



The State Agency on Alternative and  
Renewable Energy Sources of the  
Republic of Azerbaijan

## Energy Investment Forum

# **DIRECTIONS OF DEVELOPMENT IN THE FIELD OF RENEWABLE ENERGY SOURCES IN AZERBAIJAN**

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**Islamabad, Pakistan  
July 18, 2016**

# State Agency on Alternative and Renewable Energy Sources - AREA

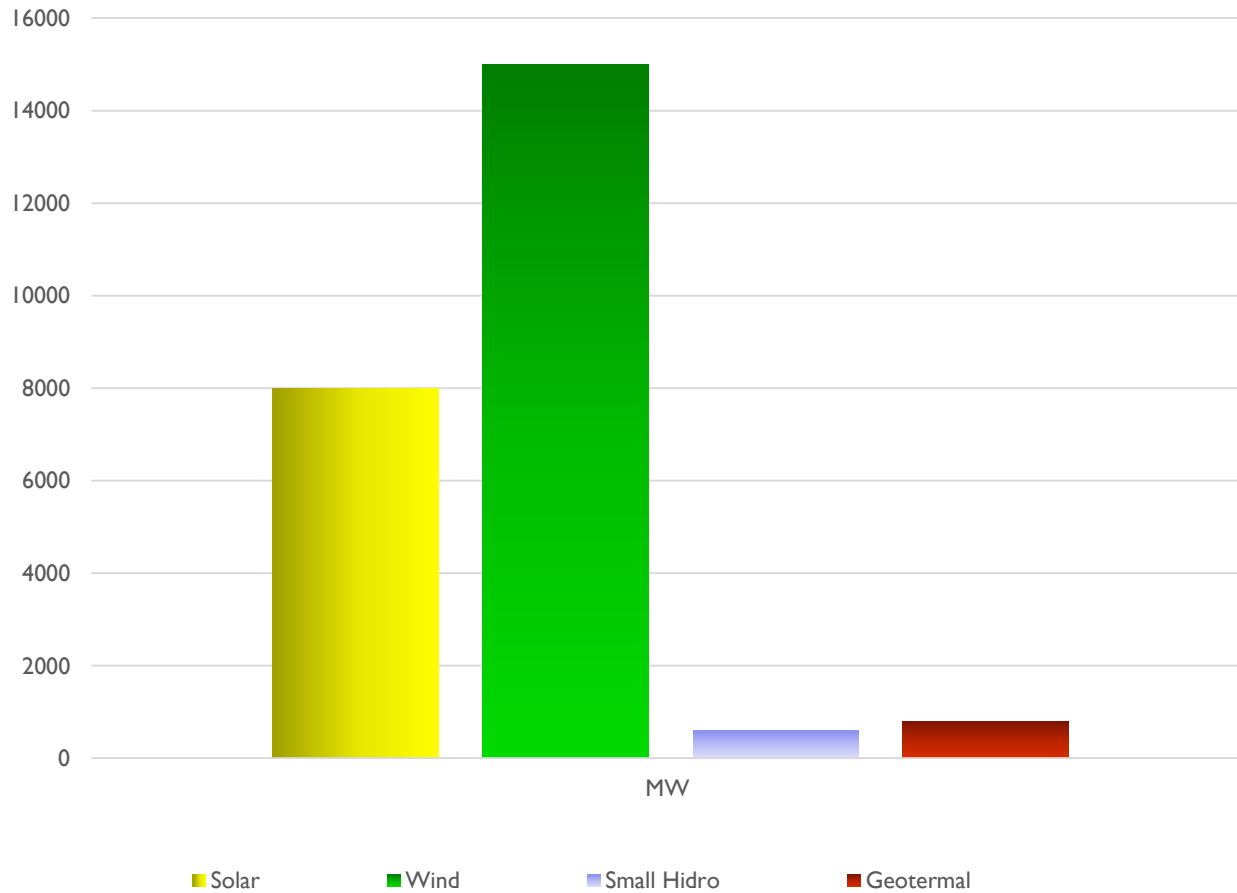
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Central executive body carrying out followings in the field of RES and EE:

- ▶ State policy and regulation
- ▶ Efficient organization of activity and coordination
- ▶ State control



# RE potential in Azerbaijan



Type	MW
Solar	>8000
Wind	>15000
Bio	>900
Geothermal	>800
Small Hidro	>600



# Targets

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- |             |  |
|-------------|--|
| 2016 – 2020 | Produce 20% share of energy consumption  |
| 2020 – 2025 | Produce 30 % share of energy consumption |
| 2025 – 2050 | Produce 50 % share of energy consumption |



# Promotion of Investments

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- Tariff
- PPA (Power Purchase Agreement)
- PPP (Public Private Partnership)
- Grid connection
- Easy procedures to get a license
- No need to get a license less than 1 MW
- Grants, soft loans and other financial support
- Investment Promotion Certificate
  - a) 7 years 50% of income tax free for Private Entrepreneurs (PE);
  - b) 7 years 50% of income tax free for Legal Entities (LE);
  - c) 7 years property tax free for PE and LE;
  - d) 7 years land tax free for PE and LE;
  - e) 7 years VAT free from import of techniques, technological equipment and facilities for PE and LE;
  - f) 7 years customs free from import of techniques, technological equipment and facilities for PE and LE.



# Electric and heat power produce by ARES in Azerbaijan

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<b>Indicators</b>	<b>2015</b>	<b>2014</b>	<b>%</b>
Electricity, mln. KW hour	1816,0	1494,3	121,5
of which:			
Hydro	1603,9	1294,0	123,9
Biomass & waste	181,9	174,0	104,5
Wind	25,6	23,4	109,4
Solar	4,6	2,9	158,6
Heat energy (heat pumps), Gcal	6315,3	5448,8	115,9

# Gas savings and carbon dioxide reduction

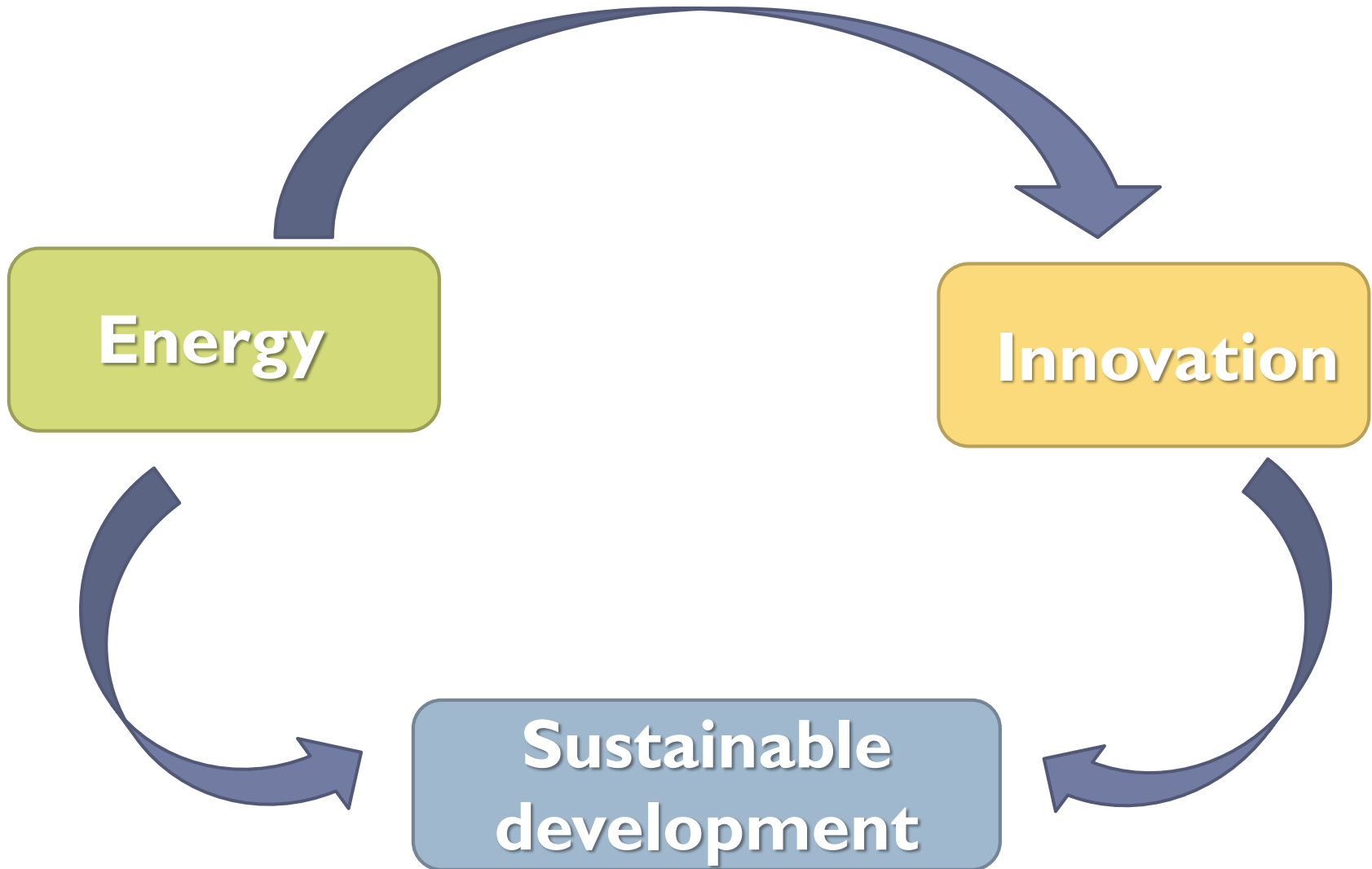
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<b>Year</b>	<b>Gas (thousand m<sup>3</sup>)</b>	<b>CO2 (t)</b>
2014	437 305,00	778 403,3
2015	465 642,72	828 844,0
2016 (January – March)	108 962,70	193 954,0



# Main focus on implementation of RE projects

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# Energy

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## Hybrid PP

- Gobustan Experimental Polygon and Training Center – 5.5 MWt

## Solar PP

- Pirallahy Solar Power Plant – 2.8 MW
- Surakhany Solar Power Plant – 2.8 MW
- Sumghait Solar Power Plant – 2.8 MW
- Nakhchivan Solar Power Plant – 20 MW

## Wind PP

- Yeni Yashma Wind Farm - 50 MW
- Sitalchay Wind Farm – 3.6 MW
- Hokmaly Wind Farm – 8.0 MW
- Absheron Wind Farm – 80 MW

## Biomass PP

- Biomass cogeneration on Oghuz and Agjabedi – 16 MW
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# Gobustan Experimental Polygon and Training Center



## **Total capacity – 5.5 MW**

- ▶ Wind – 2.7 MW
- ▶ Solar – 1.8 MW (additional capacity is being installed)
- ▶ Biogas – 1 MW

Was put into operation in 2011



# Solar Power Plants

- ▶ Pirallahy SPP
- ▶ Total capacity: 2.8 MW



- ▶ Surakhany SPP
- ▶ Total capacity: 2.8 MW



- ▶ Sumghait SPP
- ▶ Total capacity: 2.8 MW



# Solar Power Plants

- ▶ Nakhchivan SPP
- ▶ Total capacity: 20 MW



# Wind Power Plants

- ▶ Sitalchay WPP
- ▶ Total capacity: 3.6 MW



- ▶ Yeni Yashma WPP
- ▶ Total capacity: 1.7 MW



- ▶ Hokmali WPP
- ▶ Total capacity: 8.0 MW



# Biomass

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- ▶ Biomass cogeneration on Oghuz and Agjabedi
- ▶ Total capacity: 16 MW

Renewable Energy Development Project  
Development of Two Pilot Renewable Energy Projects  
(Biomass Cogeneration)



# Innovation

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## Energy efficiency

- The use of solar panels to increase energy efficiency in social buildings

## Smart grid

- Gobustan “Smart Grid” system

## Production facilities and equipment on RE sector

- “Azguntex” PV modules factory



# The use of solar panels to increase energy efficiency in social buildings



Secondary school № 235  
(25KW electric, 40KW heating)



Sports Complex in Beylagan district  
(70 KW electric, 90 KW heating)



Boarding school in Turkan  
(25 KW electric)

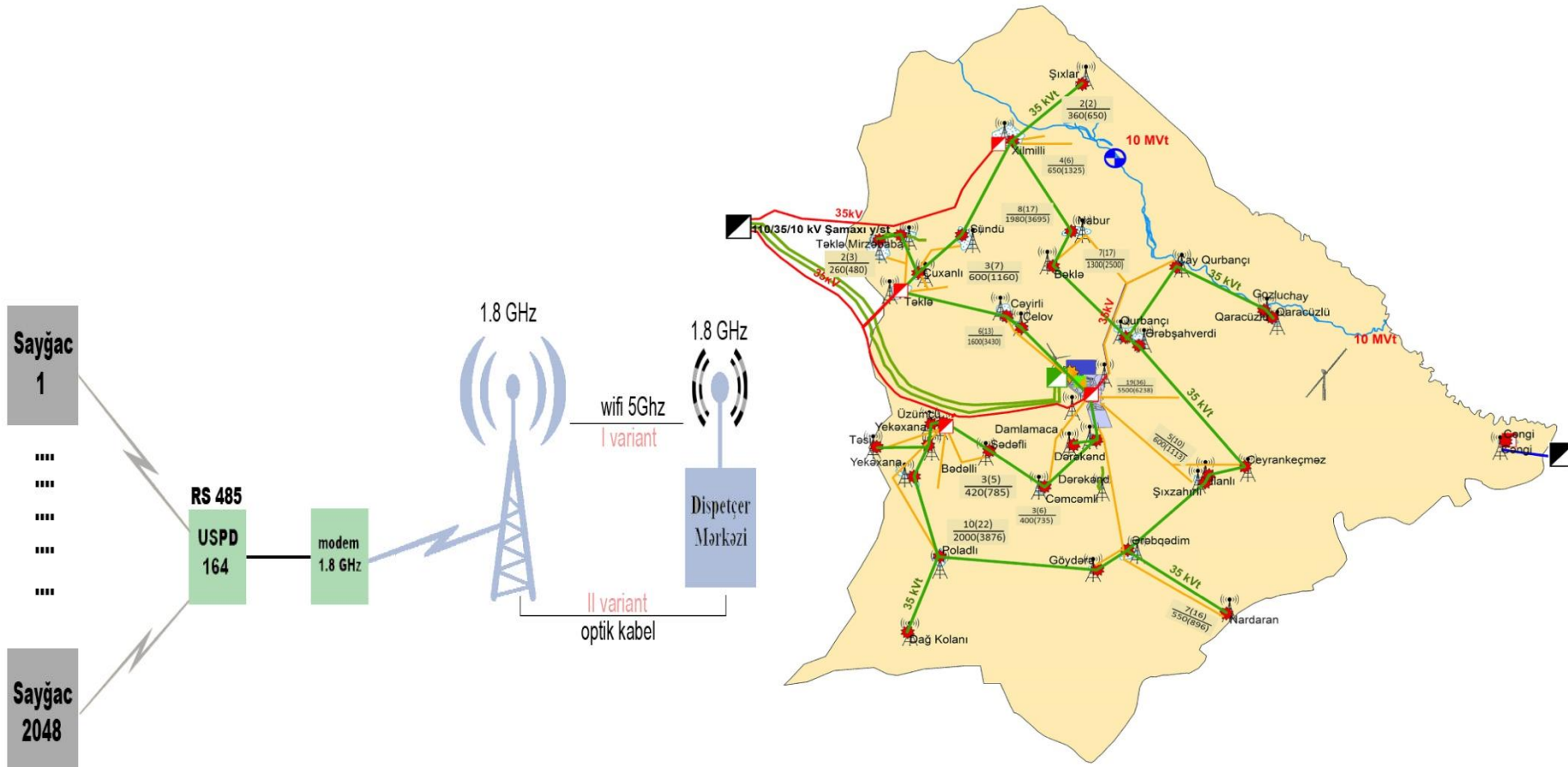


Children school SOS  
(20 KW electric, 44 KW heating)

▶ Total: 10 schools, 2 medical centers and 2 sport complexes

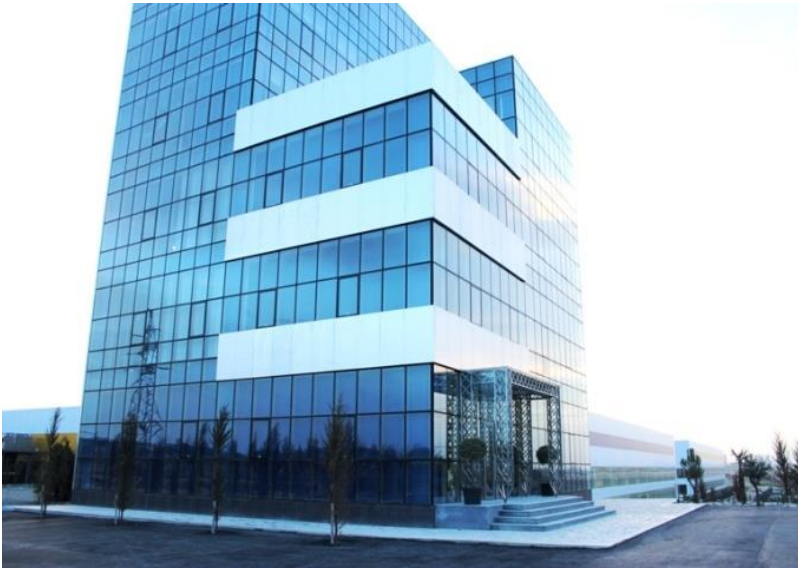


# Gobustan “Smart Grid” system



**Electricity supply scheme**

# “AZGUNTEX” PV modules factory



Production capacity of the 1st line:  
**100 000 modules/year (25 MW)**

Production capacity of the 2nd line:  
**200 000 modules/year (50 MW)**

## **Polycrystalline modules:**

- The number of PV cells – 60
- Capacity - 36 V 250 W
- Size -997mm/ 1663mm
- Weight – 20 kg



# Sustainable development

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## RE support for agriculture

- Samukh Agro-Energy Residential Complex

## RE support for the solution of infrastructure issues

- “Wind Island – 1” Offshore Wind Farm

## Waste to energy

- Waste-to-Energy Plant



# Samukh Agro-Energy Residential Complex



Total capacity: 79 MW  
31 MW electric, 48 MW thermal

# Waste-to-Energy Plant

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▶ Total capacity: 37 MW

# “Wind Island – 1” Offshore Wind Farm

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Total capacity: 198 MW





Thank you for your attention!

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