



# **STATE STRATEGY ON USE OF ALTERNATIVE AND RENEWABLE ENERGY SOURCES – 2015-2020**

## **SEA OUTCOMES**

### **LAND IMPACT ASSESSMENT**

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# IMPACTS ON LAND

## ○ **Wind Power Plants (WPP)**

- As a result of WPP activities, impacts on land are not expected. Impacts on land at the drafting stage – movement of heavy machinery and devices may lead to destruction of vegetation and soil compaction;

## ○ **Solar Power Plants (SPP)**

-Large area requirements for construction of a building and installation of equipments;

-Installation of plants for solar energy production and, loss of the upper fertile layer of the earth's surface caused by land clearing for construction;

- The use of chemical detergents in washing solar panels;

○ **Biomass** – positive impacts on land in normal operating mode in the use of biogas energy are expected, but significant impacts are not expected.



# IMPACTS

## ○ **Small Hydro Power Plants (SHPP)**

- Soil erosion along the hydroelectric dams/reservoirs and riverbed;
- Drafting stage of SHPP- forest land requirements for construction sites or areas reach with riverside vegetation, and demands for clearing of productive layer of land vegetation;
- With establishment of SHPP, generation of alternative electrical energy, positive changes, as well as additional water sources and land for irrigation can be formed.

## ○ **Use of Geothermal energy**

- Because of more or less mineralization of the processed water which generated during production, discharge of water to soils with no desalination can cause impacts;

# SUGGESTIONS

## ○ WPP

- Avoid drafting of lands rich with flora and fauna;
- At the stage of drafting- Movement of heavy equipment and equipment carrying devices on the specified routes, and top fertile layer protection;

## ○ SPP

- Avoid the use of forest and fertile land for development of renewable energy sources;
- Installation of plants in useless lands :
  - abandoned mine lands, lands available for use, low-quality lands;
  - Avoid the method of dry cleaning or use of chemical detergent, and provide waste water management.
- Backing of roof –mounted solar panels;



# SUGGESTIONS

## ○ SHPP

- Protection of soil fertility at the stage of drafting ;
- Drainage water, rain and waste management and measures on protection of soil polluted by chemical pollutants;
- Installation of plants for treatment and discharge of silty sediments periodically from the bottom of reservoir during building of dams;

## ○ Biomass (biogas)

- Biomass waste treatment of surrounding areas ;
- Organic mineral fertilizer which is cheap to produce;

## ○ Use of geothermal sources

- Re-injection of used thermal water, implementation in a closed system;



**THANKS FOR YOUR ATTENTION!**

