



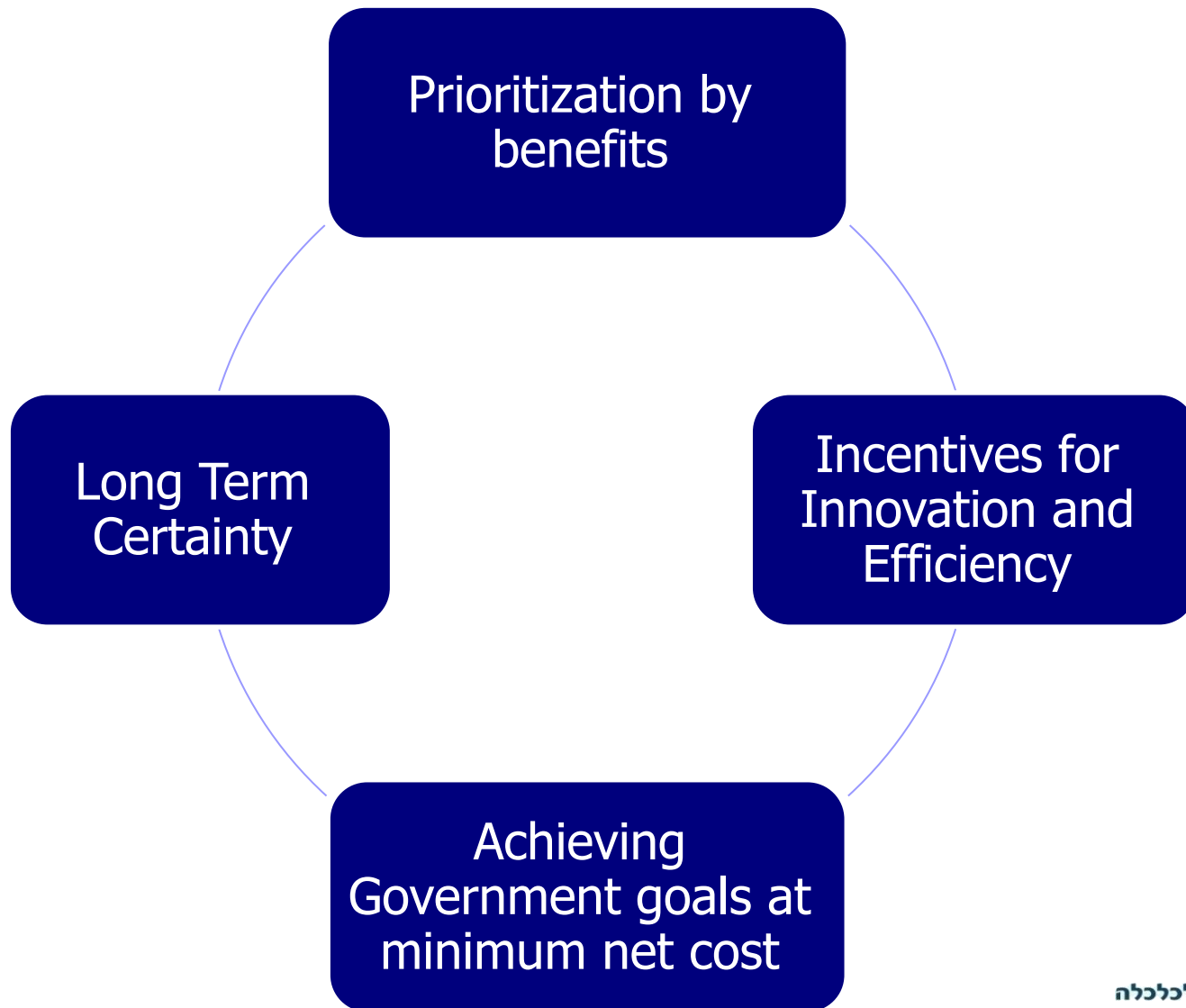
# **Renewable Energy Benefits to the Israeli Electricity Market**

Inter-Ministerial Committee Report

Prof. Eugene Kandel, National Economic Council

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# Why measure benefits?



# Methodology



- ❑ **Estimating benefits in 4 main areas:**
  - ❑ Fuel and capital savings
  - ❑ Reduction of emissions
  - ❑ Energy security and price stability
  - ❑ Regional development influence
- ❑ **Generic methodology:** applicable to every technology
- ❑ Complements consumer “Net Metering”
- ❑ **Inter-ministerial committee:** Many stakeholders

# Methodology



- ❑ IEC ran simulations on **the consequences of additional renewable energies in the grid**
  - ❑ Effects on Fuels, Capital investment, Emissions
  - ❑ Time of delivery frame: estimating benefits separately
  
- ❑ **Includes forecasting consequences for 20-25 years ahead**
  - ❑ Needs to be repeated periodically to include updated parameters
  - ❑ Adds certainty

# Methodology



- ❑ Estimation of the price of energy security through “revealed preferences” of hedging and fuel diversification
- ❑ Estimation of greenhouse gas prices through **carbon market forecasts**
- ❑ Assessment of **regional development benefits on a project level** – and coherent with government policies in this area

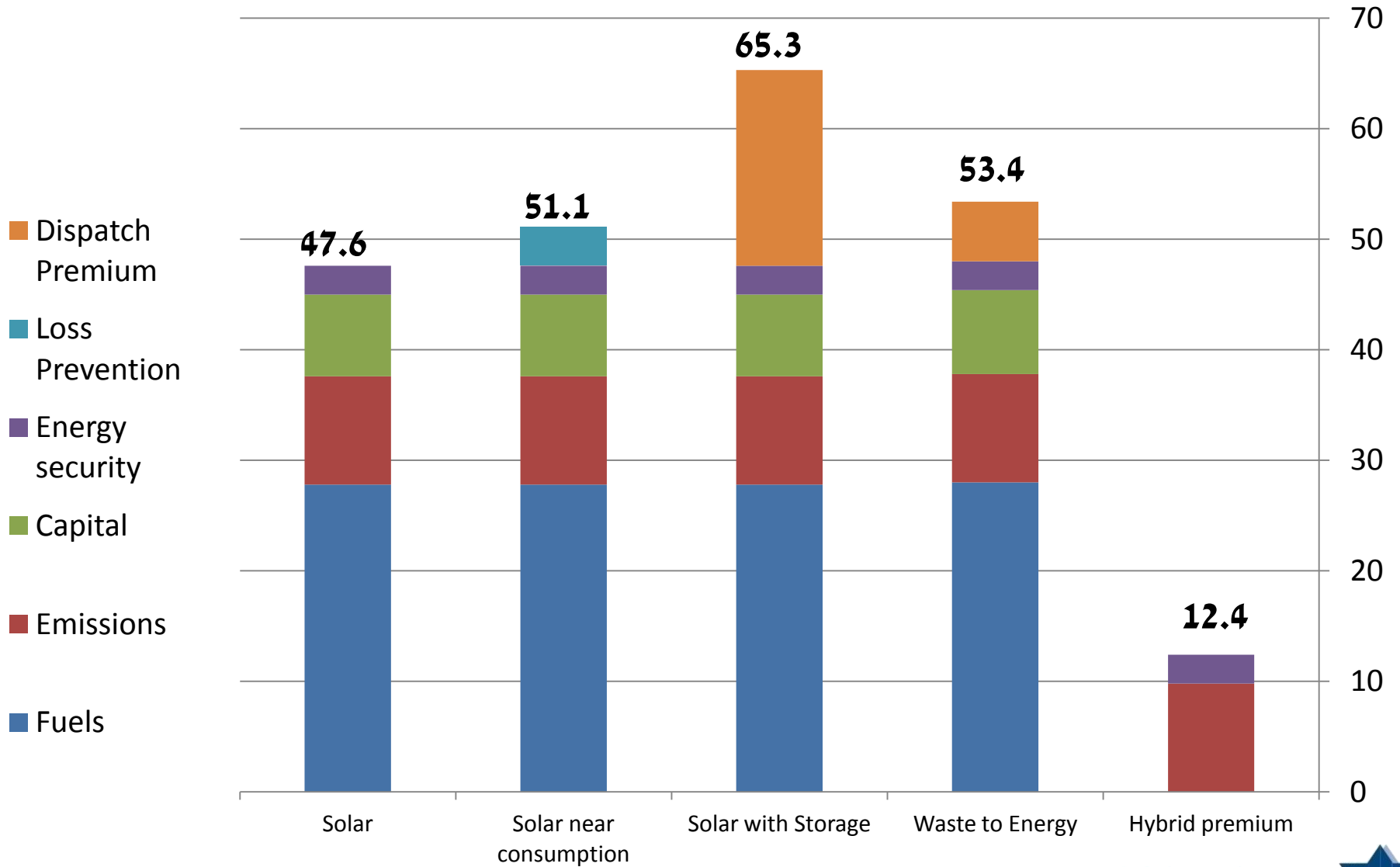


# Conclusions



- ❑ **Level of benefits depends on degree of penetration**
- ❑ **Dispatchability is crucial:** Large premium for projects with storage and control capabilities
- ❑ **Production near consumption reduces losses**
- ❑ **Hybrid plants should be allowed to compete** with renewable and conventional plants

# Illustration



# Keys to grid parity



## ❑ Reducing regulatory and financial costs

- ❑ Reducing the approval time and improved coordination between regulators
- ❑ Certainty is good to everyone: longer obligations
- ❑ Equity requirements to differ between strategic power plants and small solar projects
- ❑ Mechanism for pricing land reasonably

**❑ Large scale implementation of renewable energy requires an appropriate grid with advanced management, forecasting and storage capacities**





# Thank you!