Modelling Energy System for Sustainable Energy

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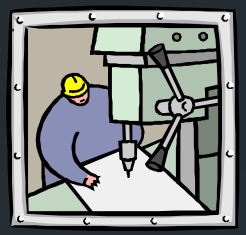
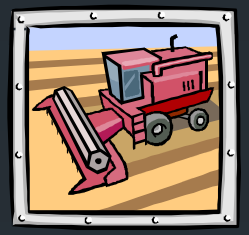
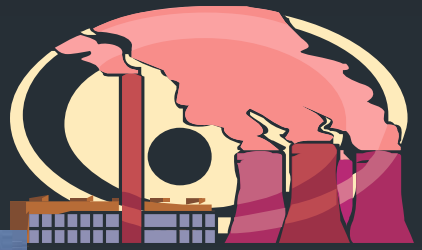
SUSTAINABLE DEVELOPMENT GOALS
1 NO POVERTY
2 ZERO HUNGER
3 GOOD HEALTH AND WELL-BEING
4 QUALITY EDUCATION
5 GENDER EQUALITY
6 CLEAN WATER AND SANITATION
7
Affordable & Clean Energy
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
10 REDUCED INEQUALITIES
11 SUSTAINABLE CITIES AND COMMUNITIES
12 RESPONSIBLE CONSUMPTION AND PRODUCTION
15 LIFE ON LAND
16 PEACE, JUSTICE AND STRONG INSTITUTIONS
17 PARTNERSHIPS FOR THE GOALS
SUSTAINABLE DEVELOPMENT GOALS

Targets

7.1	By 2030, ensure universal access to affordable, reliable and modern energy services
7.2	By 2030, increase substantially the share of renewable energy in the global energy mix
7.3	By 2030, double the global rate of improvement in energy efficiency
7.a	By 2030, enhance international cooperation to facilitate access to clean energy research and technology, including renewable energy, energy efficiency and advanced and cleaner fossil-fuel technology, and promote investment in energy infrastructure and clean energy technology
7.b	By 2030, expand infrastructure and upgrade technology for supplying modern and sustainable energy services to all

Elements of an Energy System

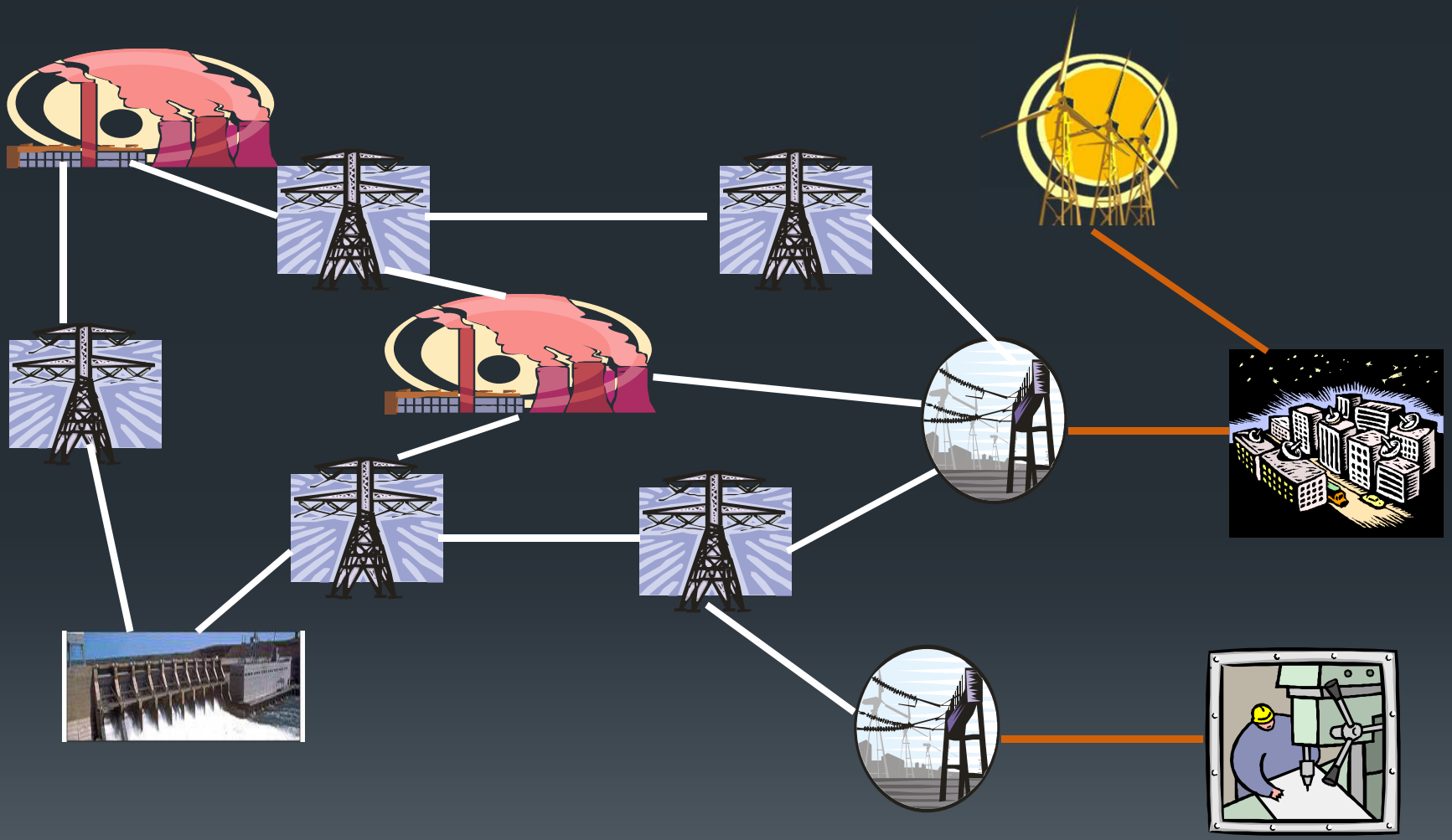


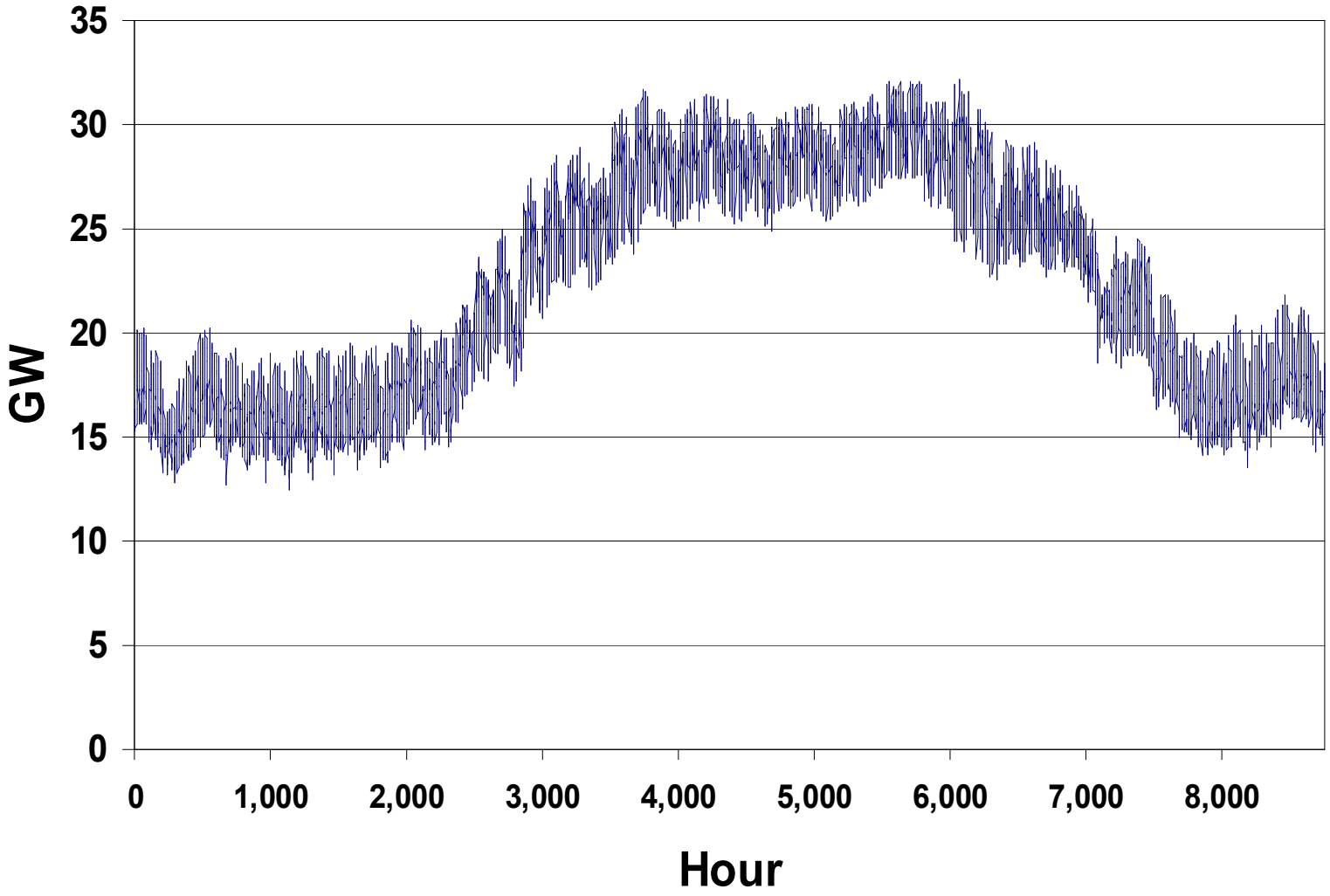




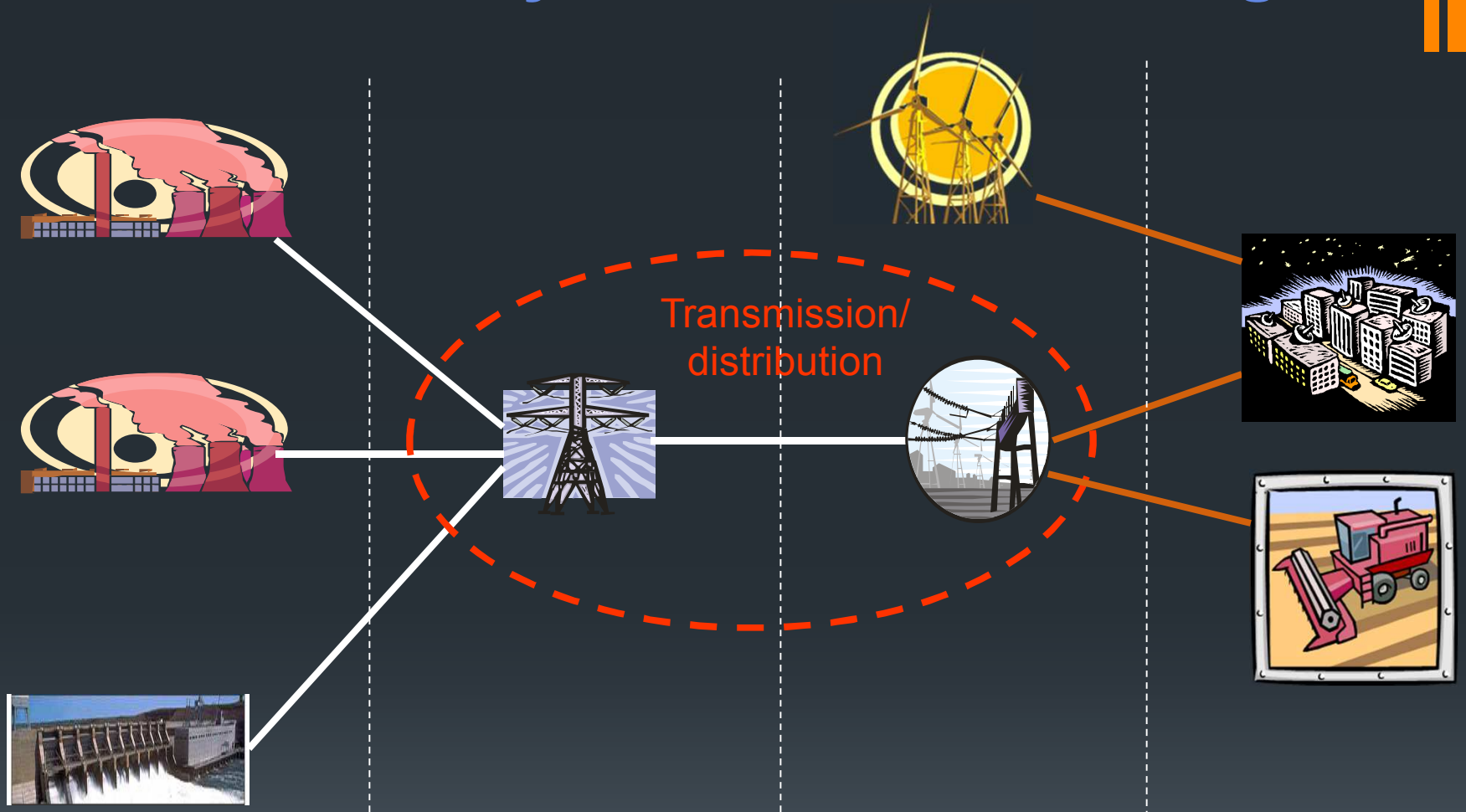

Traditional Electricity Planning



Electric System Load curve



Electricity Generation Planning

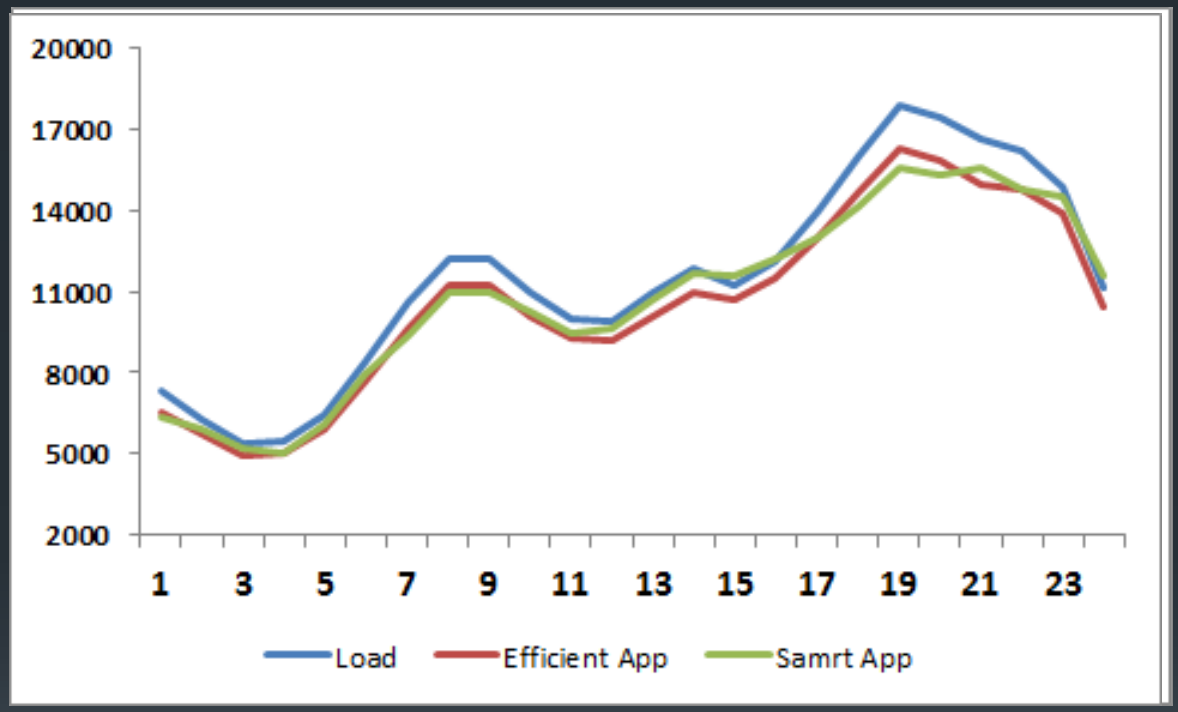


Scaling-up Renewable Sources

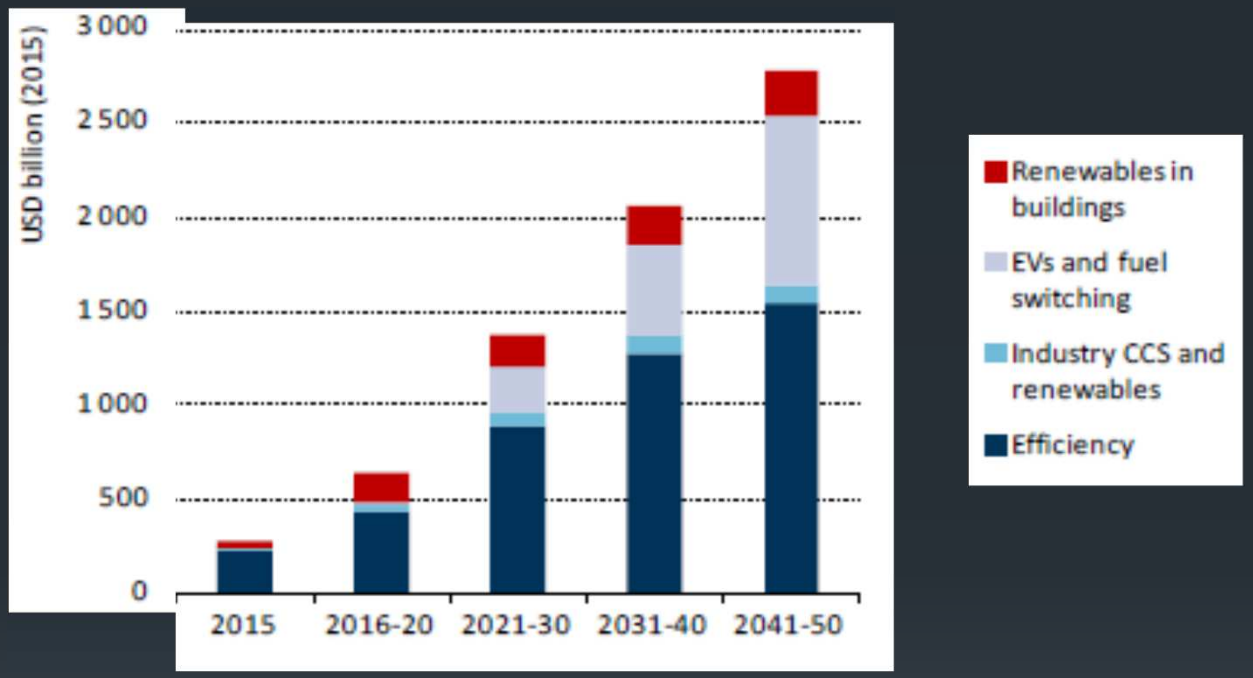
Technological Innovation Widening the Possibilities

Electric Cars, Smart Appliances, New Technologies for Generation, T&D, Storage and Control & Communication, Smart Grids

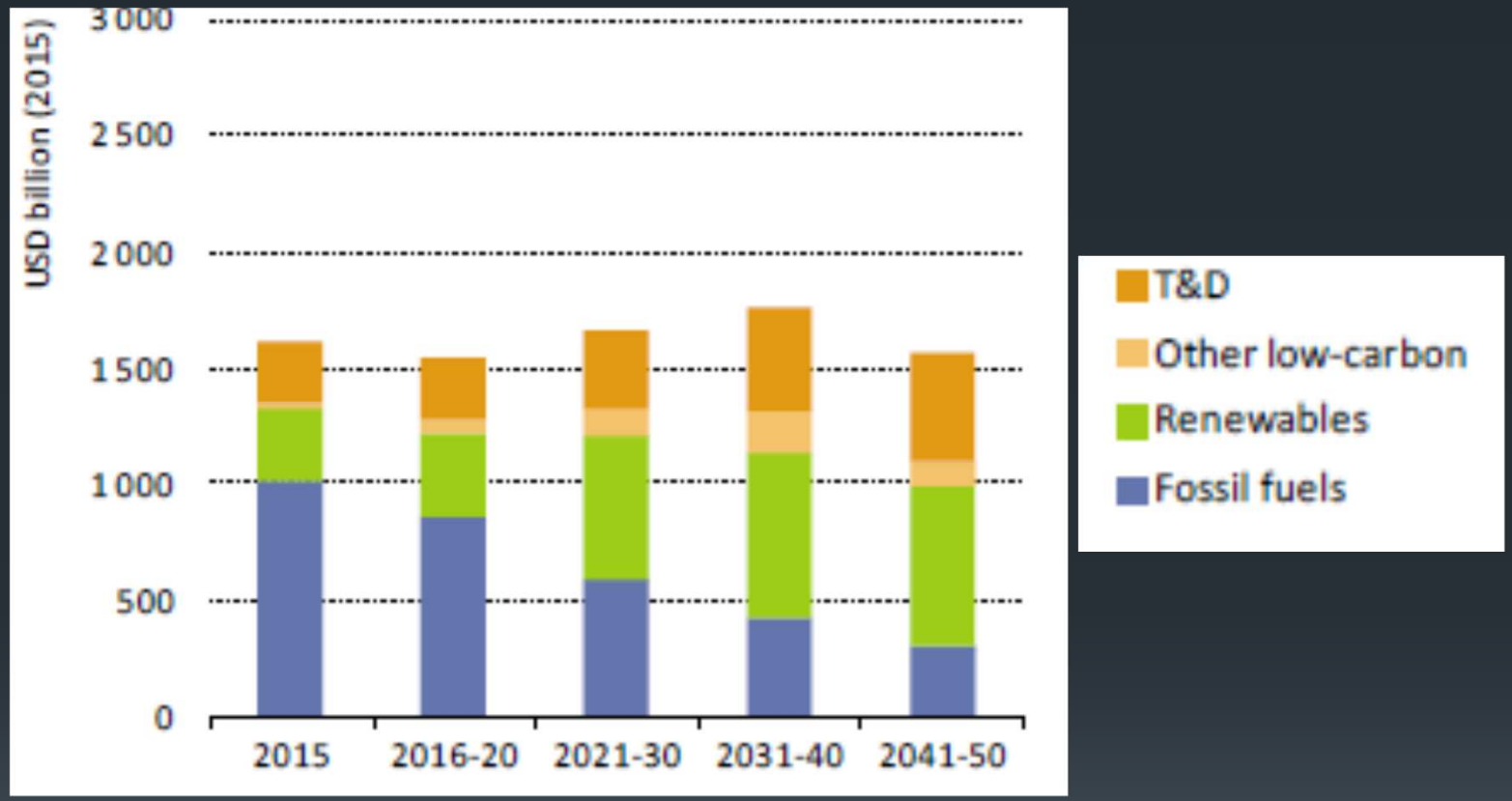
Influencing Demand



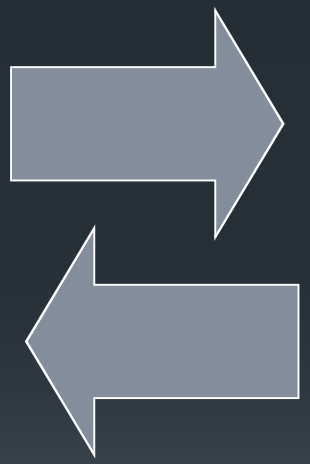
Energy Investments Needs Demand-Side

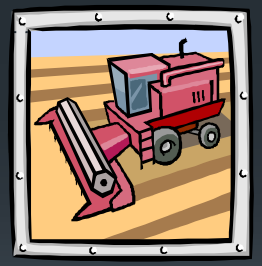


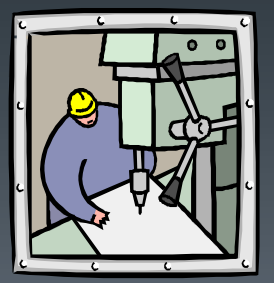
Energy Investments Needs Supply-Side



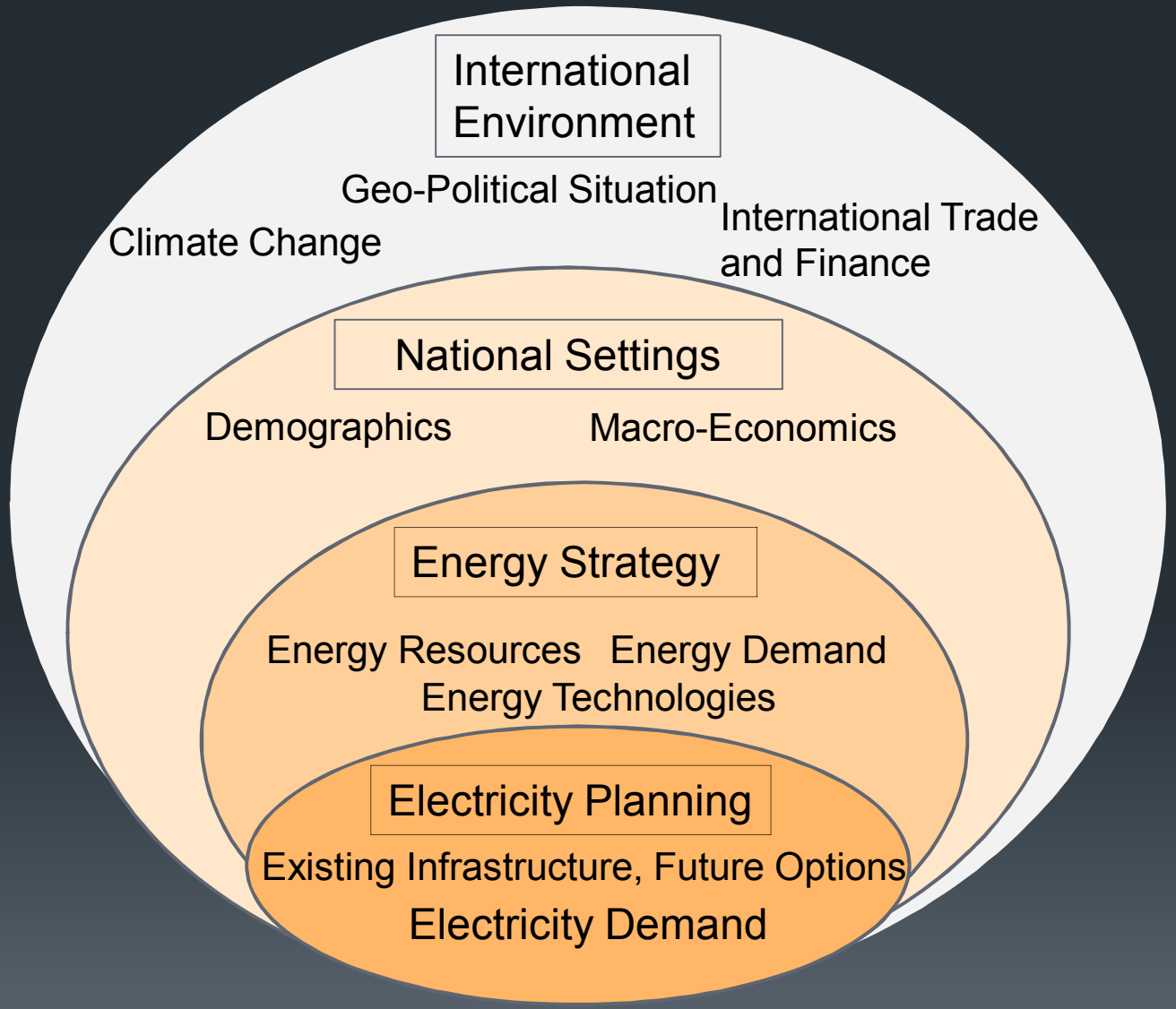
Delivering Affordable and Clean Energy



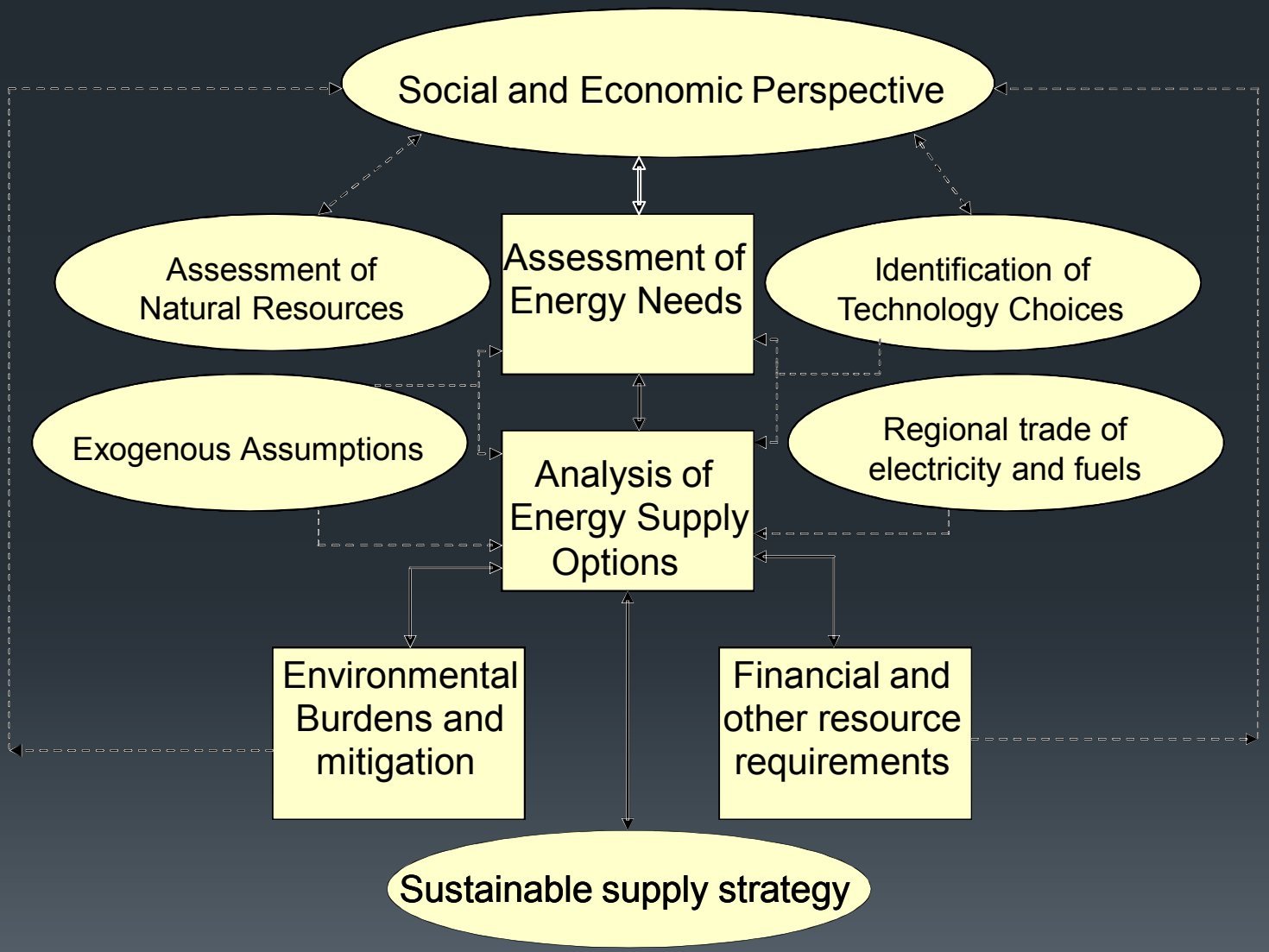




Electric System: System Boundaries and Interactions



Analytical Framework



Analytical Tools for Energy System Modelling

EBS
Energy Balances & Statistics

ESST
Energy Scenario Simulation

MAED
Energy Demand Analysis

MESSAGE
Energy Supply Optimisation

WASP
Power Generation Expansion

SIMPACTS
Environmental Impacts

FINPLAN
Financial Analysis of Energy Plans

ISED
Sustainability Indicators

Thank You for Your Attention