



Overview of the energy sector of the Republic of Armenia

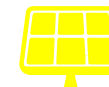
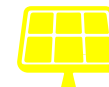
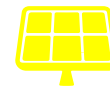
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The energy sector development strategy programme to 2040 of the Republic of Armenia was adopted by the GoA's decision N 48-L on 14 January 2021. According to the mentioned document the RoA Government's vision of the Energy Sector Development is the following:

- Free, competitive and non-discriminatory,
- Inclusive and diversified, energy independence at the possibly highest level,
- Clean and energy efficient: sustainable developing,
- Of regional significance,
- Reliable and safe,
- Digitized and Innovated, science-based, high technological,
- Foreseeable and transparent,
- Accessible and fair to everyone, sufficiently available to the vulnerable group, as well as attractive to investors.

This vision will be a basis for making all energy-related decisions, building relationships with neighboring countries regarding the energy sector, integrating into more global electricity markets and for further developing relationships with key partners.





The main priorities for development of energy sector

Maximum use of the renewable energy potential.

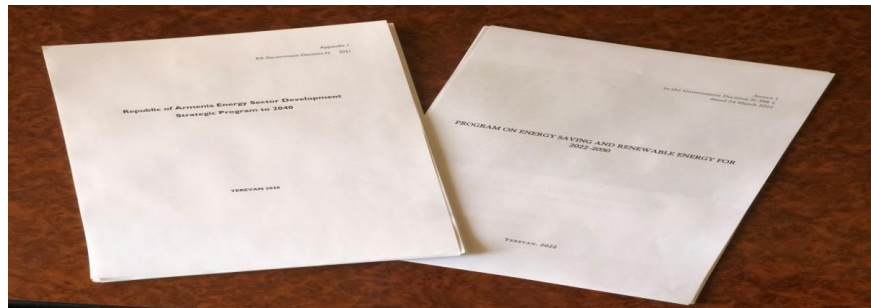
Possible Realization of Energy-efficiency Potential

Development of nuclear energy

Development of regional Cooperation

Gradual liberalization of the electricity market

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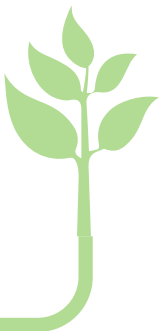


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□ In the structure of electricity production in Armenia, 30-35% share is hydropower, including small hydropower plants with a capacity of up to 30 MW, the share of atomic energy is 35-40%, and the remaining 30% is for the production of thermal power plants.

As of 01.01.2022 the installed capacity was 2878.69 MW:

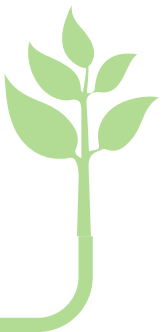
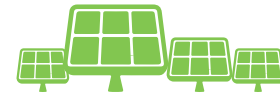
- TPPs - 1783.36 MW
- NPP - 472 MW
- Hydro PPs - 1397.18 MW, including 431.38MW from SHPPs
- Solar PPs - 225.89MW, including 136.08MW from autonomous.



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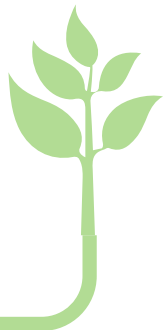
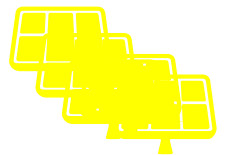
The maximum use of renewable energy potential, considering it as part of the least cost energy development plan, is one of the key priorities of energy sector development.

□ Considering the potential of solar energy, the RA government aims to increase the share of solar energy production to at least 15% or 1.8 billion kWh by 2030. For this purpose, it is necessary to build about 1000 MW of solar plants, including autonomous ones.



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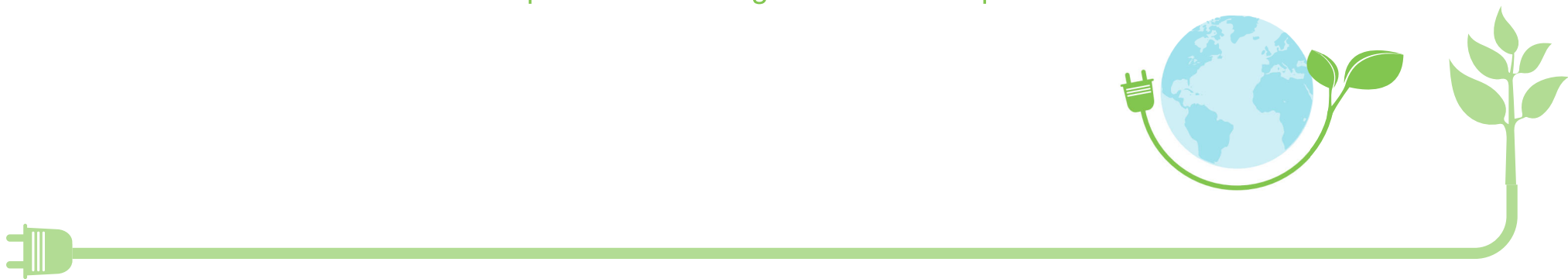
- During the next 2 years, within the framework of public-private cooperation, the construction of industrial-scale solar plants "Masrik-1" and "Ayg-1" with a capacity of 55 MW and 200 MW, respectively, is expected. In addition, a program for the construction of 5 photovoltaic plants with a total capacity of 120 MW is being prepared.
- Currently, 36 solar power plants with an installed capacity of up to 5 MW with a total installed capacity of around 97.766 MW are producing electricity, and 27 solar power plants with an installed capacity of up to 5 MW are under construction with a total installed capacity of around 117.82 MW. As of 01.10.2022, 9224 autonomous energy producers with a capacity of about 184, 029 MW signed contracts with "Electric Networks of Armenia" CJSC. At the same time 622 autonomous energy producers with a total capacity of 130, 45 MW have received technical conditions for construction.
- Electricity is produced by 190 small hydropower plants with a total installed capacity of 388.56 MW. 22 small HPPs are under construction with a total capacity of 52.277 MW.
- Currently, the potential of wind energy is being studied and evaluated, with the results of which tender packages will be prepared for the purpose of building wind farms of small and systemic significance up to 500 MW.



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It should also be noted that the expected changes in the global market in the coming years may enable not only solar, but also other renewable energy plants, together with accumulators, to compete with traditional base plants.

As for the public-private partnership, the Government of Armenia will sign such contracts for the construction of power generating stations of systemic significance exclusively by attracting investors in a competitive way, if the access of the latter to the power market cannot be ensured without the provision of additional guarantees by the state. The fact that in all considered scenarios, solar and wind technologies were an option to develop new production capacities with minimal costs, emphasizes the importance of creating a policy and institutional environment for Armenia to develop these technologies as much as possible.

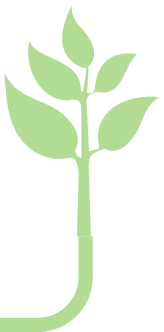


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□ All the sectors of the economy of Armenia have great potential in the energy efficiency, including transport, industry, multi-department buildings, public sector buildings, fuel systems, etc. The Government of the Republic of Armenia will be consistent in terms of creating a new culture of energy efficiency; therefore, will implement institutional reforms by promoting investments in alternative energy sources that may result in energy efficiency security, environmental regulation of energy efficiency in all the spheres of the economy.

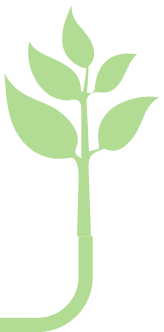
In recent years, considerable work has been done in the energy efficiency and energy saving sector, which is also a priority for the Government of the Republic of Armenia as a means of improving the energy security of the country, improving economic competitiveness and minimizing the negative impact on the environment.

The RoA Government has already published Energy balance for the years from 2015 to 2020.



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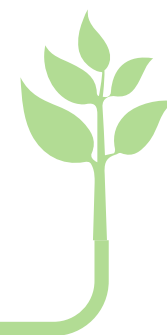
- Law on Energy Saving and Renewable Energy was amended to enforce elements of Energy Performance in Buildings Directive (EPBD), the Government decree was adopted and technical regulation was prepared for mandatory enforcement of EE in (re)construction of public and residential buildings, the groundwork for adoption of eco-labeling regulations is undergoing, draft legal regulations are prepared for requiring energy auditing for large energy consumers, market-based energy tariffs has created a favorable environment for private sector investments in SMEs through multiple green credit lines (EBRD, GGF, AFD, IFC, WB). New provisions on state procurement were input in Armenia in 2020. Relevant amendments in EE and RE Energy Law of Armenia were made on 25 March 2020. Requirements for energy efficiency and list of equipment for state needs were defined on 21 January 2021.
- In 2021 the program "Building Armenia's National Transparency Framework under the Framework Convention on Climate Change and the Paris Agreement" was approved by the RA Government Action Plan 2021-2026. The purpose of the Program is creation of institutional and technical capacities for transparency in the implementation of the Paris Agreement based on its general conditions, procedures and guidelines.



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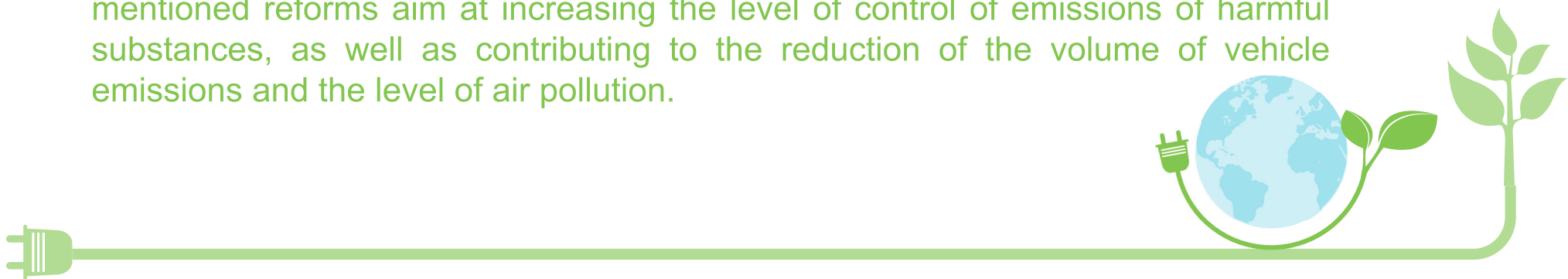
Plan on "2021-2030 Energy Efficiency and Renewable Energy of the Republic of Armenia" has developed with consideration increasing economic and energy security, power system reliability, strengthening economic and energy independence, promoting energy efficiency and renewable energy based on new production and services organization as well as reducing man-made impact on environment and human health.

- From 2021-2022 state support program for energy-efficient renovation of apartments and individual residential houses has been launched, according to which the Government will subsidize the interest rate of loan funds borrowed from commercial banks for the purpose of energy-efficient renovation in different proportions.
- During 2021, the energy saving works of 22 apartment buildings and 2 public buildings were completely finished (repair of the roof, replacement of windows, repair of staircases, thermal insulation of external walls), energy saving works of 37 apartment buildings are ongoing.



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- A study of climate change adaptation as well as natural risks is being carried out within the framework of the "Road Department" Foundation's Vital Road Network Improvement Program. At the request of partner international financial organizations, solutions are also provided to the problems caused by the impact of climate change on road construction works.
- It is worth also mentioning that during 2021, legislative reforms were made in the process of mandatory technical inspection of vehicles, within the framework of which unified database of technical inspection will be created where the data of checking the content of emissions in engine exhaust gases will be imported. The mentioned reforms aim at increasing the level of control of emissions of harmful substances, as well as contributing to the reduction of the volume of vehicle emissions and the level of air pollution.



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Climate change and environmental degradation present an existential threat to the world. To overcome the challenge and stop climate change, the efficient use of resources is foreseen by moving to a clean and circular economy, covering, notably: transport, energy, agriculture, buildings, and industries.

The renewable energy, energy efficiency and energy saving are the important directions of development of the energy sector of Armenia. Adhering to the UN's 2030 Agenda for Sustainable Development, particularly Goal 7 "Access to affordable, clean, reliable, sustainable and modern energy" and the Paris Agreement, the RA Armenia is making continuous efforts to create an attractive investment environment and legislative framework for the economic development of the potential of renewable energy. These will ensure effective and responsible implementation, as well as large-scale implementation of energy efficiency and energy saving measures.



