## Distributed Energy and the Grid

Re-emergence – Back to the Future

Atul Mahajan



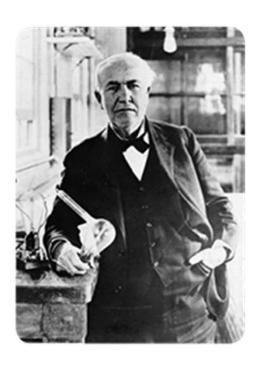
#### **CENTRAL GRID**

**SAMUEL INSULL** 



ComEd.









**THOMAS EDISON** 

**MICROGRIDS** 









### CUSTOMER PERSPECTIVE





#### **CUSTOMERS VALUE**

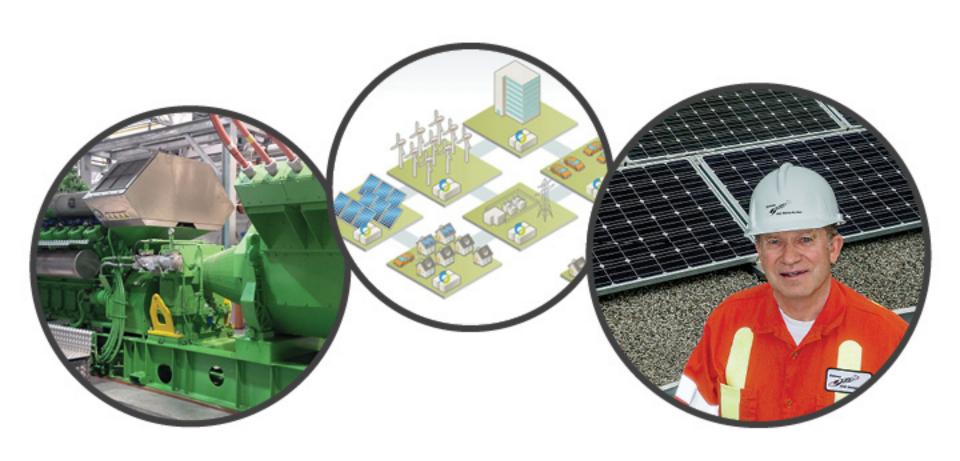
Reliability



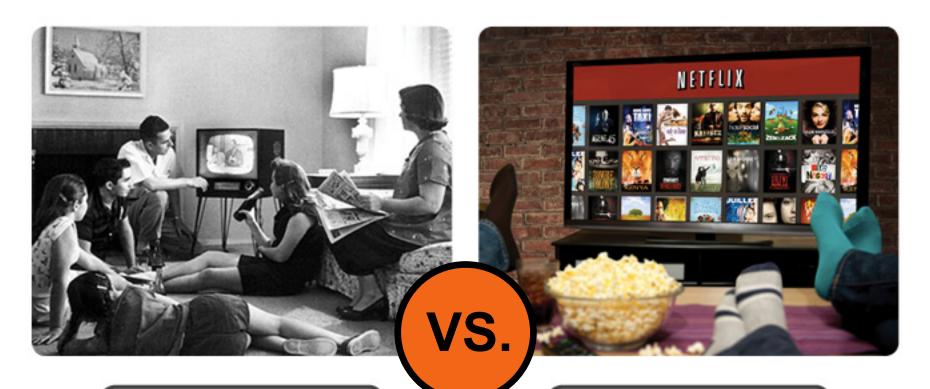
Costs



### TECHNOLOGY DRIVEN OPTIONS



#### **INNOVATOR'S DILEMMA**





NETFLIX shomi\_

## DISRUPTION, ADAPTATION, INNOVATION



#### **SURVIVE**



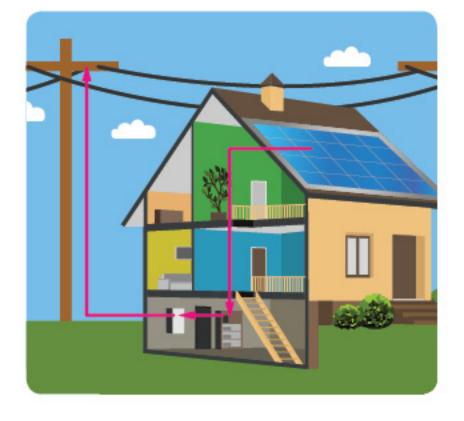
#### **THRIVE**



Do we only invest in poles, wires and substations?

Grid out – backup in.





Go beyond – invest at customer premises.

Grid in – backup out.

# GALL TO AGTION



