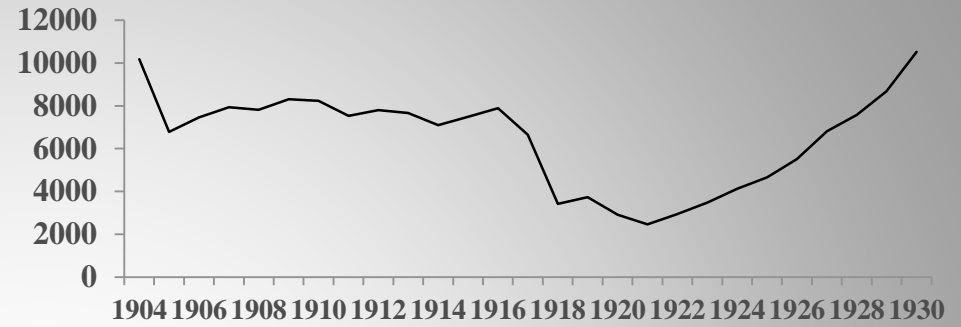
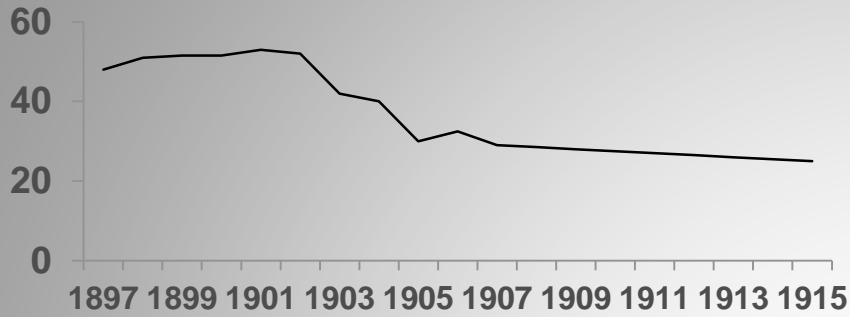


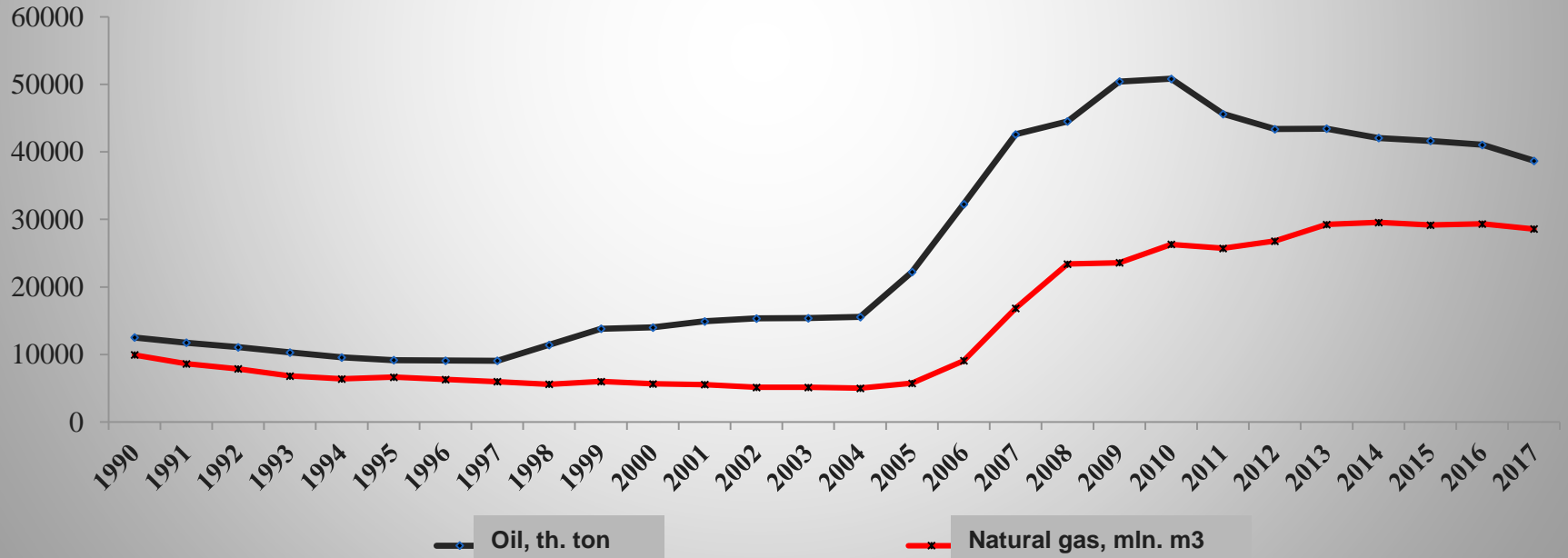
# **National Sustainable Energy Action Plan of Azerbaijan**

# Oil Production

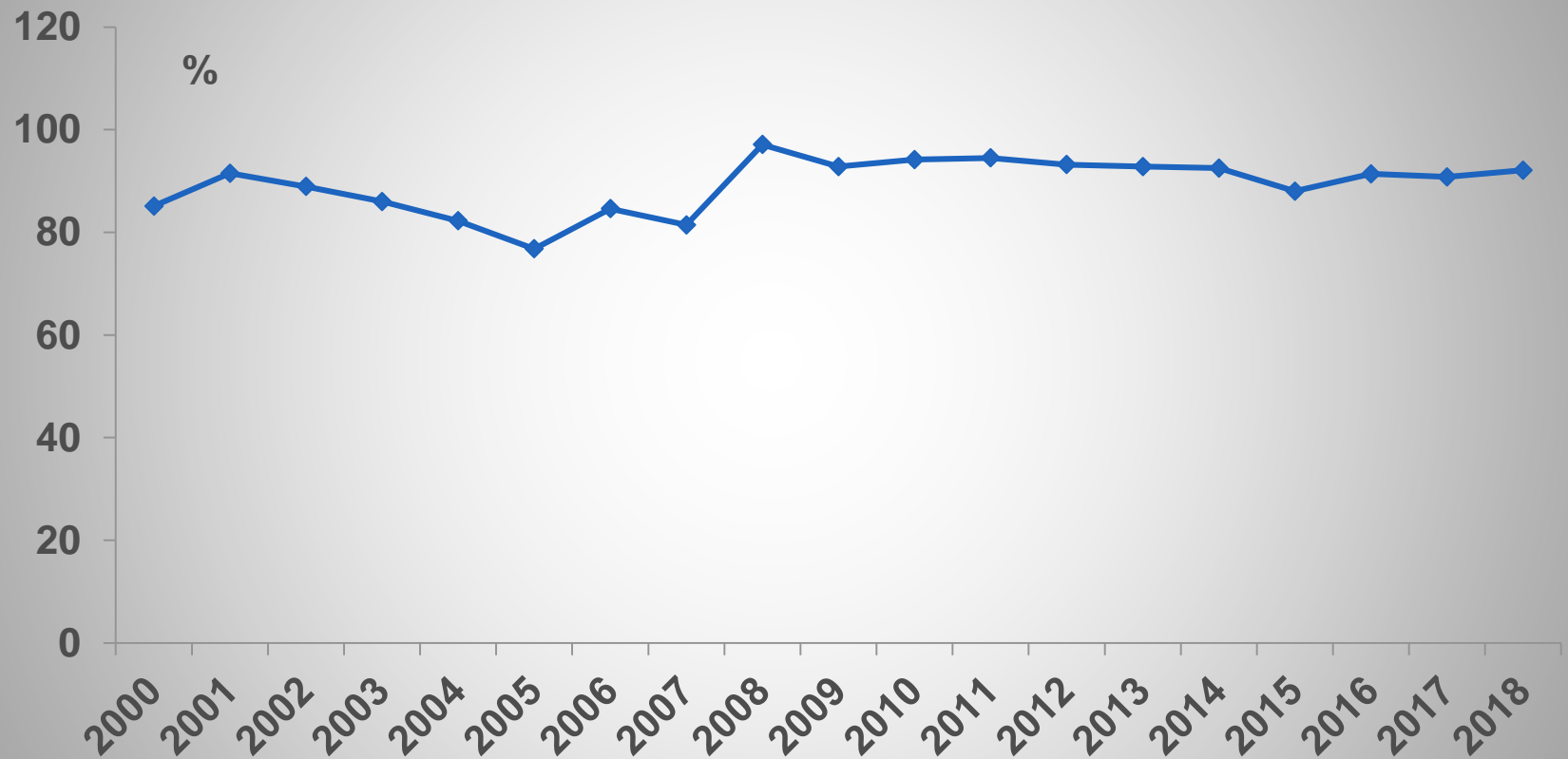


The Azerbaijan share in world oil production in 1897–1915, %

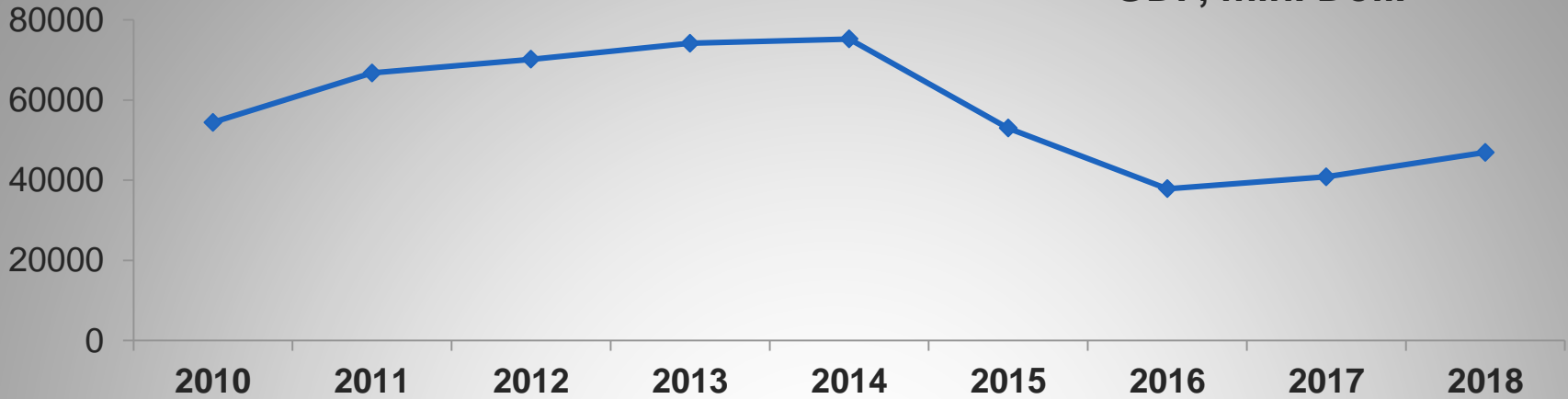
Oil production in Azerbaijan, thousand tons



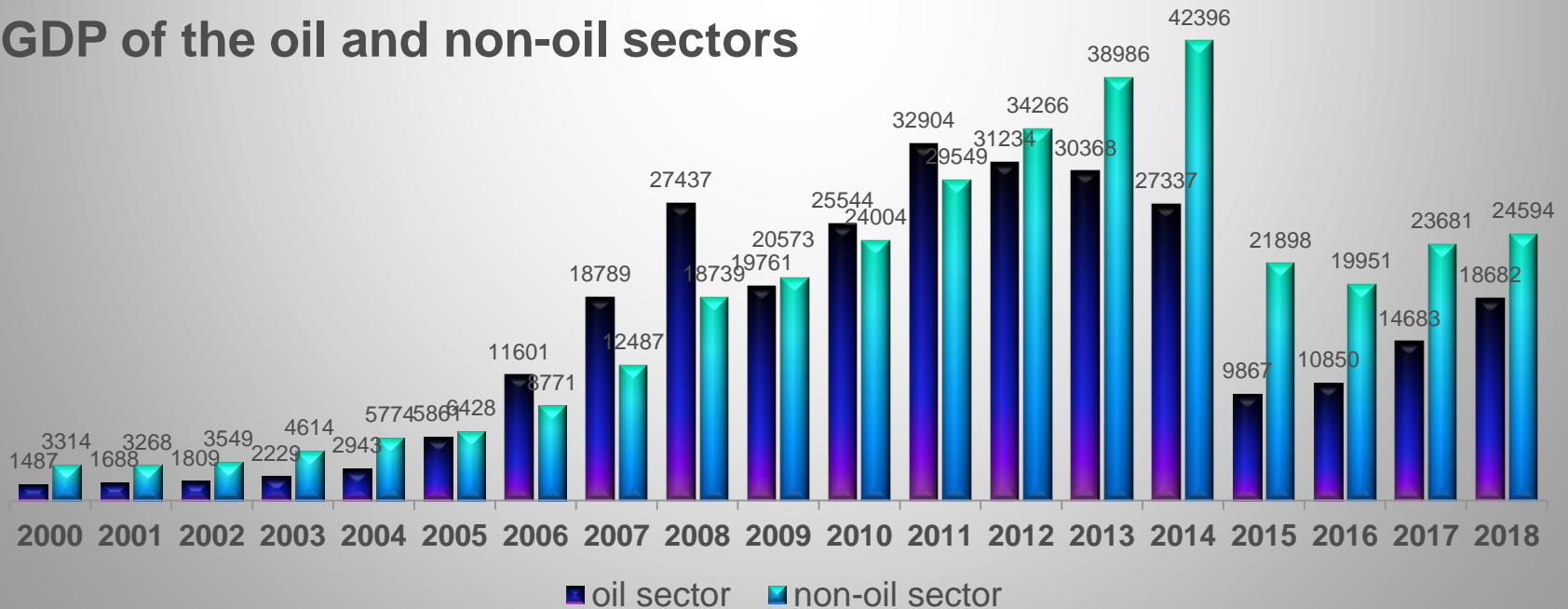
## *Mineral products export structure*



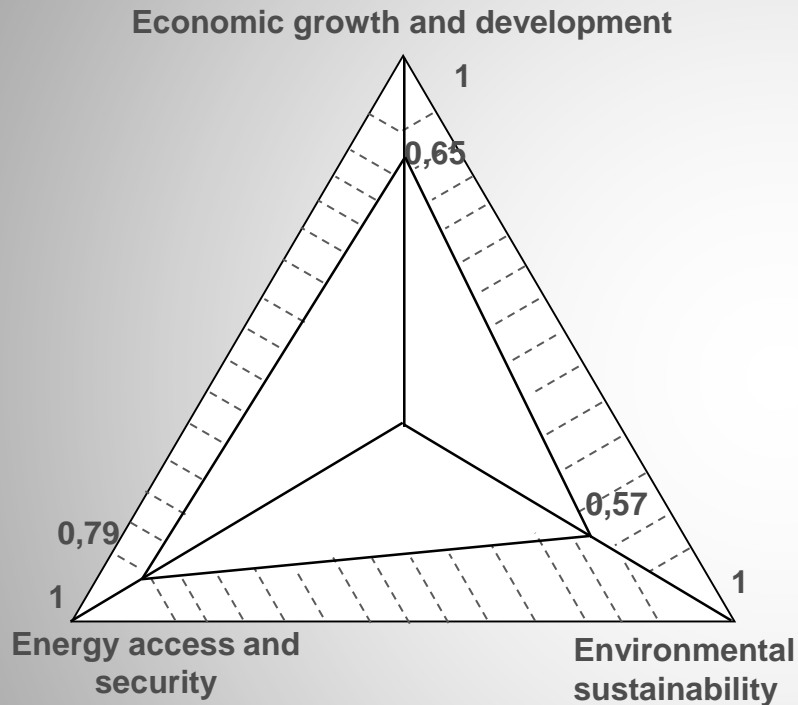
## GDP, mln. Doll.



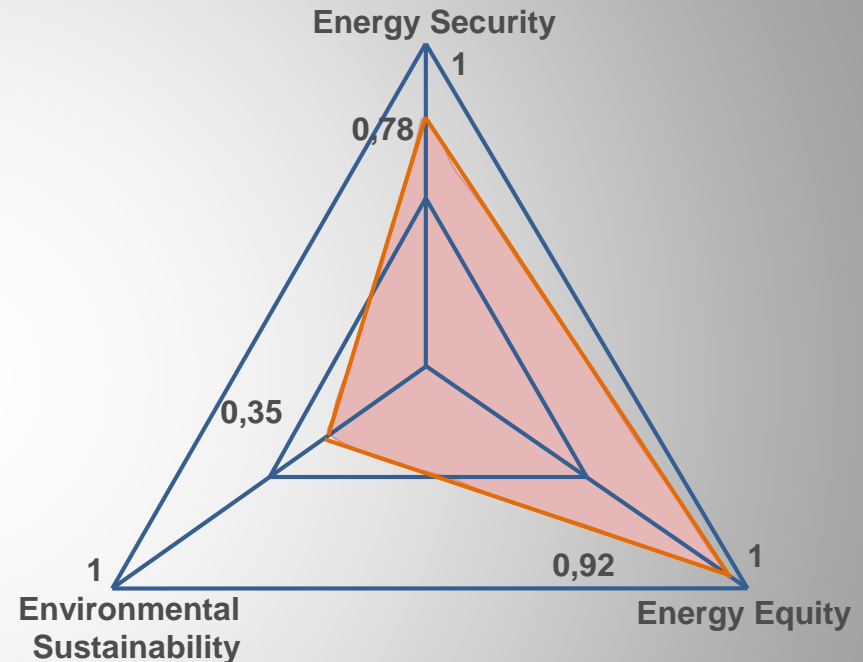
## GDP of the oil and non-oil sectors



# Energy Sustainability Balance and Energy architecture performance index of Azerbaijan

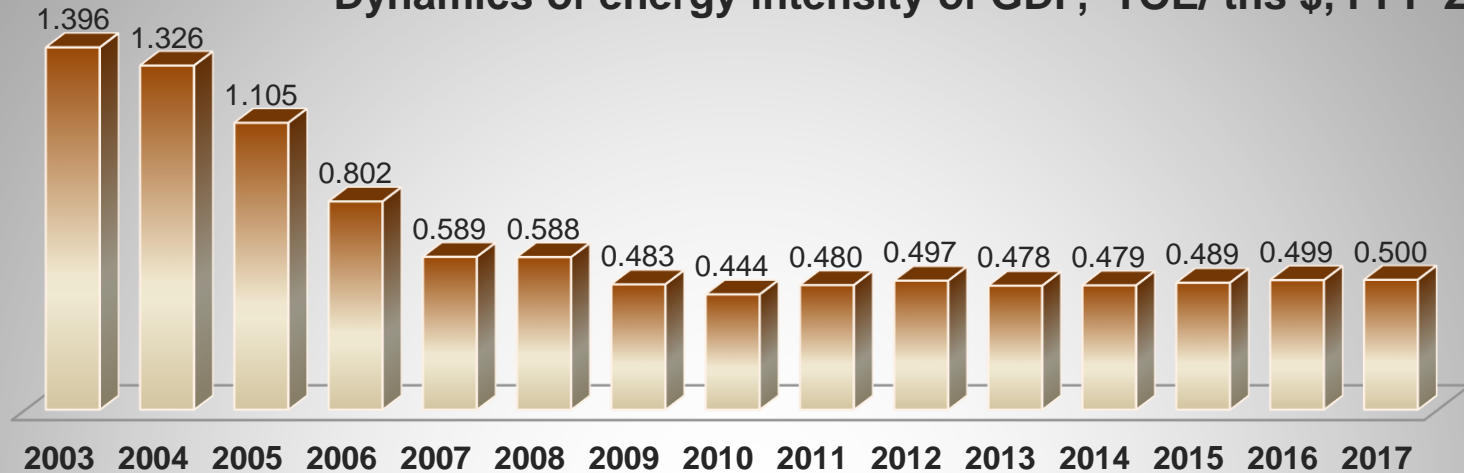


**Energy architecture performance index of Azerbaijan**

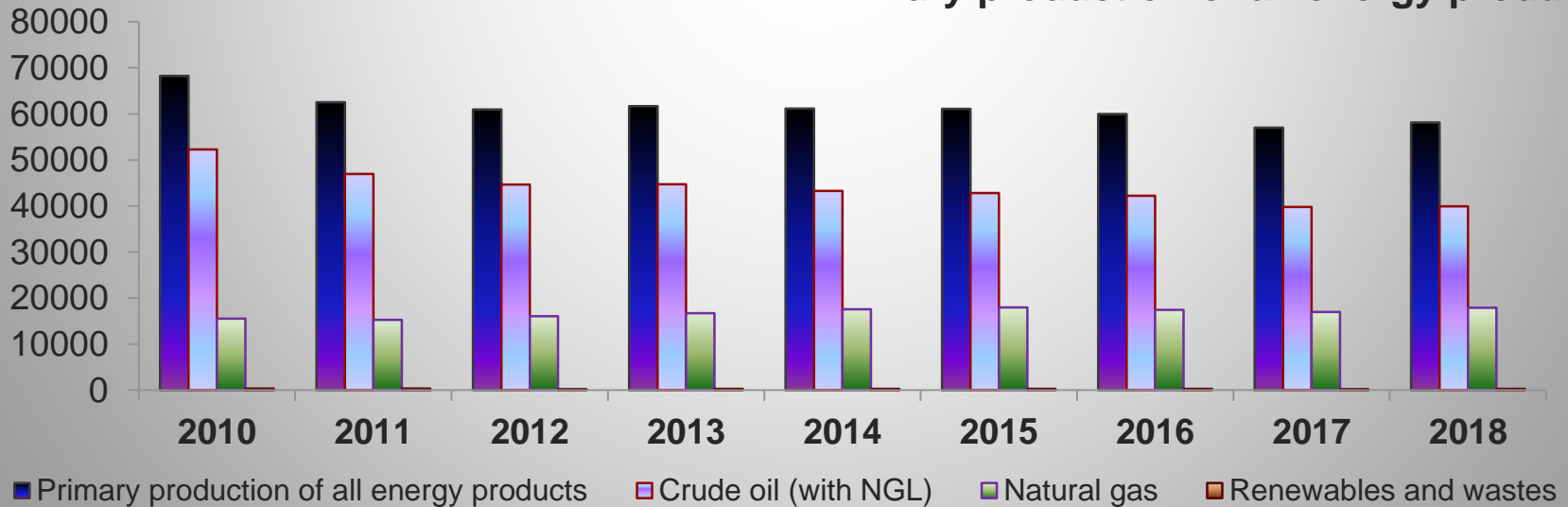


**Energy Sustainability Balance of Azerbaijan**

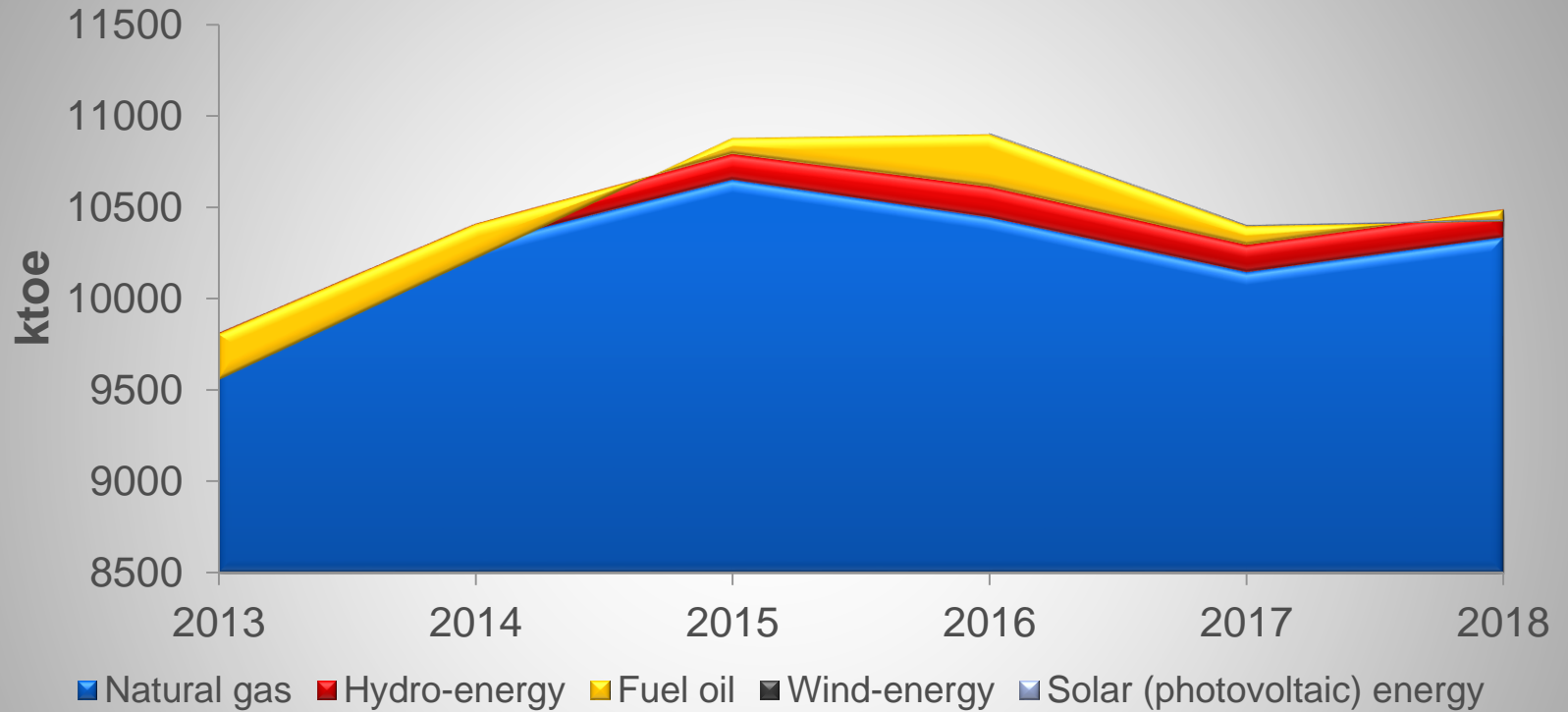
## Dynamics of energy intensity of GDP, TOE/ ths \$, PPP 2005



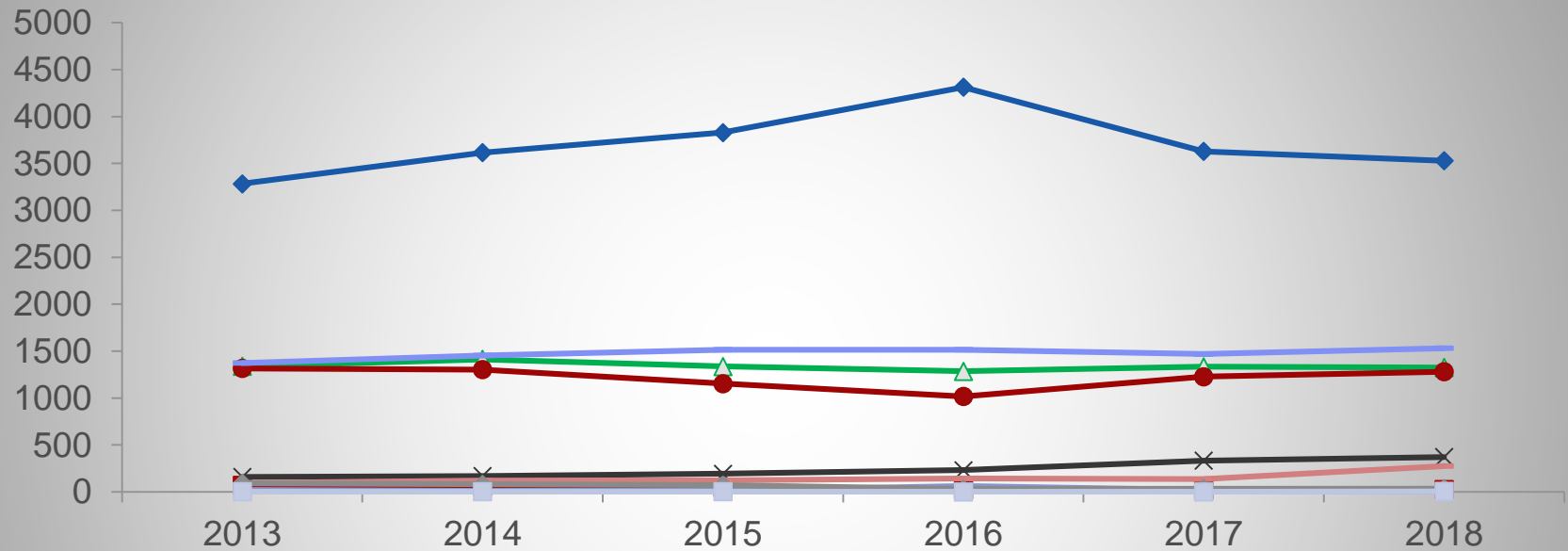
## Primary production of all energy products



# Total Energy Supply



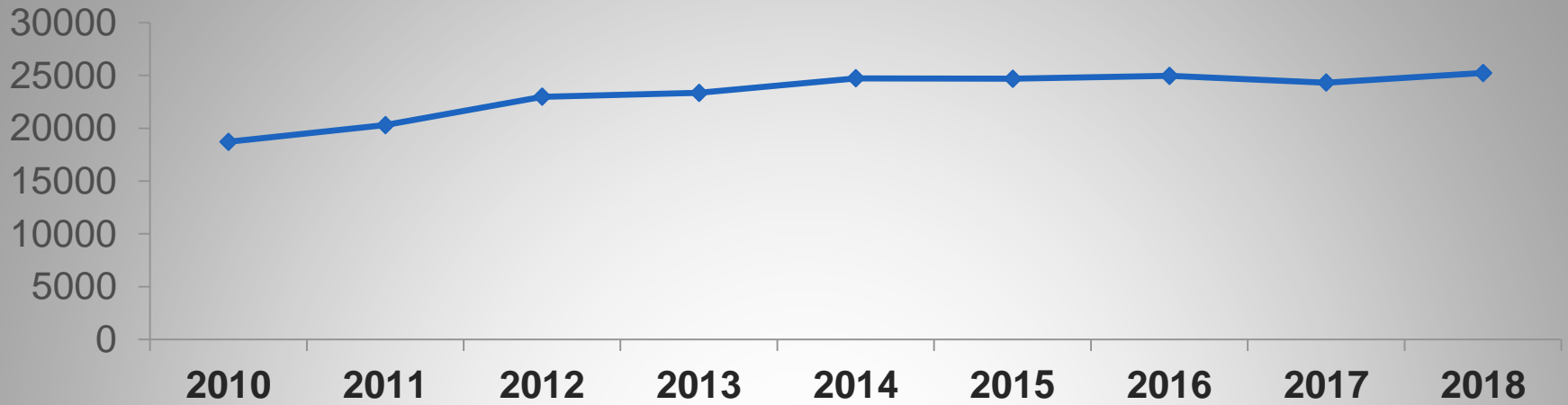
# Final energy consumption, thousand TOE



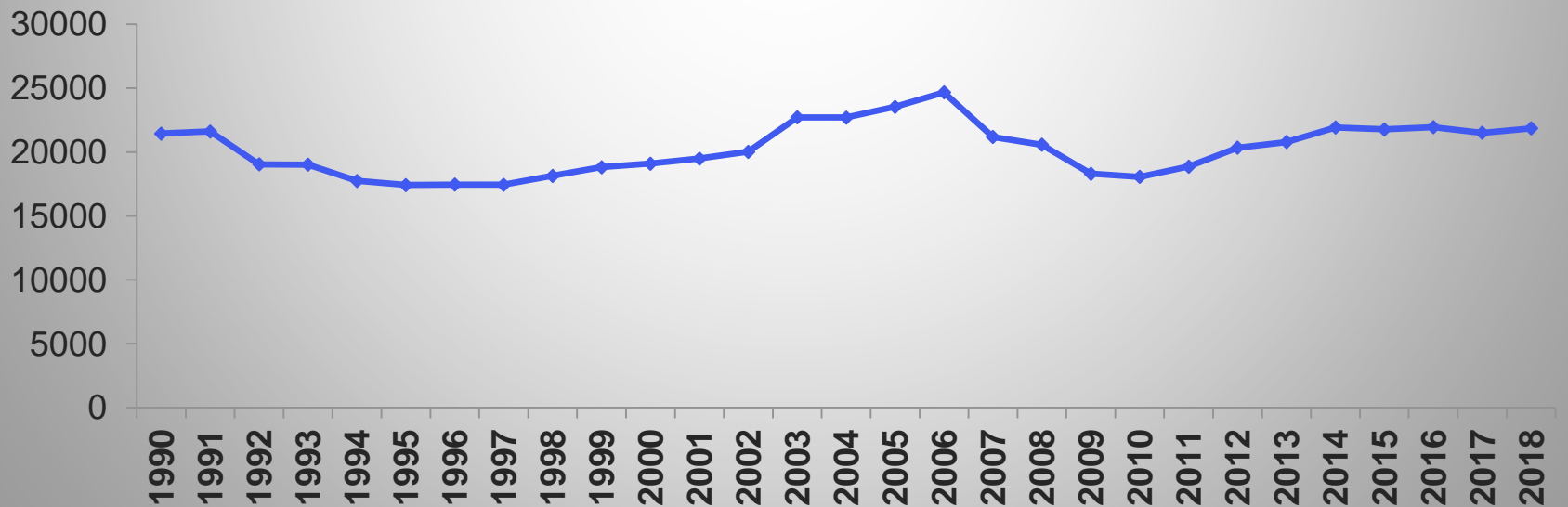
- ◆ Natural gas
- ◆ LPG
- ▲ Motor gasoline
- ✕ Kerosene - type jet fuel
- ✱ Other kerosene
- Diesel fuel
- + Fuel oil
- + Heat
- + Electricity
- ◆ Wood
- Other fuel products



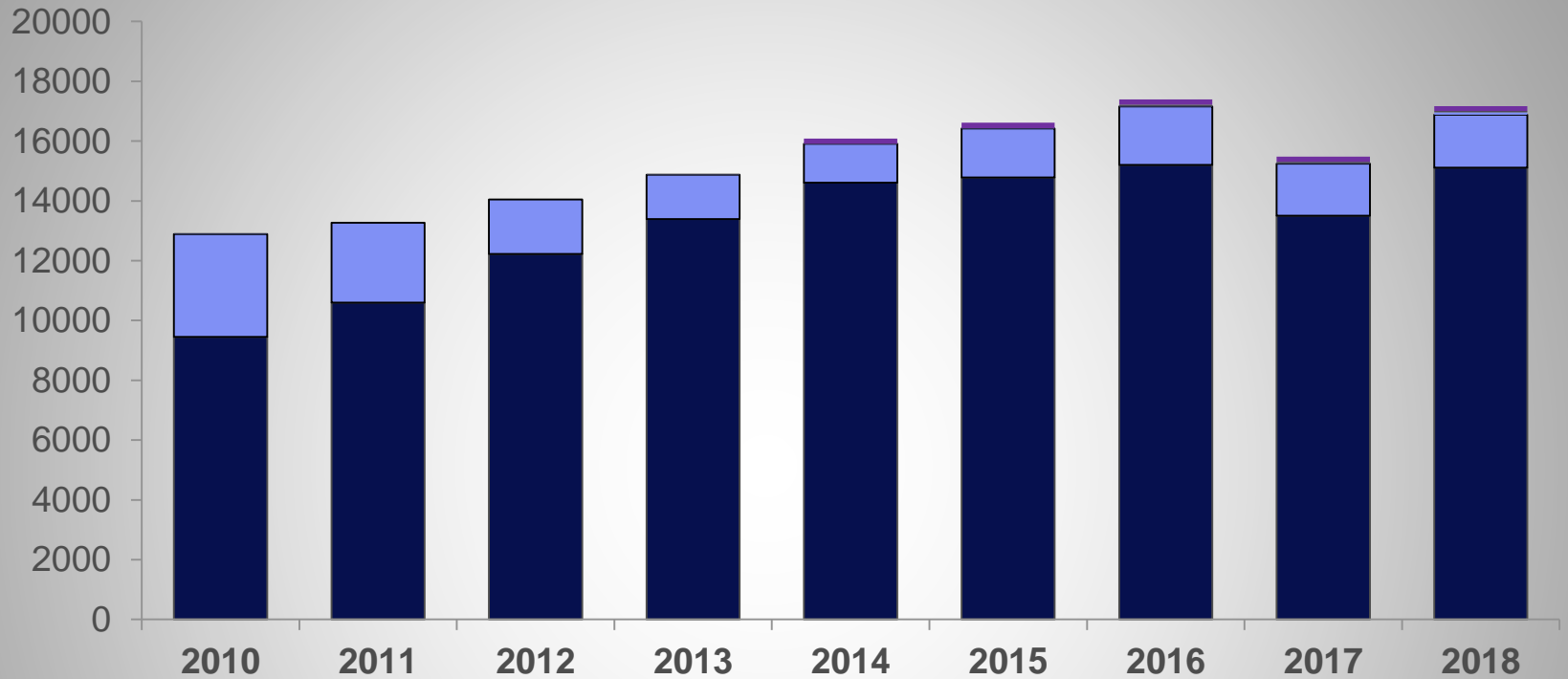
## Production of Electricity-total, mln.kWth



## Dynamics of change in electricity consumption (supply), mln. kWh



# Electricity production, mln. kWh



■ EP (working with fuel)

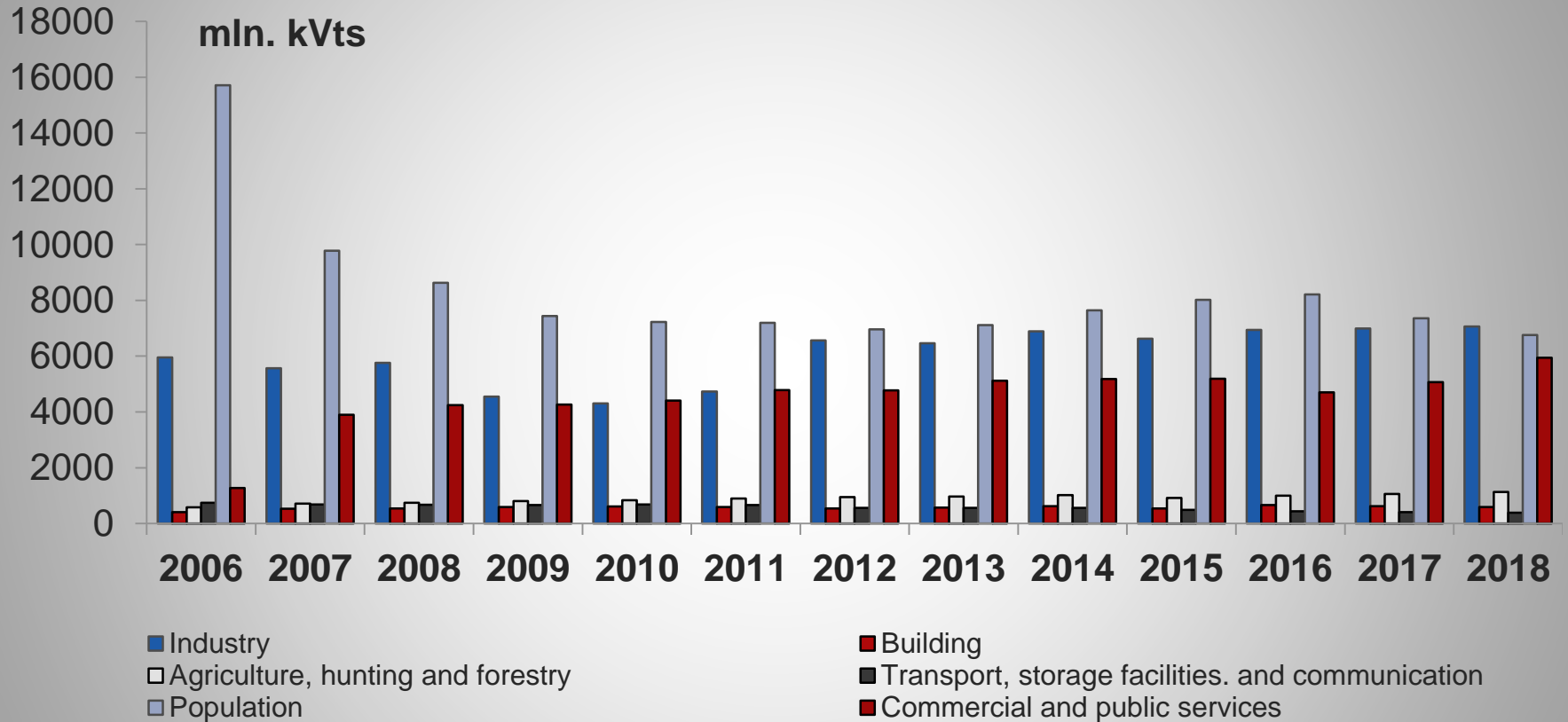
■ Wind power station

■ Electricity generated from waste incineration

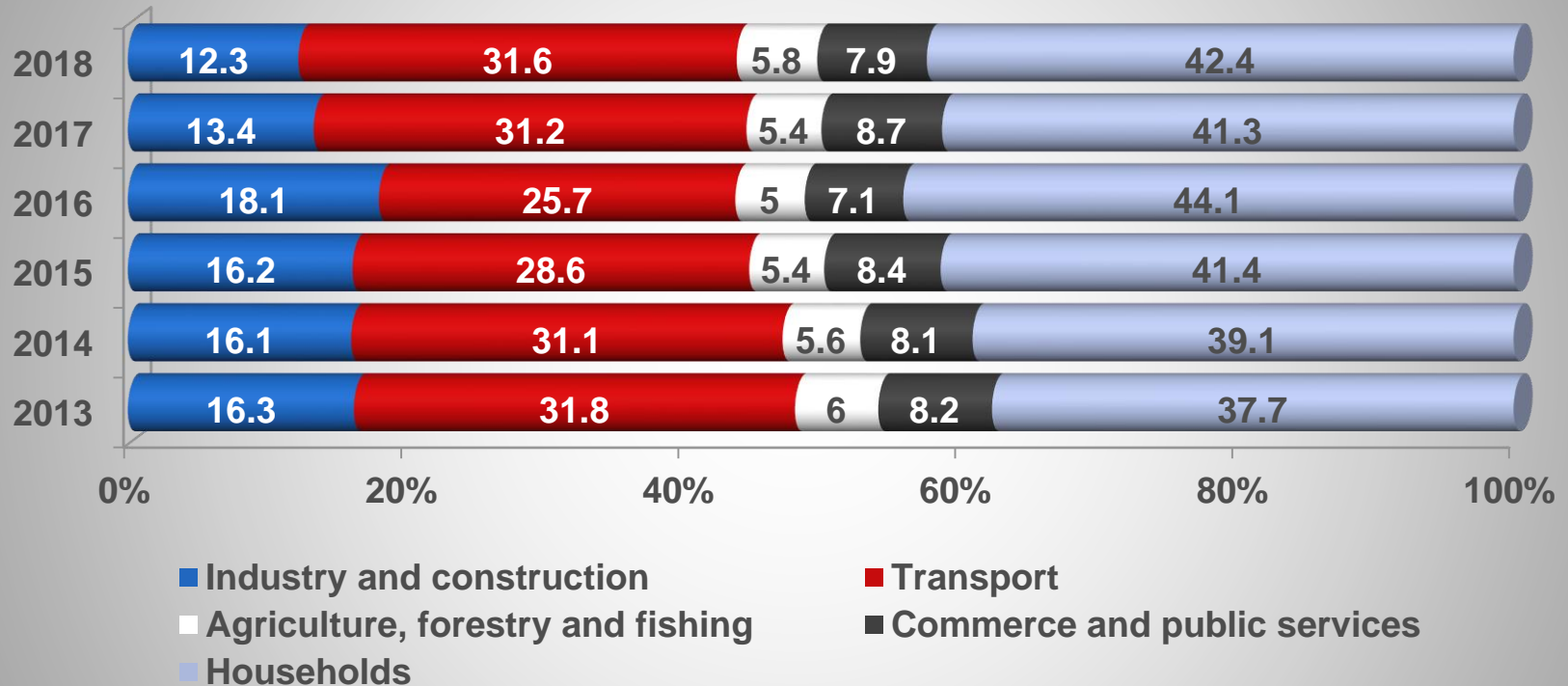
■ Hydroelectric power station

■ Solar (photovoltaic) station

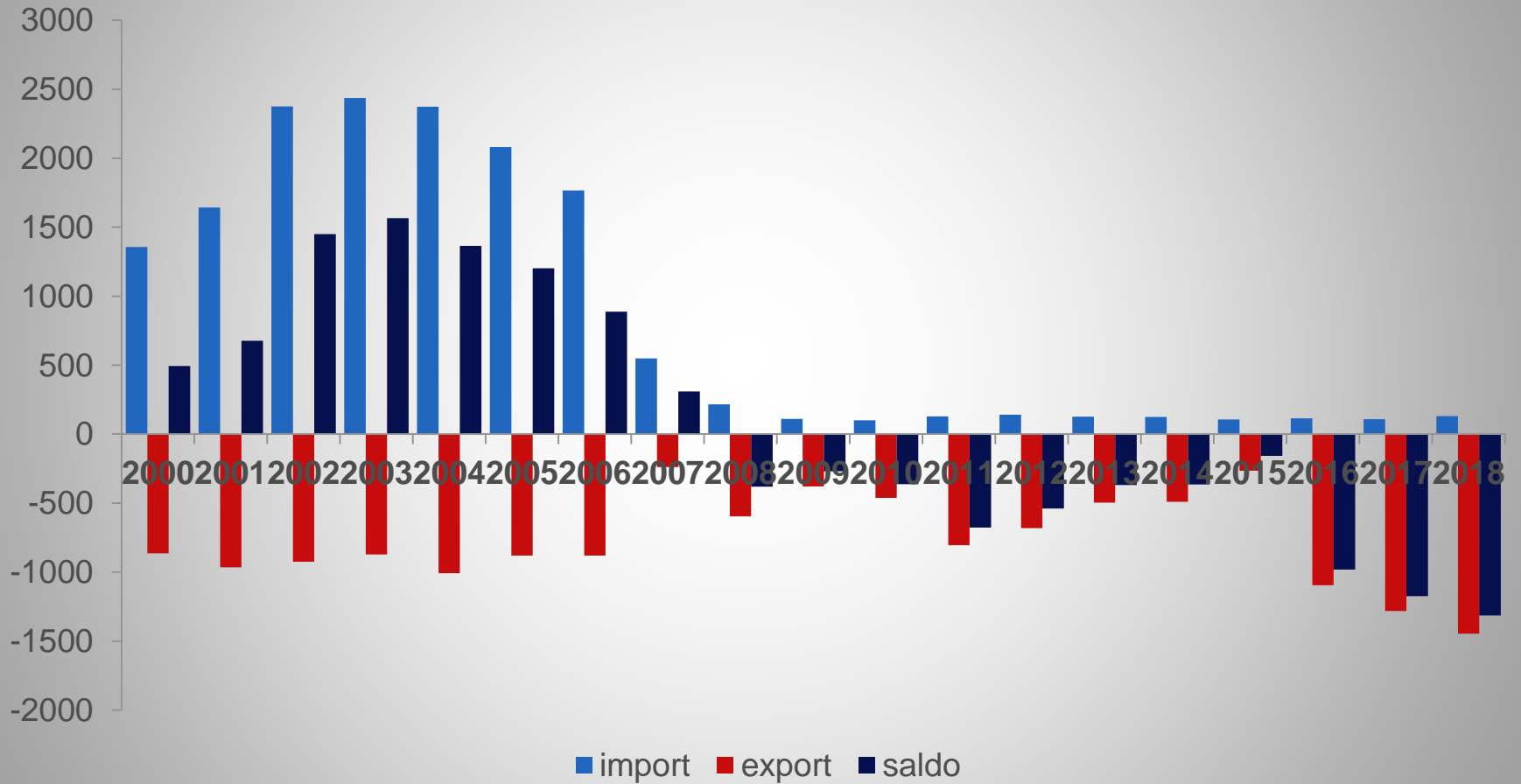
# Electricity Consumption by Sector



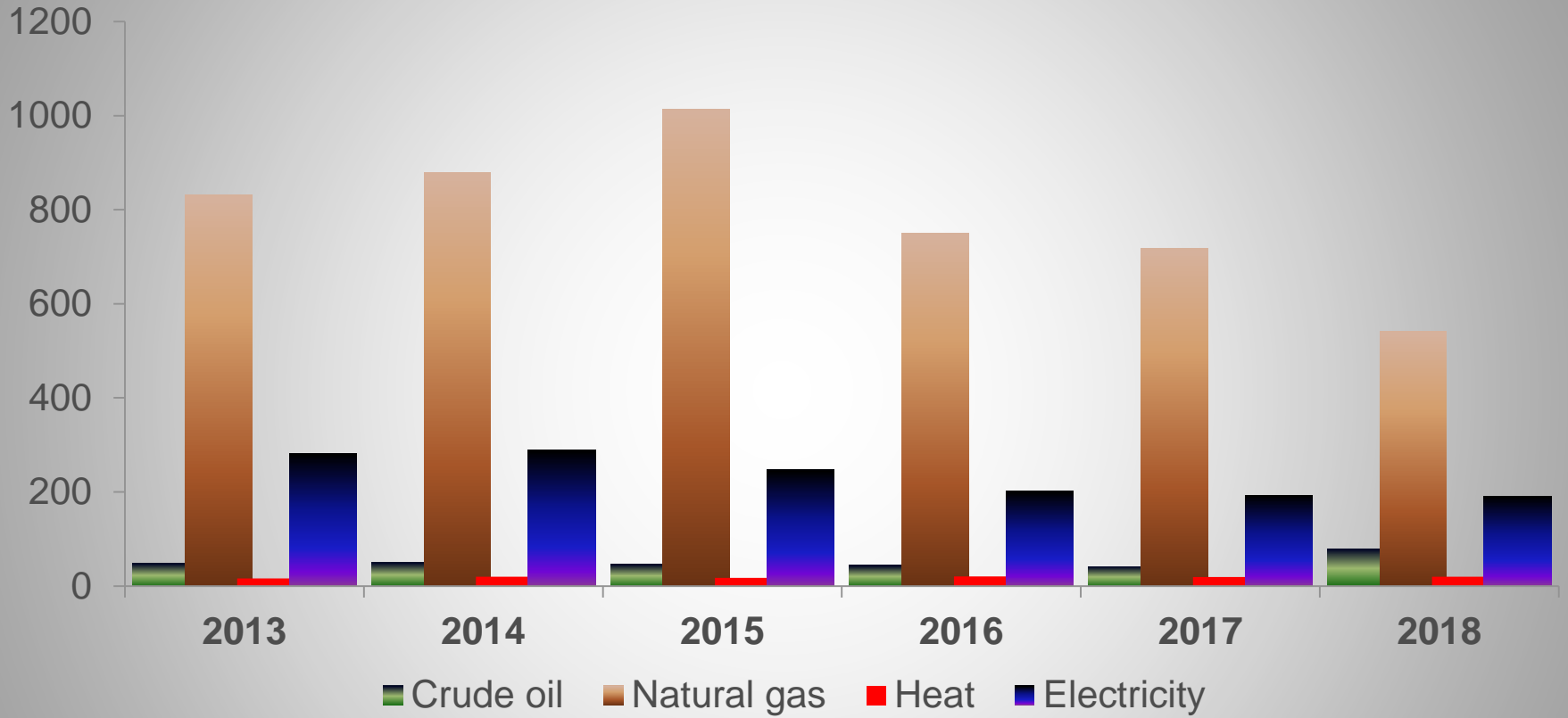
## Final sector-wise energy consumption, %

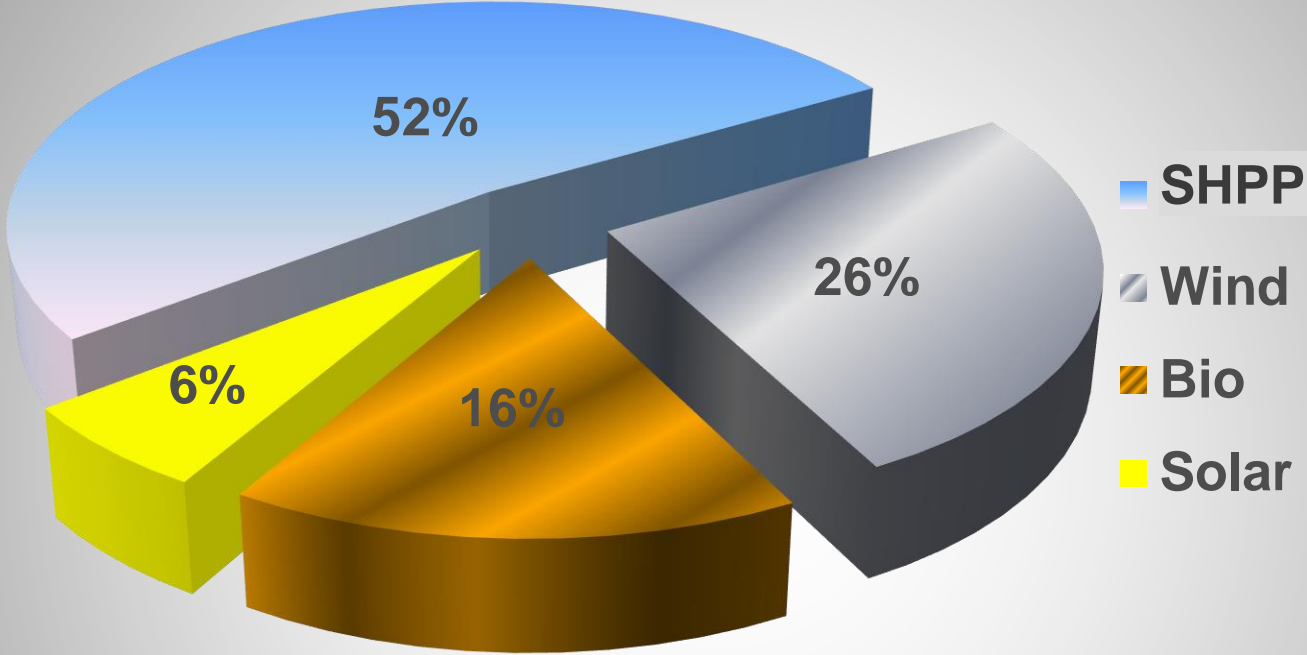


# Import and export of Electricity, mln.kWth

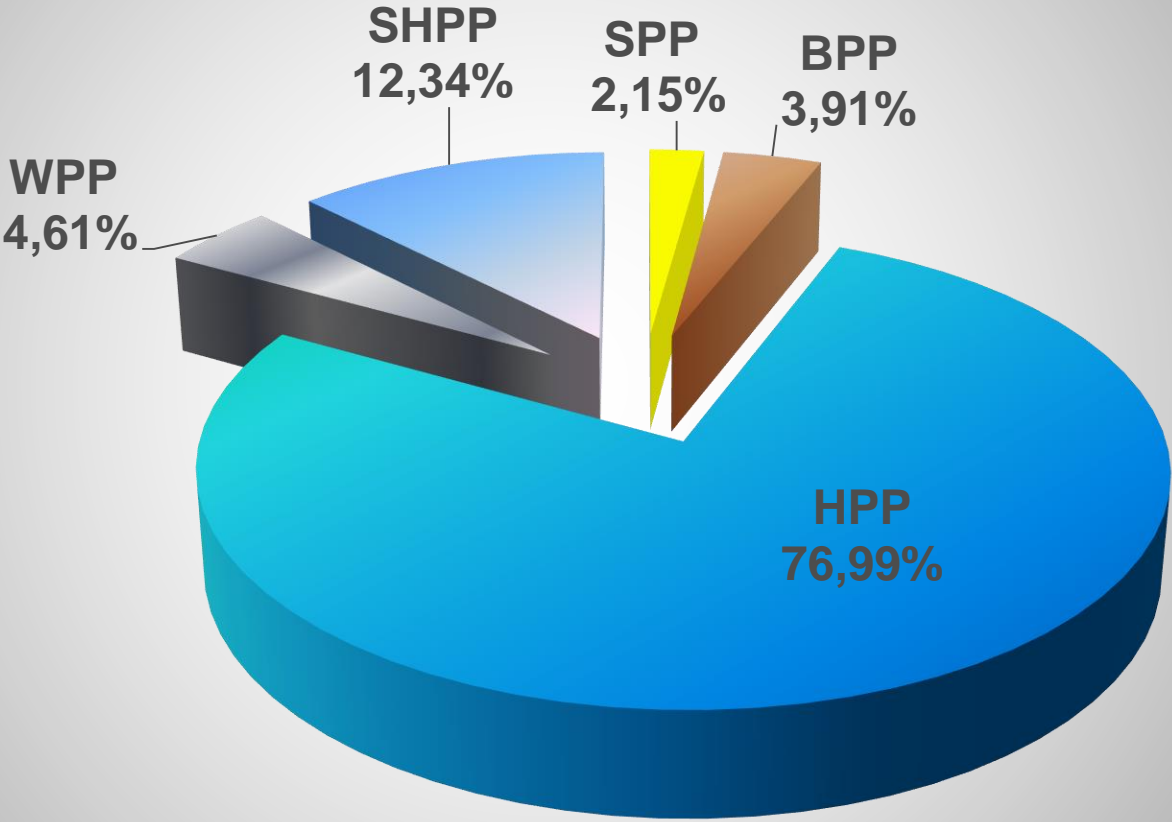


# Losses, thousand TOE



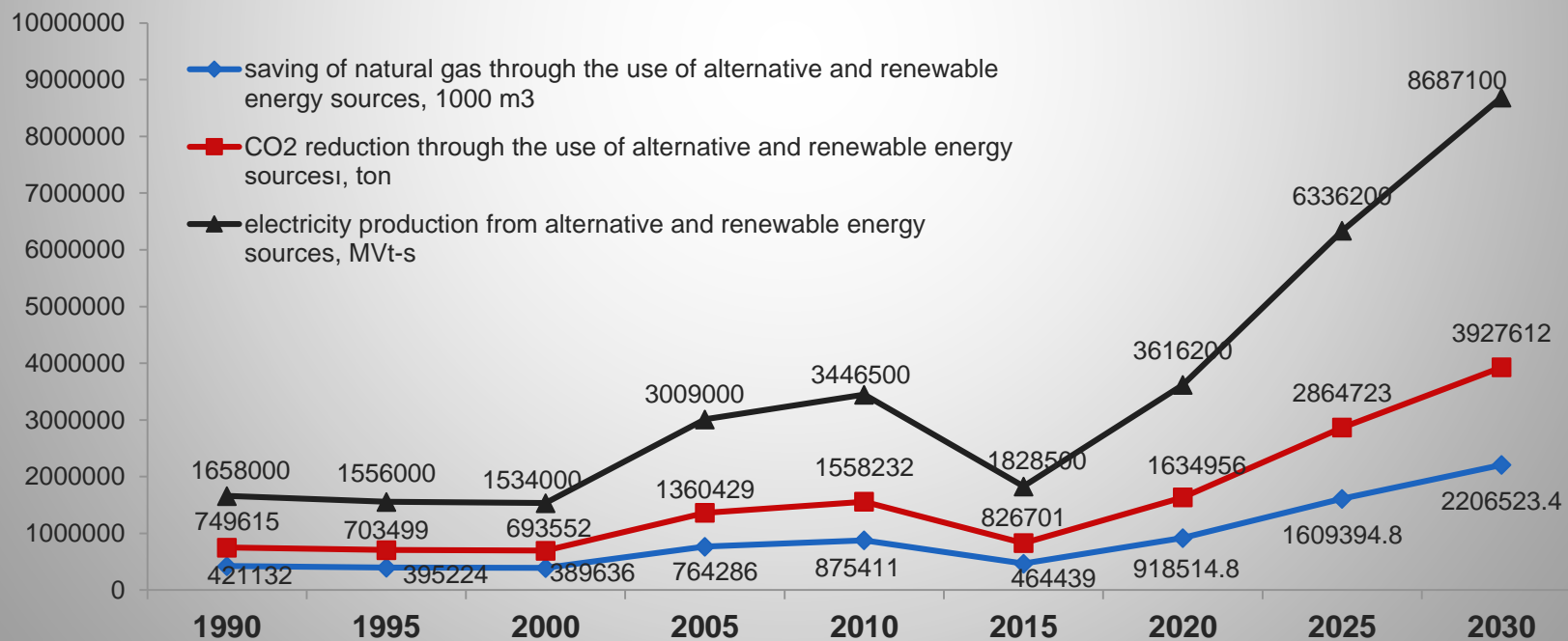
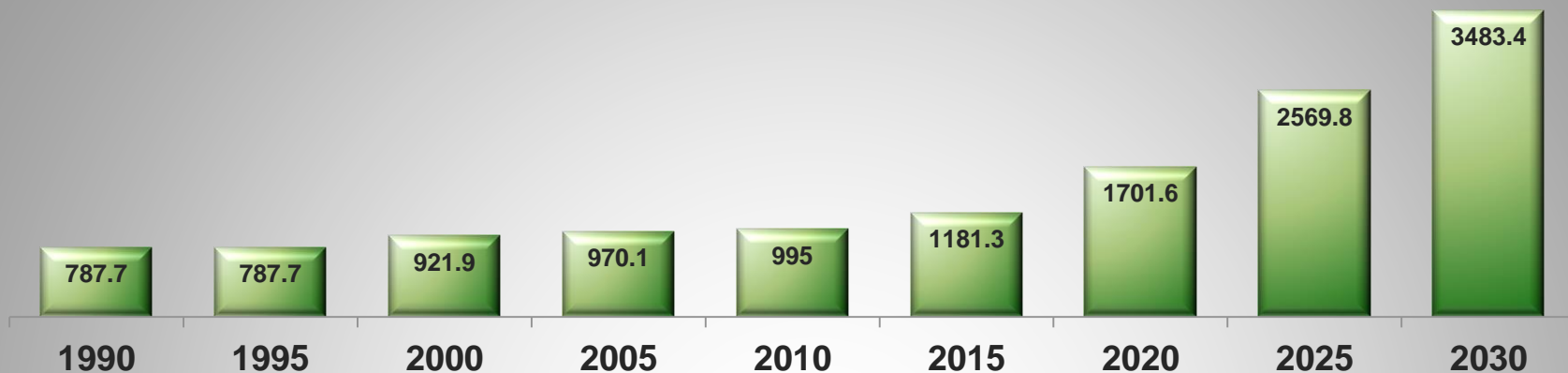


# The share of generated energy from renewable energy sources by resources (2014)





## Existing and planned until 2030 installed capacities of alternative and renewable energy sources in the Republic of Azerbaijan, MW



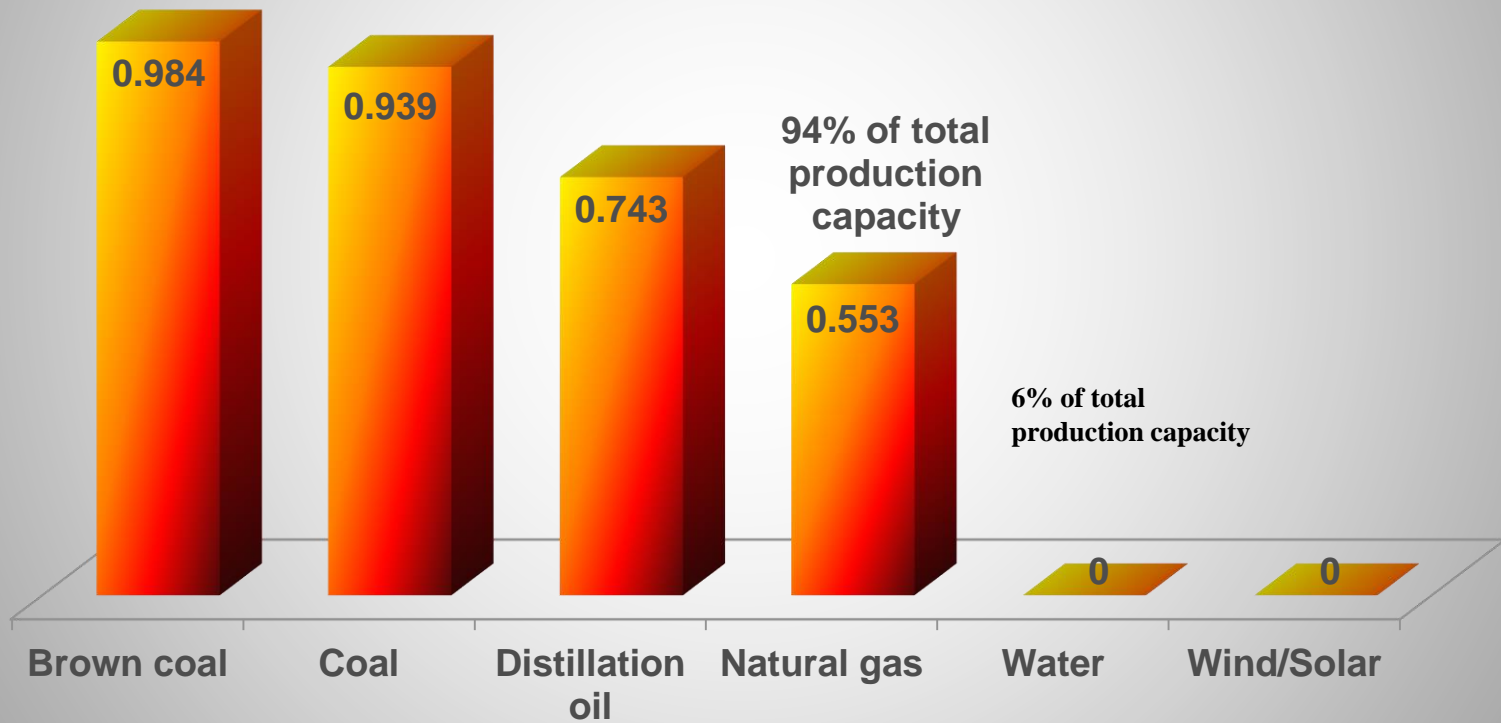
Azerbaijan has remarkable renewable energy resources. It has the potential for wind power, which blows more than 250 days per year and may generate over 2.4 billion kWh of electricity annually, and it offers 2400-3200 hours of sunshine per year. Azerbaijan therefore has promising potential for solar electricity and heat generation, however, hydro power is currently its most developed renewable energy source.

| <b>Types of energy</b>                  | <b>Power (MW)</b> |
|---|-------------------|
| <b>Solar energy</b>                     | <b>&gt;5000</b>   |
| <b>Wind energy</b>                      | <b>&gt;4500</b>   |
| <b>Bio energy</b>                       | <b>&gt;1500</b>   |
| <b>Geothermal</b>                       | <b>&gt;800</b>    |
| <b>Small hydroelectric power plants</b> | <b>&gt;350</b>    |

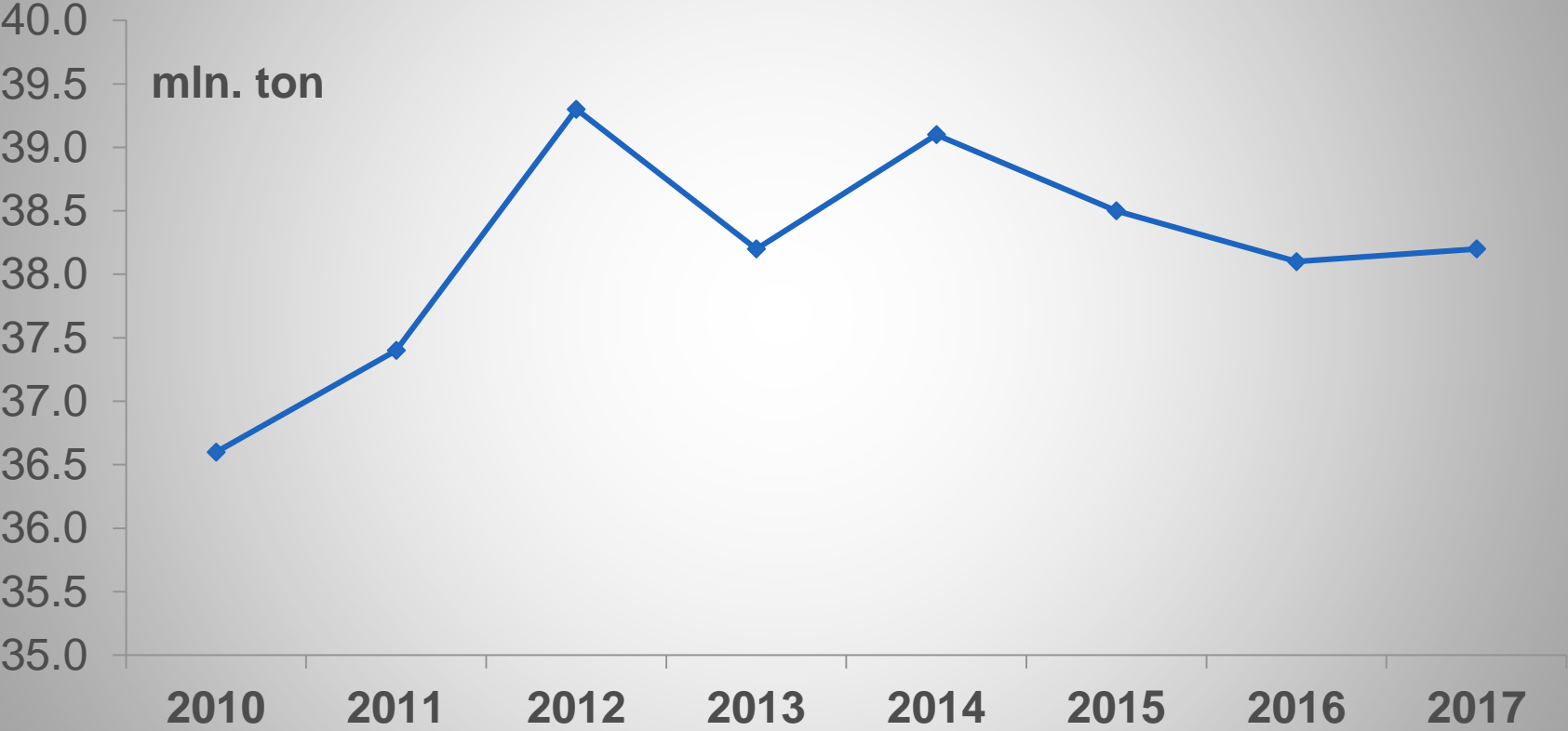
## Power installation up to 2030

|              | 2020    | 2025          | 2030           |
|--------------|---------|---------------|----------------|
| WindPP       | 350 MVt | 440 MVt       | 465 MVt        |
| SolarPP      | 50 MVt  | 150 MVt       | 190 MVt        |
| HidroPP      | 10 MVt  | 220 MVt       | 220 MVt        |
| BioenergyPP  | 20 MVt  | 30 MVt        | 50 MVt         |
| Total (MW)   | 430 MVt | 840 MVt       | 925 MVt        |
| Total (RES%) | 20 %    | <u>25-30%</u> | <u>35-40 %</u> |

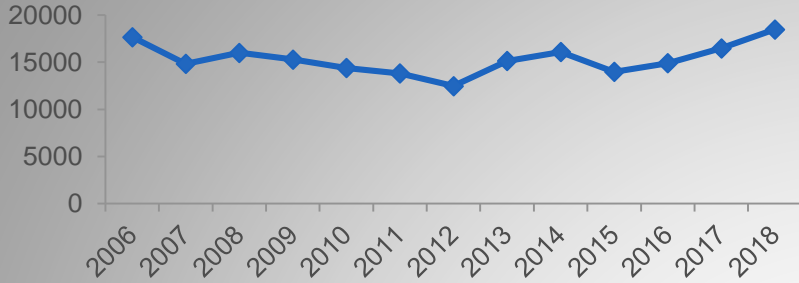
# The amount of CO2 pollution from the production of 1 MW hour of electrical / thermal energy (in tons, 2016)



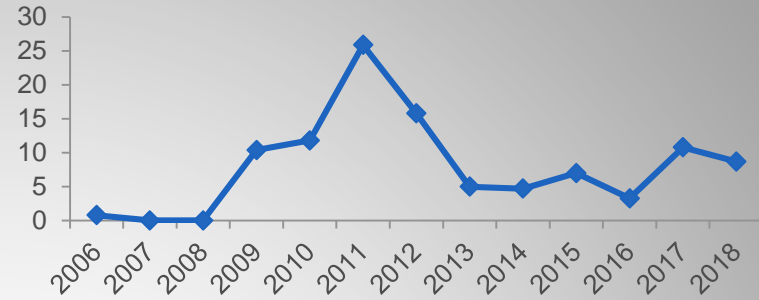
The dynamics of changes in greenhouse gases emitted into the atmosphere as a result of the activities of the energy sector is shown in the figure below.



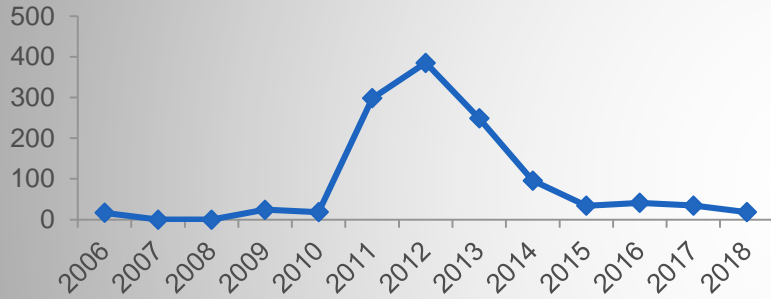
### Carbon dioxide (CO2)



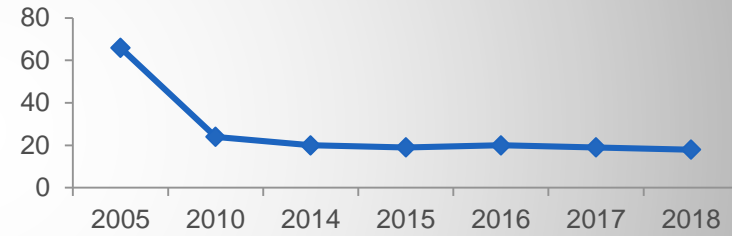
### Nitric oxide (N2O)



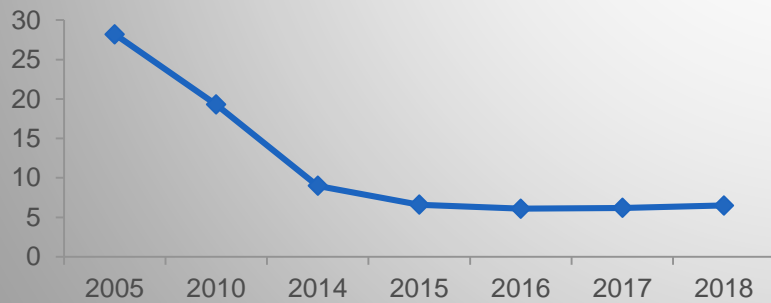
### Metane (CH4)



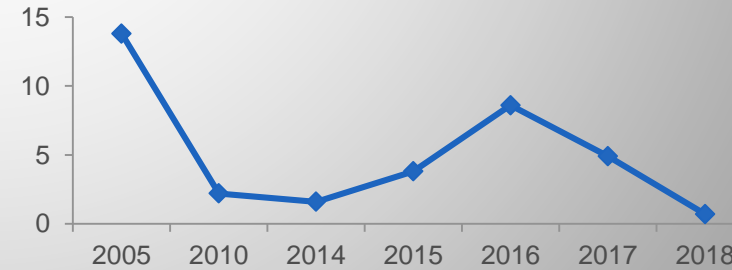
### Air pollutant emissions stationary sources per capita, kg



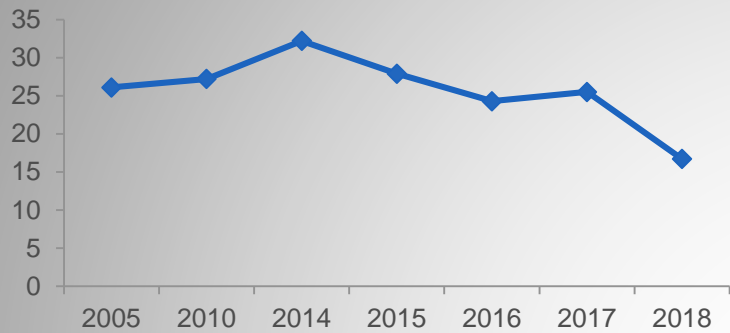
### Particulates



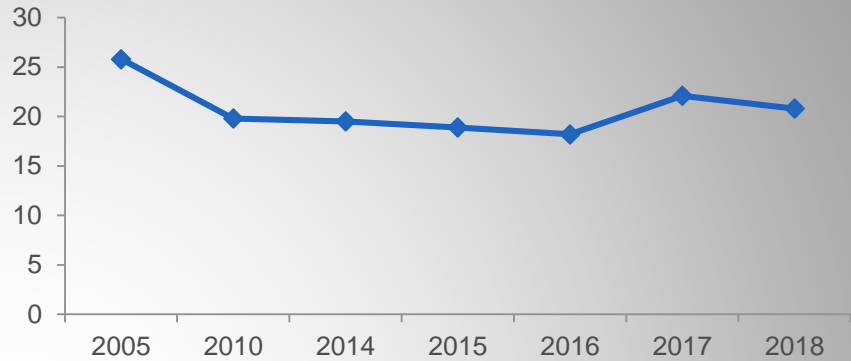
### Sulfuric anhydride (SO2 )



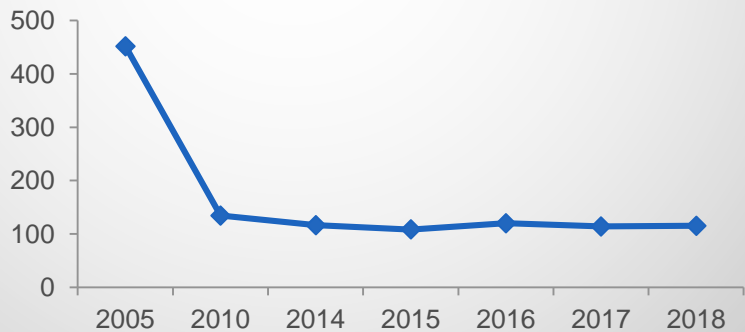
### Carbon oxide (CO)



### Nitrogen oxide (NO2 )



### Hydrocarbons



# PLAN OF MEASURES

| No  | Name of measure   | Main performer  | Expected results   | Implementation period |
|---|---|---|--|-----------------------|
| <b>1. Creation of an independent regulatory body and trust fund, formation of effective service and mechanisms for the collection, staffing</b> |   |   |  |                       |
| 1.1   | Continuation of measures to improve the level of public utilities | State Agency for Citizen Service and Social Innovations | <ul style="list-style-type: none"> <li>• Development of communal public sector;</li> <li>• Reduction of the state budget load;</li> <li>• Implementation of sector liberalization.</li> </ul>  | 2017-2020             |
| 1.2   | Improving a staff capability in the communal public sector        | Minister of Labor and Social Protection of Population   |  | 2017-2020             |
| <b>2. Ensuring a fully diversified and ecologically friendly electric energy generation</b>   |   |   |  |                       |
| <b>2.1. Increase in reserves of the national production portfolio</b>   |   |   |  |                       |
| 2.1.1   | The creation of additional production capacity                    | Ministry of Energy                                      | <ul style="list-style-type: none"> <li>• By 2020, real GDP growth to 215 million manats, of which 130 million manats directly and 85 million manats indirectly;</li> <li>• Creation of 5085 new workplaces;</li> <li>• Implementation of additional investments to increase productive capacities by 1000 MW (in addition to the planned 900 MW);</li> <li>• Diversification of investments in new productive capacities.</li> </ul> | 2017-2020             |



| №  | Name of measure  | Main performer     | Expected results  | Implementation period |
|--|--|--------------------|---|-----------------------|
| <b>2.2. Diversification of the national production portfolio</b>   |  |                    |   |                       |
| 2.2.1  | Choice of the financing and operation form of electric stations, requiring investments | Ministry of Energy | <ul style="list-style-type: none"> <li>● By 2020, real GDP growth to 70 million manats, of which 50 million manats directly and 20 million manats indirectly;</li> <li>● Creation of 270 new workplaces;</li> <li>● Implementation of investments for acquisition of 350 MW of wind energy, 50 MW of solar energy and 20 MW of bioenergy to diversify the energy portfolio.</li> <li>● Export of saved natural gas (from natural gas installations) to Europe via the Trans-Adriatic Pipeline and Trans-Anatolian Pipeline (TAP / TANAP)</li> </ul> |                       |
| <b>2.3. Consideration of opportunities of short-term net electric energy export for excess energy supply</b> |  |                    |   |                       |
| 2.3.1  | Study of Export Opportunities  | Ministry of Energy | <ul style="list-style-type: none"> <li>● Increase of real GDP by 115 million manats to 2020 with direct 70 million manats and indirect 45 million manats;</li> <li>● Provide 50% of electric energy import to Georgia and 20% to Turkey</li> </ul>  |                       |

| №  | Name of measure  | Main performer           | Expected results   | Implementation period |
|--|--|--------------------------|--|-----------------------|
| <b>3. Improving the efficiency of electric stations and efficient use of existing capacity</b> |  |                          |  |                       |
| 3.1  | Ensuring the efficient use of the potential of electric stations | "Azerenerji" JSC         | <ul style="list-style-type: none"> <li>● Increase of real GDP by 75 million manats to 2020 with direct 70 million manat and indirect 45 million manats;</li> <li>● Increase net fuel efficiency (ratio of electric energy generated to fuel consumed) for individual combined cycle gas turbine stations;</li> <li>● Investment of a maximum of 300 thousand US dollars for modernization of 1 MW of a natural gas electric station;</li> <li>● Export of saved by increasing efficiency, of natural gas (from natural gas installations) to Europe under the TAP / TANAP projects.</li> </ul> |                       |
| 3.2  | Considering the opportunity of electric stations privatization   | State Property Committee |  | 2017-2020             |

| №  | Name of measure  | Main performer                       | Expected results  | Implementation period |
|--|--|--------------------------------------|---|-----------------------|
| <b>3.1. Reducing power losses, improving transmission and distribution quality</b> |  |                                      |   |                       |
| 3.1.1  | Prioritization of projects on losses reduction   | "Azerenerji" JSC<br>"Azerishiq" OJSC | <ul style="list-style-type: none"> <li>● Increase of real GDP by 25 million manats to 2020 with direct 24 million manats and indirect 1 million manats;</li> <li>● Decrease of electric energy losses in Baku from 8.5% to 7%, in regions from 12% to 8%.</li> </ul>                              | 2017-2020             |
| <b>3.2. Use of optimal mechanisms to increase a consumption efficiency</b>         |  |                                      |   |                       |
| 3.2.1  | Review of determining optimal prices to coordinate the interests of consumers and producers                        | Tariff Council                       | <ul style="list-style-type: none"> <li>● Increase of real GDP by 170 million manats to 2020 with direct 125 million manats and indirect 45 million manats;</li> <li>● Export of natural gas to Europe under the TAP / TANAP projects, saved by increasing of efficiency of energy use.</li> </ul> | 2017-2020             |
| <b>3.3. Creation of effective regulatory and auction mechanisms</b>                |  |                                      |   |                       |
| 3.3.1  | Improvement of the main normative legislation and other relevant documents in the field of electric power industry | Ministry of Energy                   | <ul style="list-style-type: none"> <li>● Creation of a new improved legislative framework;</li> <li>● Implementation of sectoral liberalization;</li> <li>● Creation of mechanisms of state-private partnership.</li> </ul>   |                       |
| 3.3.2  | Creation of wholesale market   | Regulatory authority                 |   | 2017-2020             |
| 3.3.3  | Priority of production assets for privatization  | Regulatory authority                 |   | 2017-2020             |
| 3.3.4  | Creation of mechanisms of state-private partnership  | Regulatory authority                 |   | 2017-2020             |

| №  | Name of measure  | Main performer                           | Expected results  | Implementation period |
|--|--|--|---|-----------------------|
| <b>4. Minimization of all losses associated with the distribution of natural gas</b> |  |  |   |                       |
| 4.1  | Comprehensive assessment of the existing network and elaboration of a development plan | State Oil Company of Azerbaijan Republic | <ul style="list-style-type: none"> <li>● Increase of real GDP by 90 million manats to 2020 with direct 85 million manats and indirect 5 million manats;</li> <li>● Creation of 340 new workplaces;</li> <li>● Reduction of technical losses to 8% when distributing natural gas to all regions (if the level of losses in any region is below 8%, then it is likely to remain unchanged);</li> <li>● Upgrading to improve the gas supply system in accordance with international standards;</li> <li>● Reliable provision of dynamically growing demand for natural gas, consumers;</li> <li>● Simplification of forecasting natural gas consumption and short-term detection of possible losses in the network;</li> <li>● Elimination of technical problems in the field of gas supply;</li> <li>● Export of natural gas to Europe under the TAP / TANAP projects, saved by improving the efficiency of use.</li> </ul> |                       |

| №  | Name of measure  | Main performer            | Expected results  | Implementation period |
|--|--|---------------------------|---|-----------------------|
| <b>5. Creation of a stable and reliable heat supply infrastructure</b>   |  |                           |   |                       |
| <b>5.1. Expansion of optimal heating and hot water supply systems in the country with taking into account geographical, social and economic features</b> |  |                           |   |                       |
| 5.1.1  | Creation, restoration and reconstruction of heat sources             | "Azeristiliktechizat" JSC | <ul style="list-style-type: none"> <li>● Increase of real GDP by 12 million manats to 2020;</li> <li>● Creation of 950 new workplaces;</li> <li>● Considering efficiency, increase heat energy production by 427 thousand Gcal compared to 2015 and bring it to 1767 thousand Gcal</li> <li>● Increase the number of heated buildings by 50.4% and bring them to 5689</li> <li>● Overhaul of a technically faulty heating system in approximately 550 residential buildings and improvement of heat supply</li> </ul> | 2017-2020             |
| 5.1.2  | Use of alternative and renewable energy sources                      | Ministry of Energy        |   | 2017-2020             |
| 5.1.3  | Improving energy efficiency and energy saving                        | "Azeristiliktechizat" JSC |   | 2017-2018             |
| 5.1.4  | Taking measures to protect the environment when using heat energy    | "Azeristiliktechizat" JSC |   | 2017-2020             |
| <b>5.2. Improving the normative-legal basis, taking institutional measures and optimizing heat tariffs</b>   |  |                           |   |                       |
| 5.2.1  | Improving the normative basis in the field of heat supply            | Ministry of Energy        | <ul style="list-style-type: none"> <li>● Providing a reliable and stable heat supply infrastructure</li> </ul>  |                       |
| 5.2.2  | Implementation of institutional measures in the field of heat supply | Ministry of Energy        |   | 2017-2020             |
| 5.2.3  | Overview of heat tariffs   | Tariff Council            |   | 2017-2020             |

| No  | Name of measure   | Main performer            | Expected results   | Implementation period |
|---|---|---------------------------|--|-----------------------|
| <b>5.3. Assessment and elimination of existing problems in a centralized heating system, ensuring system efficiency</b> |   |                           |  |                       |
| 5.3.1   | Ensuring efficiency in the heating system   | "Azeristiliktechizat" JSC | <ul style="list-style-type: none"> <li>• Increase of incomes of heat facilities in general by 5.1 million manats.</li> </ul> | 2017-2020             |
| <b>6. Energy Efficiency Action Plan</b>   |   |                           |  |                       |
| 6.1   | The Government of Azerbaijan should also aim at establishing a legal framework for energy efficiency, which needs to be full-fledged with accompanying well-formulated secondary legislation and in compliance with international standards.  | Cabinet of Ministers      |  | 2020                  |
| 6.2   | The Government should increase the budget flexibility and autonomy to improve the efficiency of Government-funded organizations and budgeting principles base on full-cycle costing in order to capture the benefits of long-term investments | Cabinet of Ministers      |  | 2020                  |
| 6.3   | Engage energy audit mechanisms  | Cabinet of Ministers      |  | 2020                  |
| 6.4   | The establishment of a dedicated Governmental entity to coordinate the activities related to energy efficiency projects can facilitate the processes and procedures for projects' approval, public procurement and tendering.                 | Cabinet of Ministers      |  | 2020-2021             |

| №   | Name of measure  | Main performer       | Expected results | Implementation period |
|-----|--|----------------------|------------------|-----------------------|
| 6.5 | The Government should encourage development and use of new energy efficiency models based on international “best practices” by cooperation with international experts and institutions.  | Cabinet of Ministers |                  | 2020-2021             |
| 6.6 | The Government should develop and adopt new standards, norms and regulatory acts on energy performance, and simultaneously establish institutional and financial mechanisms of their management. That should encompass the development of economic incentives for energy efficiency projects and programmes. | Cabinet of Ministers |                  | 2021-2022             |
| 6.7 | Create of public funds with a focus on the sectors and technologies where energy saving and energy efficiency potential is the greatest. When national funds are limited or not available foreign investment should be attracted by creating favourable investment environment.                              | Cabinet of Ministers |                  | 2021-2022             |
| 6.8 | National treatment should be provided to foreign investors by ensuring nondiscriminative conditions compared to national investors   | Cabinet of Ministers |                  | 2021-2022             |

| №    | Name of measure  | Main performer       | Expected results | Implementation period |
|------|--|----------------------|------------------|-----------------------|
| 6.9  | The Government should aim at restructuring tariff policy by adjusting tariff levels and design, taking into account customer classification so that tariffs reflect the true cost of production and internalize environmental costs.   | Cabinet of Ministers |                  | 2022-2024             |
| 6.10 | The Government should ensure regular monitoring of policy implementation, <i>inter alia</i> by establishing a system of energy audits, and communicate results to all concerned stakeholders   | Cabinet of Ministers |                  | 2022-2024             |
| 6.11 | To deal with the issue of limited awareness and lack of experience in energy efficiency project development and implementation, the Government should establish wide-scale awareness raising programmes at the national and local levels with the purpose of training specialists in sustainable use of energy resources | Cabinet of Ministers |                  | 2022-2024             |



| №    | Name of measure   | Main performer  | Expected results  | Implementation period |
|------|---|---|---|-----------------------|
| 6.17 | Improve the facilities and effectiveness, ensure coordination and control of the international energy efficiency financing scheme | Ministry of Energy<br>Ministry of Ecology and Natural Resources of the Republic of Azerbaijan | <ul style="list-style-type: none"> <li>• The control and monitoring methodology will be defined related to the current energy efficiency financing mechanisms</li> <li>• Analyses will be made to identify the weaknesses of and threats to the development processes of the energy efficiency projects in various economic sectors</li> <li>• Work will be undertaken to establish new financing mechanisms</li> <li>• Appropriate international financing schemes will be explored for the development of energy efficiency projects in Turkey</li> <li>• Progress reports will be prepared to review annual status and presented to the relevant authorities.</li> </ul> |                       |
|      | Implement efficiency standards for natural gas infrastructure   | Ministry of Energy<br>Ministry of Ecology and Natural Resources of the Republic of Azerbaijan | Develop a mechanism to more actively control and reduce the losses in the natural gas transmission and distribution infrastructure systems.   |                       |

| № | Name of measure   | Main performer  | Expected results   | Implementation period |
|---|---|---|--|-----------------------|
|   | Promote energy efficiency in new buildings              | Ministry of Ecology and Natural Resources of the Republic of Azerbaijan | Promote investments for upgrading the energy performance class from minimum C to B or A for new buildings and buildings to be purchased/leased, provide support directly or indirectly to building owners. |                       |
|   | Improve energy performance of existing public buildings | Ministry of Ecology and Natural Resources of the Republic of Azerbaijan | Increase energy efficiency investments in public buildings through using Energy Performance Contracts that allow the financing of investments necessary for energy efficiency measures by savings.         |                       |

| № | Name of measure   | Main performer  | Expected results   | Implementation period |
|---|---|---|--|-----------------------|
|   | Scale up cogeneration systems in large industrial facilities using heat | <p style="text-align: center;">Ministry of Energy<br/>Ministry of Ecology and Natural Resources of the Republic of Azerbaijan</p> | <p>Promote the installation of cogeneration systems, and use on-site generation technologies to minimise transmission and distribution losses by imposing obligations to commission audits/feasibility assessments for the implementation of cogeneration systems on the new or to-be-rehabilitated industrial enterprises with heat needs of more than 20 MW.</p>   |                       |
|   | Improve energy efficiency municipal services                            | <p style="text-align: center;">Municipalities</p>   | <ul style="list-style-type: none"> <li>• The effectiveness will be enhanced of the financing mechanism provided by Ilbank to municipalities and the inclusion of international financing institutions will be promoted</li> <li>• Through the assistance of financing mechanisms, energy efficiency audits will be undertaken and measures implemented.</li> <li>• Municipalities will be encouraged to obtain ISO 50001 Energy Management System certification</li> <li>• Energy efficiency units will be established in municipalities.</li> </ul> |                       |

| № | Name of measure  | Main performer                       | Expected results  | Implementation period |
|---|--|--------------------------------------|---|-----------------------|
|   | Develop benchmarking on alternative fuels and new technologies | Ministry of Transport of Azerbaijan  | Vehicles that use alternative fuels and/or new technologies will be analysed and compared for cost, energy consumption and environmental impact on the basis of benchmarks. |                       |
|   | Develop and improve bicycle and pedestrian transport           | Ministry of Interior, Municipalities | Develop and improve bicycle and pedestrian transport to scale up zero-emission transport to ensure sustainable urban and regional transport.                                |                       |
|   | Promote public transport                                       | Ministry of Interior, Municipalities | Develop infrastructure and mobility plans to promote public transport systems   |                       |

| № | Name of measure                                   | Main performer                        | Expected results  | Implementation period |
|---|---|---------------------------------------|---|-----------------------|
|   | Switch to energy-efficient irrigation methods     | Ministry of Agriculture of Azerbaijan | <ul style="list-style-type: none"> <li>• Efficiency Improvement Projects will be supported that include cover the improvement of the currently- used water pumps or their replacement with more efficient ones</li> <li>• Support will be provided to the activation of the compensation systems in order to reduce reactive losses in the system</li> <li>• An inventory will be made of the old type open irrigation systems, detailed transition plans be prepared and rehabilitation be made to transform the existing irrigation systems into closed ones</li> <li>• Based on the technical evaluation results, technical and economic support will be provided for transition from surface irrigation to pressurised irrigation</li> <li>• Training and awareness-raising activities will be undertaken for farmers on resource-efficient water consumption</li> <li>• Associations will e ectively be in charge of the process of switching to energy-efficient irrigation.</li> </ul> |                       |
|   | Support energy efficiency in the fisheries sector | Ministry of Agriculture of Azerbaijan | <ul style="list-style-type: none"> <li>• In fisheries, the use of renewable energy resources will be supported</li> <li>• Indicators will be developed on energy efficiency in the fisheries sector</li> <li>• Energy-efficient heating, cooling, ventilating and transporting projects will be supported.</li> <li>• The use of cold storage advantage of trigeneration will be promoted</li> <li>• The legislative framework will be developed to form the bases for the support mechanism</li> <li>• The most efficient practices in the sector will be identified; and work will be undertaken to raise the awareness of the users.</li> </ul>  |                       |

| №   | Name of measure  | Main performer                             | Expected results | Implementation period |
|---|--|--|------------------|-----------------------|
| <b>7. Transition to market relations in the electric power industry</b> |  |  |                  |                       |
| 7.1   | Obtaining the permits for activities by electric energy market entities  | Ministry of Energy                         |                  | 2021                  |
| 7.2   | Application of economic optimization of electric energy production by a specialized subdivision of the central operative -dispatch service of the transmission system operator           | Ministry of Energy<br>Regulatory authority |                  | 2021                  |
| 7.3   | Creating the conditions for competition between electric energy suppliers, as well as ensuring the functional distribution of activity on the distribution and supply of electric energy | Ministry of Energy                         |                  | 2021                  |
| 7.4   | Introduction by the regulatory body of a price (tariff) on the electric energy market, including regulation of prices (tariffs) for all consumers  | Ministry of Energy<br>Tariff Council       |                  | 2021                  |
| 7.5   | Preparation for the second stage of electric energy market, including the approval of necessary normative-legal acts, as well as the conclusion of contracts of second stage             | Ministry of Energy                         |                  | 2021                  |
| 7.6   | Creation of a transmission system operator by an appropriate executive authority and the legal separation of electric energy production and transmission                                 | Ministry of Energy                         |                  | 2021                  |

| №    | Name of measure  | Main performer     | Expected results | Implementation period |
|------|--|--------------------|------------------|-----------------------|
| 7.7  | Availability of a specialized subdivision (of market operator) as part of a system transmission operator, which manages the wholesale electric energy market on the basis of temporary market rules approved by the regulatory body                                    | Ministry of Energy |                  | 2022                  |
| 7.8  | Purchase of electric energy by the market operator from all electric energy producers (except for producers that produce electric energy from renewable energy sources and sell to the Guaranteed Buyer)   | Ministry of Energy |                  | 2022                  |
| 7.9  | Sale of electric energy by a market operator to all electric energy suppliers  | Ministry of Energy |                  | 2022                  |
| 7.10 | Provision of electric energy transmission (distribution) services by transmission and distribution systems operators in accordance with the Network Code and the Market Provisional Rules  | Ministry of Energy |                  | 2022                  |
| 7.11 | The right of all consumers, connected to the electric power transmission network, including consumers with a connection capacity of more than 5 MW, to choose a supplier   | Ministry of Energy |                  | 2022                  |
| 7.12 | Regulation of prices (tariffs) on the electric energy market by the regulatory body, including tariffs for the transmission and distribution of electric energy, as well as retail tariffs for electric energy suppliers working in the supply and distribution sector | Ministry of Energy |                  | 2022                  |

| <b>№</b> | <b>Name of measure</b>   | <b>Main performer</b> | <b>Expected results</b> | <b>Implementation period</b> |
|----------|--|-----------------------|-------------------------|------------------------------|
| 7.13     | Application of special conditions to the entities of electric power industry   | Ministry of Energy    |                         | 2025                         |
| 7.14     | Creation of market relations in the field of electric power industry   | Ministry of Energy    |                         | 2025                         |
| 7.15     | Participation in the balancing market and support services market, as well as being responsible for the balance in accordance with the Balancing Rules   | Ministry of Energy    |                         | 2025                         |
| 7.16     | Purchase and sale of electric energy on the wholesale market   | Ministry of Energy    |                         | 2025                         |
| 7.17     | Ensuring a functioning of the balancing market, as well as the market for support services   | Ministry of Energy    |                         | 2025                         |
| 7.18     | Creation of a closed distribution network  | Ministry of Energy    |                         | 2025                         |
| 7.19     | Become a member of the wholesale electric energy market in accordance with market and balancing rules with the condition of obtaining a permit for electric energy supply, and participate in trade in this market | Ministry of Energy    |                         | 2025                         |



| №   | Name of measure  | Main performer     | Expected results | Implementation period |
|---|--|--------------------|------------------|-----------------------|
| 7.20  | Organizing a market operator   | Ministry of Energy |                  | 2025                  |
| 7.21  | Organizing a market for bilateral agreements   | Ministry of Energy |                  | 2025                  |
| 7.22  | Creating a balancing electric energy market  | Ministry of Energy |                  | 2025                  |
| 7.23  | Creating a market of support services  | Ministry of Energy |                  | 2025                  |
| 7.24  | Creating an electric energy supplier   | Ministry of Energy |                  | 2025                  |
| <b>8. Improving environmental performance</b> |  |                    |                  |                       |
| 8.1   | In accordance with the document “Plan for the reduction of associated gas in SOCAR projects in 2017-2022”, it needs to reduce the volume of associated gas to 95 million m <sup>3</sup> /year. According to the plan, a number of documents on the management of CO <sub>2</sub> and associated gas have been prepared | SOCAR              |                  | 2022                  |
| 8.2   | The works on modernization of the H.Aliyev oil refinery are continued, upon completion of which the quality of the produced fuel will correspond to Euro-5 standards, and the oil processing depth will reach to 90%.  | SOCAR              |                  | 2022                  |

## **Conclusions and recommendations**

### **General recommendations**

Energy policy in the country should take into account the potential contribution of energy efficiency for increasing fuel exports, promoting economic growth and protecting the environment.

High priority should be given to energy efficiency and renewable energy. A future energy policy should be supported by a detailed analysis of the economic potential of energy efficiency in all sectors of the economy, as well as an analysis of the obstacles hindering the realization of this potential.

Reconstruction of assets in the segments of production, transmission and distribution in the power industry should be continued. This will maximize fuel efficiency and minimize technical losses during transmission and distribution.

It is necessary to develop laws and secondary legislation in the field of energy efficiency and renewable energy.

Special energy efficiency programs should be developed in different sectors of the economy, including specific targets and monitoring systems for continuous evaluation of program implementation.

It is necessary to intensify the interdepartmental interaction of the energy sector and other government agencies in order to coordinate objectives in the field of the environment, in the field of energy efficiency of transport, in the housing sector and in industry.

The government should support the efforts of various stakeholders, including local authorities, universities, research centers and non-governmental organizations, and promote their activity to improve energy efficiency in Azerbaijan.

## Energy market and tariff formation

- It is necessary to consider the introduction of market principles in the energy sector and the corresponding regulatory framework, taking into account international experience.
- To ensure the implementation of energy efficiency measures, the existing tariffs for electricity, heat and gas should be revised. It is necessary to take into account the need for differentiation of tariffs by types of consumers, the introduction of block tariffs, as well as the issues of affordability of tariffs for the population.
- The government should allocate sufficient financial resources for the purpose of improving the energy efficiency of public and state buildings and public lighting systems, and at the same time introduce incentive systems for private and housing sector initiatives in energy efficiency and renewable energy sources.
- The government should ensure continuous dialogue with international financial organizations and the donor community to increase attention to energy efficiency and renewable energy.

## Programs and measures in the energy efficiency sector

- High efficiency standards for new buildings under construction, energy efficiency labeling, and minimum energy efficiency standards for electrical equipment should be adopted and compliance procedures and application rights should be in place.
- It is necessary to introduce energy auditing and energy management systems for large industrial consumers.
- Energy efficiency issues should be an element of an integrated approach in the planning and provision of transport services.
- Implementation of programs for the reconstruction of district heating systems should be continued to reduce losses and attract new consumers and to encourage the introduction of individual metering devices, where possible.
- The government should promote the need to improve energy efficiency and raise awareness of energy efficiency issues among local communities, citizens, small and medium businesses.
- Azerbaijan should continue to participate in various international initiatives, such as the Green Building Council and the International Renewable Energy Agency in Abu Dhabi (IRENA) to ensure the exchange of information and best practices for successful energy efficiency and renewable energy projects in other countries.

## Renewable energy sources

- The development of renewable energy sources should remain a priority for Azerbaijan.
- Efforts should continue to focus on the use of the potential of solar and wind energy, as well as to assess the possibility of using waste for energy purposes.
- Part of the revenues from oil and gas should be directed to the development of renewable energy sources. A fund for renewable energy issues should also be established.
- It is necessary to develop network connection rules, a tariff setting method and incentives for attracting investments in the renewable energy sector.
- The role of the State Agency for Alternative and Renewable Energy Sources should be enhanced to ensure the leading role of the organization in the field of renewable energy development in Azerbaijan.
- A project database should be created to ensure the monitoring of achieved results in all areas of activity in Azerbaijan aimed at improving energy efficiency.
- The existing building fund statistics should be used to support policy development and an assessment of the potential for energy savings in the building sector.
- In order to monitor the potential for energy conservation, an energy audit should be a mandatory starting point for large buildings. This should be the basis for the development of an Action Plan for the implementation of energy saving potential.

**THANK YOU FOR YOUR ATTENTION**