energy labeling;
- adaptation of building regulations, building codes and standards to the requirements of the European legislation etc.

### Industry
- implementation of energy efficiency measures incl. via EPC;
- energy audit and energy management systems;
- energy labelling;
- eco-design;
- adoption of incentive tariff (RAB-regulation);
- unbundling of natural monopolies in the heat supply etc.

### Services
- renovation of public buildings by involvement of energy service companies (energy performance contracts);
- implementation of energy monitoring and energy management;
- energy efficiency criteria in public procurement procedures;
- review of building codes and standards etc.

### Transport
- optimizing the structure of passenger and freight traffic in cities;
- adaptation of fuel standards and its exploitation technologies to European standards;
- public and private transport fleet renovation;
- promotion and support of bicycles and conducting Car-free days etc.

The most important horizontal measure - conducting of awareness campaigns in EE
Main legislative measures under the 1st NEEAP

- 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

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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 m³.
Related Budget expenditures - 1.7 bln UAH (for stated period).
The multiplier of gas economy is nearly 0.1 m³ per 1 UAH of budget expenditures.

+ 310 regional programs for extra reimbursement of «warm» loans
(from local budgets due to fiscal decentralization)

http://saee.gov.ua
During last 2 years the number of regional programs for "warm" loans co-financing has increased by 3.8 times

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of local programs</th>
<th>Total financing</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>81</td>
<td>34 mln UAH</td>
</tr>
<tr>
<td>2016</td>
<td>216</td>
<td>71 mln UAH</td>
</tr>
<tr>
<td>2017*</td>
<td>310</td>
<td>115 mln UAH</td>
</tr>
</tbody>
</table>

* - October 2017

3,8 times

3,4 times
Implementation of the energy labeling system is an important direction within NEAPP and EU-Ukraine Association Agreement.

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

- Refrigerators
- Dishwashers
- Washing machines
- Drying machines
- Electric lamps and fixtures
- TV sets
- Air conditioners
- Vacuum cleaners

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http://saee.gov.ua
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

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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

http://saee.gov.ua
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 m² 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 m² 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 CO₂ 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 Х-2, де Х – 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 теплою генерацією
Обсяг тепла, виробленого теплоелектроцентралями, у т.ч. промислового відхідного тепла
Витрати палива на виробництво теплою 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 EU4Energy 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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