

- Introduction :

**The Ministry seeks to benefit from •
renewable sources of energy as a •
natural, non-depleting ,energy
(Solar energy, wind energy, biomass
energy, and geothermal energy).**

- Second - The achievements of the MIM in the field of renewable energy

- The Ministry conducts applied studies and researches that can be used in all areas of life (industrial, agricultural, living and health) as a clean source that reduces reliance on traditional fossil energy (Oil and gas),

- which the extraction and use causes of pollution to the environment through the modification and development of some of its production lines to switch from the use of gases that harm the ozone layer to the use of environmentally friendly alternative sources

- First- The projects of Ministry in the
- field of solar energy:
- The centers of the commission of Research and Industrial Development, one of the formations of our ministry, have carried out projects in this regard which are

1- Design and implementation of •
photovoltaic system of the building of
the Solar Energy Center , which is the
largest photovoltaic system independent
of the national network in Iraq for the
building of the center with a capacity of
(135 kW) and (360 V) to provide power
capacity (60 kW).

2 - Design and implementation of the •
PV system for military caravans, or
mobile offices of the resident
engineer with a capacity of 4420
watts and 48 volts to operate some
basic loads of 600 watts for 24 hours
per day.

- **3** - Design and manufacture of household solar boilers with a capacity (160 liters) depending on the potential and raw materials available locally in cooperation with Ur General Company and Al-Faris General Co .

4 - Use of solar tubular •
vacuum to provide hot water
for centers of commission of R
& industrial Development .

- **5** - Design and manufacture of photovoltaic systems in the fields of in the fields of :
- - Filtering , Desalination and Sterilization (RO)

With a capacity of (1000 liters daily) .

- Radio communication, aerial monitoring and seismic monitoring (mobile or fixed) at the Ministry of Transportation / General Organization for Aeronautical and Seismic Monitoring

- The house system of the marshes (5900) watts (household appliances) and work for (24) hours.
- - Design and manufacture of solar electric car speed (40) km / h.
- - The Ministry has sought to reduce the load on the national electrical

- grid through the design and implementation of solar lighting systems (2000) system of public streets, gardens and runways of airports distributed to more than (10) sites in the province of Baghdad and its suburbs, as well as (50) street lighting system industrial R & D

- Manufacturing the of the insect •
traps

- Radio communication, aerial monitoring and seismic monitoring (mobile or fixed) at the Ministry of Transport / General Organization for Aeronautical and Seismic Monitoring

- The system of operation of incubators in the transplant chamber (culture media) for the Ministry of Science and Technology.
- - Traffic signal system with a capacity of (280) watts, which work for 12 hours .

- Bayt AL – Hwar system with a • capacity of (5900) watts (household appliances) and work for (24) hours.
- Design and manufacture of solar • electric car with speed (40) km / h.

- The Ministry has sought to reduce the load on the national network through the design and implementation of solar management systems (2000) , system for public streets, parks and runways distributed to more than (10) sites in the province of Baghdad and (50) systems to illuminate the streets of the Industrial Research and Development Commission

- Design and manufacture of solar freezers and refrigerators with a number of (104) for the Ministry of Agriculture and the capacity of (420) watts , which work for (24) hours .

- Design and manufacture of solar evaporative coolers. •
- Design and manufacture of solar distillers. •

- Design and manufacture of solar cooker.
- - Design and manufacture of solar water pumping systems with capacity of 15 kW and depth of (5 - 100 m) and pumping capacity (20-70)m₃. These systems are working for (10) hours per day. The project was implemented in Abu Ghraib

Second: - Biomass and wind energy •
projects

- - Design and manufacture of biomass system for the production of fuel especially in rural areas.
- - Design and manufacture of wind turbines to generate electricity with a capacity of (0,5) kW to the Ministry of Defense.
- - Design and manufacture of windmills to pump water for agricultural purposes up to a depth of (30) meters and the amount of pumping (5.5) liters per run

- Third :Technical & Economic Feasibility Studies
- - Industrial research and development Commission has prepared (10) feasibility studies to offer investment opportunities or participate in energy projects .

- - Recycling and processing of solid waste with a production capacity of (250) thousand tons per year to produce (25) MW electric power and (25) million building blocks annually from environmentally friendly plants.
- Forth : The Ministry's activities in the field of renewable energy

- Our Ministry is a member of the Joint Council to follow up the implementation of the National Renewable Energy Initiative project.
- -Holding (6) conferences and (14) scientific sessions ,(362) published research in the field of renewable energy and the environment

- Thank you for your kind attention