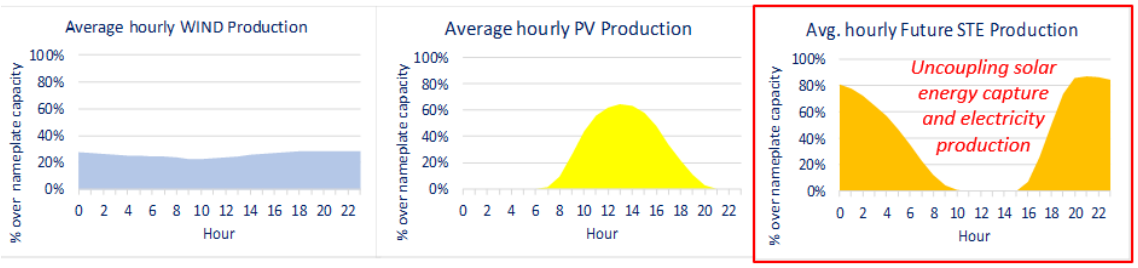
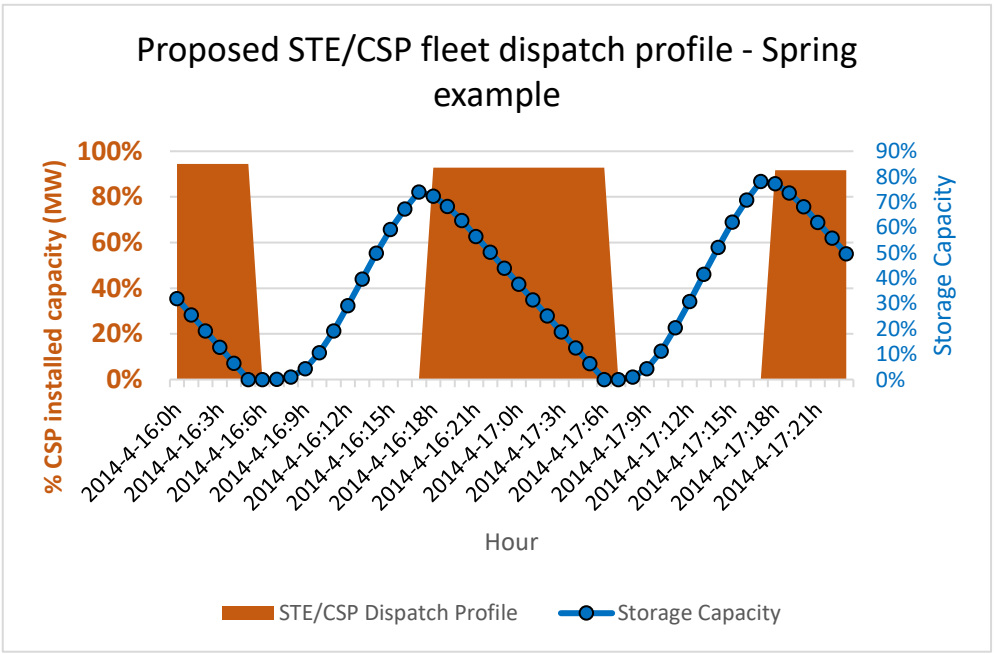
Summary of comments by ESTELA to the Draft Integrated Resource Plan 2018 (IRP) consultation process

The key messages:

- South Africa is blessed with one of the **highest levels of solar radiation** in the world.
- **Decarbonization at affordable cost** should be the main goal of the capacity planning for the South African electrical system in the next decade.
- Based on the **current and expected price levels for both PV and CSP** electricity generation, South Africa should plan a **high share for solar energy** in its electricity mix.
- PV can deliver electricity at unbeatable prices during daytime, but it always requires backup when the sun goes down.
- Therefore, uncoupling solar energy capture and electricity production via a '**smart' solar generation mix (with CSP plants storing solar energy in molten salt tanks complementary to solar PV) is competitive against fossil fuel-based backup or battery backup**.



How is this possible?



- Such dispatch profiles for CSP plants were not considered in the models that lead to the IRP draft proposal.
- In addition, **prices** for CSP were not updated and **decarbonization** not considered as a priority.

  CSP can deliver electricity at similar prices than new gas combined cycles – as proven for the DEWA project in Dubai and in other auction or tendering processes in Australia or Chile.

  The prices for CSP electricity will be lower compared to gas in 2030 as a result of the expected cost reductions for CSP and the price increases for gas and CO_2 emissions. The Levelized Cost of Electricity (LCOE) of CSP plants are already below 10$c/kWh in countries with lower solar resources than South Africa.

- CSP plants constructed in South Africa brought **significative local content**. The obligations regarding **job creation** have been achieved and often exceeded. Therefore, a CSP program will substantially contribute to the **increase in GDP** more than any other renewable generation technology.

ESTELA's recommendations for the final version of the IRP:

1. **To check the cost of the suggested mix, using current updated and forecasted costs for CSP plants, since these costs would be similar or perhaps lower than the cost resulting from the mix presented in the draft IRP exercise and with a much lower emission level, together with an important contribution to the country's economy.**

2. **To allocate 5000 MW for CSP plants (with a complementary operational profile to PV) instead of the 1000 MW new capacity in coal and of 4000 MW (out of 8100 MW) of the proposed new capacity in gas, while keeping the same proposed new capacity in wind and PV.**

3. **CSP plants will be designed for 4000 hours at equivalent nominal power per year. They will generate synchronous power with similar capacity factors to the fossil plants.**