

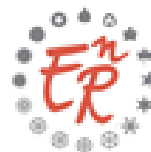


AYEP

SUSTAINABLE ENERGY DEVELOPMENT AGENCY BULGARIA



SEDA



ODYSSEE-MURE

Energy Efficiency trends and policies in Bulgaria

Ivaylo Aleksiev
Executive Director
SEDA Bulgaria

Second meeting of the project "ODYSSEE-MURE"

Virtual, 12 November 2020



Content

- ✍ Energy consumption figures
- ✍ Decomposition of energy consumption variation by sectors
- ✍ Energy Efficiency Index ODEX in Bulgaria
- ✍ Bottom-up energy savings 2019
- ✍ Financing energy efficiency
- ✍ Art. 7 EED National target
- ✍ Bulgarian NECP
- ✍ Bulgarian LTRS





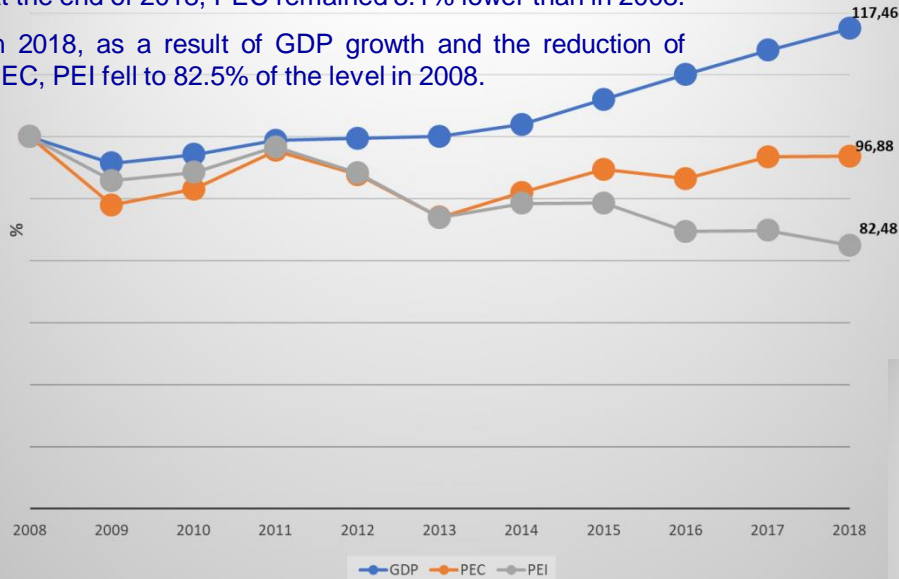
Energy consumption figures

(Annual report on NEEAP implementation, March 2020)

GDP, PEC, PEI

At the end of 2018, PEC remained 3.1% lower than in 2008.

In 2018, as a result of GDP growth and the reduction of PEC, PEI fell to 82.5% of the level in 2008.



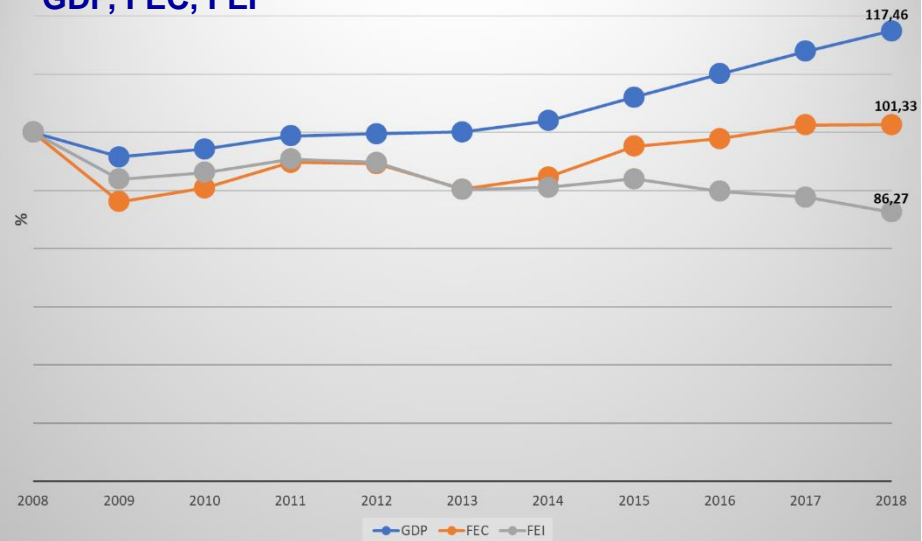
In 2018, GDP increased by 17.5% compared to 2008.

Significant growth (42.5%) of net exports of electricity, which leads to increased losses in its production and transmission.

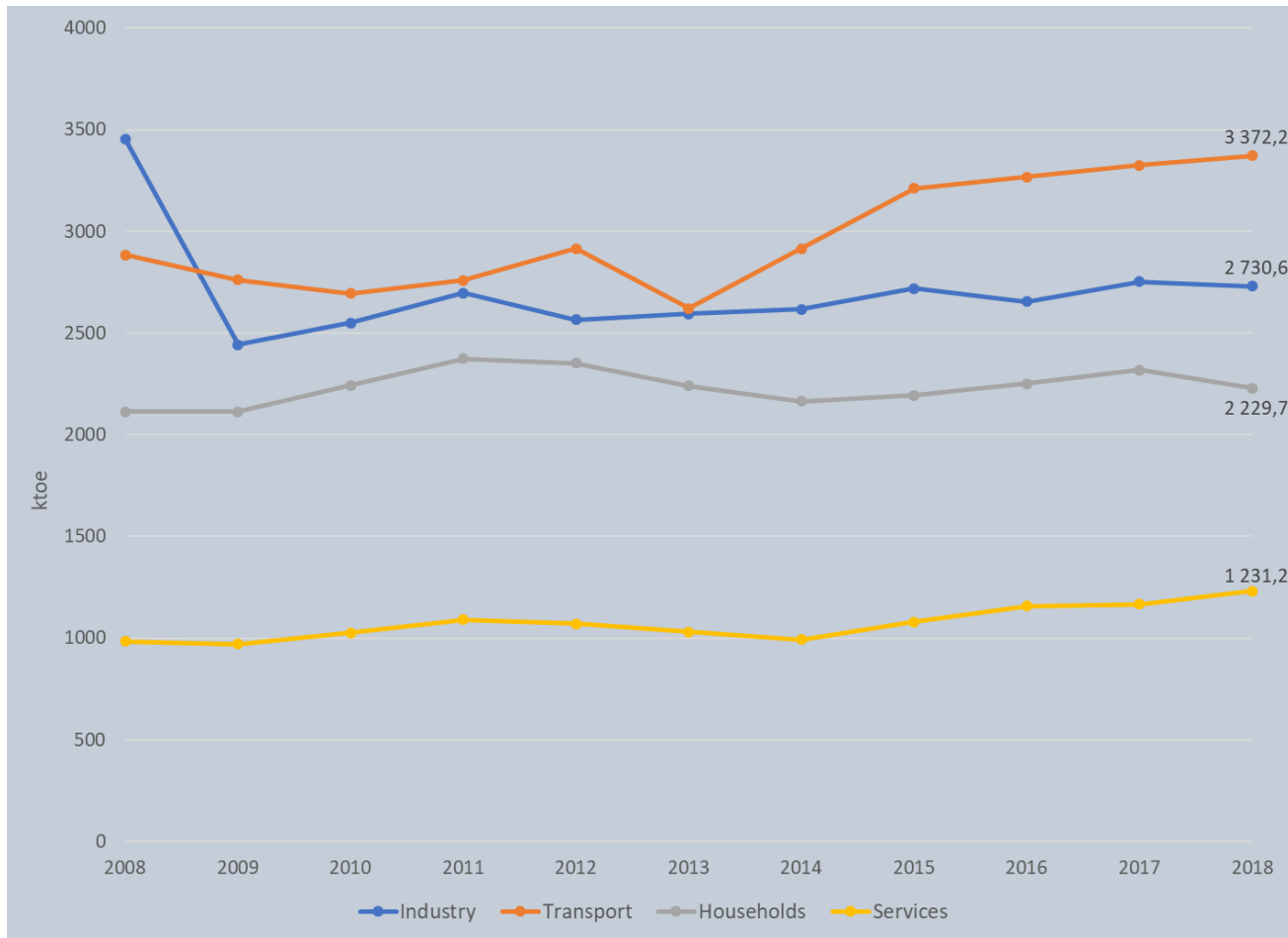
Growth of electricity produced by renewable energy by 41% - hydropower plants (HPPs) and biomass plants.

Significant reduction of the ratio of losses for own needs and losses in distribution in the energy sector compared to those obtained from the transformation - from 22.9% in 2017 to 13.7% in 2018, i.e.. efficiency increases.

GDP, FEC, FEI



Final energy consumption of the main sectors



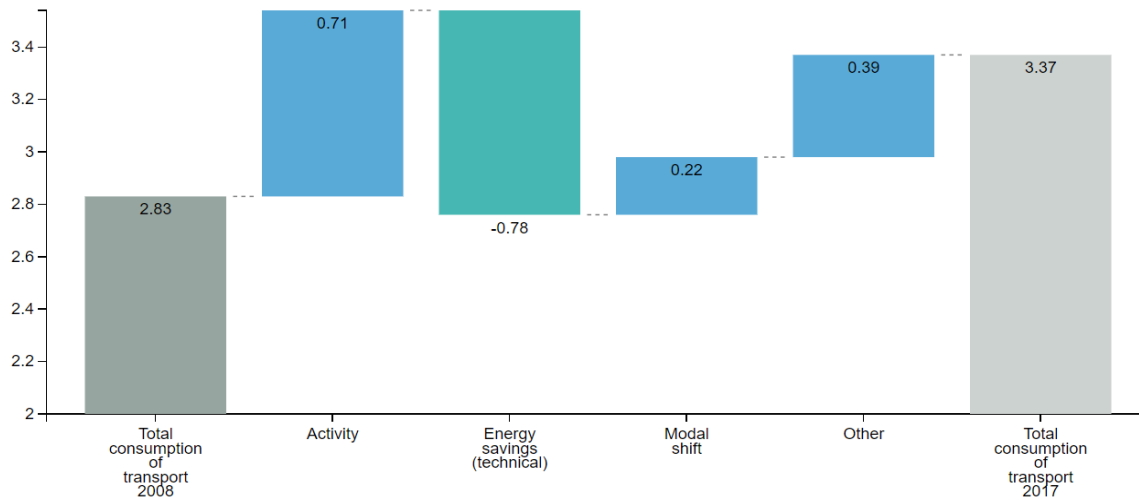
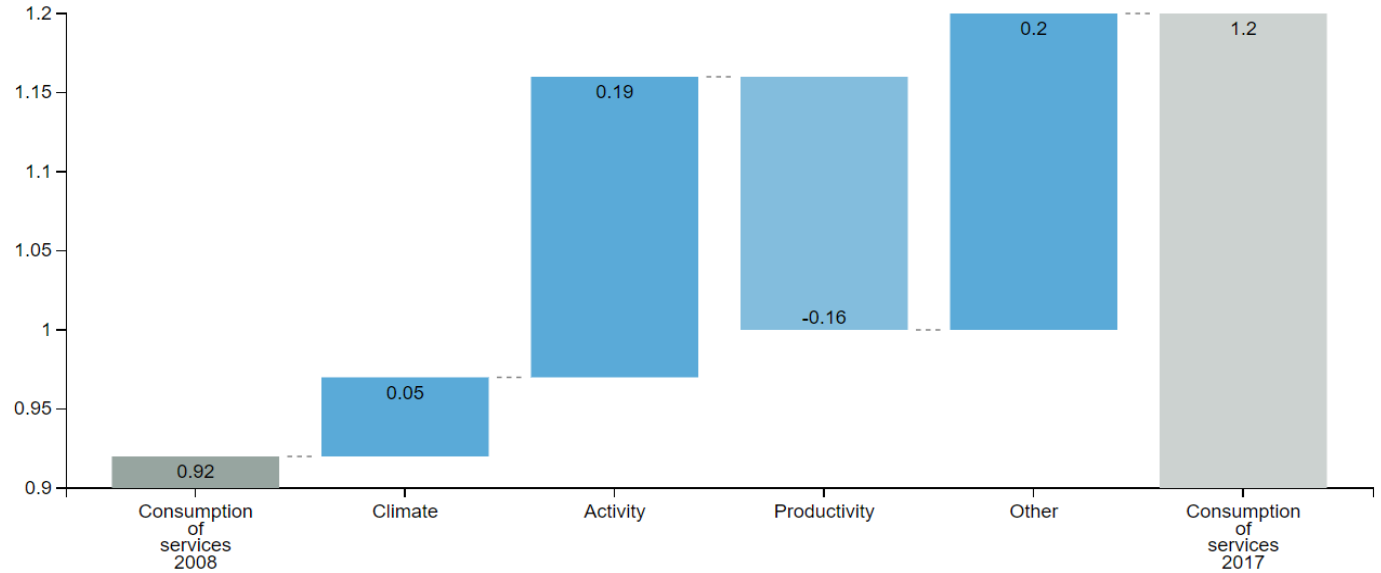
For the period 2008-2018, energy consumption decreases only in the Industry sector (by 21%).

Compared to 2017, in 2018:

Energy consumption growth in the Services and Transport sectors

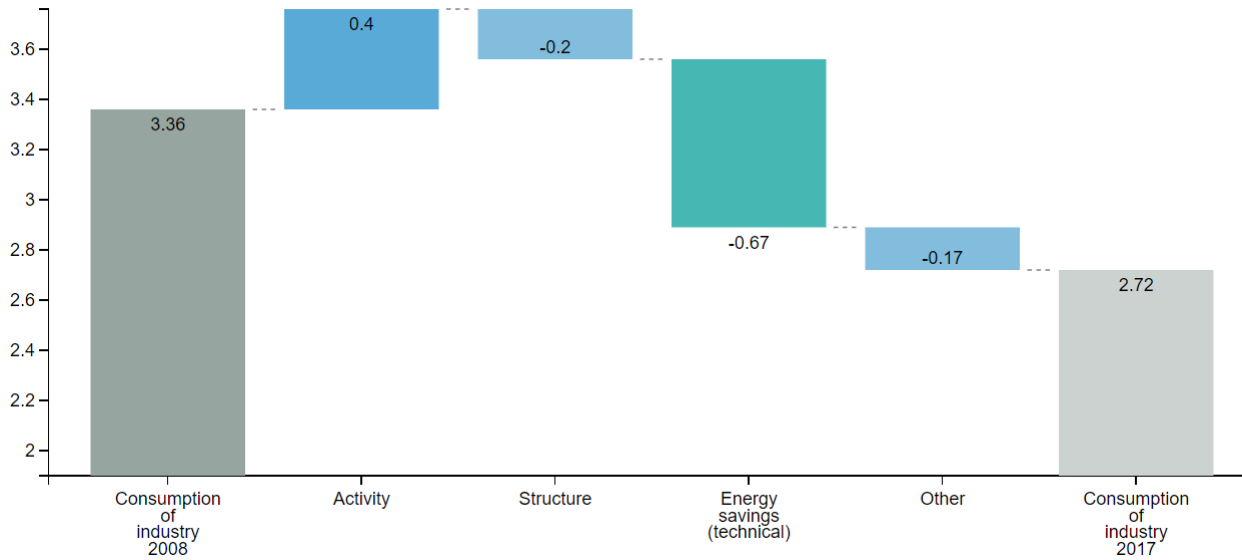
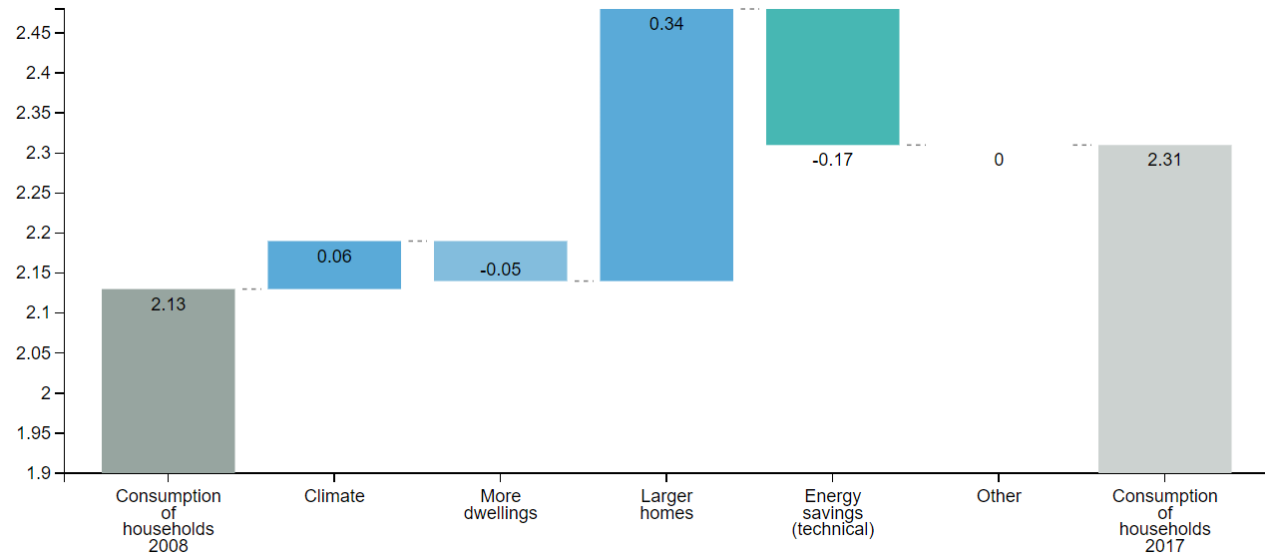
Decline in consumption of Industry and Household sectors

Decomposition of energy consumption variation by sectors – Services and Transport
Mtoe, 2008-2017



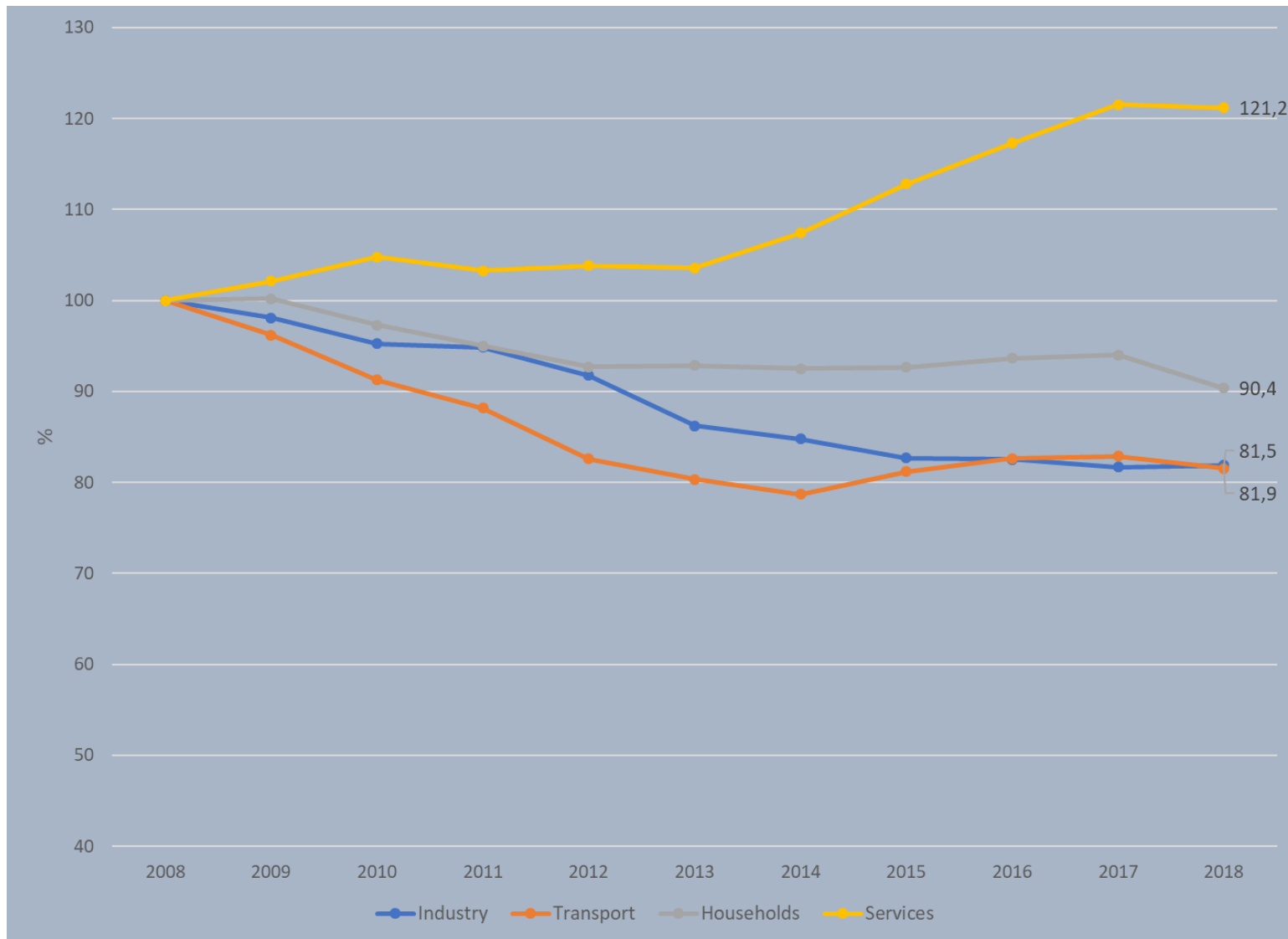
Decomposition of energy consumption variation by sectors – Industry and Households

Mtoe, 2008-2017



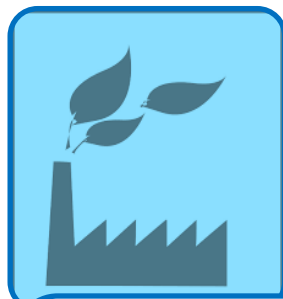


Energy Efficiency Index ODEX





NEEAP Annual report for 2019



Industry

49 energy audits and 280 energy savings measures

- Lightning
- Technology equipment
- Technology aggregates and facilities
- Leaks and insulation
- Monitoring and control systems
- Cogeneration, RES, etc.



Buildings/Services

Energy audits (417 certified buildings, 231 – state and municipal owned and 183 private owned)

More than 1 200 EE activities and measures have been implemented by the regional and municipal administrations and by the state authorities in the country



Transport

Increase of the share of electric and hybrid vehicles

Charging infrastructure development

Bulgarian model hybrid and electrical cars (SinCars Industries)

Rehabilitation and modernization of road and transport infrastructure

Construction of the Sofia subway system

TOTAL ENERGY SAVINGS IN 2019 (bottom-up): 1 128,1 GWh



Financing Energy Efficiency, 2019

Industry



- "Innovation and Competitiveness" OP**
- 255 projects in SMEs
- 18 projects in large enterprise

- 135 mln. BGN grant support

Buildings/Services



- „Regions in Growth“ OP** - 70 projects for public buildings and 35 for residential; 141 mln. BGN grant support

- EE and RES Fund:** 6 loan agreements; 6 mln. BGN.

- National Trust EcoFund**
 - Up to 85% grant
 - 14 projects EE in buildings,
 - scheme for encouraging the use of electric cars – 8 cars for public institutions

Households



- Energy Efficiency of Multi-Family Residential Buildings National Programme:**
 - 100% grant
 - 195 renovated residential buildings
 - 180 mln. BGN

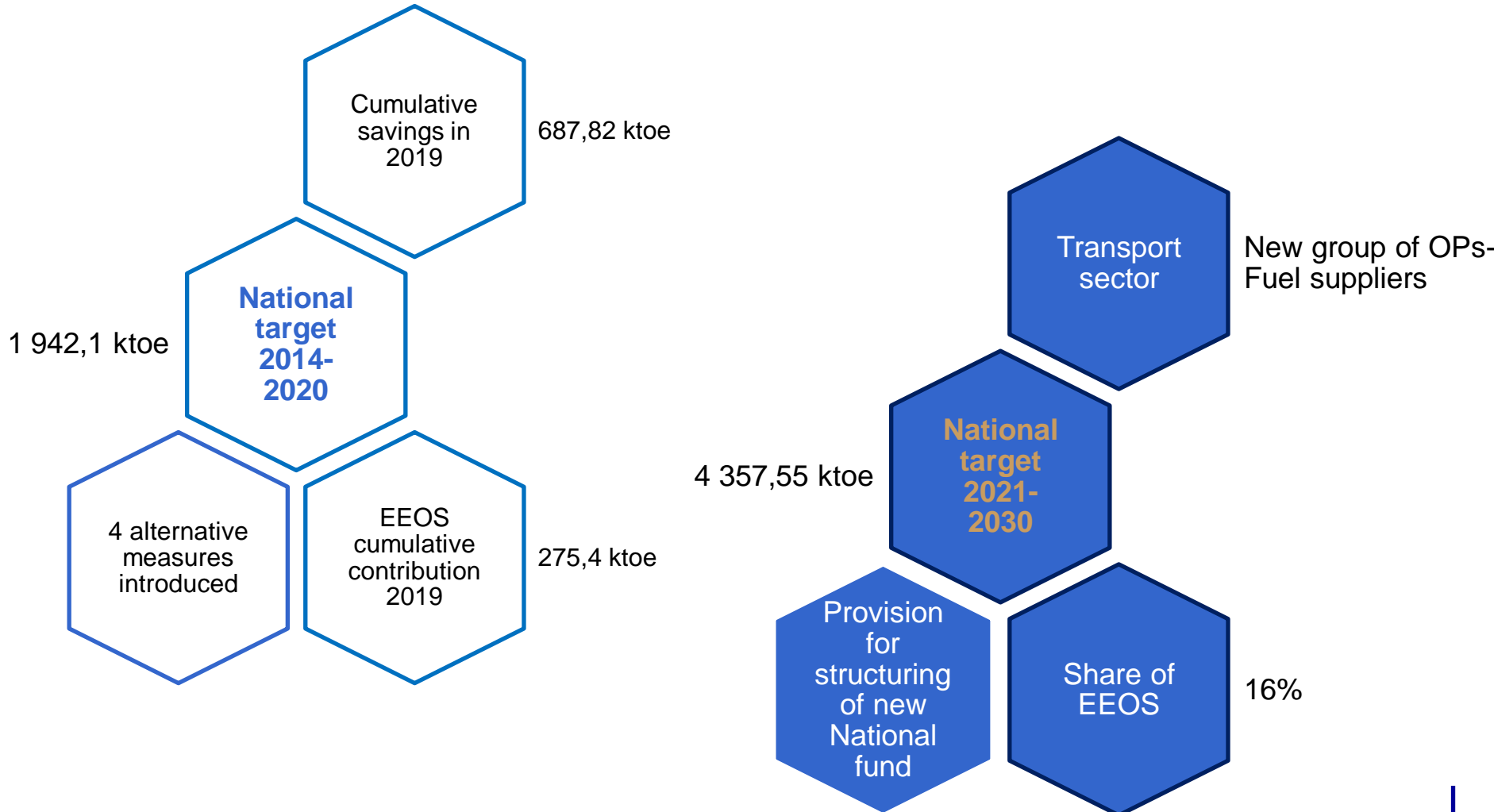
- Residential Energy Efficiency Credit Line (REECL):**
 - 10-15% grant
 - 845 measures
 - 4 mln. BGN



<http://seea.government.bg/bg/finansirane>

Art. 7 EED – National target

Energy Efficiency Obligation Scheme and alternative measures





Bulgarian NECP – energy efficiency dimension

Indicative
national
energy
efficiency
contribution



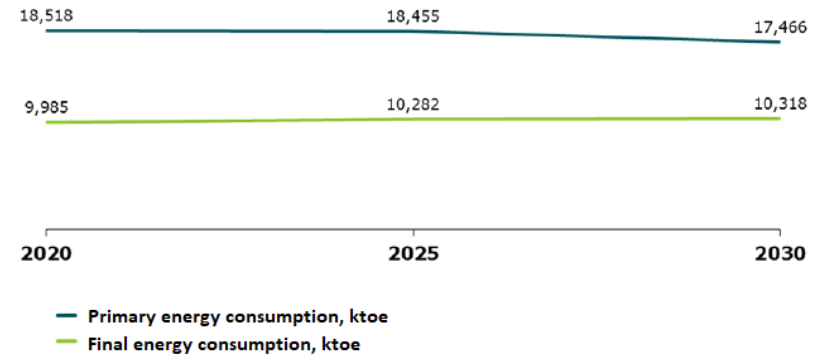
Decrease in the
consumption of
primary energy
by 27.89 %



Decrease by
31.67 % in final
energy
consumption



10 318 ktoe
FEC in 2030



Necessary investments at an estimated cost of 573 €/MWh:

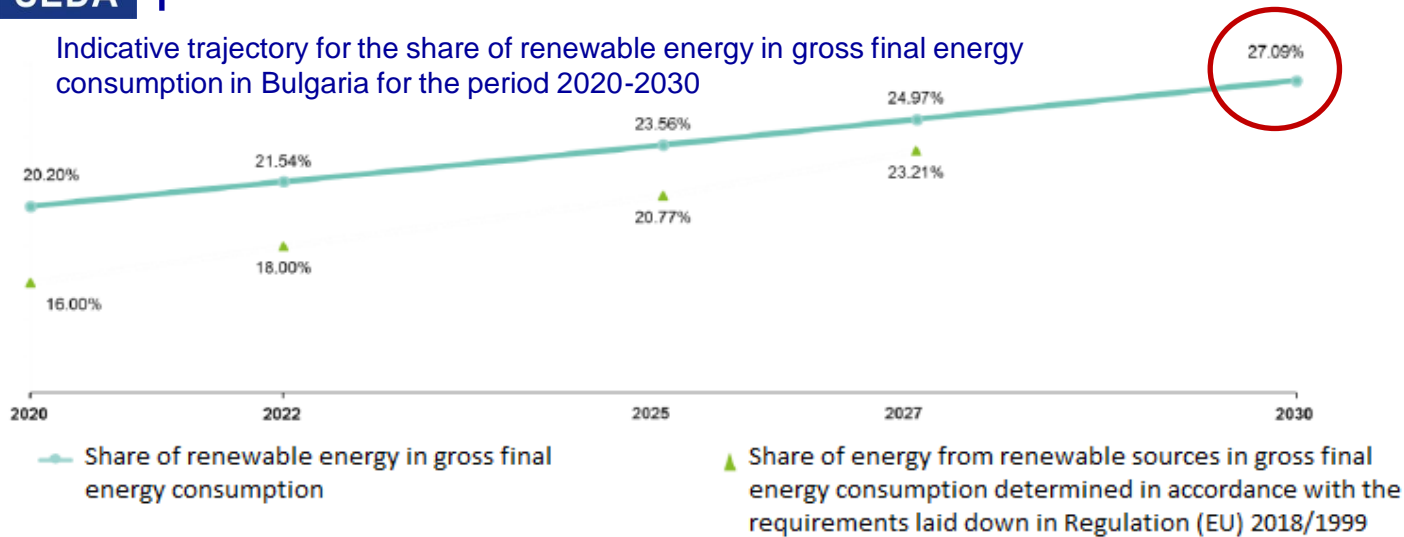
Art. 7 EED – more than 2.5 bn. €

EE in Buildings – more than 2 bn. €

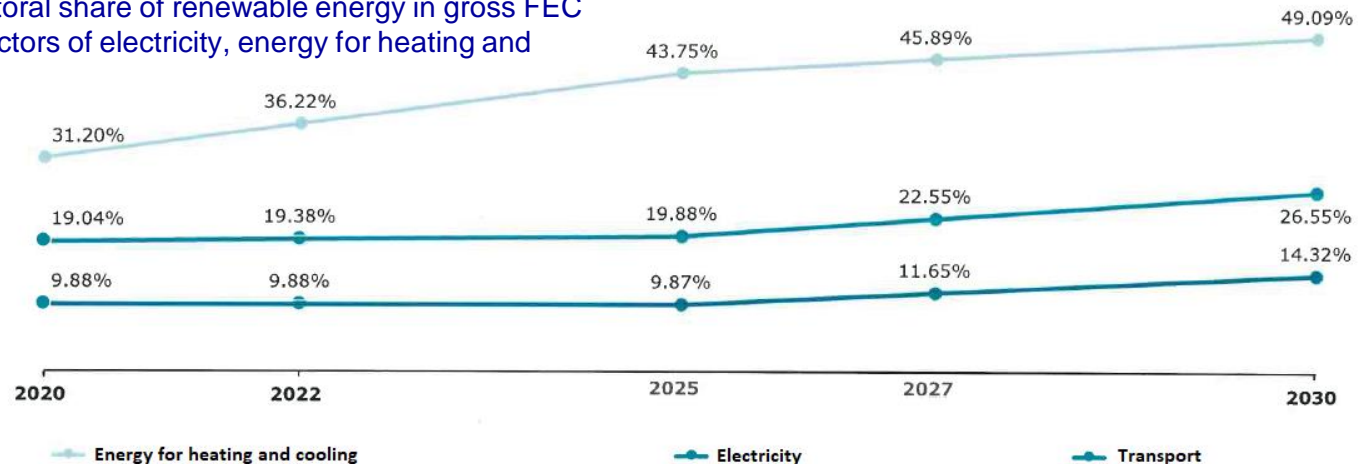


Bulgarian NECP – Decarbonisation dimension

Indicative trajectory for the share of renewable energy in gross final energy consumption in Bulgaria for the period 2020-2030



Estimated trajectories for the sectoral share of renewable energy in gross FEC in the period 2021-2030 in the sectors of electricity, energy for heating and cooling, and transport





Draft of Bulgarian Long-term Renovation Strategy

Public consultations, March 2020

Created by:

Ministry of Energy

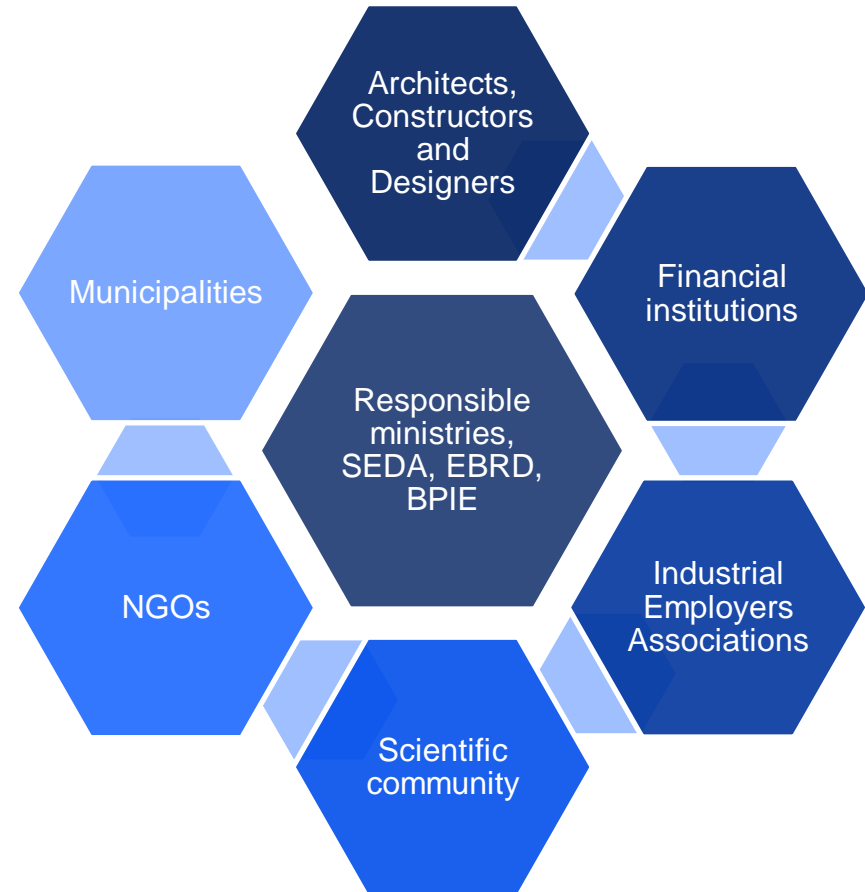
Sustainable energy Development Agency

Ministry of Regional Development:
“Housing Policy” Department
“Technical rules and regulations” Department

Fund manager of financial instruments in Bulgaria

Assisted by consultations from:

European Bank for Reconstruction and Development
 European Building Performance Institute Europe



The Strategy is in line with [COMMISSION RECOMMENDATION \(EU\) 2019/786 of 8 May 2019 on building renovation \(notified under document C\(2019\) 3352\)](#)



Cost-effective approaches to renovation

The priority target group is buildings with the worst energy performance in class E, F, G.

Non-residential



- 8 packages of energy savings measures (ESM):
- Administrative buildings
- Schools
- Kindergartens
- Hospitals

Residential



- For single-family buildings - 11 ESM packages
- For multi-family buildings - 10 ESM packages

Other public buildings



Individual approach for:
Hotels, retails, dining establishments, train stations....

For all types of buildings, there are also packages of measures that lead to high energy efficiency or nZEB requirements.

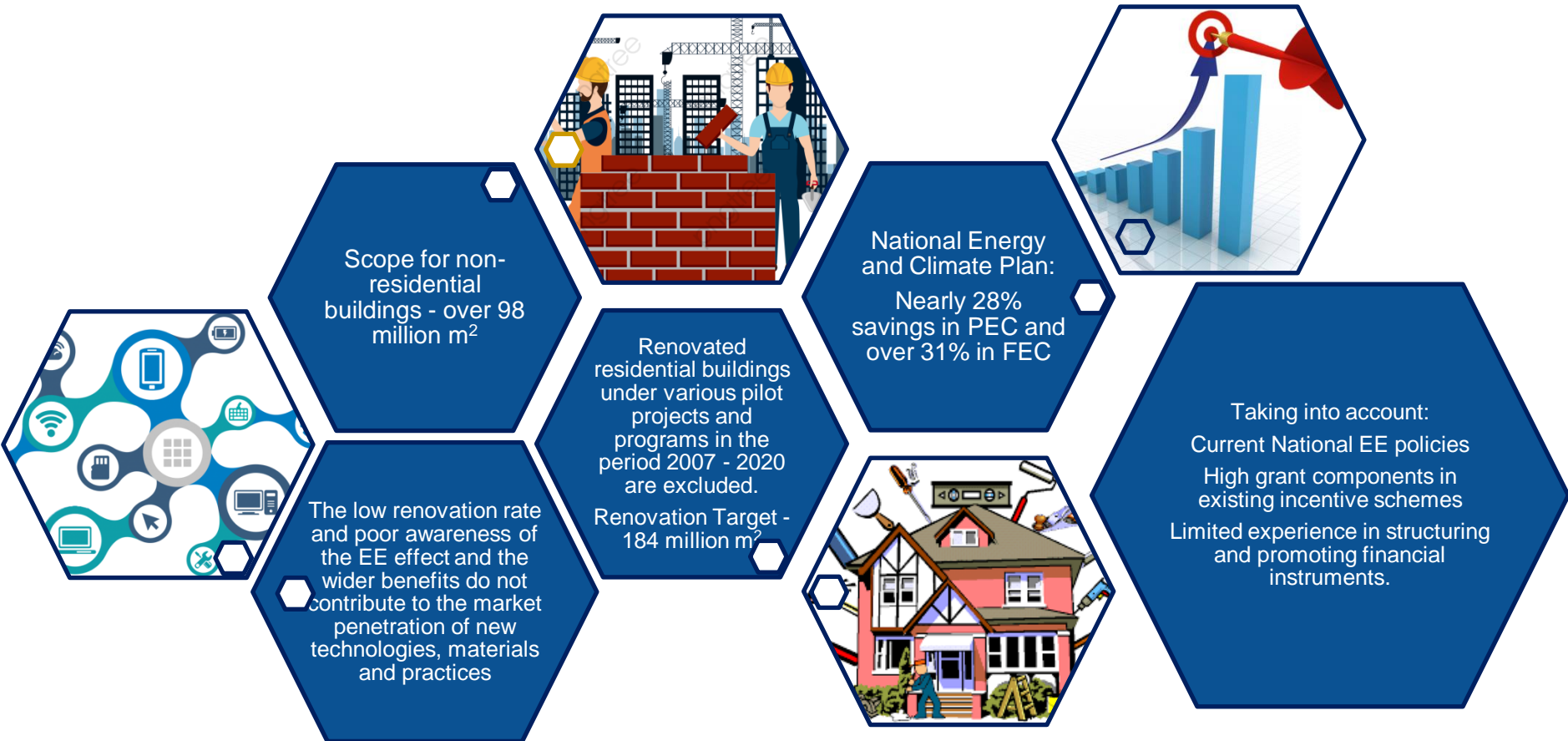


Roadmap 2021-2050

Indicator		2021-2030	2031-2040	2041-2050
Energy savings	GWh	2 917	6 502	7 329
Residential	GWh	2477	5 694	6 294
Non-Residential	GWh	440	808	1 035
Renovated area	m²	22 203 509	49 570 668	55 823 015
Residential	m ²	19 026 656	43 735 175	48 343 297
Non-Residential	m ²	3 176 852	5 835 493	7 479 718
Renovated area of existing building stock	%	8%	18%	20%
CO₂ emissions savings	t	1 306 435	2 891 610	3 274 453
Residential	t	1 065 184	2 448 461	2 706 441
Non-Residential	t	241 251	443 149	568 012



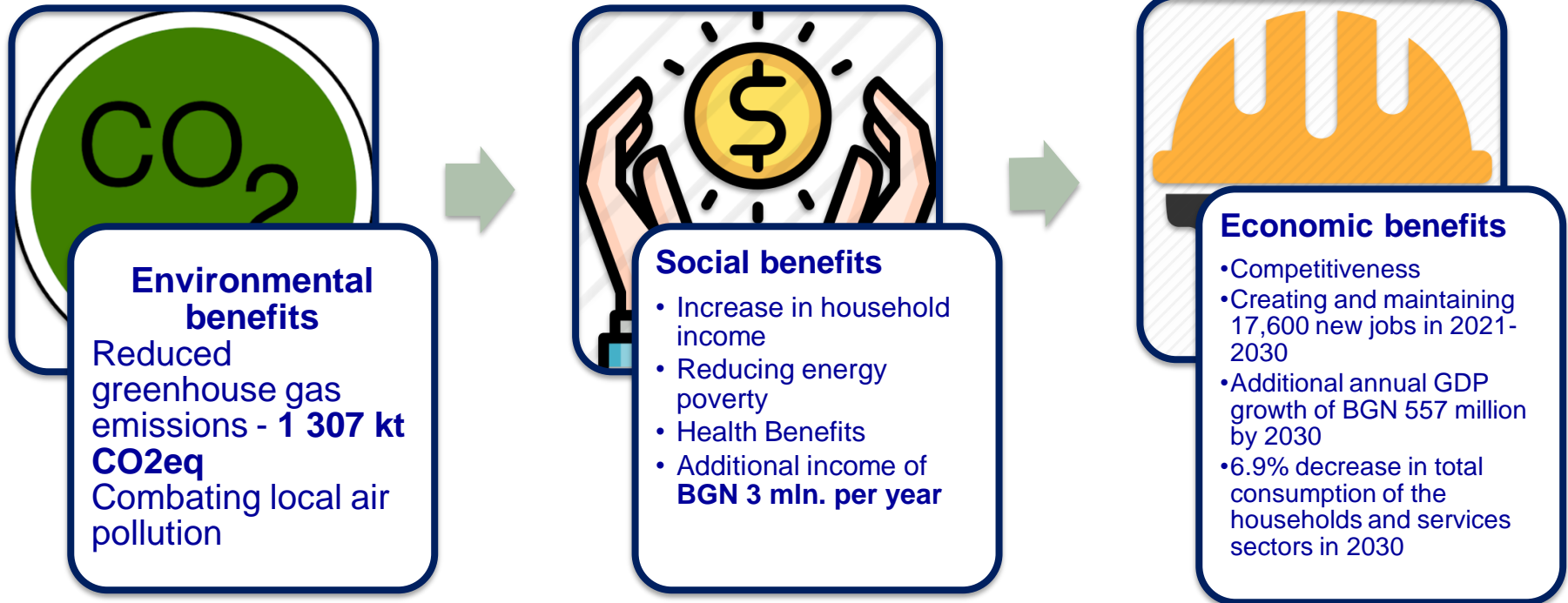
Conditions for setting the milestones





Multiple benefits

The evaluation is based on the Odyssee-Mure [Multiple benefits tool](#)





LTRS Strategic objectives and priorities



Regulatory framework

- Conditions for investment in sustainable construction
- Prepare buildings for smart management
- Condominium management and buildings maintenance
- Tracking and reporting the results of the programs for support of the renovation of the buildings



Sustainable financial instruments

- Financial instruments suitable for different target groups and types of buildings
- EEOS and ESCO market



Administrative and professional capacity building

- State and local authorities, buildings' professionals
- National communication campaign
- Support for research and innovation



National funds, financial mechanisms and instruments



„Green“ bonds

Energy efficient
(„green“)
mortgages



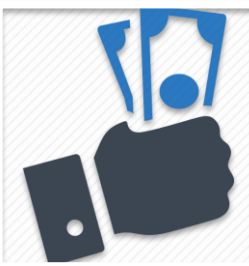
Specialized credit
lines

On-bill financing



Guarantee funds
and credit risk
sharing mechanisms

Energy Performance
Contracts/ESCO



Revolving energy
efficiency funds



Thank you!



Ivaylo Aleksiev
Executive Director

Tel: +359 2 915 40 10

E-mail: ialeksiev@seea.government.bg

Web: www.seea.government.bg