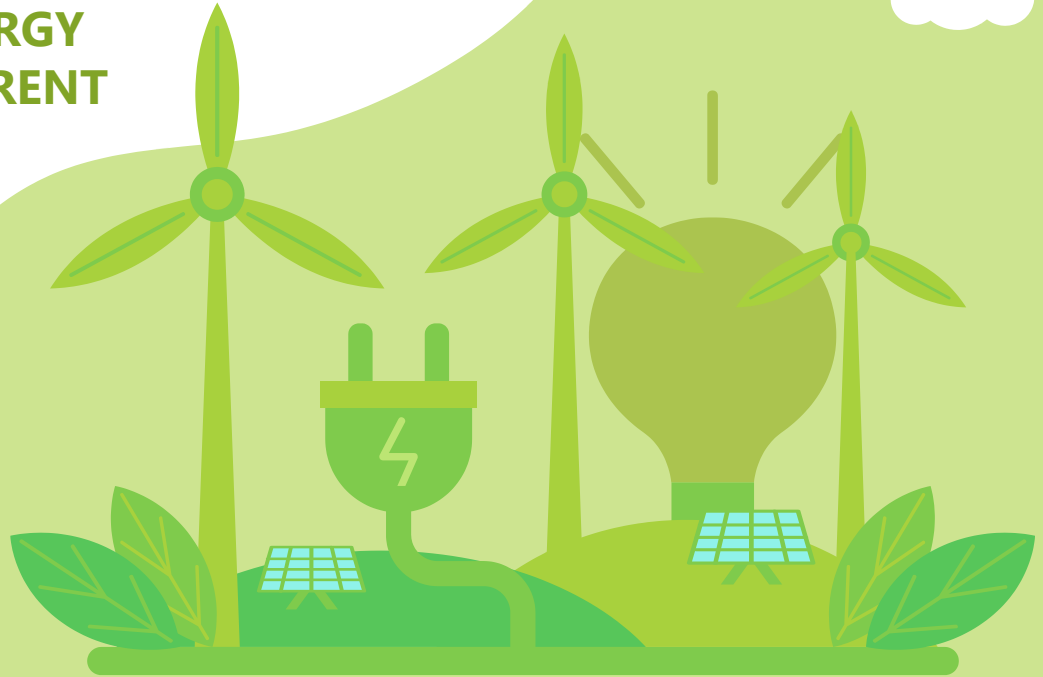




AZERBAIJAN RENEWABLE ENERGY SECTOR DEVELOPMENTS, CURRENT AND FUTURE PROJECTS

KAMRAN HUSEYNOV
DEPUTY DIRECTOR of AREA





"Azerbaijan 2030: National Priorities for socio-economic development"

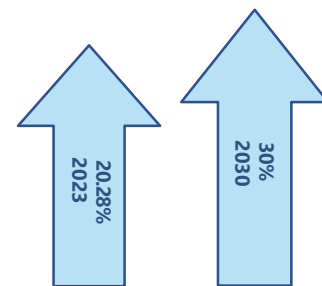
- 1.A steadily growing, competitive economy
- 2.A dynamic, inclusive society based on social justice
- 3.Areas of modern innovations and competitive human capital
- 4.The Great Return to the territories liberated from occupation
- 5.A clean environment and country of "green growth"**
 - high quality ecological environment
 - green energy zone



Reduction of greenhouse gas emissions – 40% by 2050

NET ZERO EMISSION ZONE IN THE LIBERATED LANDS

Renewable Energy share in total installed capacity, %





ELECTRICITY MARKET (installed capacity)

Total installed capacity

8320,8 MW

Thermal power plants (6632.9 MW)

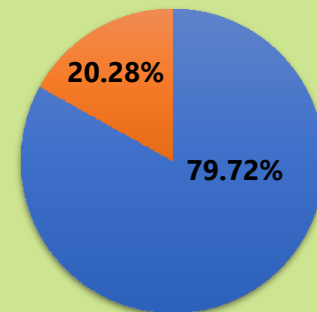
Hydropower plants (1158,2 MW)

Solar power plants (281,9 MW)

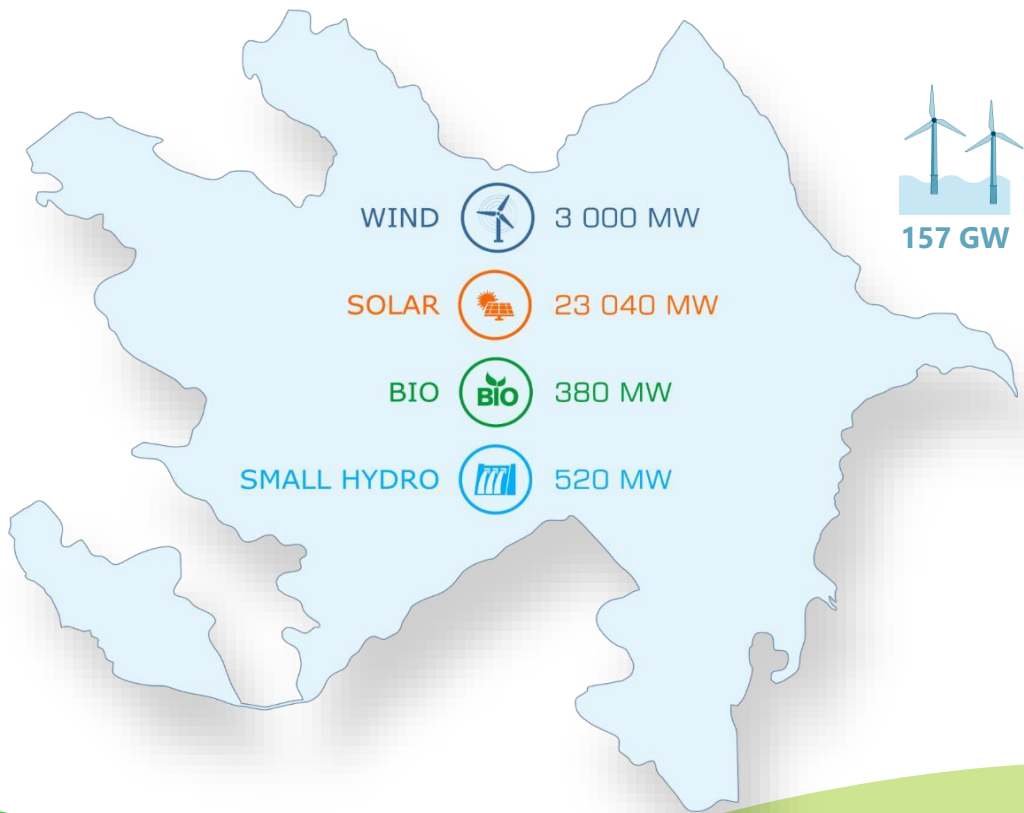
Wind power plants (66,45 MW)

Waste to energy plant (37 MW)

Bioenergy/ Biogas plant (≈ 1 MW)



■ Conventional power plants
■ Renewable power plants



RENEWABLE ENERGY POTENTIAL

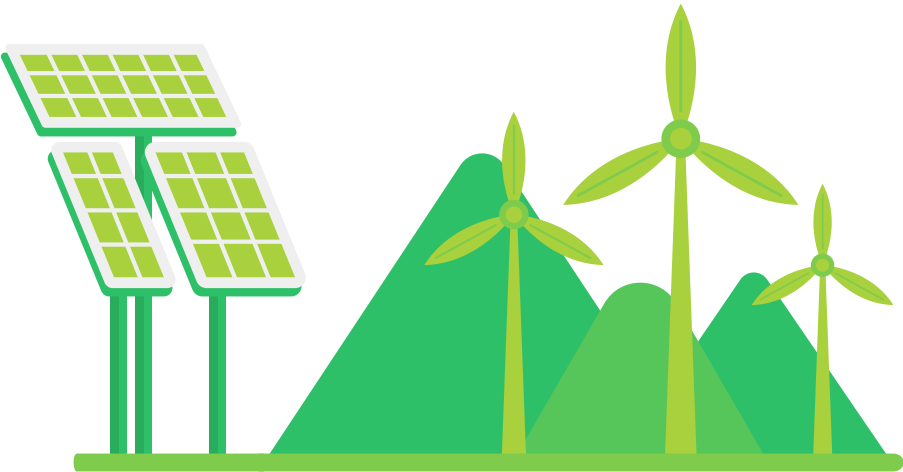


Implementation Strategy

- Development of the regulatory and legal framework
- Determination of the supporting mechanisms
- Attraction the investors, and developers in the renewable energy sector
- Cooperation with the IFI's to develop the renewable energy sector



Regulatory and Legal Framework



- Law of the Republic of Azerbaijan on the usage of renewable energy sources in the production of electricity (approved 31.05.2021)
- Legislation at the stage of approval in Cabinet of Ministers:
 - ✓ The auctions rules
 - ✓ Rules on supporting mechanisms for active consumers
 - ✓ Renewable Certificates Applications
 - ✓ Information System of Renewable Energy Sources



Supporting Mechanisms to the Investors

- **Developers for Renewable IPP more than 100MW are relieved for land lease of municipal and state owned lands**
- **Investment Promotion Certificate (7 years)**

Protection of the investment on the following tax rebates:

- 50% reduction of income tax for individual entrepreneurs;
- 50% reduction of profit tax for legal persons;
- no VAT and no customs duties on imports of machinery, technological equipment, and installations;
- no property tax & no land tax.



DEVELOPMENT OF THE PILOT PROJECTS



- 240 MW Khizi-Absheron WPP with ACWA;
- Agreements were signed on 29.12.2020;
- Extension of project to 200 MW on the next phase;
- Expected COD: 2025



- ❖ INVESTMENT AGREEMENT
- ❖ POWER PURCHASE AGREEMENT
- ❖ TRANSMISSION CONNECTION AGREEMENT



- 230 MW Garadagh solar power plant;
- Agreements were signed on 06.04.2021;
- Financial close: Aug 2024



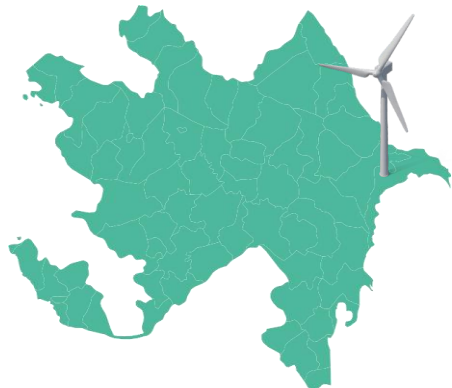
- **Opening ceremony was on 26.10.2023;**
- **Garadagh Solar PV Plant became the largest utility scale solar IPP in operation in Caspian region and CIS;**
- **The Garadagh SP cost - 262 mln USD;**
- **Electricity generation annually - 500 mln kilowatt-hours;**
- **Natural gas relief - 110 million m³;**
- **Carbon emissions - 200 000 tons of CO₂;**
- **Increased share of RES in grid from 16.5% to 20.28%.**



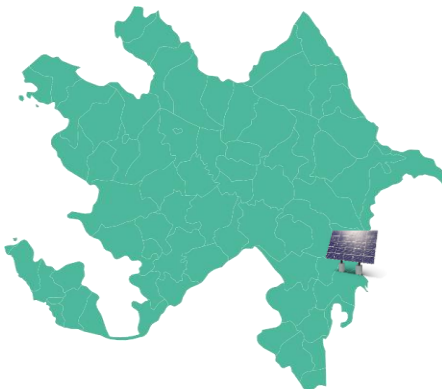


MASDAR “MEGA” AND “HECTOR” PROJECTS & TIMELINE

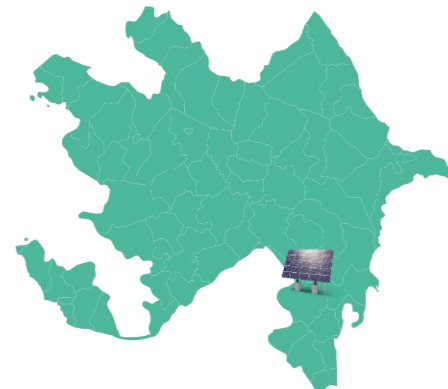
Absheron-Garadagh 240 MW WPP
2027



Bilasuvar 445 MW SPP
2026



Neftchala 315 MW SPP
2025



Masdar signed investment agreements on green energy projects with a capacity of 1000 MW within 1st Phase , which is part of the Implementation Agreements signed in June 2022 during BEW focusing on the assessment, development and execution of Solar, Onshore wind, Offshore wind, Green H2 Project with capacity up to 10GW

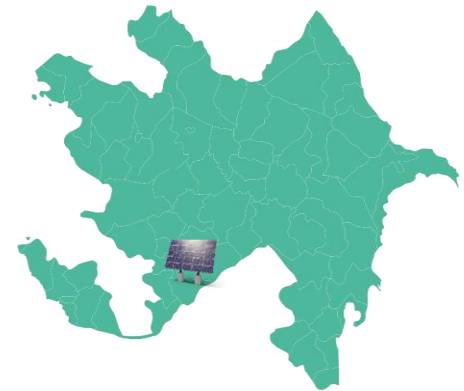


BP “SUNRISE” PROJECT

- **4 June 2022 in BEW special session in Shusha MoE and bp signed the Addendum to IA signed earlier in 2021 committing to implementation of 240MW Solar project in Jabrayil district;**
- **It is planned to achieve technical and commercial solution to implement commercial structure called “Virtual Power Transfer”;**
- **The inauguration ceremony of Sunrise project is planned to be held in 2024;**
- **Expected COD: 2025.**



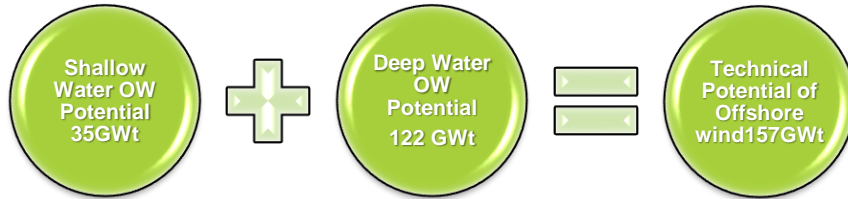
“Sunrise” – 240 MW SPP



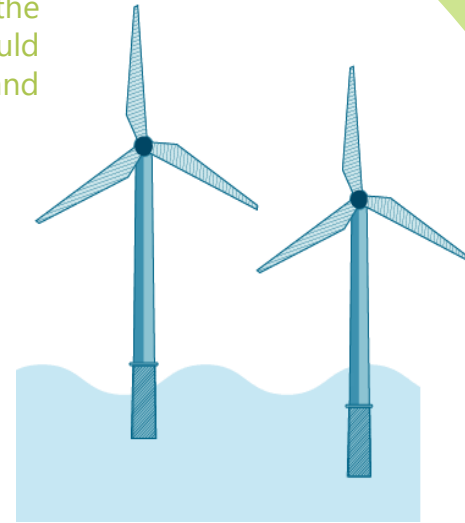


Offshore Wind Energy Development Perspectives

On 3 June 2022, a New roadmap was released, the World Bank and IFC show that Azerbaijan has the potential to install 7GW of offshore wind power by 2040, with the right long-term vision, infrastructure development, investment, and policies - which could play an important role in achieving the country's parallel priorities of decarbonization and sustainable growth.



- The potential role that offshore wind could play in Azerbaijan's future energy mix;
- Timing for the OW Development : 2030-2037;
- AREA and developers are working on the areas of the Caspian sea to be identified as the renewable energy zones for the offshore wind development;
- The Implementation and framework agreements on the offshore wind development signed with Masdar (2GW- 1phase + 4GW- 2nd Phase), ACWA (1.5GW), FFI OW and Green H2 (up to 10GW), China Energy (up to 2GW);
- There is an proposal from the IFC to conduct the tendering procedure for the OW Demonstration project.



“Caspian - the EU Green Energy Corridor”

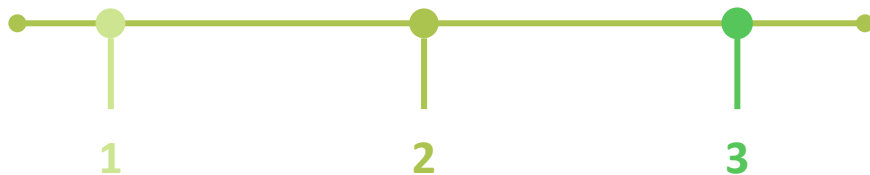
Agreement on a strategic partnership in the field of green energy development and transmission between the Governments of the Republic of Azerbaijan, Georgia, Romania, and Hungary was signed on 17 December in Budapest



- Taking into account huge RE potential, OW energy could contribute to export perspectives of green energy from Azerbaijan to the European energy markets
- The Green energy could be exported in the form of electricity or as green hydrogen
- Green energy could be supplied from Azerbaijan to the EU energy markets through Georgia and then by underwater sea cable to Romania and Hungary with initial capacity of up to 4GW
- The Tender process for the FS project is ongoing
- Once the consultant is awarded it will take up to 80 weeks to receive the initial results of the Feasibility Study



Low Carbon H2 Market Study



1
Feedstock in
Oil and gas
sector

2
Hydrogen in
power
generation

3
Industrial
fuel in more
energy
intense
industries

1

Establishment of H2
related working
group

2

"Low-Carbon Hydrogen
Economy market study-
Azerbaijan Report"

3

Jan 2022- involvement of
Advisian as consultant
(part of Worley Group)

4

Scope of work - Review and
assessment of the potential of
hydrogen production in
Azerbaijan: technical and
commercial feasibility,
evaluating local demand and
export opportunities



Possible Export Routes



Via existing pipeline infrastructure



Separate pipeline hydrogen-dedicated



The export of green ammonia and hydrogen to Black Sea from Azerbaijan



AREN

THANK YOU FOR YOUR ATTENTION!



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