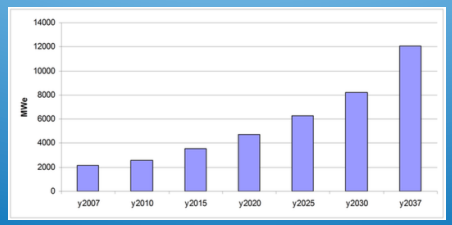
Investigating Renewable Energy Potentials in Jordan

Leen Hayek '16
Picker Engineering Program

Background

Background

- Rapid increase in population
- Increase in electric demand
- Political situation in neighboring countries



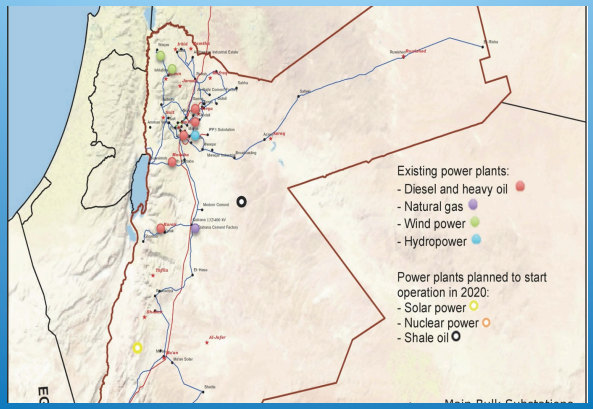
Motivation

The need to develop alternative electric power resources to support Jordan's development, focusing on solar and wind power alternatives.

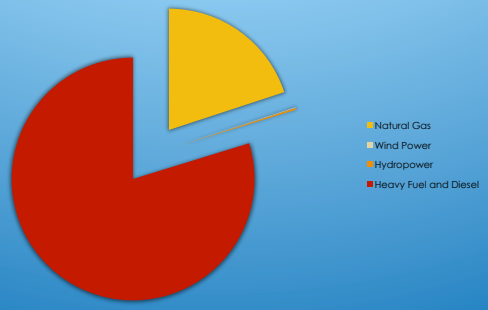
Process

- Research on generation facilities
- Wind and Solar availability research
- Electric demand data
- HOMER sensitivity analysis

Generation Facilities

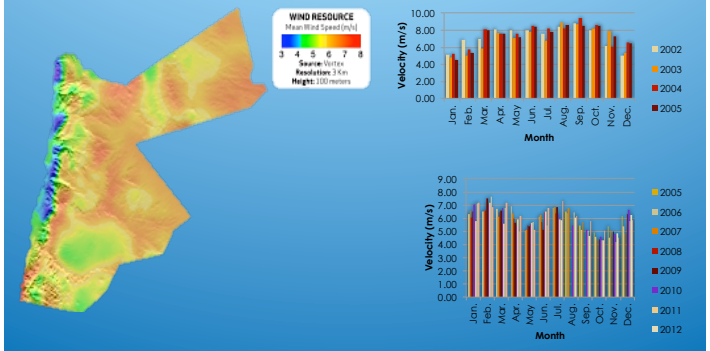


Existing Generation Facilities

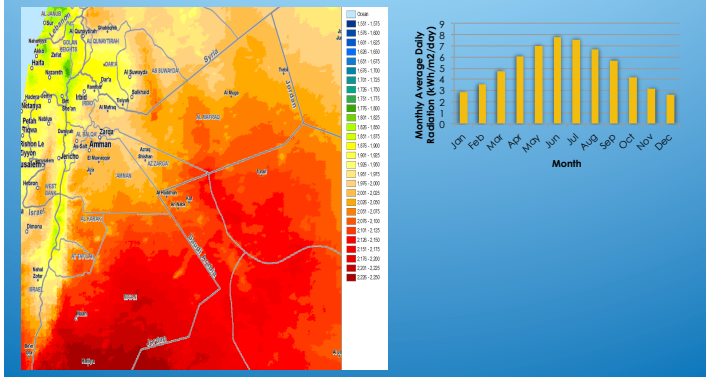


Generation Facilities under Construction

Wind Availability

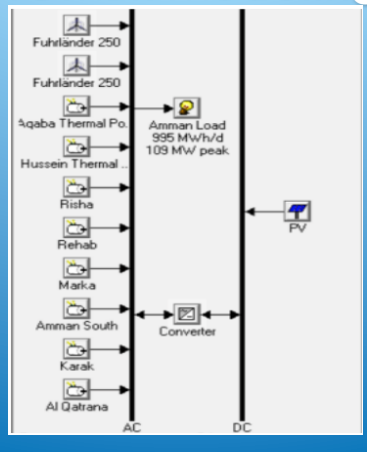


Solar Availability



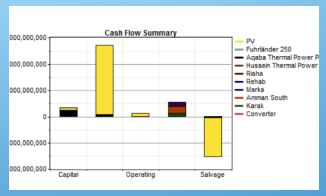
Selected Cities

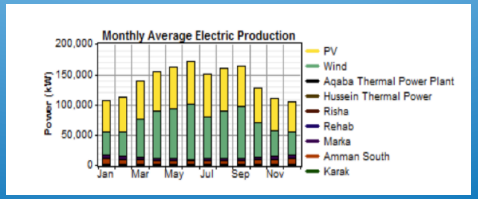
HOMER Modeling



Use of Wind and Solar

- system cost $2,183,038,208, - operating cost was $145,113,536/yr
- levelized cost of energy was calculated to be $0.470/kWh.





Next Steps

- Further modeling of base cases
- Modeling larger range of scenarios

Acknowledgements

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Thank you!