# **#Power Trading strategies for the current and a new market design**



electricity2018.org, Eilat | November 9th, 2018 | Dr. Max Scheidt



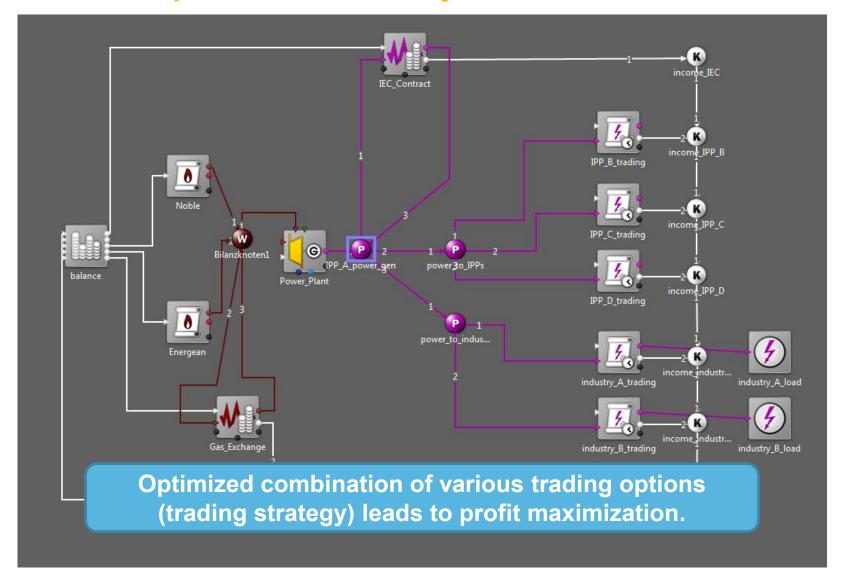




### Power trading

Status quo

#### Different options to trade day-ahead

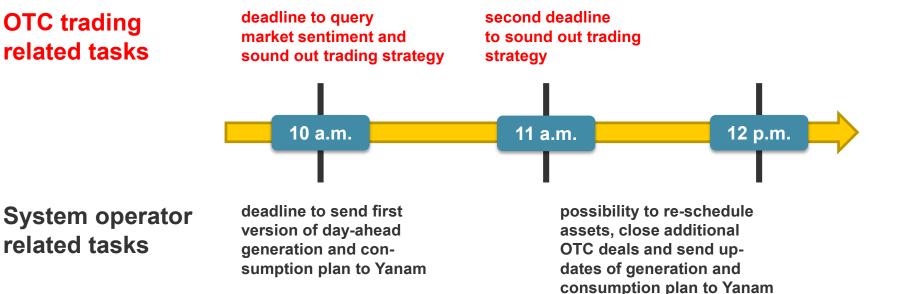




#### Timeline for OTC day-ahead trading



related tasks



deadline for sending final version of day-ahead generation and consumption plan to Yanam

#### OTC trading strategy to maximize margin:

- Power producer: Find the right share where to sell
- Power consumer: Find the right share where to buy



#### Next step: digitization of OTC trading

#### Striking advantages

#### **Platform concept:**

- Standardized products, interfaces and contracts
- Faster and simpler operation compared to analogous trading
- Lower transaction costs
- Lower inhibition threshold increases market liquidity





#### Next step: digitization of OTC trading

#### Striking advantages

#### **Digitized OTC trading for consumer**

- Quick price overview and transparency
- Direct purchase confirmation and processing
- Lower electricity prices due to diversification of power purchase

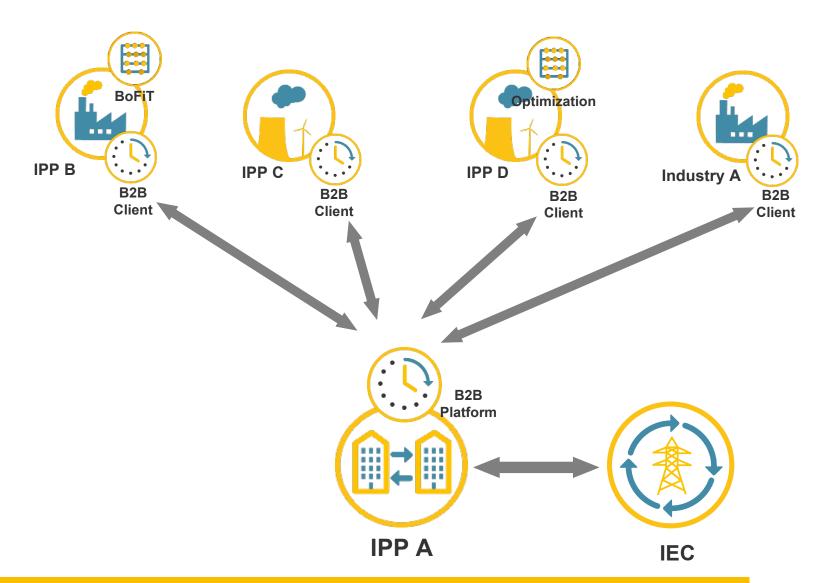
#### **Digitized OTC trading for producer**

- Consideration of possible OTC deals in portfolio optimization
- Expansion of trading opportunities
- Platform operation supports customer retention





#### Digitization of OTC trading: B2B platform concept



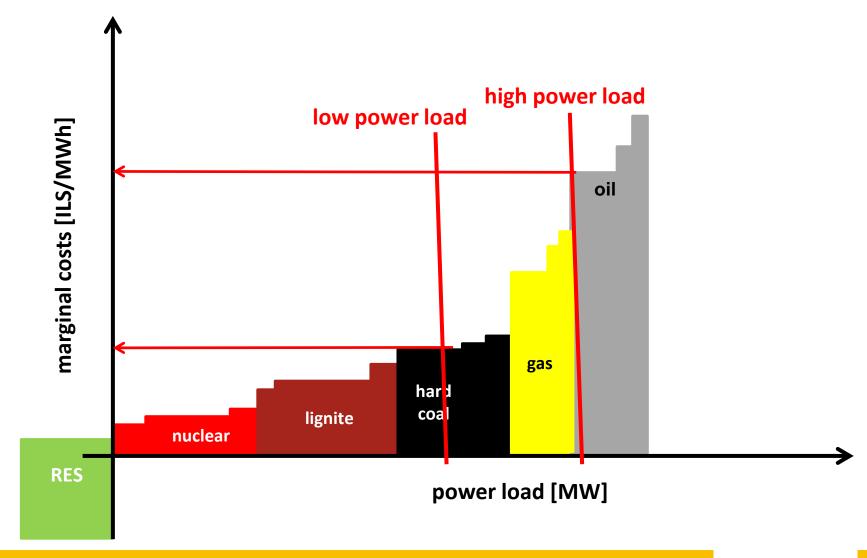






## Power trading Future outlook

#### System marginal price (SMP): merit order pricing model



## Knowledge of merit order means benefit for trading and contracting

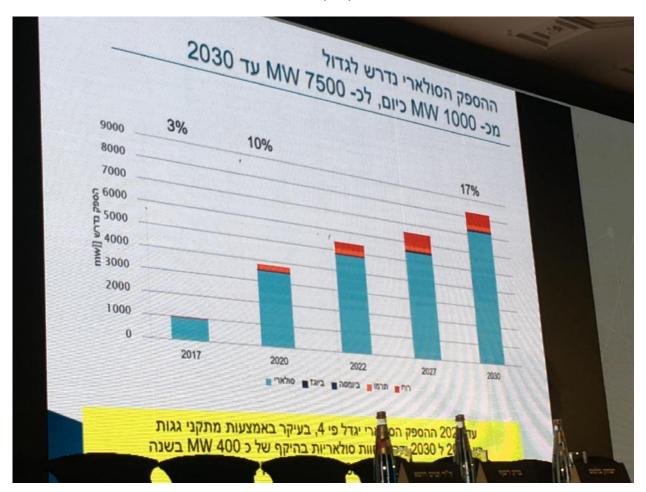
- Generate merit order for each hour/power product via fundamental model (reverse engineering) or marginal cost price forecast → SMP forecast
- Producer places own power plants and competitors' assets in this merit order
- Consumer places their demand
- Producer: Derive market situations where own power plant's marginal costs are below the SMP
- Consumer: Derive market situations where SMPs lower than second-best alternative (long-term power contract)

Basis for determining power prices and trading strategies



#### **Expected/Necessary Increase of Renewables**

Based on annual demand increase of  $\sim 2.3\%$  (??)

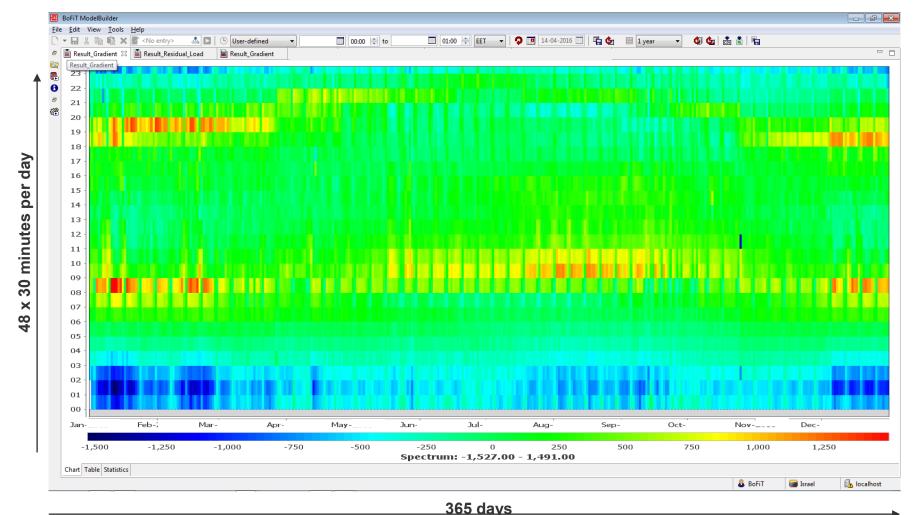


Dr. Nurit Gal, PUA, "Developing the Electricity Market", electricity 2018, Eilat



#### **Power Plant Ramping in 2017**

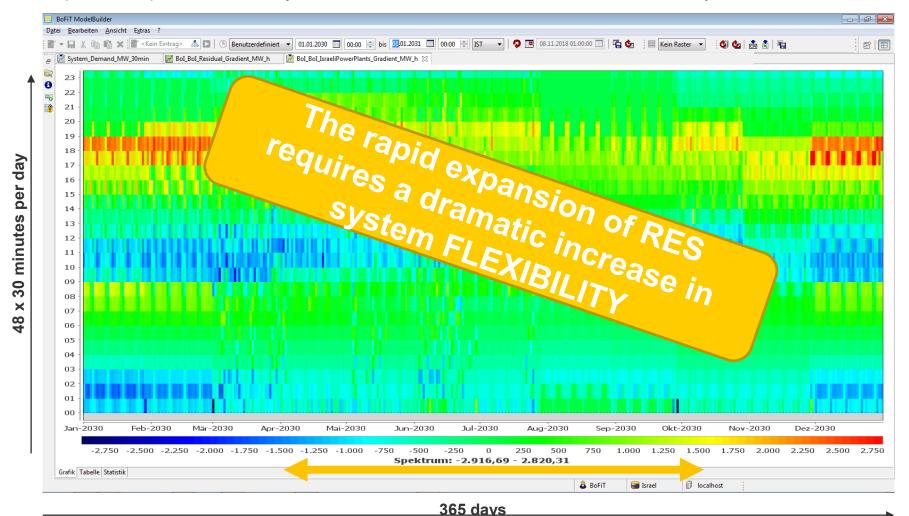
Spectral Representation - System "as is"





#### **Power Plant Ramping in 2030**

Spectral Representation – System "as is" + RES + Kochav HaYarden, Gilboa Hydro Plants



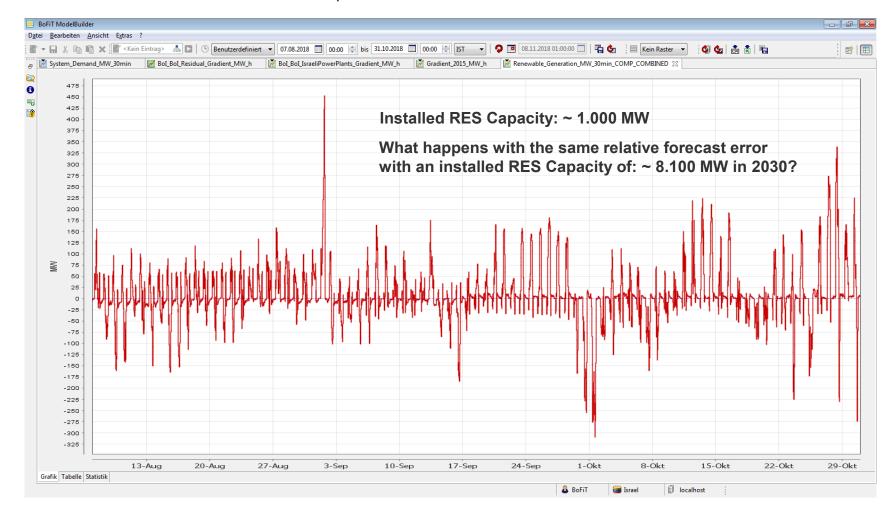


#### Additional Uncertainty: Forecast Error

(2018)

Source: Yanam, 2018

Expost Renewable Generation - Renewable Generation Forecast



#### **Open Questions**

#### Given a Day-Ahead Market with SMP pricing, only:

- How will the physical uncertainty of RES generation translate into the economic world?
- How will updated weather forecasts influence the plant dispatch?
- What will be the price basis for deviations from the day-ahead contract?



#### Any more questions?



