



# **Projects directed to the development of renewable energy sources**

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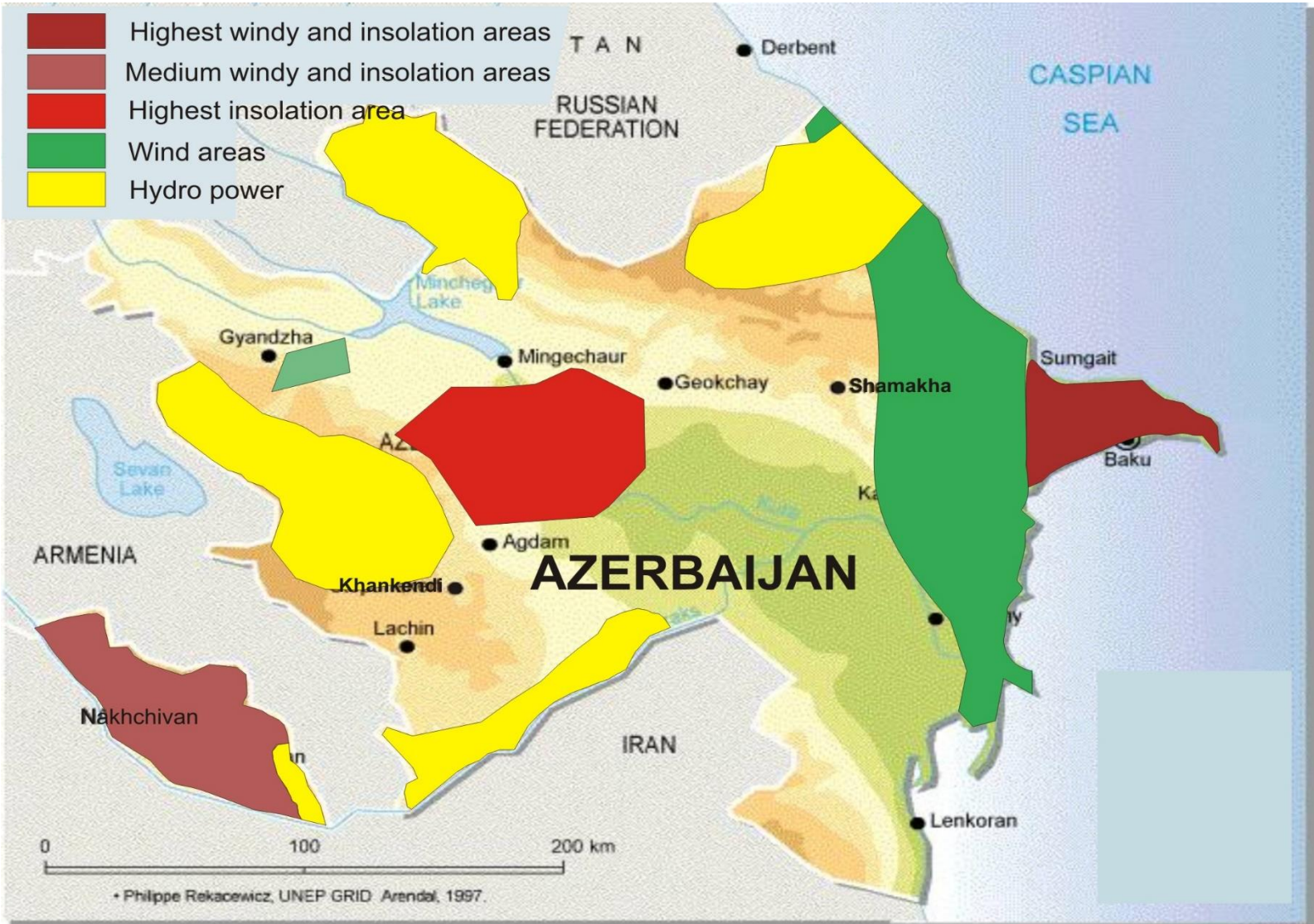
## **in the Republic of Azerbaijan**

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**International Ecoenergy Academy**



# Map of Azerbaijan's Renewable Energy Resources





# The main State policy

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- State Programme on the Use of Alternative and Renewable Energy Sources
- Establishment of the State Agency of Alternative and Renewable Energy Resources



# IEA: current activities related to the use of Alternative and Renewable Energy Sources

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- **Project:** Installation of a water treatment plant to supply safe drinking water to population in Salyan district through application of photovoltaic (PV) panels
- **Salyan district:** one of the most industrialized and agricultural regions of the republic. The region has its own ancient history and happened to be a part of the famous Silk Way.



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- This region is located next to Kura river
  - Clean water supply got even worse after latest catastrophic water floods happened in 2009 and 2010
  - Over 120.000 people - population of Salyan region is suffering from lack of potable water



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**Project location:** Chukhanli village, about 18 km from the center of Salyan district with around 1900 people

**The project has two main goals:**

- Water supply to satisfy basic human needs
- Demonstration of social and environmental advantages of renewable energy

**Partial financial supports are provided by:**

GGP fund of Japanese Embassy

State Agency of Alternative and Renewable Energy Resources





## Project : Creation of a hybrid alternative energy system with the purpose of electricity and gas supply to Khinalig village of Guba district

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### **Khinalig village:**

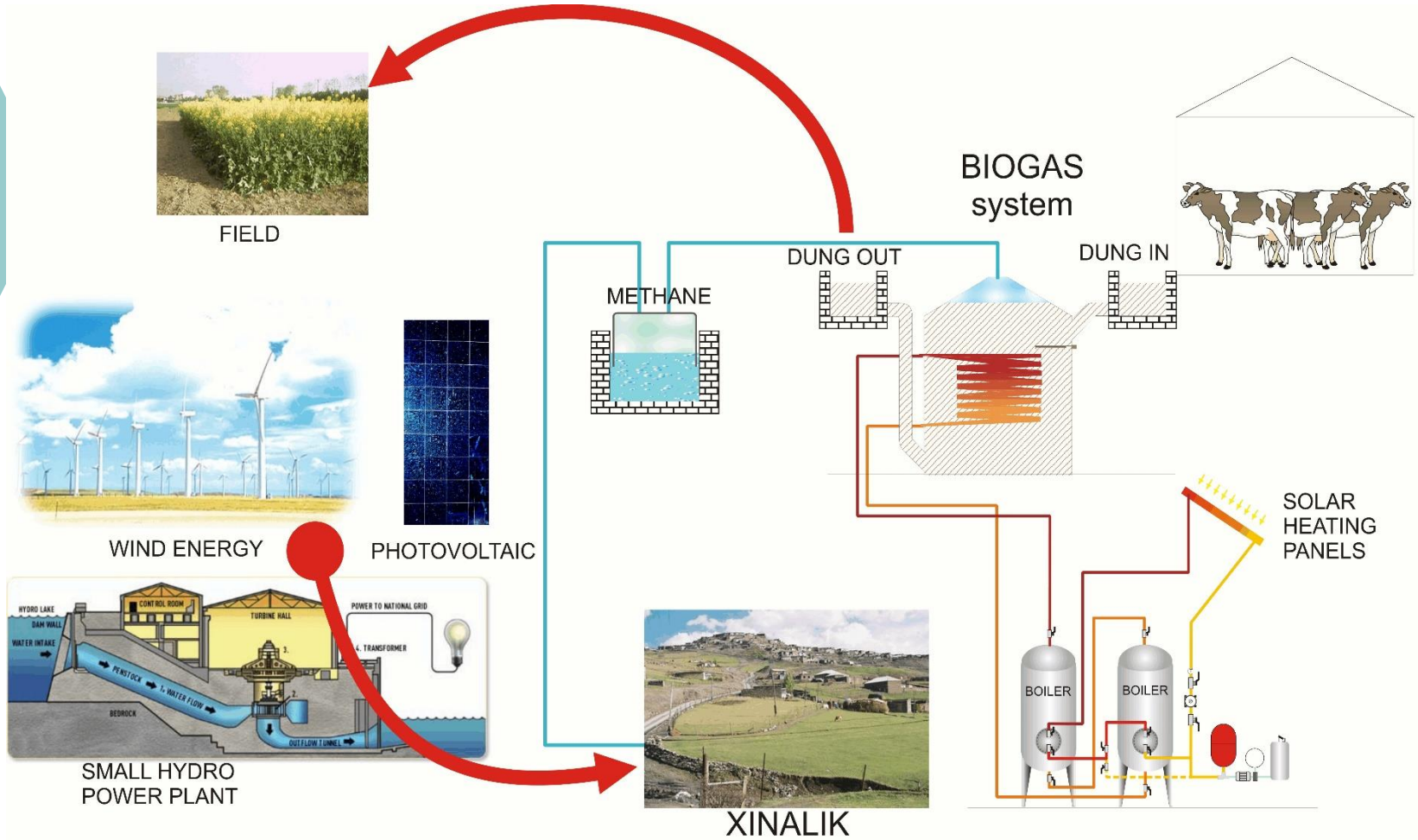
- One of the remote Caucasus villages with 228 houses and number of population about 3000, differing from other Azeri people by their specific language, tradition and culture
- Situated in the highest (2300 meters) mountains of Azerbaijan on the middle line of the Great Caucasus which separates Russia and South Caucasus
- Distinguished nature including ancient land of fire, rocks and wonderful forests that make this village an attractive recreation zone (at 2 hours distance of Baku city in the northern part of Guba district).







# Flow diagram of Energy Model of Khinalig





# HYDRO-HYDROGEN PILOT PROJECT FOR NIYAZOBA, KUBA-KHACHMAS, AZERBAIJAN

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- Two hydropower stations each 1 MW are planned for Niyazoba village
- 1500 kWt will be enough to meet local requirements
- The excess of energy – 500 kWt will be used for the production of hydrogen by electrolysis.
- The main purpose is to demonstrate perspectives of using the energy generated by intermittent renewable sources such as hydropower
- A long term goal of the project is to achieve a successful model of environmental friendly and cost effective hydropower-hydrogen technologies to further implement and provide large employment opportunities in other regions.

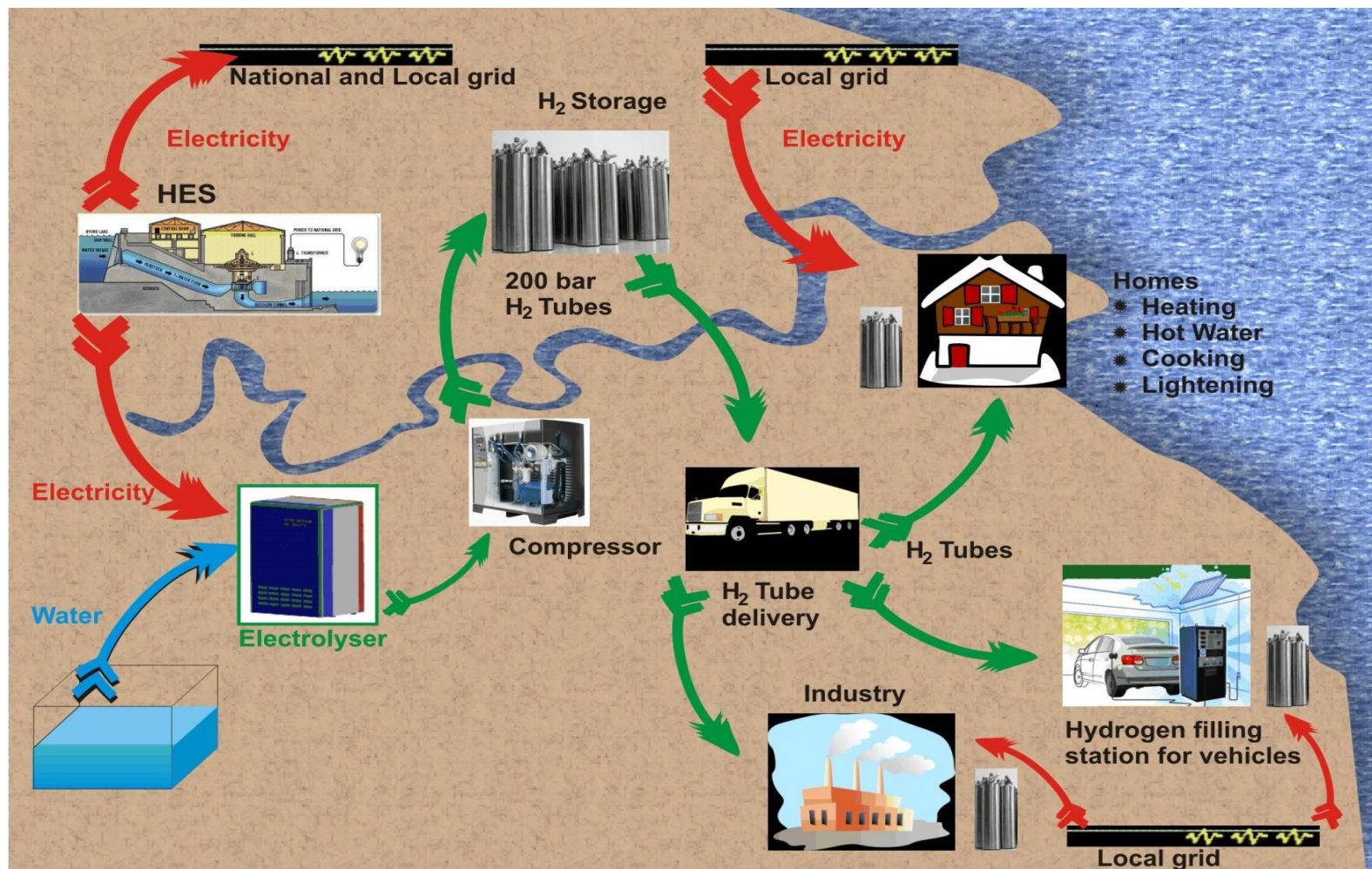


# The main advantages derivable from the project:

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- The combustion of H<sub>2</sub> used as fuel will contribute to reducing the amount of GHG, mainly CO<sub>2</sub>
- It is anticipated that 500 households (6000 people) will benefit from the Niyazoba plant. This initial project will lead to broader social and environmental advances and act as a model for further cogeneration plants. Conversion of hydro, wind and solar energy to electricity and to hydrogen will open a new venue for the efficient utilization of renewable energy resources in Azerbaijan
- The project complies with important international conventions on environment protection (climate change, desertification, protection of ozone layer, etc.) ratified by Azerbaijan
- It will provide large employment opportunities in rural Azerbaijan.

# Flow diagram of hydrogen production in Niyazoba, Guba-Khachmas region





# Computer network of energy and ecological database of the Republic of Azerbaijan

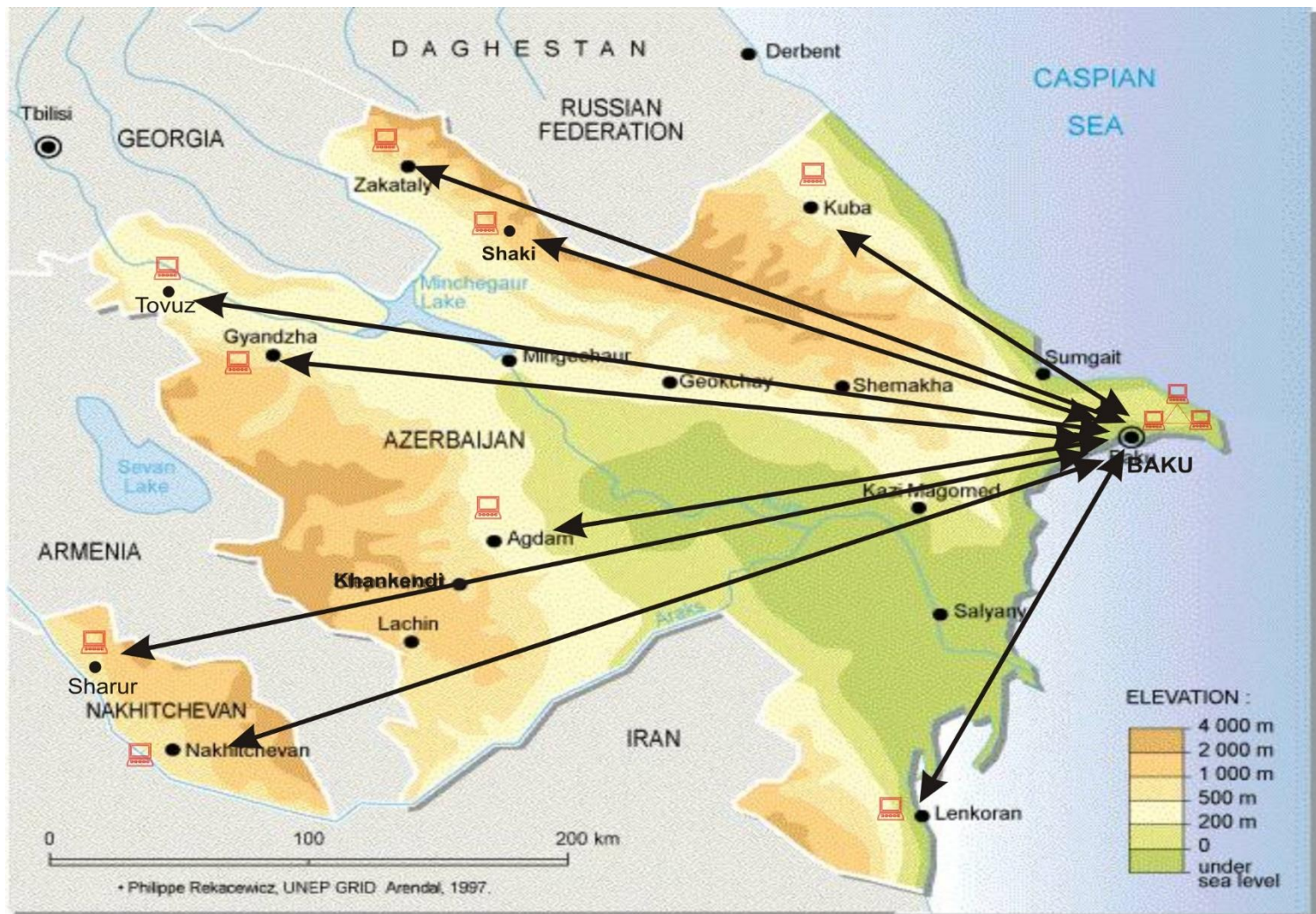
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This computer network designed to gather, analyze, process and provide necessary information to local and foreign investors including:

- Location and quantity of renewable energy resources- solar, wind, hydro, biomass and geothermal
- Ecological parameters characterizing soil, water and air quality in all territories

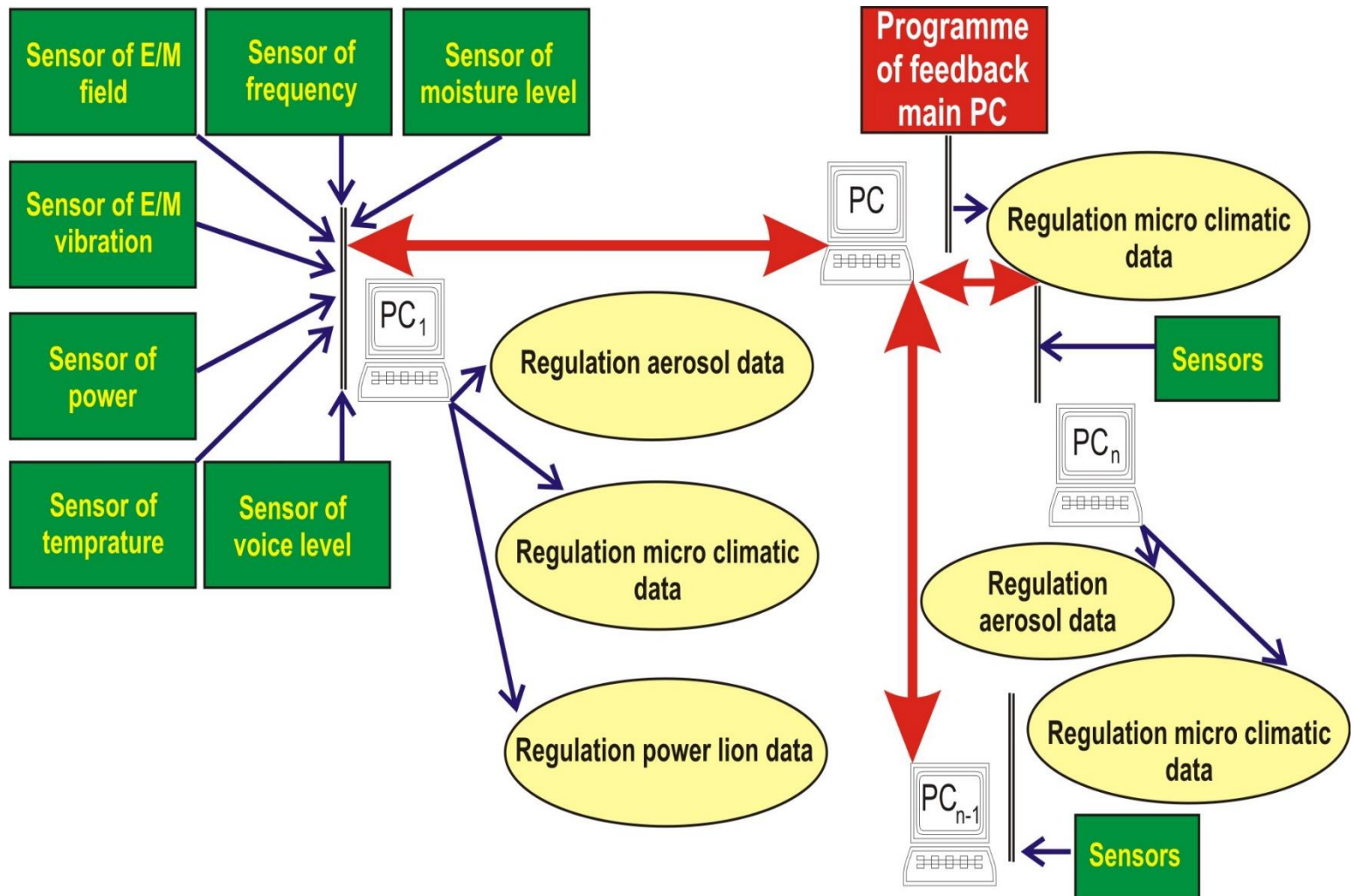


# A map of Azerbaijan global network of energy and ecological database





# Computerized data regulation system





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**THANKS A LOT  
FOR YOUR ATTENTION**