

MUNICIPAL ENTERPRISE  
“PROJECT IMPLEMENTATION UNIT FOR THE KYIV  
PUBLIC BUILDING ENERGY EFFICIENCY PROJECT”  
(ME “PIU”)



# Success story of the capital:

From barriers to the potential of a large  
scale introduction of Energy Service

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# Public Sector in Kyiv needs 570 mil. Euro of investments

Total number of institutions ~ 1290



Educational institutions ~ 1014



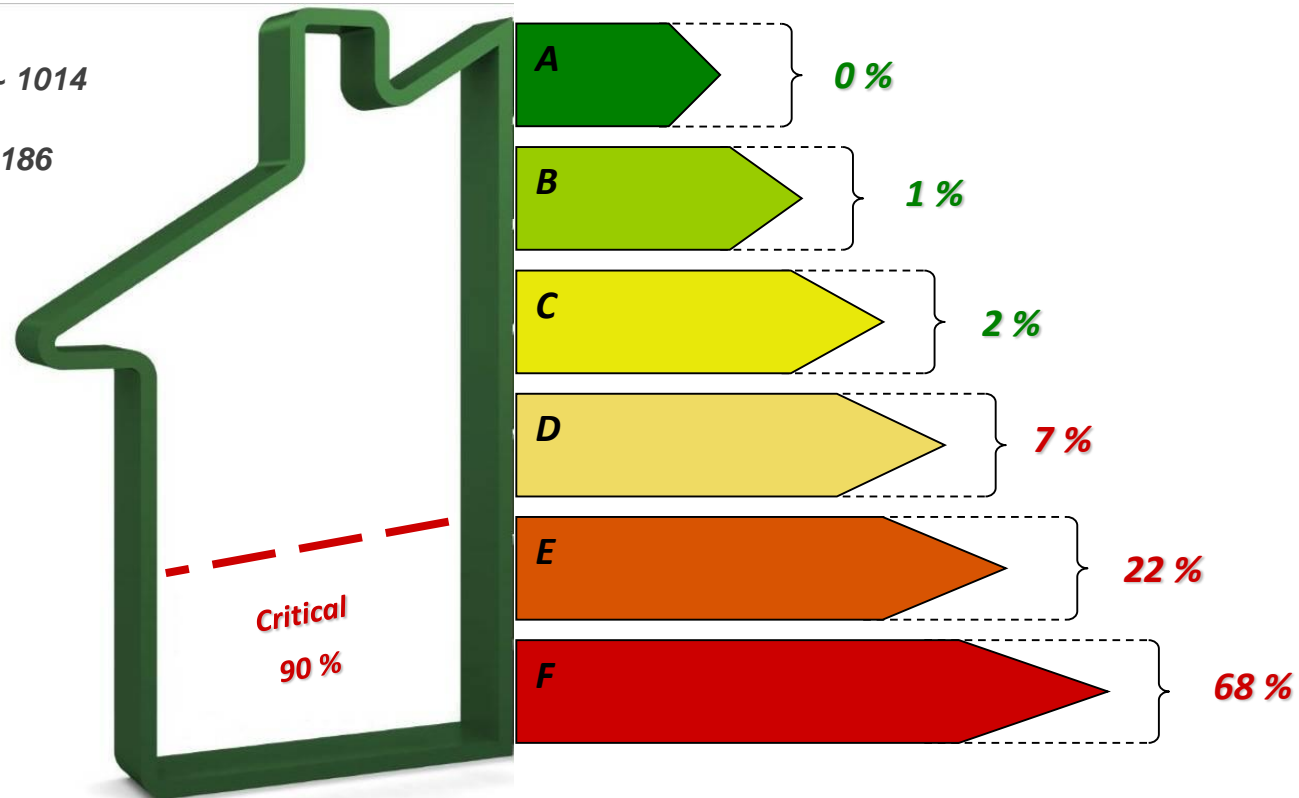
Healthcare institutions ~ 186



Cultural institutions ~ 53



Other institutions ~ 37



# Non-conformity of energy efficiency levels of buildings with European standards\*



**Sweden**

**30-60 kWh/m<sup>2</sup>**



**Germany**

**50-100 kWh/m<sup>2</sup>**



**Poland**

**120-160 kWh/m<sup>2</sup>**



**Ukraine**

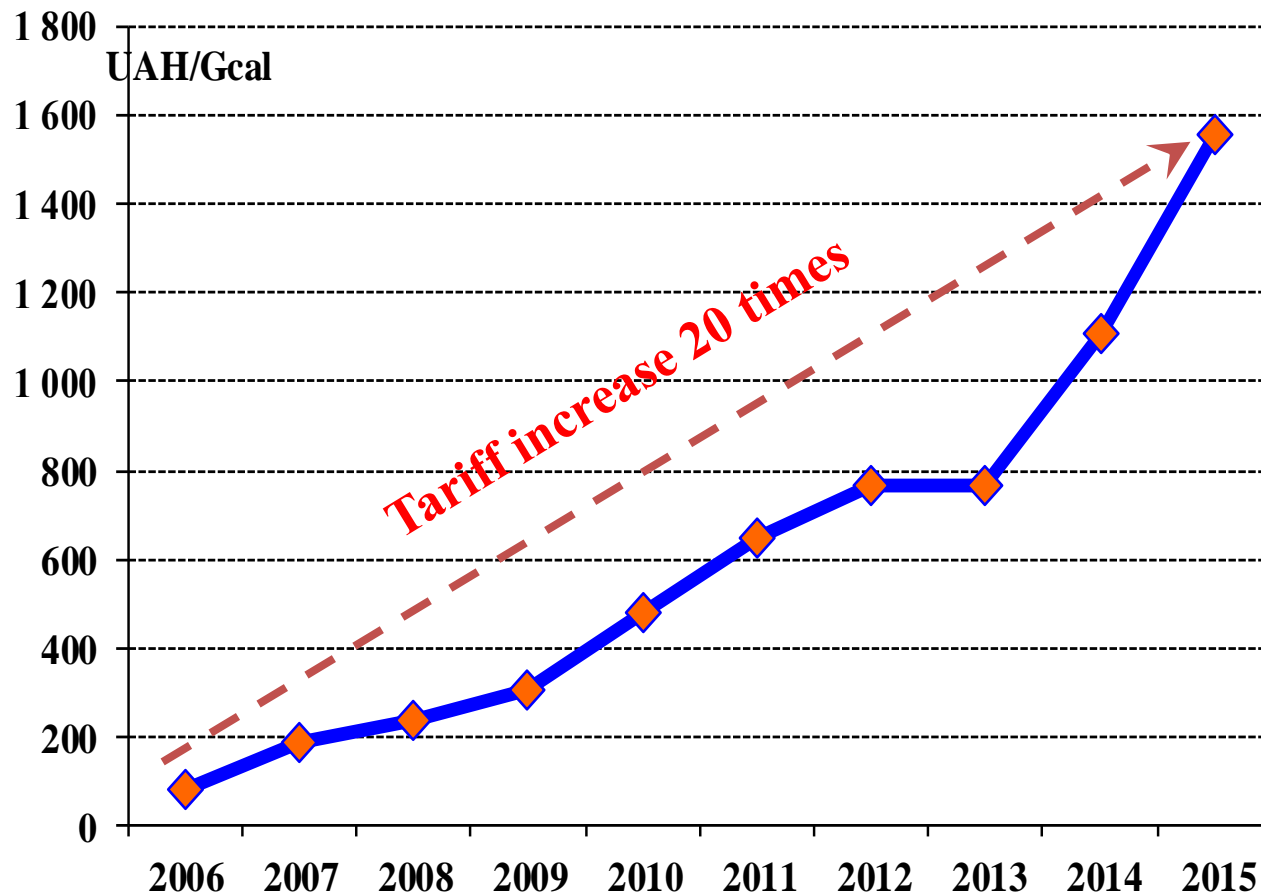
**210-300 kWh/m<sup>2</sup>**



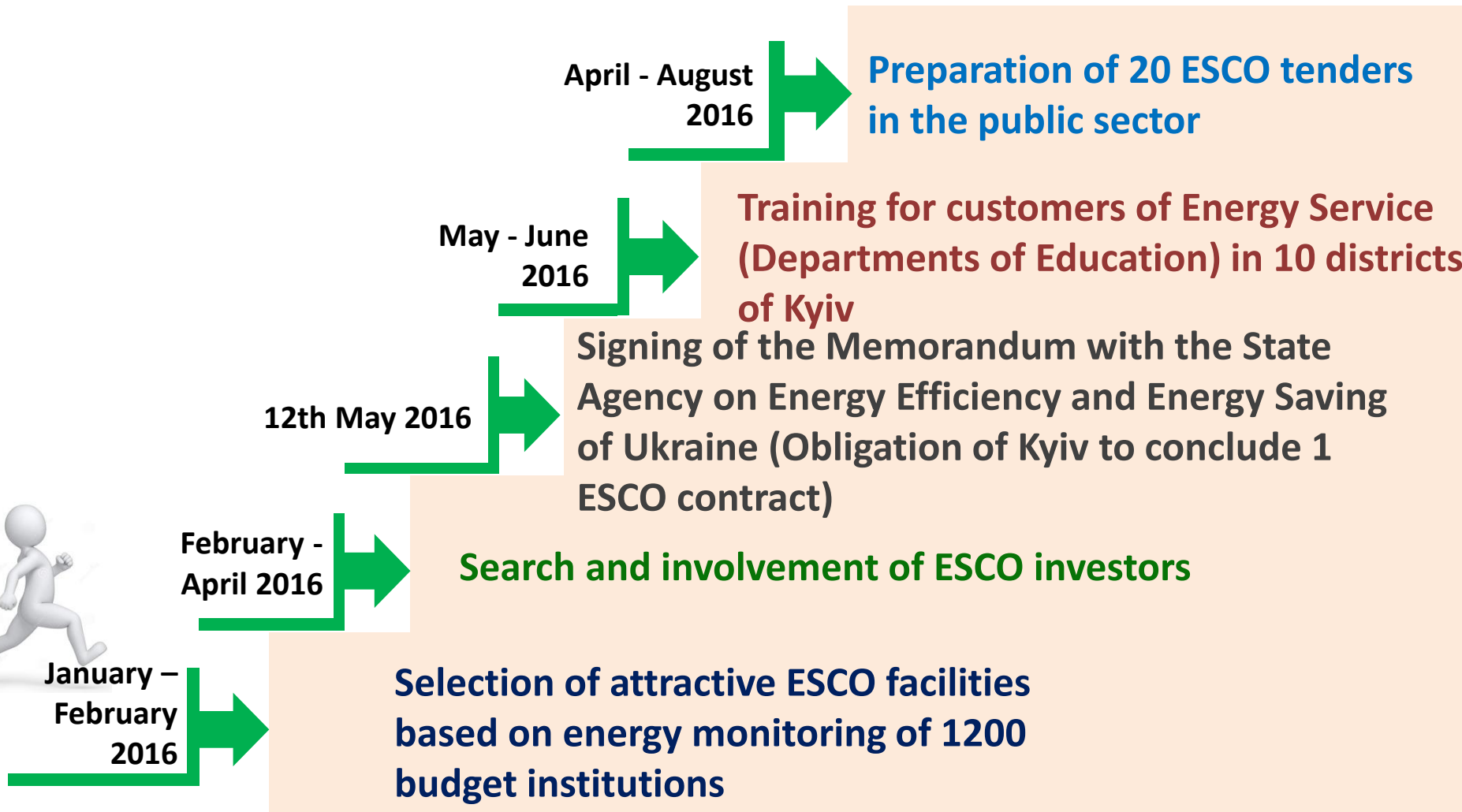
\* - average energy consumption level of buildings (according to experts of the University of Science and Technology of Poland).

# Growth of heat energy tariffs for public institutions

*Average tariff for heat energy for commercial customers throughout the country equals to 1600 UAH/Gcal (50 EUR/MWh)*

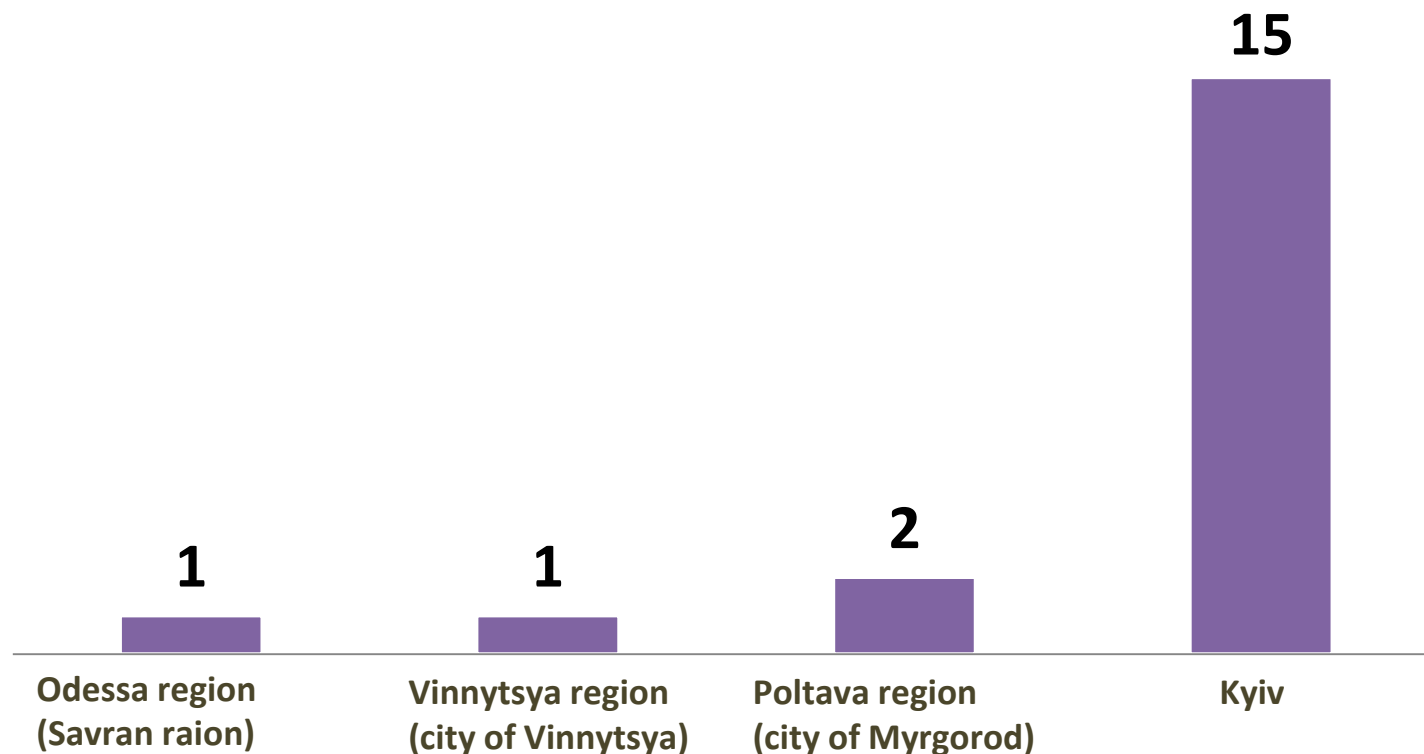


# Steps to success stories of ESCO in Kyiv



# Kyiv in comparison to the whole Ukraine: 79% of ESCO contracts signed in the capital

*In 2016, ESCO tenders for 19 budgetary institutions were successfully held:*



# The first successes of the capital in ESCO



15 out of 20 tenders were held

On October 27<sup>th</sup> Kyiv City Council approved the essential terms for all ESCO contracts

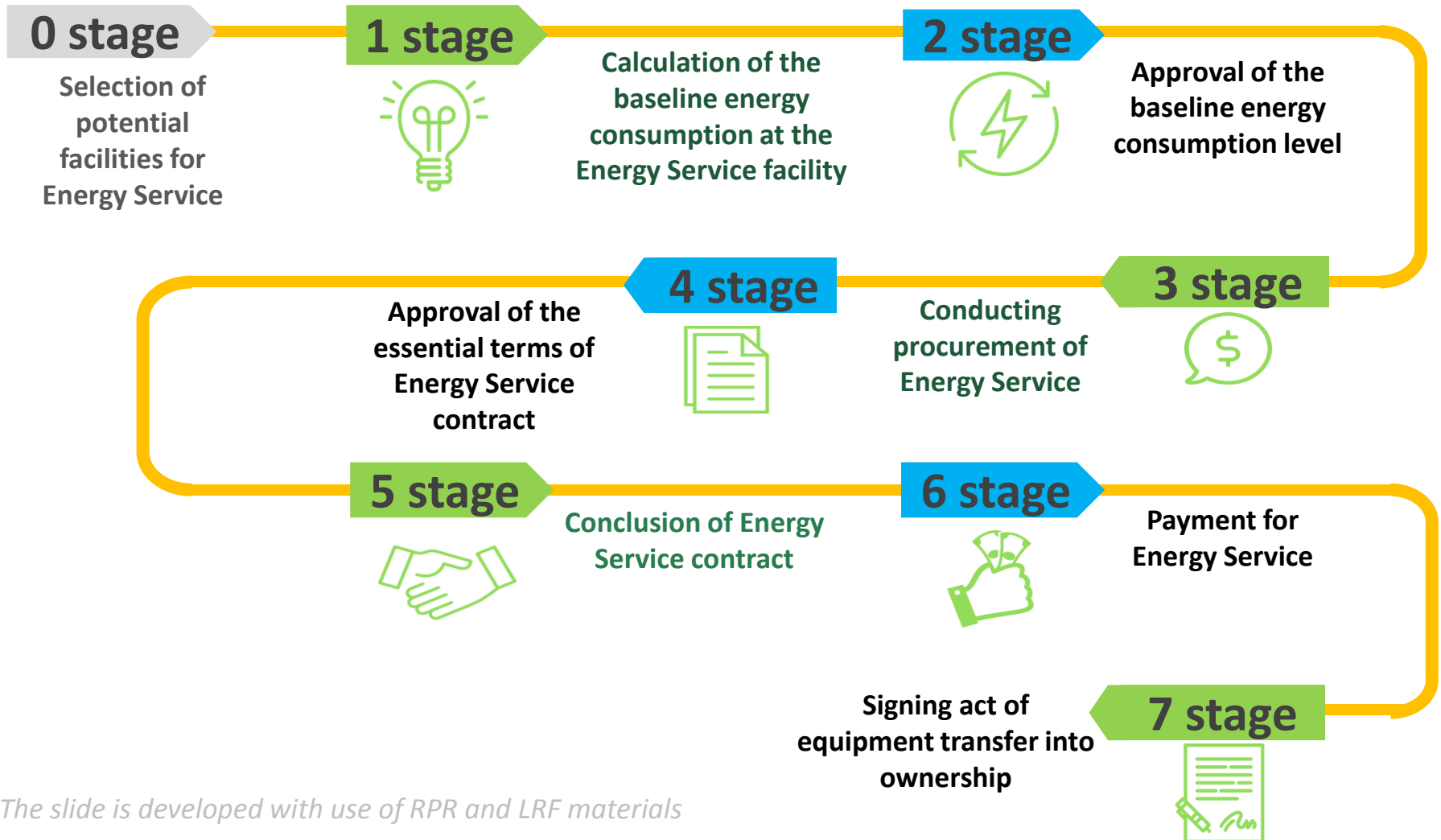
Until November 3<sup>rd</sup> all investors signed contracts and began implementation of Energy Service

Expected reduction of energy consumption in ESCO facilities: heat energy from 10 to 45%, electricity – up to 30%



# «A long road to success»:

## 7 stages and 22 steps of Energy Service implementation for budgetary institutions\*



\*The slide is developed with use of RPR and LRF materials

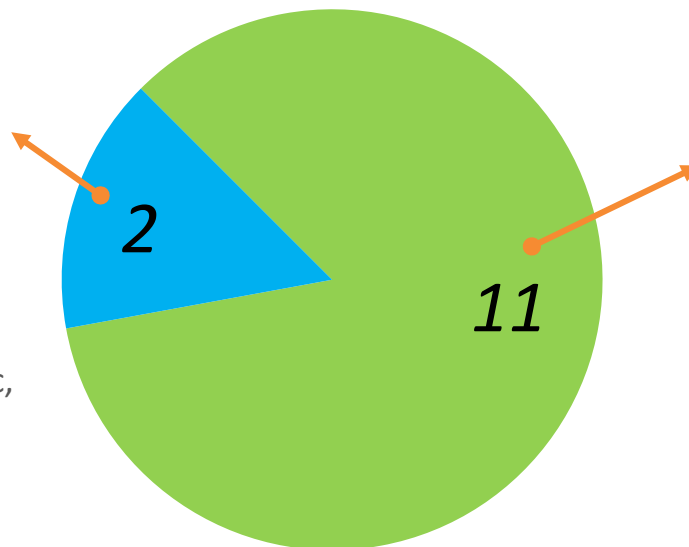


# 87% of ESCO projects are associated with Individual Heating Substations (IHS)

*Distribution of Energy Service contracts by types of capital investments*

## Complete thermal modernization

(Energy audit of a building, preparation for the design works, insulation of walls, insulation of attic, modernization of heating and lighting systems)

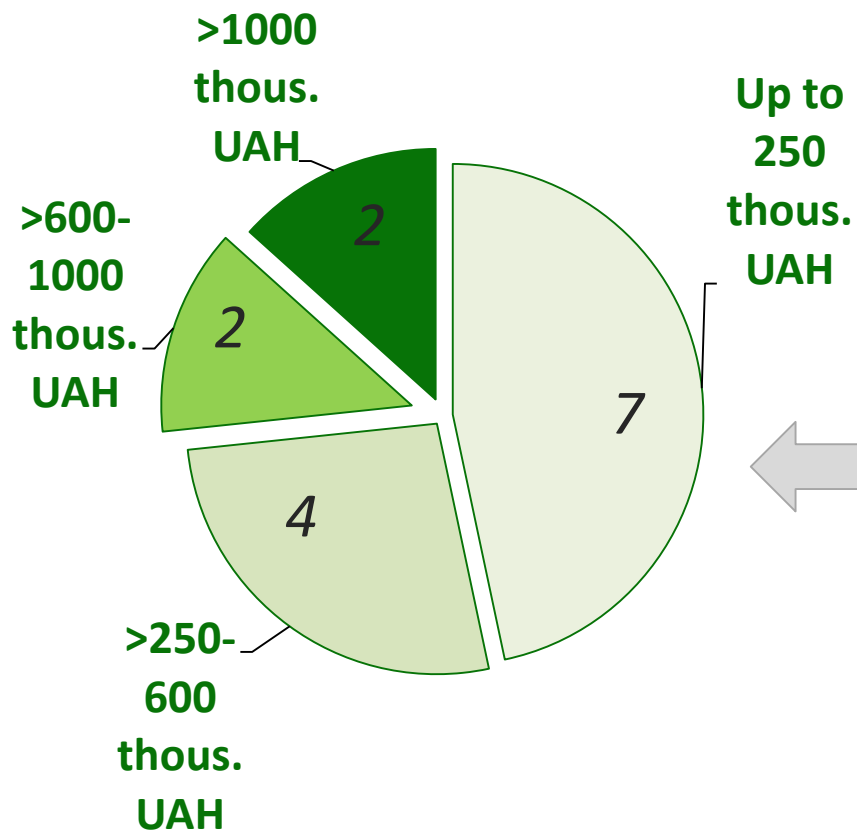


## Modernization of Individual Heating Substations

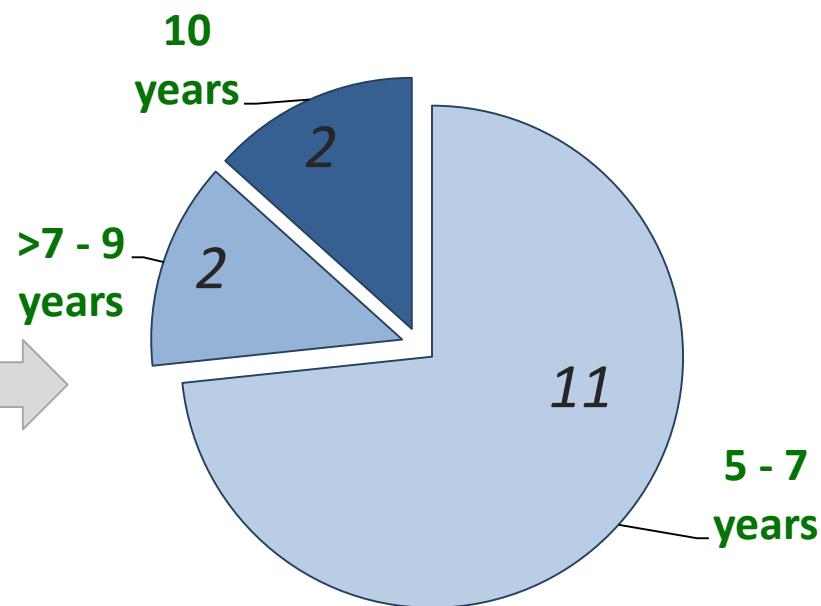
(Modernization of automatic control of heat supply system, intelligent configuration of the IHS, balancing and flushing of heating system, Installation of thermostats, automation of monitoring)

# Only 15% of projects with contract price of more than EUR 36 000, the rest - small projects

*Distribution of Energy Service contracts by contract price*

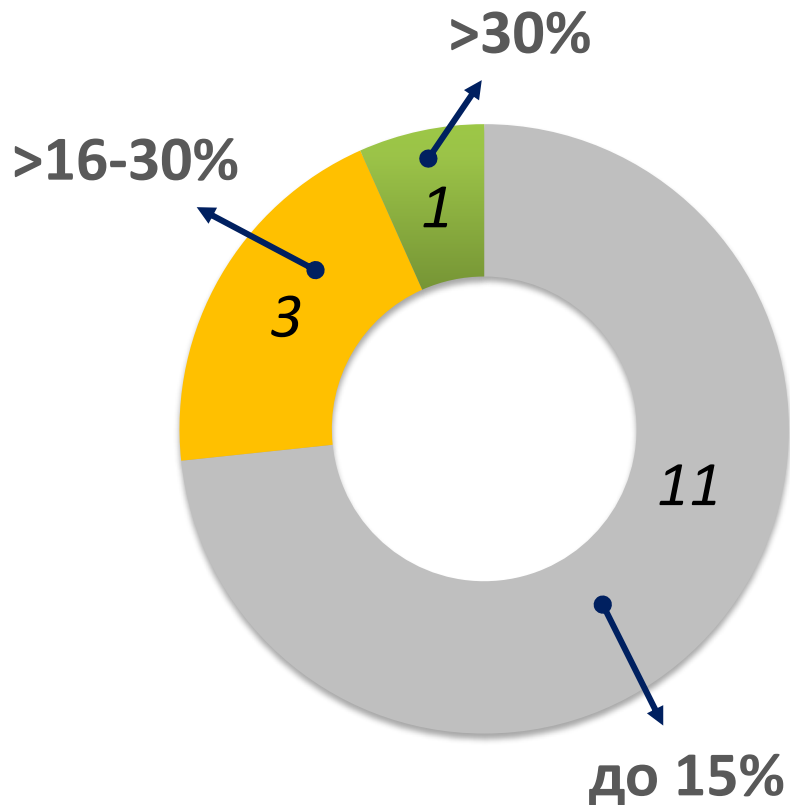


*Distribution of Energy Service contracts by contract term*



# 74% of ESCO projects reduce consumption of heat energy by up to 15% only

*Distribution of Energy Service contracts by the expected volume of reduction of energy consumption*



## **Strategic conclusion:**

Restrained investments in facilities leads to low energy efficiency indicators

# Institutional barriers to the government

## Legislative

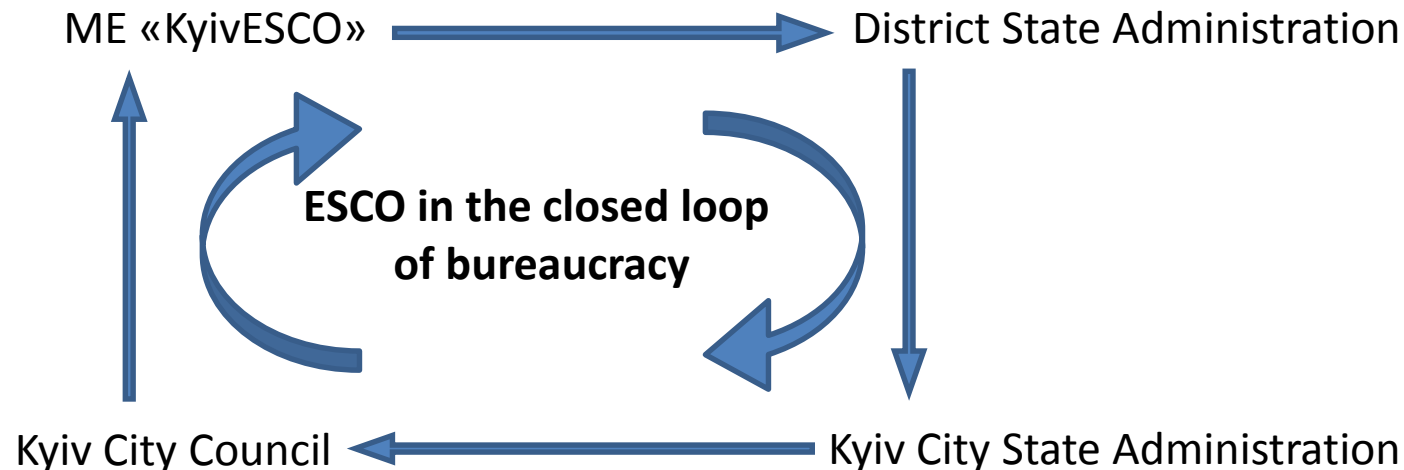


- Electronic ESCO reversed auction – **impossible**
- Maximum term of the contract >10 years - **impossible**
- Registering «insufficient heating», «insufficient lighting» - **impossible**
- Tender for a pool of facilities - **impossible**
- Meeting qualification requirements on ESCO tenders - **impossible**
- Approval of contracts by the Councils – **big cities do not have enough time**

## Administrative (bureaucratic)

### Experience of Kyiv

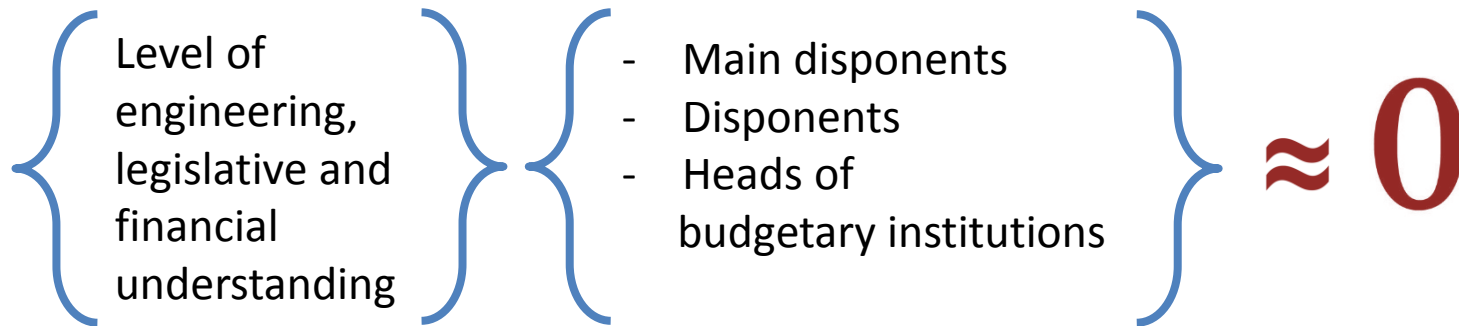
**11 months**



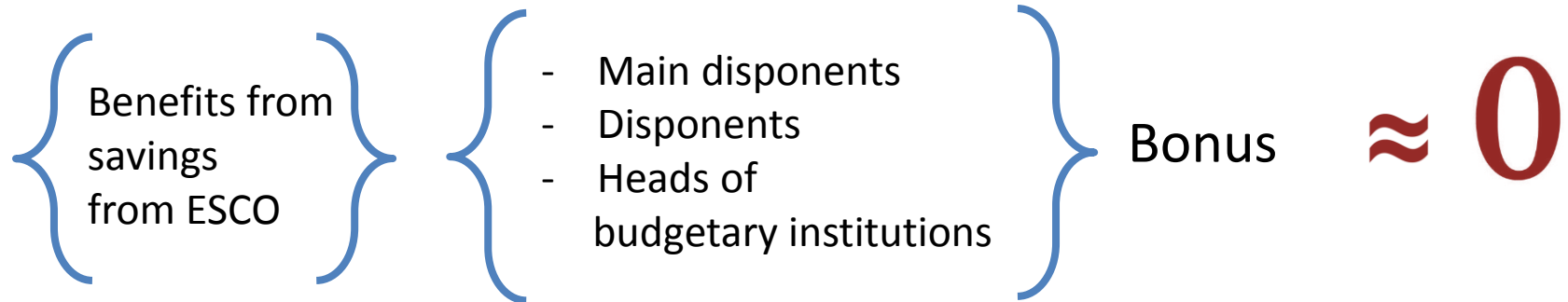
# Institutional barriers to the government

## Professional

➤ Level of understanding of the implementation of ESCO mechanism:



## Motivational



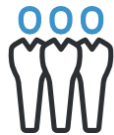
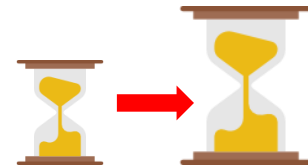
# Overcoming legal and administrative barriers

## Bill No. 4549, adopted in the first reading



Possibility of using electronic auction

Increase of the maximum term of Energy Service contract (from 10 to 15 years)



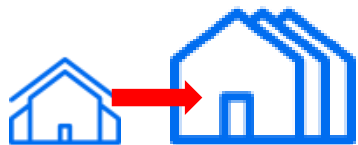
City Governments and District State Administrations are qualified for: approval of baseline + register of "insufficient heating", "insufficient lighting"

ESCO benefits from savings



~~max.  
90%~~

max.  
100%

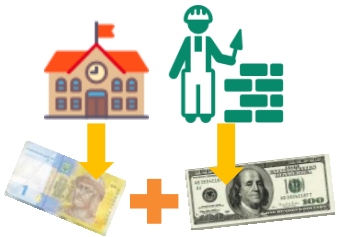


Possibility of a single ESCO tender for a "pool" of facilities (Including those that are under the jurisdiction of different disponents)

# Bill No. 4549, amendments to the second reading

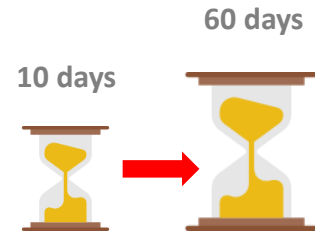
5 years of “qualification holidays” for ESCO companies

~~Qualification of ESCO for the tender~~



Implementation of a partnership in ESCO contracts: budget co-financing and distribution of savings (50/50)

Eliminating the risk of a loss of the contract - extension of terms for the approval of essential conditions



Leveling of the risks of investment non-repayment in case of a change of climatic conditions

# Overcoming motivational and professional barriers

## Formation of the motivation:


- Implementation of a mechanism of awarding bonuses to individuals from the Fund of savings from ESCO contracts (ME "KyivESCO" has a good groundwork)

## Professional development

- Attracting of IFI projects for hiring of experts;
- Conducting of training activities (seminars, forums, round tables);
- Development and implementation of ESCO Internet portal:
  - Free online access to templates of the ESCO process in the public sector;
  - Online access to ESCO facilities;
  - Online forum for discussion of Energy Service.



# Potential of the implementation of ESCO in the budgetary institutions of Kyiv for the period until 2030\*



Potential facilities	Potential of ESCO-investments	Potential benefits of the city
1290 facilities	570 mil. EUR	Reduction of consumption of heat and electrical energy: - 445 GWh/year
6 096,53 thous. m <sup>2</sup>		Reduction of CO <sub>2</sub> emissions: 260,3 thous. ton
Consumption of heat and electrical energy: - 1 113 GWh/year		Budget savings on heat and electrical energy: 697 mil. UAH/year

\* Calculated according to the Action Plan of Sustainable Energy Development of Kyiv for 2015-2030 (Draft of 12.08.2015)

***Thank you!***