



SACASOL
San Carlos Solar Energy Inc

Why Solar Energy?

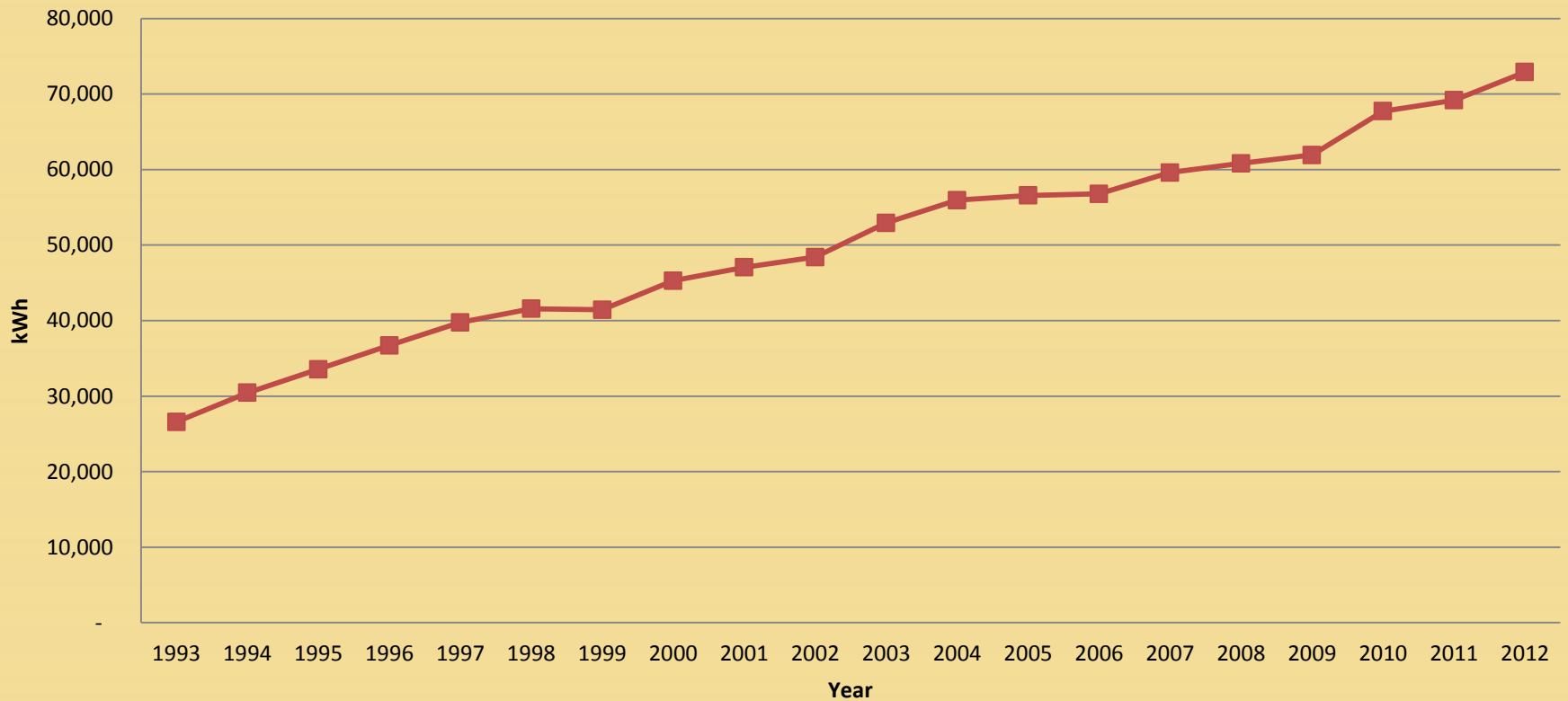


- Help address growing demand for power
 - most reliable form of power generation
 - fastest to construct
 - good source to address peak demand
- Energy independence and security
 - increase self sufficiency in energy supply
 - de-risk uncertainties of imported oil
 - hedge against increasing volatility of price of coal
 - decentralized application in remote or off grid networks

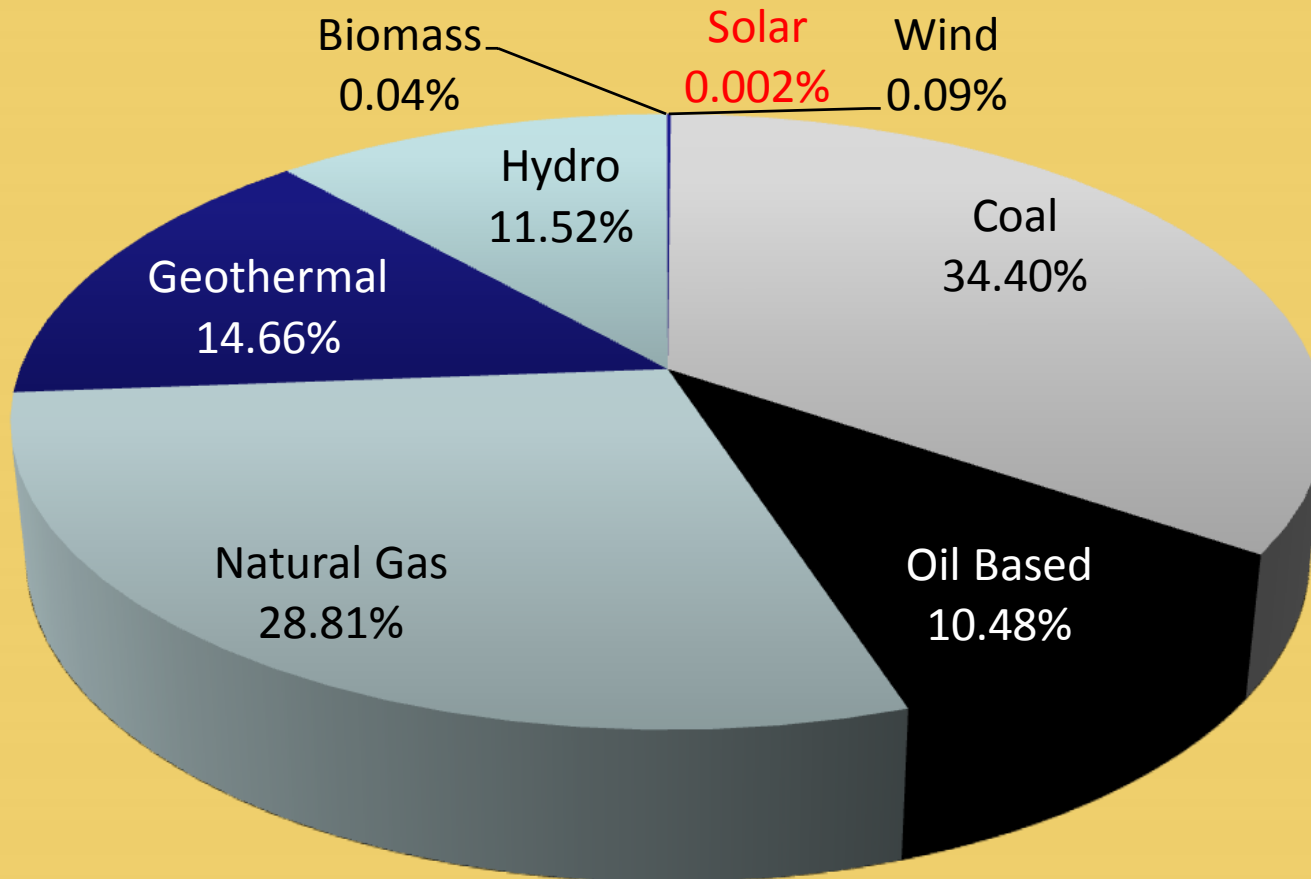
Market Demand



Electric Energy Consumption of the Philippines
(In Million kWh)



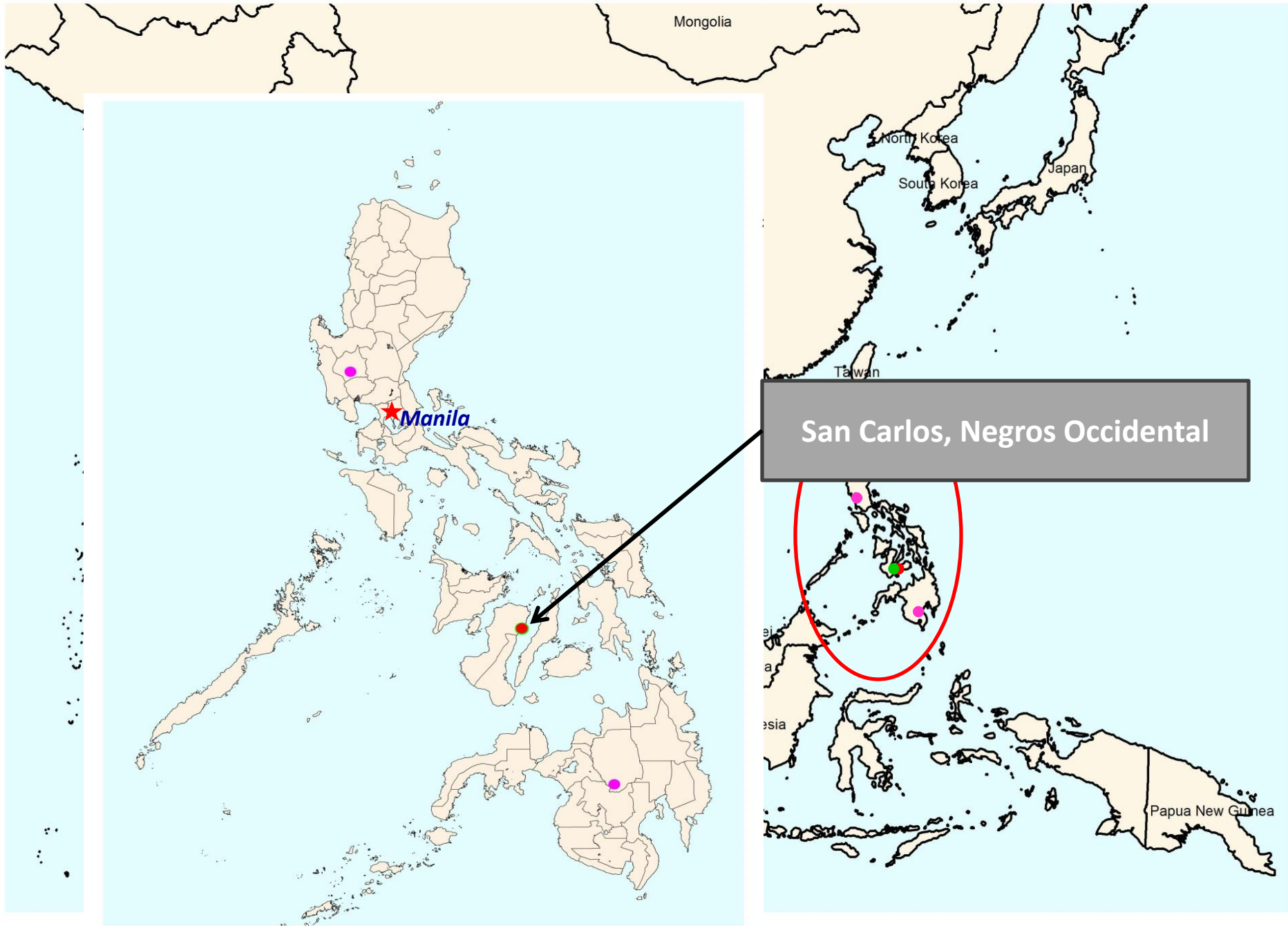
Energy Mix



Why Solar Energy?



- **Guaranteed Market**
 - Renewable Energy Act 9513 of 2008
 - priority dispatch provides guaranteed market
 - feed-in-tariff makes it viable
 - increased allocation (?)
- **Minimal Environmental Impact**
 - silent, clean and unobtrusive
 - physically inert and environmentally benign
 - no emissions or by-products



Mongolia

North Korea

South Korea

Japan

Taiwan

San Carlos, Negros Occidental

Manila

Papua New Guinea

San Carlos Solar Energy

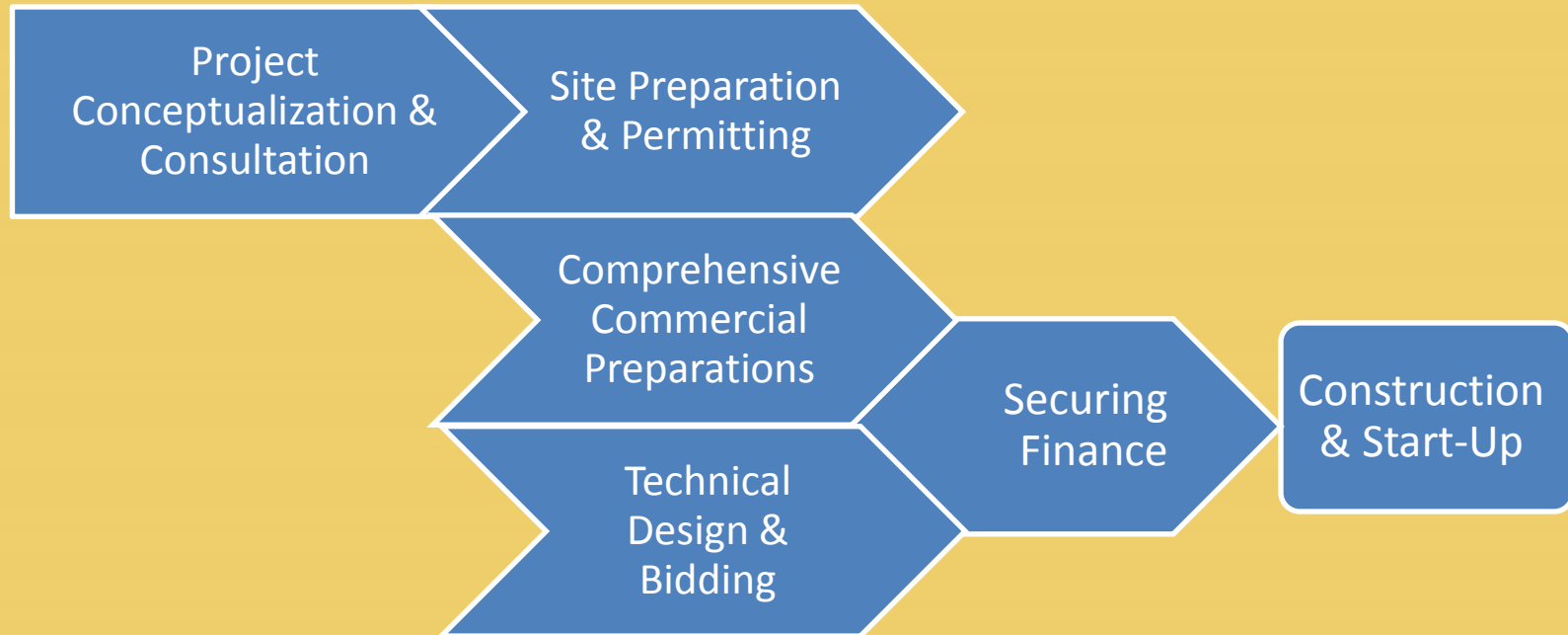


San Carlos Solar Energy

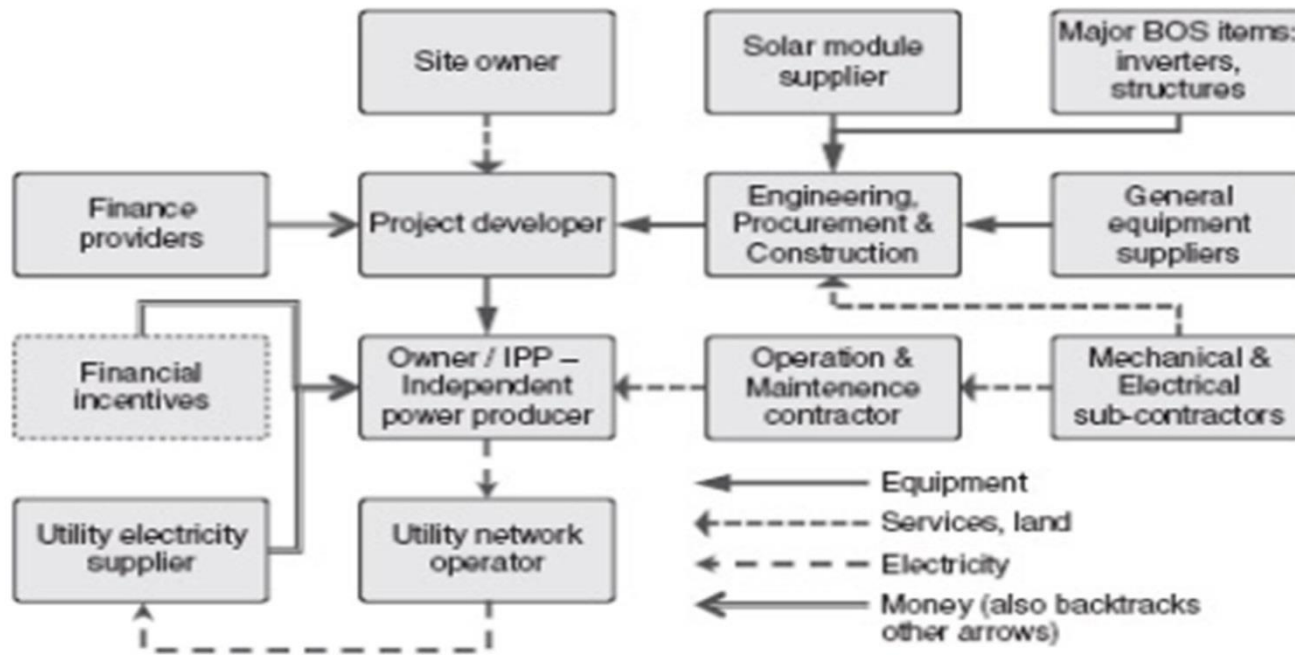


- ❖ 22 MWp DC total capacity in 2 phases
- ❖ Phase 1A at 13 MWp ; Phase 1B at 9 MWp
- ❖ Utilizes photovoltaic (PV) technology
- ❖ 88,000 PV modules
- ❖ 22 inverters
- ❖ 35 hectares
- ❖ Supplies daytime peak power to the local grid
- ❖ Displaces 17,000 tons of CO₂
- ❖ USD \$48M

Project Development Process



Structuring Solar Projects

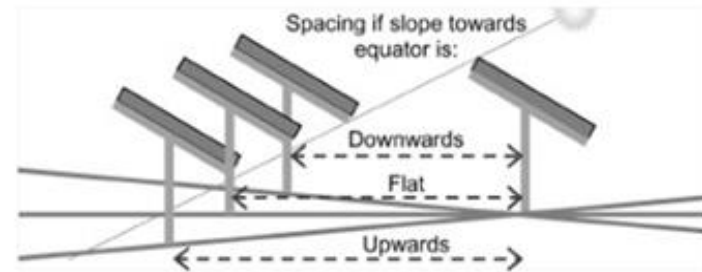


The primary parties in a mainstream solar power project.

Planning Solar Projects



- Location, location, location
 - Topography and Geophysical characteristics
 - Geotechnical considerations
 - Solar radiation
 - Electricity Grid network
 - Site permits
 - Performance modelling



The impact of slope on row spacing.



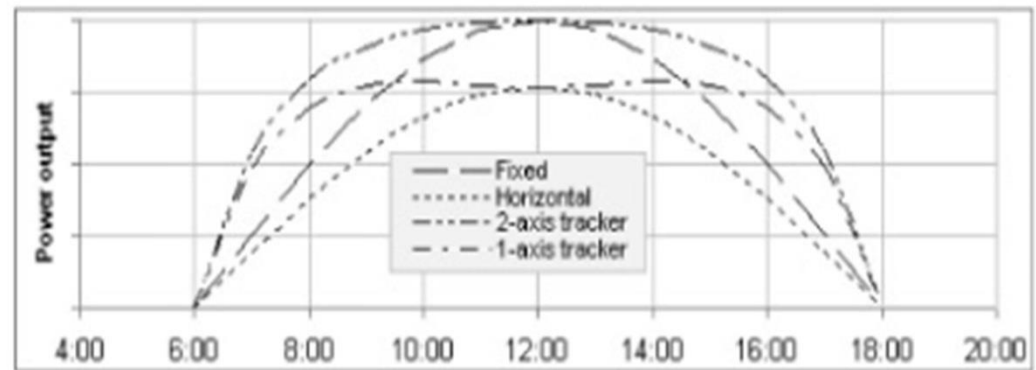
The free-field solar plant at Střebro in the Czech Republic (Courtesy: S.A.G Solarstrom AG).

Planning Solar Projects



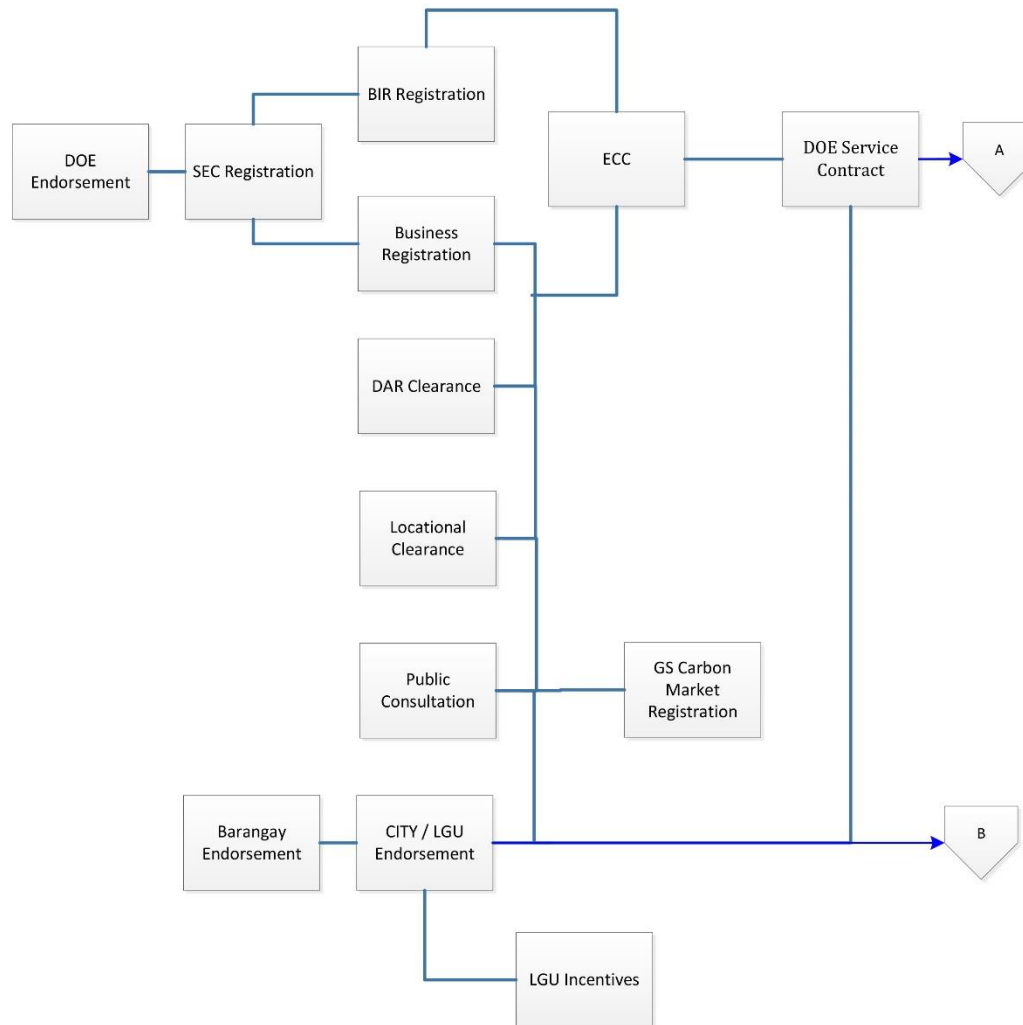
Selection of:

- EPC contractor
- Solar array
- Solar module
- Fixing method
- Owners Engineer

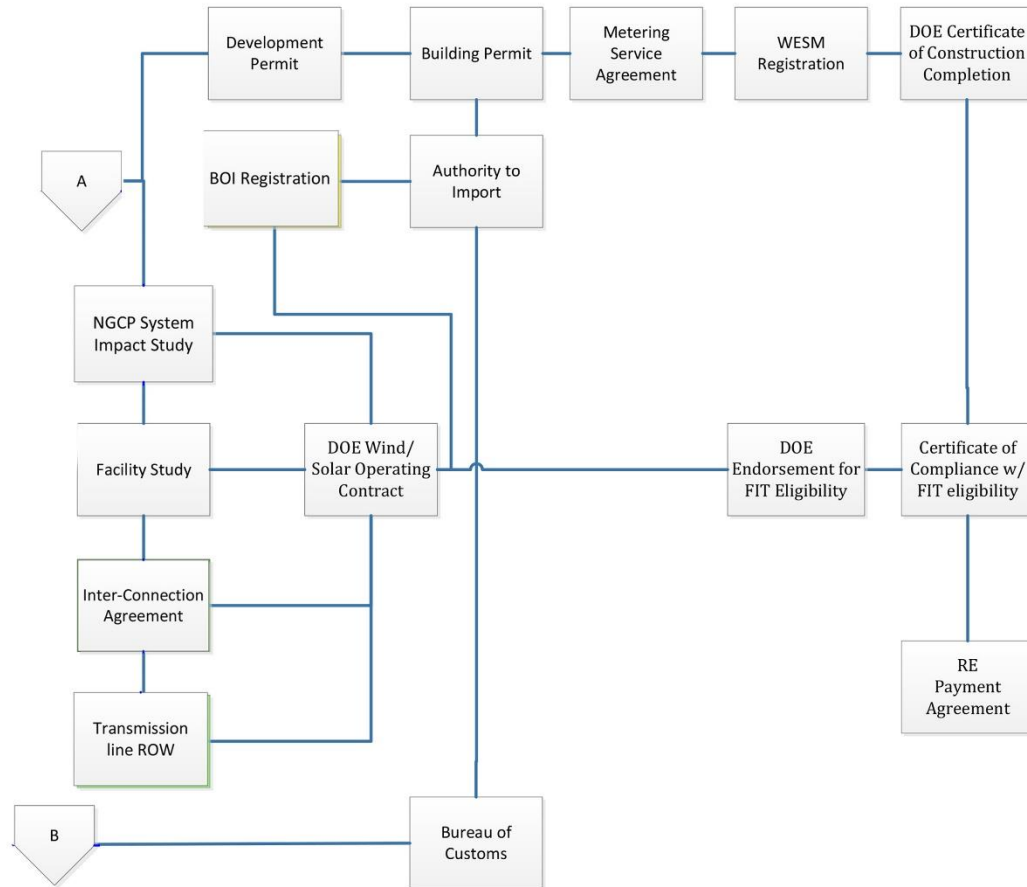


Sample daily output profiles for tracking and fixed-tilt arrays.

Permit Chart



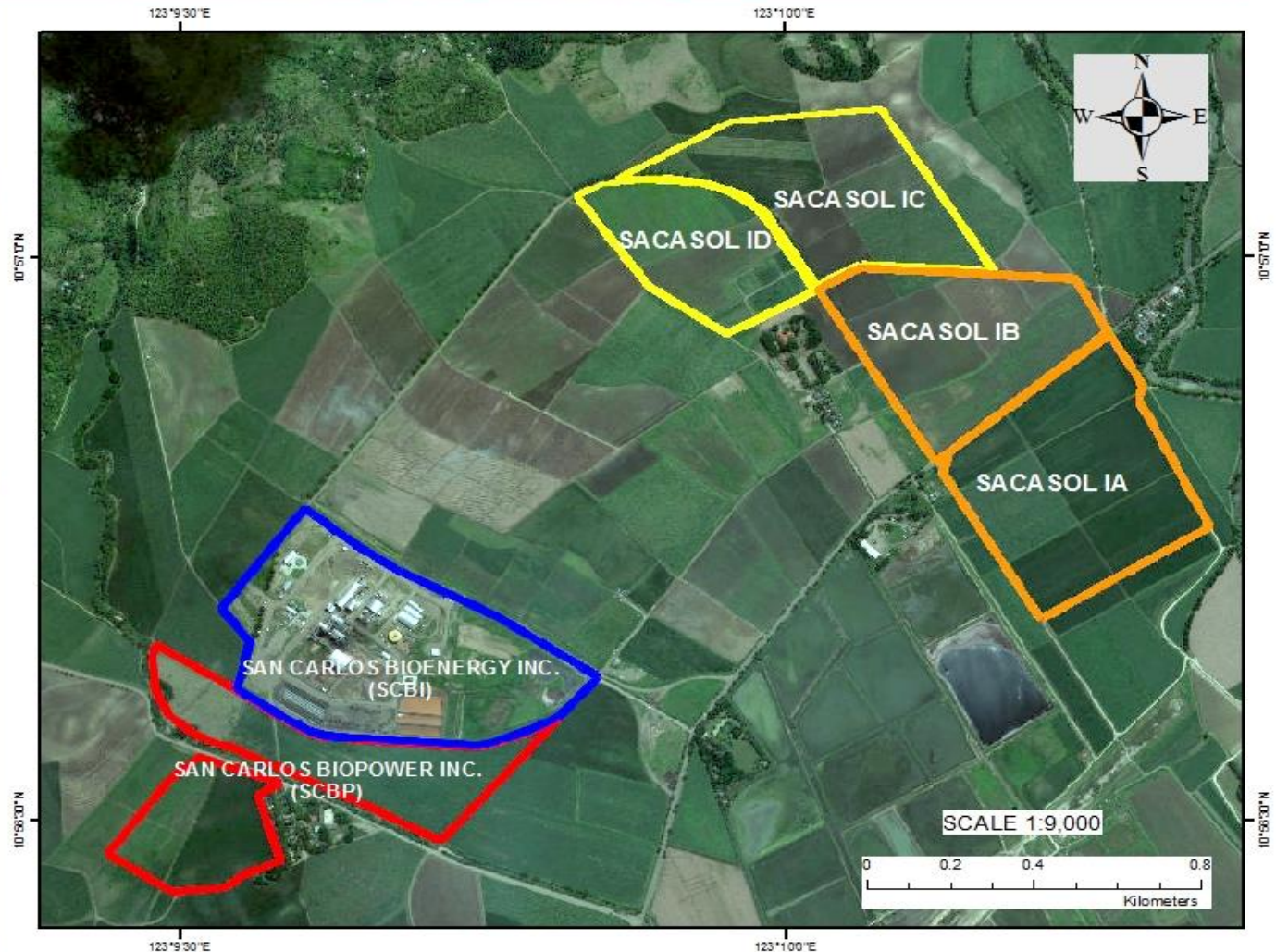
Permit Chart





POWERPLANT SITE LOCATION

SCBI • SCBP • SACASOL IA & IB • SACASOL IC & ID
CITY OF SAN CARLOS, NEGROS OCCIDENTAL

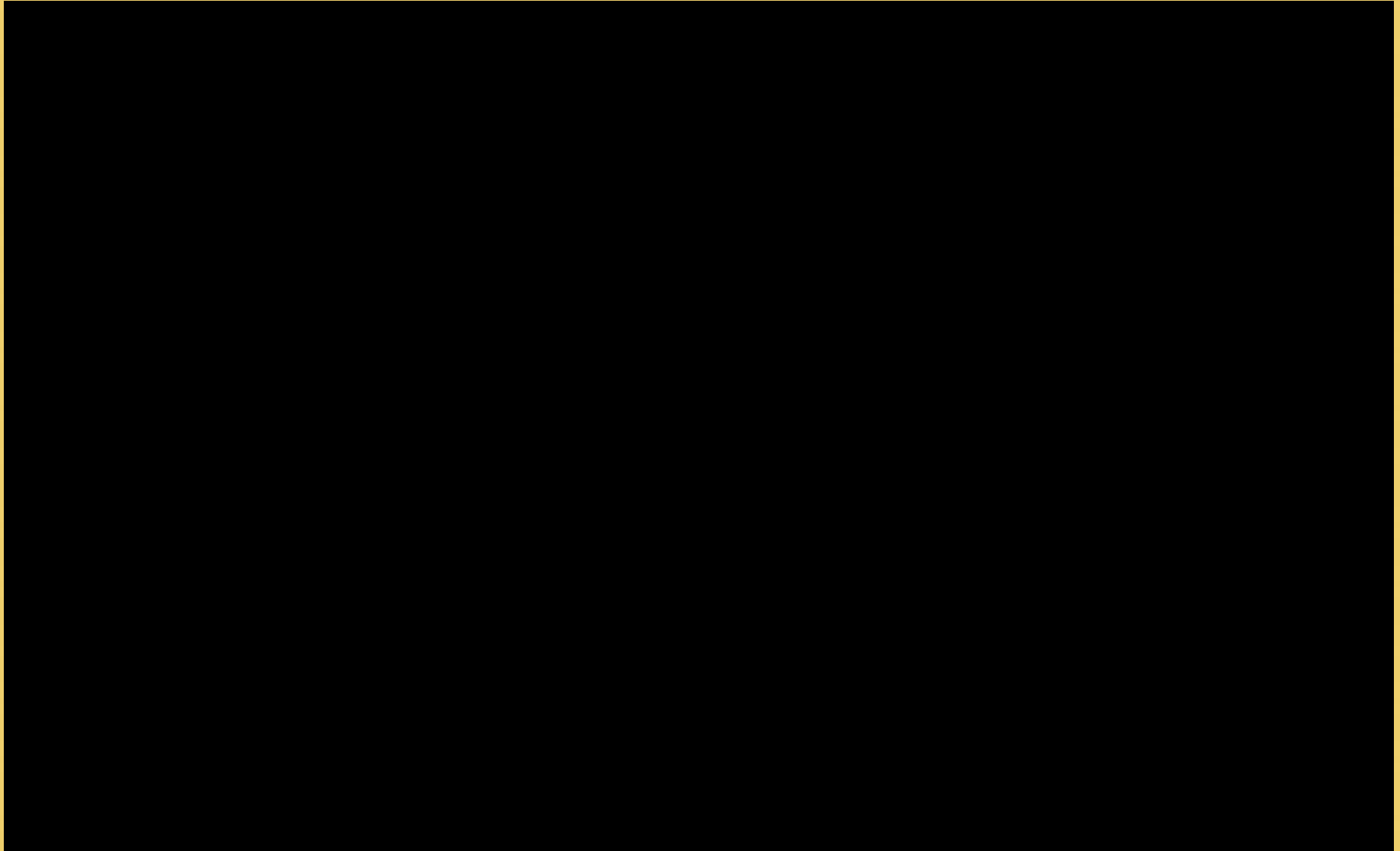






President Benigno S. Aquino III, assisted by Energy Secretary Carlos Jericho Petilla, SACASOL chairman Jose Maria Zabaleta and president Jose Maria Zabaleta, Jr., and ThomasLloyd Group chairman T.U. Michael Sieg, leads the Ceremonial Switch-on of the San Carlos Solar Energy, Inc. (SACASOL) Phase I during the Inauguration Ceremony at the San Carlos Ecozone in San Carlos City, Negros Occidental on Thursday (May 15). The SaCaSol project is a greenfield, stand alone solar farm that would supply daytime base load power to the local grid throughout the entire year. (Photo by Rey Baniquet / Malacañang Photo Bureau / PCOO)

Time Lapse Video



Aerial Video





Thank you