



*State Strategy on use of Alternative and Renewable Energy Sources in Azerbaijan
for 2015-2020*

SEA OUTCOMES

AIR QUALITY AND CLIMATE CHANGE

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Revision of activities under SEA framework :

- **Climate;**
- **Atmosphere;**
- **Air quality assessment;**
- **National Air Quality Monitoring;**
- **Discharge of pollutants into the atmosphere and their sources;**
- **Climate change and its effects in Azerbaijan ;**
- **Energy sector and its impacts on air quality;**
- **Impact risks of ARES on atmosphere;**
- **Possible significant impacts and its mitigation measures;**



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Types of alternative energy	Impacts			
	Positive impacts	Negative impacts	Advantages	Disadvantages
BIOMASS	Reduction of greenhouse gases released into the atmosphere	Release methane(CH ₄),hydrogen sulfide(H ₂ S),carbon dioxide(CO ₂), nitrogen oxide(NO _x)and other pollutants into the atmosphere during biogas generation	Reuse of green biomass, agricultural residues and other waste materials, not depending on fertilizer production, climate conditions,relief and other factors	Accomodated only in limited areas with sufficient reserves of raw materials
SOLAR	Absence of atmospheric emissions; reduce release of pollutants into the atmosphere in equivalent to energy generated; positive impacts on climate change.	Change of heat balance, humidity, wind direction in a limited area, heating of the water over solar power plant	Clean energy, sustainable and available energy sources, and safe exploitation	Depending on the season of the year, time of day and climate conditions, necessity of energy accretion, and need to periodic cleaning of dust from reflective surface
WIND	No release of pollutants into the atmosphere, clean energy generation, positive impacts on climate change	Environmental noise pollution, change of wind direction,minimum impacts on the perception of electromagnetic radiation	Not release of pollutants into the atmosphere sustainable energy potential, clean energy generation	Dependence on climatic conditions, unstable wind power,lack of power of single plants, limited field of application
GEOTHERMAL	Reduce pollutants and greenhouse gases by using geothermal energy sources	Sulfur compounds, silicates, ammonia, and other compounds dissolved in thermal water may release into atmosphere by geothermal energy plants	The efficient use of energy in the subsoil, sustainable energy sources, not depending on the season of the year and climate	Strong mineralization of geothermal waters, field of application dependence on the source of existence
SHPP	Energy generation not accompanied with hazardous waste release into the atmosphere	Negative impacts on environment is minimum	Efficient use of water resources, clean energy generation	Operating mode dependence on water level, unstable energy generation of seasonal rivers



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Types of alternative energy	SUGGESTIONS
BIOMASS	Nature of raw materials used in biogas production, stipulate installation of power plants in advance. These power plants should install with taking into consideration the main factors that affect on atmospheric air quality.
SOLAR	Atmospheric air protection activities on reducing impacts of potential sources of pollutants, proper waste management, accident prevention at the stage of drafting, should be implemented.
WIND	Wind power plants should install far from settlements, on the hills, on windy slopes and wind corridors, taking into consideration nature of relief, climate features, and obstacles in prevailing wind directions.
GEOTHERMAL	In order to prevent release of gases into the atmosphere, the use of modern geothermal power plants with gas catching devices can minimize negative impacts.
SHPP	Application of the effective planning methods on efficient management, drafting, exploitation stages and controlling discharge of pollutants into the atmosphere can minimize local impact, during drafting of SHPP.



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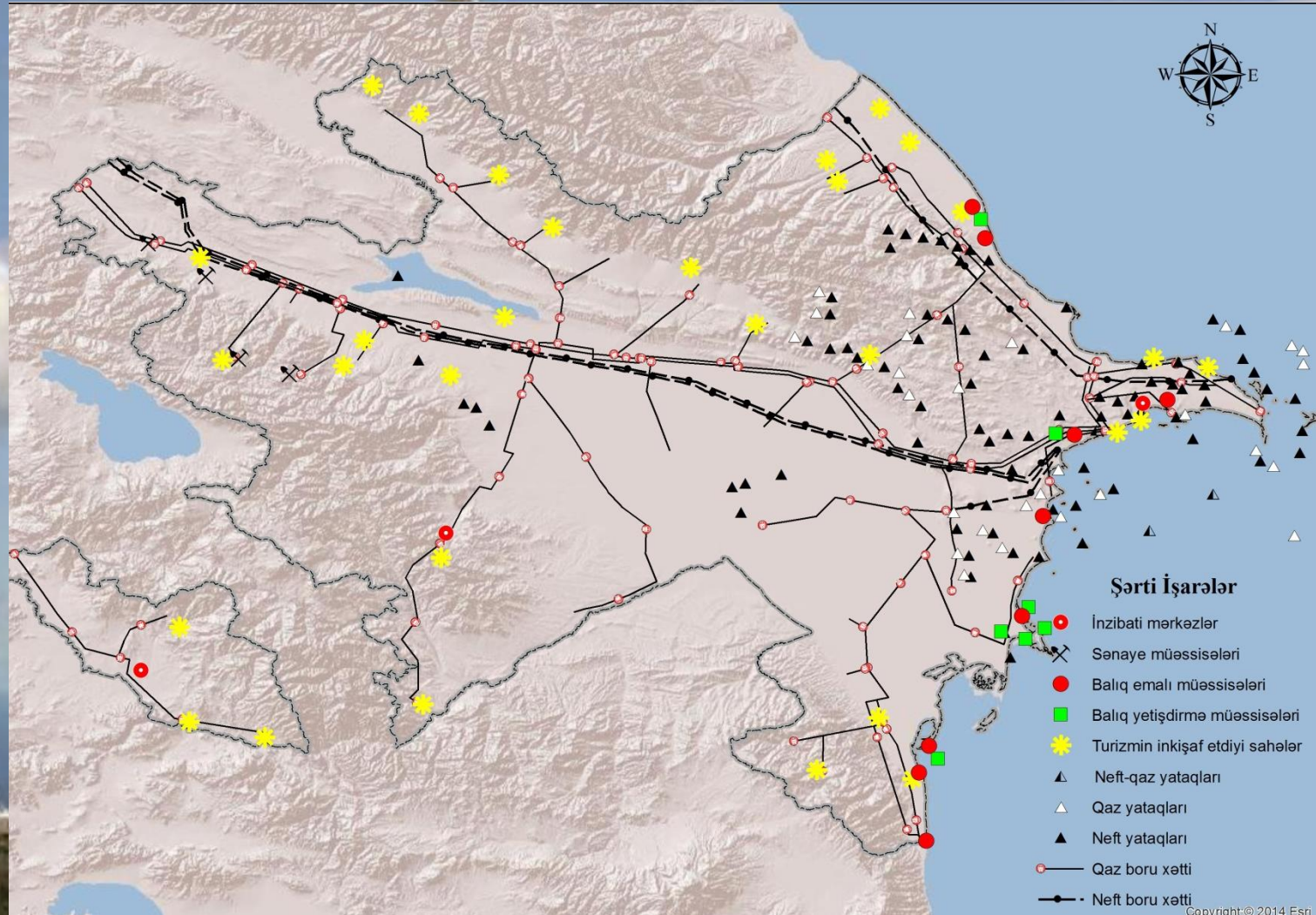
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Impacts on Economic Sectors	ECONOMIC SECTORS							
	Agriculture	Industry	Energy	Environmental protection	Domestic-communal	Architectural	Tourism	Fishing
SHPP	+	+	+	+	0	0	-	-
Solar	-	+	+	+	+	0	+	0
Wind	+	+	+	+	0	0	-	+
Biomass	+	+	+	+	+	0	-	0
Geothermal	0	+	+	+	0	0	0	0



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Thanks for your attention!