



AYEP

SUSTAINABLE ENERGY DEVELOPMENT AGENCY BULGARIA



SEDA

## National Energy Efficiency Action Plan of Bulgaria

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## Bulgaria in numbers

Founded:	681
Current territory:	110 994 square kilometers (Europe's 16th-largest country)
Population:	7 075 947 (2016, NSI)
GDP:	44 530 M€ (2017, NSI)
Final Energy Consumption:	9 738 ktoe (2017, NSI)
Primary Energy Consumption: including PEC of RES	18 334 ktoe (2017, NSI) 1 952 ktoe (2017, NSI)

**The largest (per capita) producer and exporter of electricity on the Balkan Peninsula.**

Kozloduy Nuclear Power Plant:	1 327 ktoe (2017, NSI) (34% of Bulgaria's electricity)
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**The largest thermal power plants in Southeastern Europe are located in the Maritsa East complex.**

Total production of TPPs:	1 998 ktoe (2017, NSI)
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### RES electricity

Total production:	584 ktoe (2017, NSI)
including hydro electricity:	243 ktoe (2017, NSI)

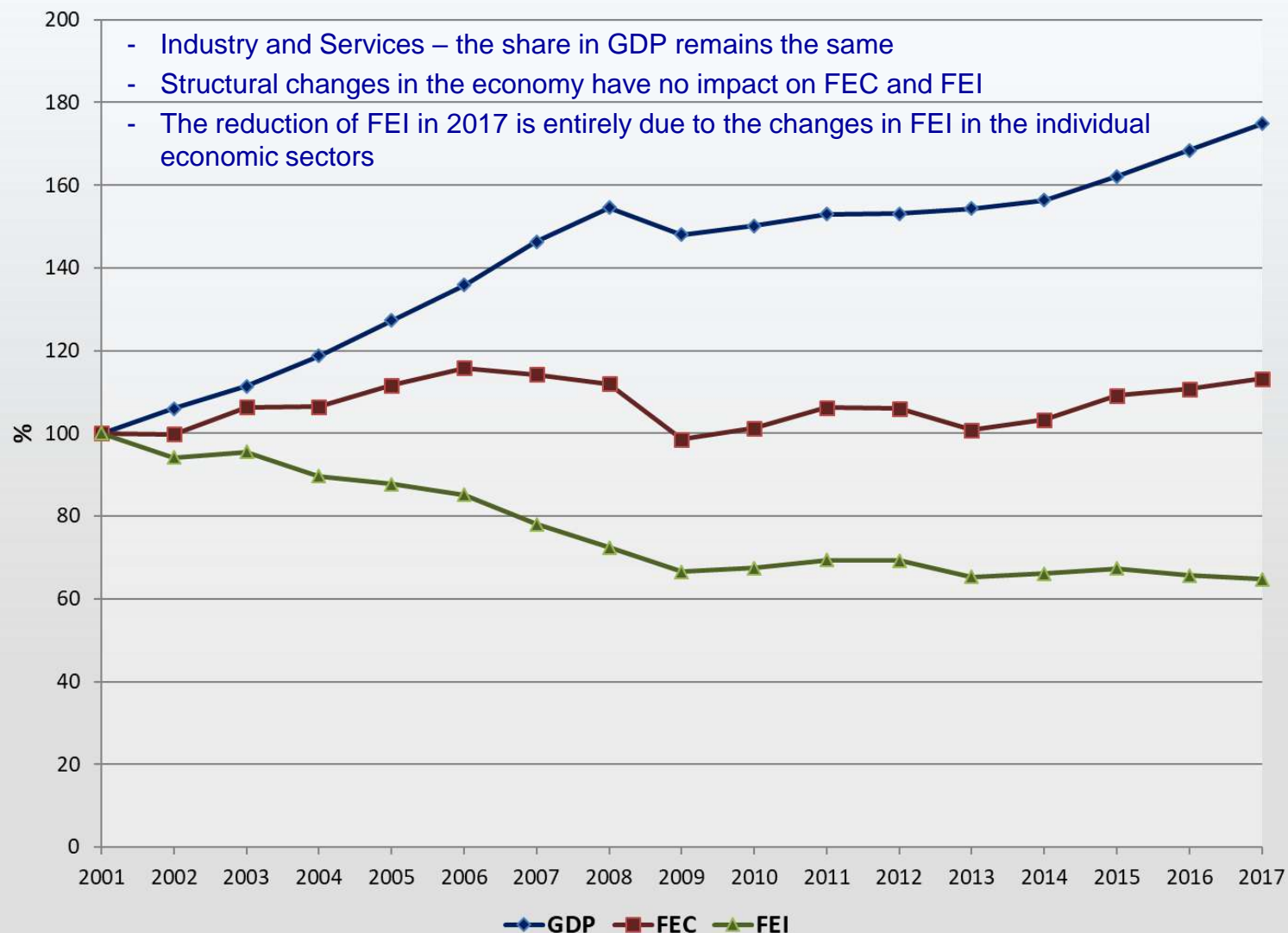
The Belmeken-Sestrimo-Chaira cascade is the most powerful hydropower facility:	1 479 MW
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6 planning regions  
28 district regions  
265 municipalities

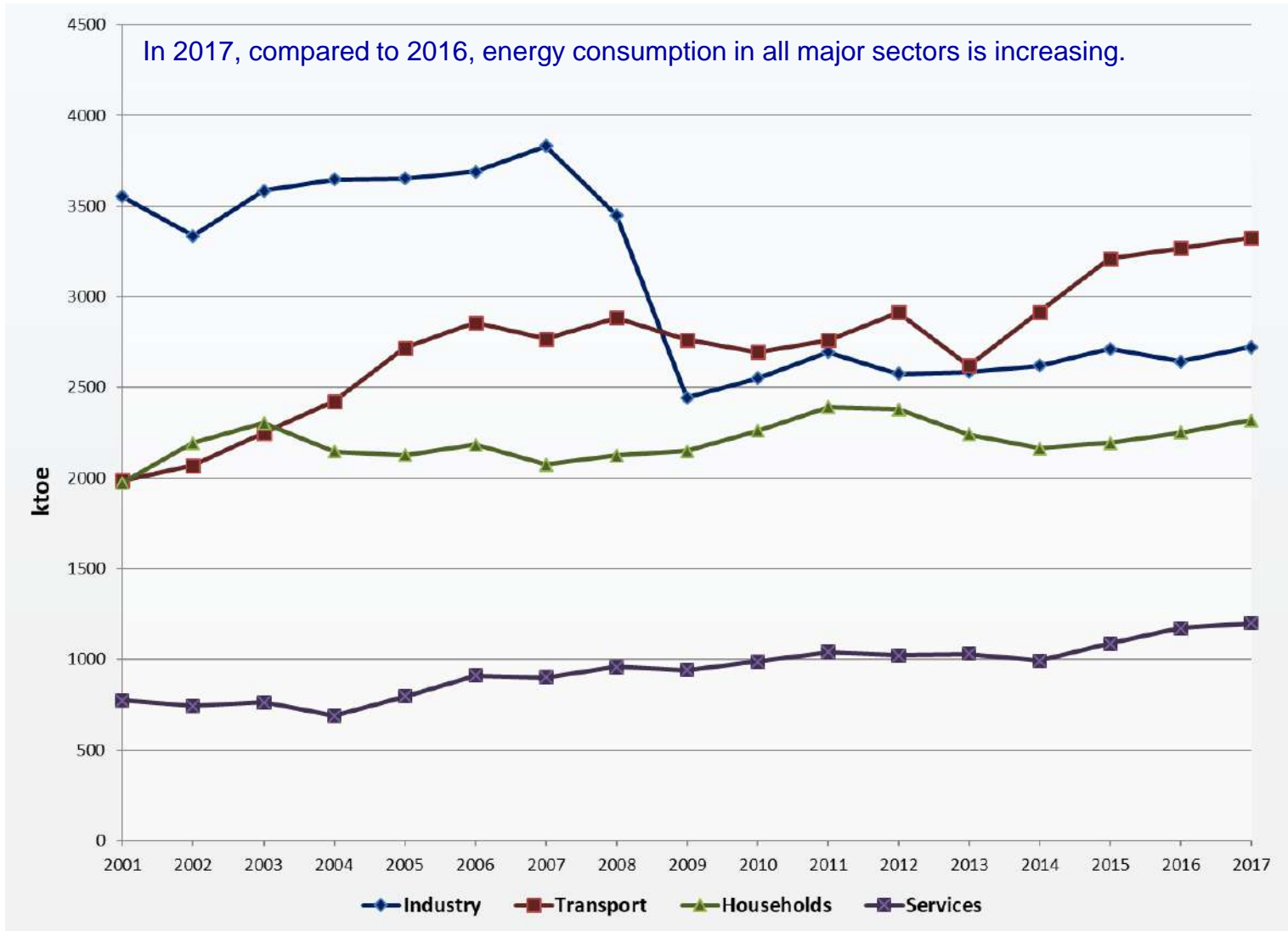


## Final energy consumption

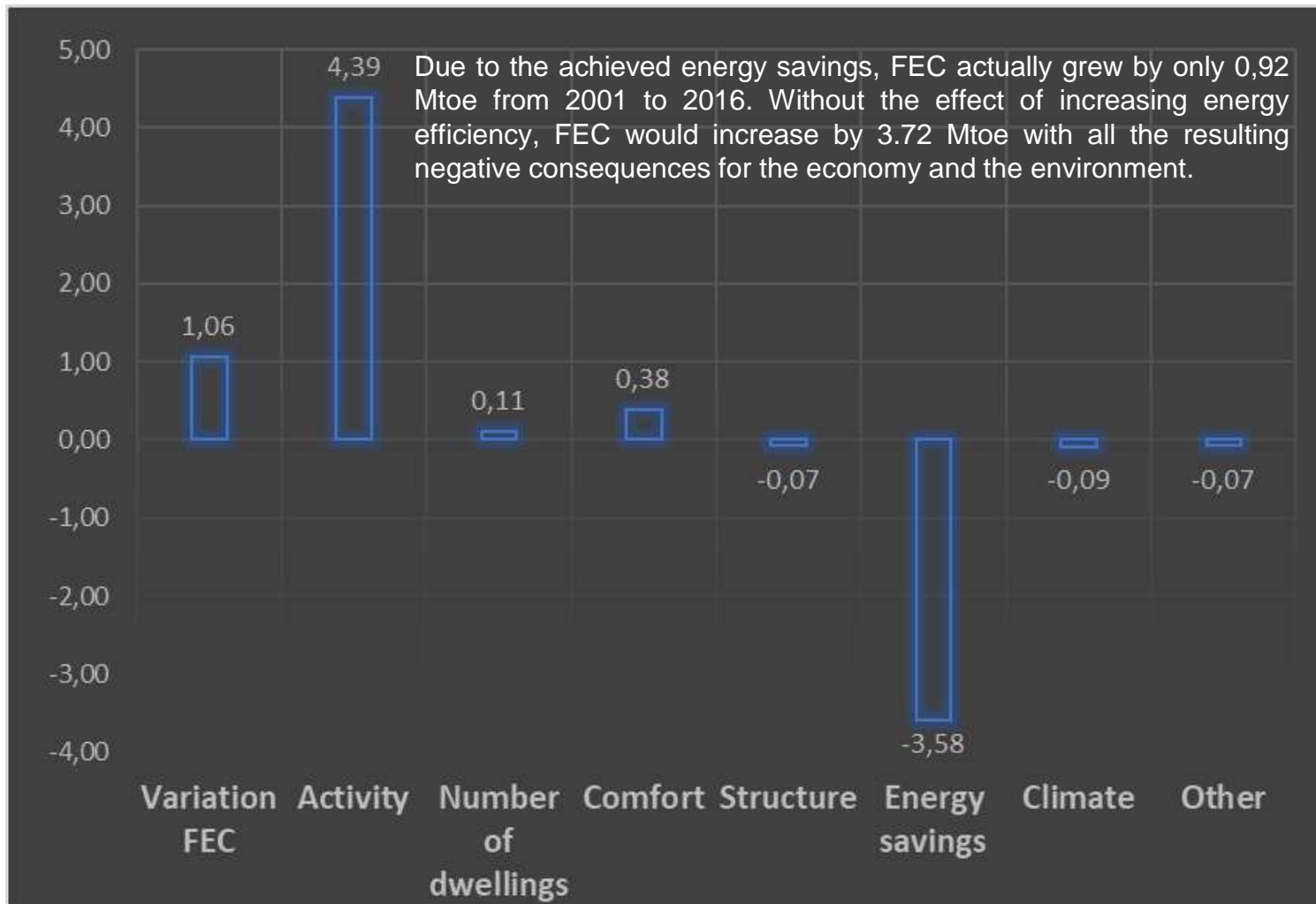




# Final energy consumption of the main sectors



## Variation Final Energy Consumption – Bulgaria (2000-2016)



Source: [Odyssee Project](#) (Decomposition tool)

# National Energy Efficiency Action Plan 2014-2020 (update 2017)

## Directive 2012/27/EC on Energy Efficiency

*“Each Member State shall set an indicative national energy efficiency target, based on either primary or final energy consumption, primary or final energy savings, or energy intensity.”*

*“By 30 April 2014, and every three years thereafter, Member States shall submit National Energy Efficiency Action Plans. The National Energy Efficiency Action Plans shall cover significant energy efficiency improvement measures and expected and/ or achieved energy savings, including those in the supply, transmission and distribution of energy as well as energy end-use, in view of achieving the national energy efficiency targets”*

*“By 30 April each year as from 2013, Member States shall report on the progress achieved towards national energy efficiency targets”*



## Energy Efficiency Law – Bulgaria

***Promulgated, SG No. 35/15.05.2015, effective 15.05.2015, amended and supplemented, SG No. 105/30.12.2016***

*“The National Energy Efficiency Action Plan shall be developed according to a template adopted by the European Commission.*

*The plan shall contain energy efficiency improvement measures and the expected or obtained energy savings, including measures in energy transmission and distribution, as well as in final energy consumption, with a view to reaching the national energy efficiency target”*

*The Executive Director of SEDA shall organize the preparation, not later than the 31st of March, Annual reports on the implementation of the National Energy Efficiency Action Plans and shall submit it to the Minister of Energy.*

## National energy saving targets to 2020 (NEEAP 2014-2020)

Indicator	Year	2012	2016	2020
PEC — reference scenario	ktoe	18 305	18 382	18 460
PEC — target scenario	ktoe	-	17 587	16 870
FEC — reference scenario	ktoe	9 044	9 200	9 355
FEC — target scenario	ktoe	-	8 842	8 639
FEC saving target	ktoe	-	358	716
PEC saving target	ktoe	-	795	1 590

PEC – Primary Energy Consumption

FEC – Final Energy Consumption

The national energy efficiency target was determined using the ‘bottom-up’ method on the basis of:

- Bulgaria’s reference energy consumption scenario as set out in the Detailed Analytical Results’ report by the National Technical University of Athens (7 January 2013). The forecasts in the report are based on the Primes Version 4 energy forecasting method;
- and an assessment of the economic potential for saving energy under the reference scenario.



# NEEAP 2014-2020. Energy efficiency policies and measures (1)

Energy Efficiency Act 2004, last recast 2018

## Buildings:

- Energy savings obligations for public buildings (up to 2016)
- Mandatory energy audits for all buildings with floor area more than 250 m<sup>2</sup>
- Mandatory inspection of water heating boilers and air conditioning systems
- National residential buildings renovation program
- National Nearly-zero Energy Buildings (nZEB) program
- State-owned buildings – mandatory renovation of 5%/ann of the total floor area



## The role of the regions and municipalities/Services:

- Mandatory Energy Efficiency Programs for regional and municipal administrations
- Energy audits for public lighting systems
- Energy efficiency management
- Mandatory annual reporting to SEDA
- Information and education campaigns



## NEEAP 2014-2020. Energy efficiency policies and measures (2)

### Industry:

- Energy savings obligations for Industrial enterprises (up to 2016)
- Mandatory energy audits for non-SMEs and for all industrial systems with more than 3 GWh/ann. energy consumption
- Energy efficiency management for Industrial enterprises and annual reporting to SEDA



### Transport:

- Increasing the share of the public electricity transport
- Rehabilitation and modernization of existing road infrastructure
- Intelligent Transport Systems on the National Road Network and in the Urban Environment
- Design and construction of new cycling infrastructure for



### Financing energy efficiency:

- National Energy Efficiency and Renewable Energy Fund
- Operational Program "Innovation and Competitiveness" 2014-2020
- Operational Program "Regions in Growth" 2014-2020
- Operational Program "Transport and Transport Infrastructure" 2014-2020
- Financial Mechanism of the European Economic Area 2014-2021



# Energy Efficiency Obligation Scheme and alternative measures

Introduced 2008

Updated 2014

## Obligated energy suppliers:



Electrical energy < 20 GWh/ann.



Heat energy < 20 GWh/ann.



Natural gas < 1 mln. nm<sup>3</sup>/ann.



Liquid fuels < 6,500 tones /ann.  
(fuels for transport excluded)



Solid fuels < 13,500 tones /ann.

- ✓ Mixed approach – Alternative measures introduced 2016 as a supplemented approach to the suppliers obligation
- ✓ Total amount of savings – 1 942 ktoe cumulative savings 2014-2020

**2017 – 112 obligated companies**

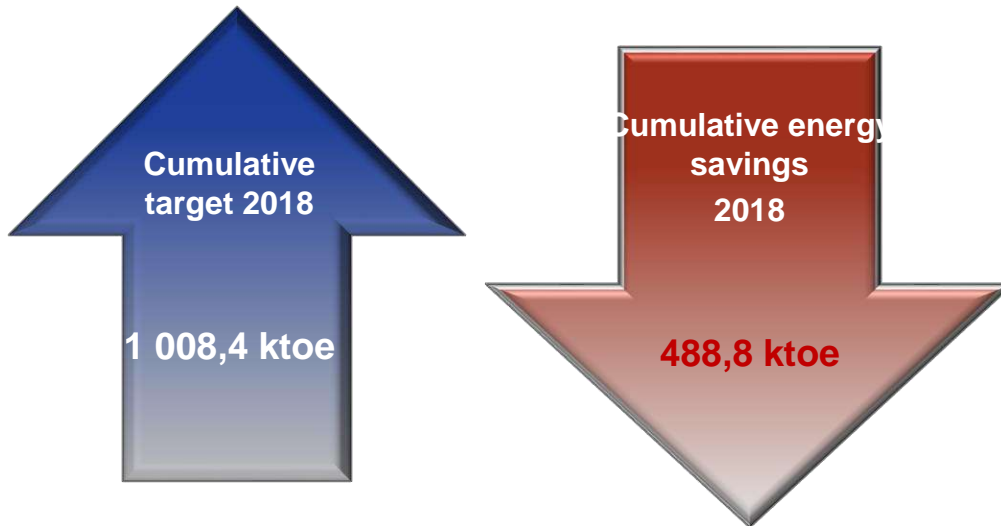
**2018 – 89 obligated companies**

**2019 – 96 obligated companies**



## Progress towards Energy Efficiency Obligation Scheme in 2018

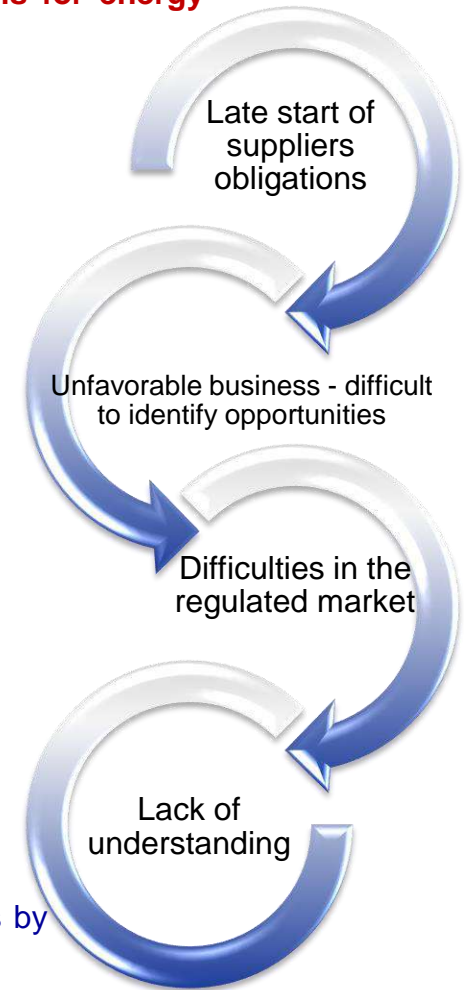
Deeper involvement of the obligated parties - one of the biggest potentials for energy efficiency improvement in all economic sectors.



Source: Draft Annual report on NEEAP implementation, March 2019, SEDA.

### Some recommended steps:

- Incentives / compensation in connection with the expansion of energy suppliers' activities by introducing appropriate financial mechanisms
- Identifying opportunities to increase the share of use of alternative measures in the EEOS.
- Facilitated procedures for demonstrating energy savings - "deemed energy savings"



## Successful measures - Industry

### 1. Mandatory energy efficiency management in enterprises and industrial systems

Annual reporting to SEDA (deadline 1 March, template for reporting);

Bottom-up assessment by summarizing and analyzing the information received by 1 March on the measures implemented by the owners of enterprises and industrial systems.

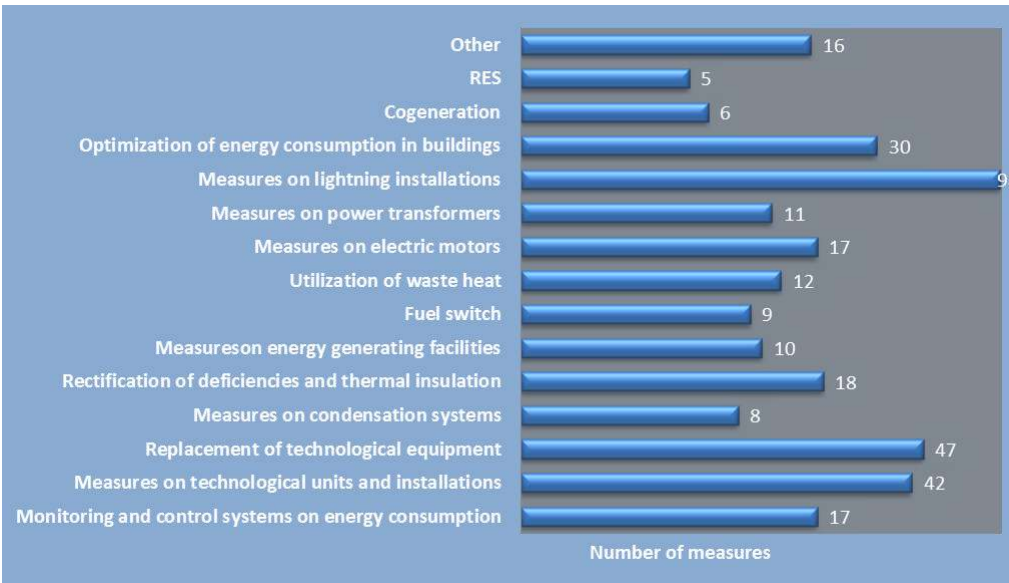
### 2. Operational Program “Innovation and Competitiveness” Results up to 31.12.2018

Energy Efficiency for SMEs

- 448 projects
- 517 mln. BGN (329 mln. BGN grant)
- 550 GWh energy savings

Enhancement of Energy Efficiency in Large Enterprises

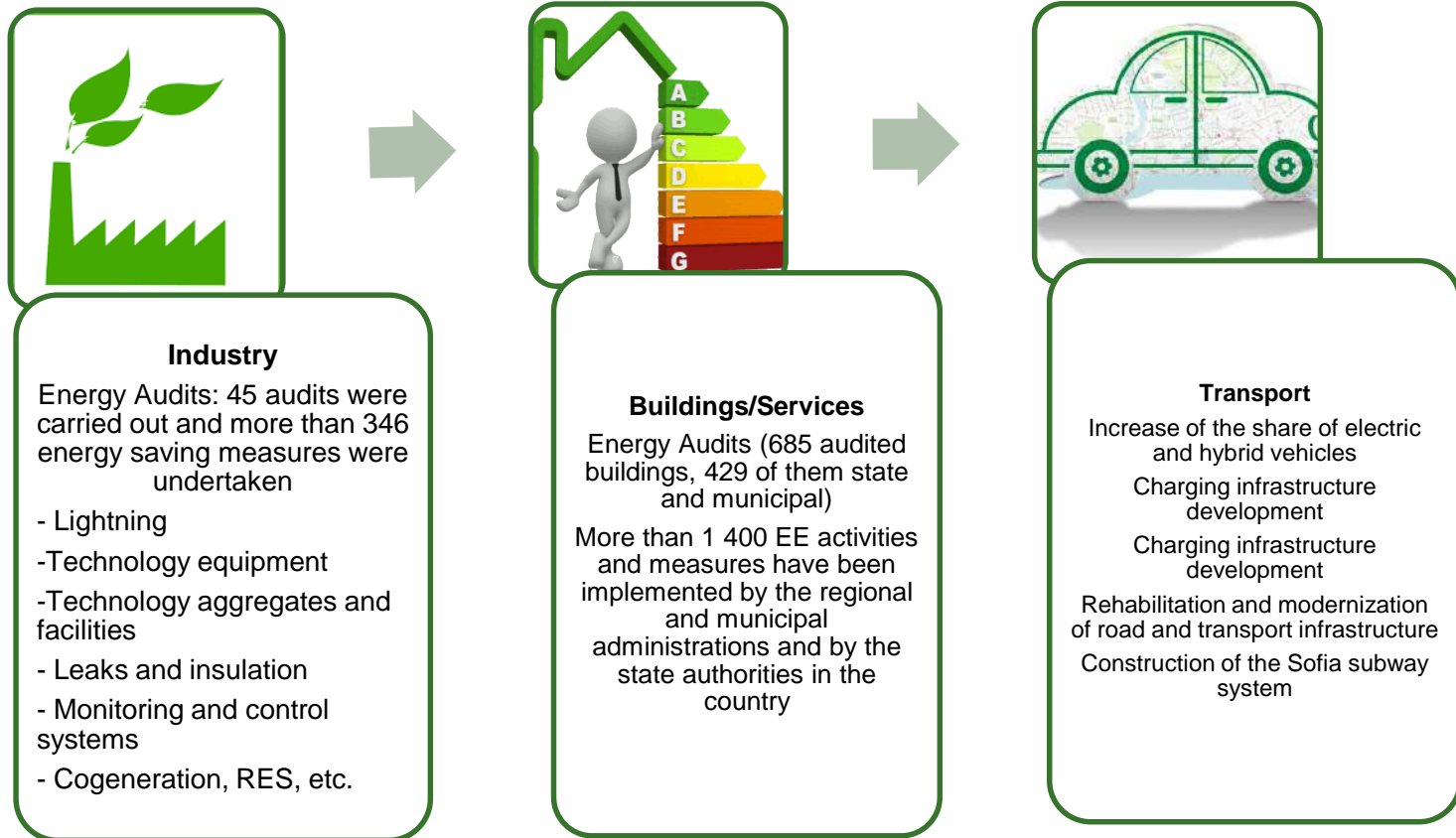
- 68 projects
- 253 mln. BGN (123 mln. BGN grant)
- 554 GWh (estimated savings)



**Energy savings 2018 – 459,6 GWh**



## NEEAP Annual report for 2018



- ✓ 600% increase in the number of electric and hybrid cars in the country for the past 5 years
- ✓ In 2018 the start of the production of Bulgarian hybrid and fully electric cars was announced
- ✓ Municipal authorities efforts on local level

## NEEAP Annual report for 2018 - Financing Energy Efficiency

### Industry



"Innovation and Competitiveness" OP

165 projects in SMEs

104 mln. BGN grant support

### Buildings/Services



„Regions in Growth“ OP - 31 contracts for public buildings and households; 22 mln. BGN grant support

**EE and RES Fund:** 9 loan agreements; 3 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
- 511 renovated residential buildings
- 560 mln. BGN

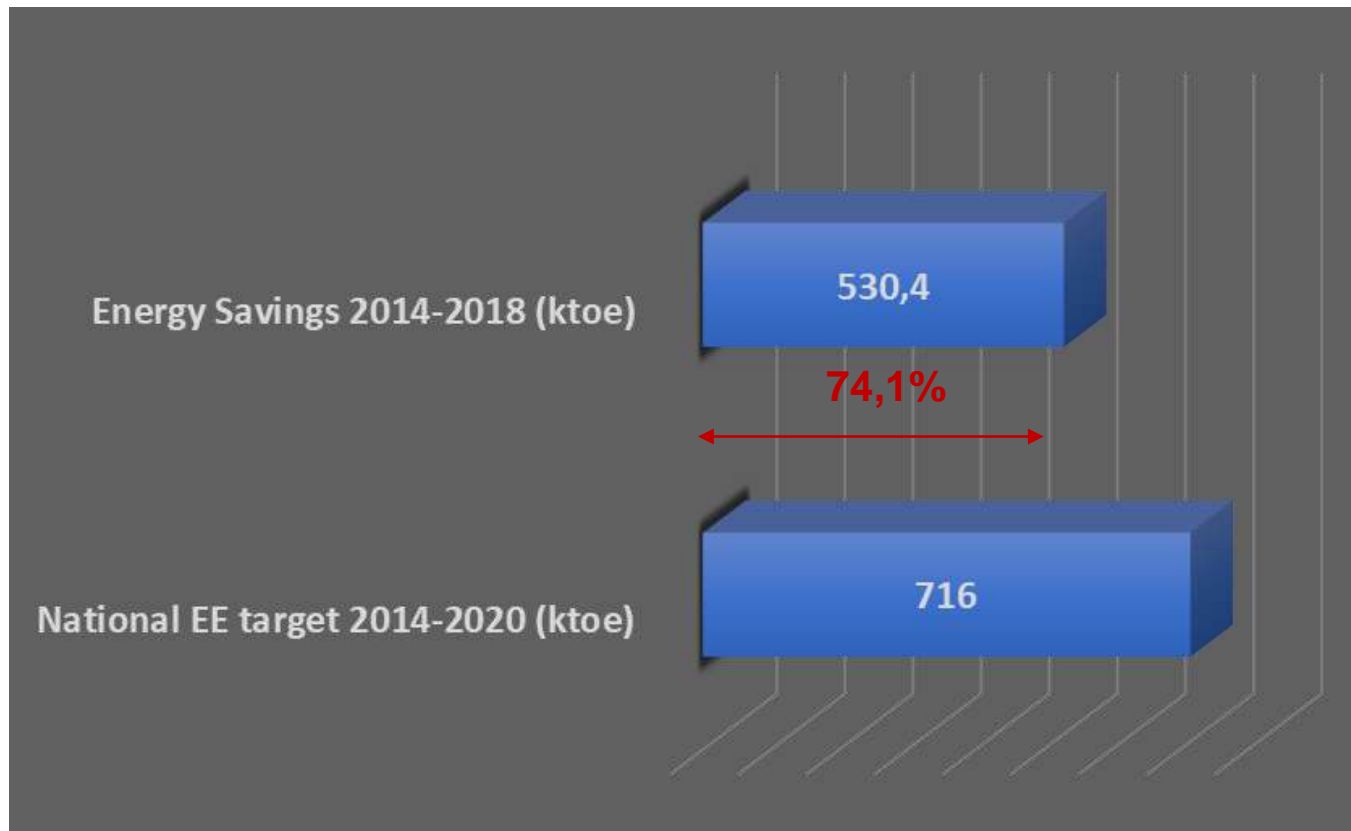
**Residential Energy Efficiency Credit Line (REECL):**

- 10-15% grant
- 1 031 measures
- 5 mln. BGN





## Progress towards National energy efficiency target



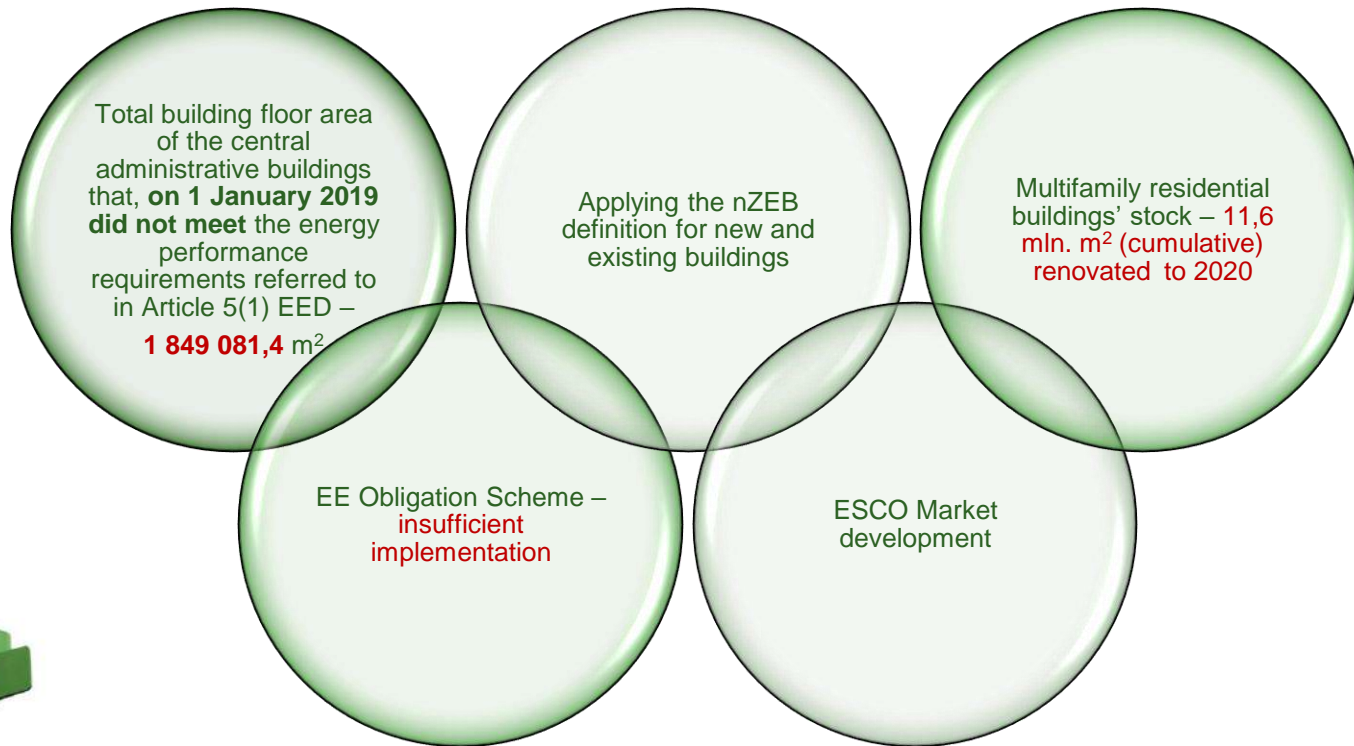
*Annual report on NEEAP implementation, March 2019, SEDA*







## Energy Efficiency potential



## Useful links to the main National documents

[Bulgarian Energy Law \(EN\)](#)

[Bulgarian EE Law \(EN\)](#)

[Bulgarian NEEAP \(EN\)](#)

[NEEAP Annual report, March 2018 \(BG\)](#)

[National plan for improvement of the energy performance of heated and/or cooled State-owned buildings occupied by the State administration \(EN\)](#)

[National long-term programme to encourage investments in implementing measures to enhance the energy performance of buildings of the public and private national residential and commercial building stock \(EN\)](#)

[National Plan for Nearly Zero-Energy Buildings \(EN\)](#)





**Ви благодариме за  
вашето внимание!**



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