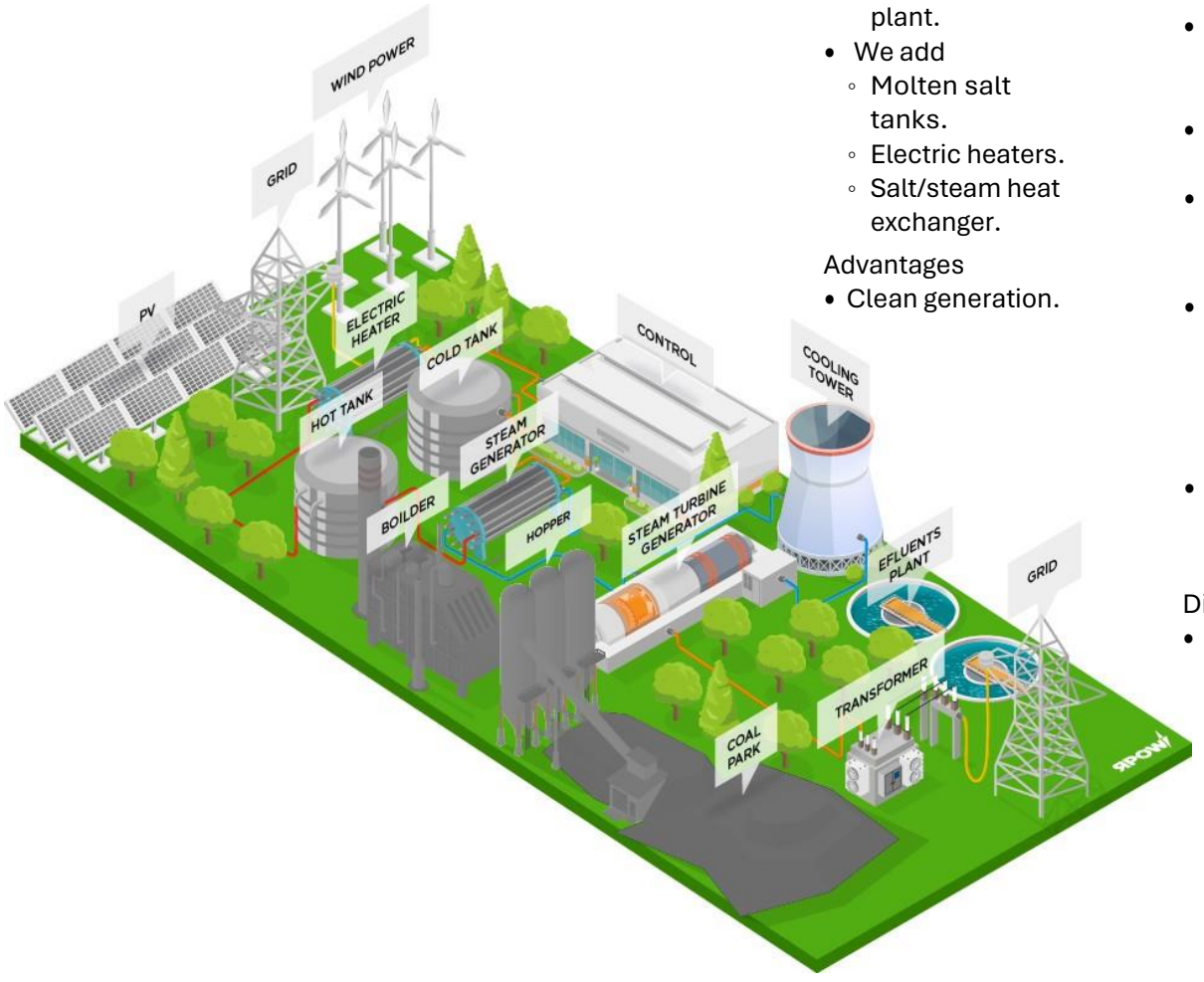
RETROFIT

Decarbonization of electricity generation is a priority for energy operators, who are increasingly turning to renewable energy production.

This poses a problem for owners of certain generation assets about what to do with fossil fuel facilities, such as coal or fuel-fired power plants.

On the other hand, the significant increase in the contribution of non-dispatchable renewable sources (wind and photovoltaic) threatens to cause instability in the transmission grid due to temporal decoupling between supply and demand, leading to disconnections and, therefore, loss of energy.

The RPow team can support in the approach to convert coal-fired power plants into large modernized plants, which absorb excess energy from the grid when it is produced, storing it as thermal energy in molten salts, and releasing it through the Steam Turbine of the former coal-fired power plant when needed, i.e., when demand cannot be met by wind or photovoltaic sources.



This solution would allow to enhance the value of part of the coal-fired plants, maintaining their activity and giving a green change to their electricity production.

Going into more detail, the boiler and associated fossil elements (coal park, etc.) would be eliminated, and a thermal storage system would be added whose charging cycle would depend on renewable sources or low-cost energy surpluses.

Elements such as steam turbine, evacuation line, transformer, cooling towers, and water treatment plant would be maintained from the previous installation.

In summary:

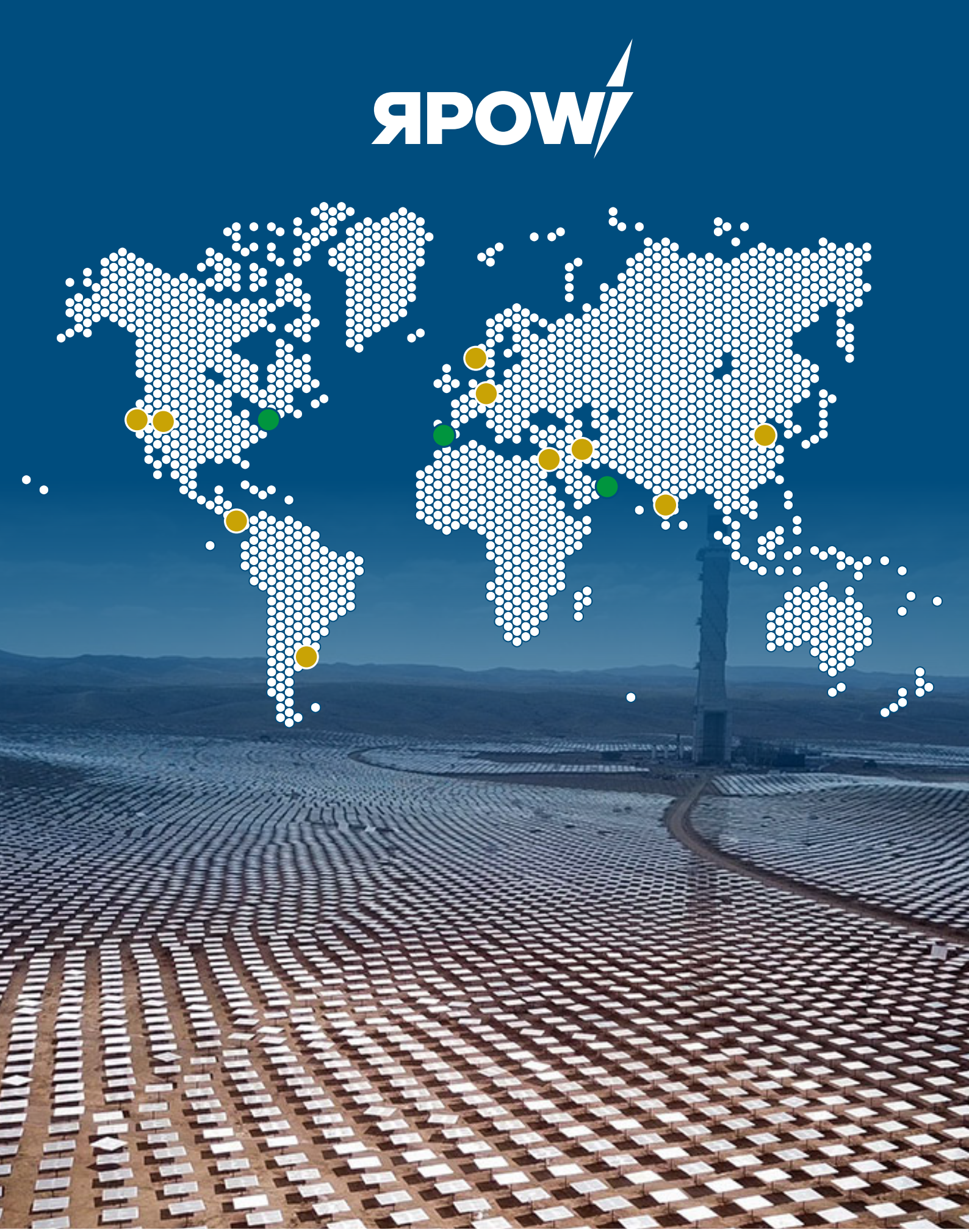
- We remove
  - Coal/fuel boiler.
  - Coal park / fuel tanks.
- We maintain
  - Turbine.
  - Transformer.
  - Cooling towers.
  - Effluent treatment plant.
- We add
  - Molten salt tanks.
  - Electric heaters.
  - Salt/steam heat exchanger.

Advantages

- Clean generation.
- Maintaining assets with a new life.
- We offer grid management capacity with a short response time (ramp up).
- Positive economic balance (OPEX).
- CAPEX reduction in the face of possible dismantling.
- Use of renewable sources during high supply peaks.
- Trained personnel in the operation area, easily convertible.
- Maintenance of employment and settlement of the population in the Asset area.
- Reduction in employment termination costs.

Disadvantages

- Energy losses from a thermal engine, but are not true when surplus renewable energy is used; otherwise, it would not be captured from nature.



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