

# Practical Issues in Market Design

- 3:00 – 3:15 Market design and the future of regulation, Flavio Menezes, Professor of Economics, The University of Queensland
- 3:15 – 3:35: Competition in Vocational Education and Training, Deborah Cope, Principal, PIRAC Economics
- 3:35 – 3:55: Challenges in Procuring a smart city network – Brook Dixon, Smart City and Regulatory Reform, Vice President, ASCA
- 3:55 – 4:15: Developments in Retail Electricity Markets – Kris Funston, Senior Director, Retail and Wholesale Markets, Australian Energy Market Commission
- 4:15 – 4:30: Q&A

# Market design and the future of regulation

Flavio M. Menezes

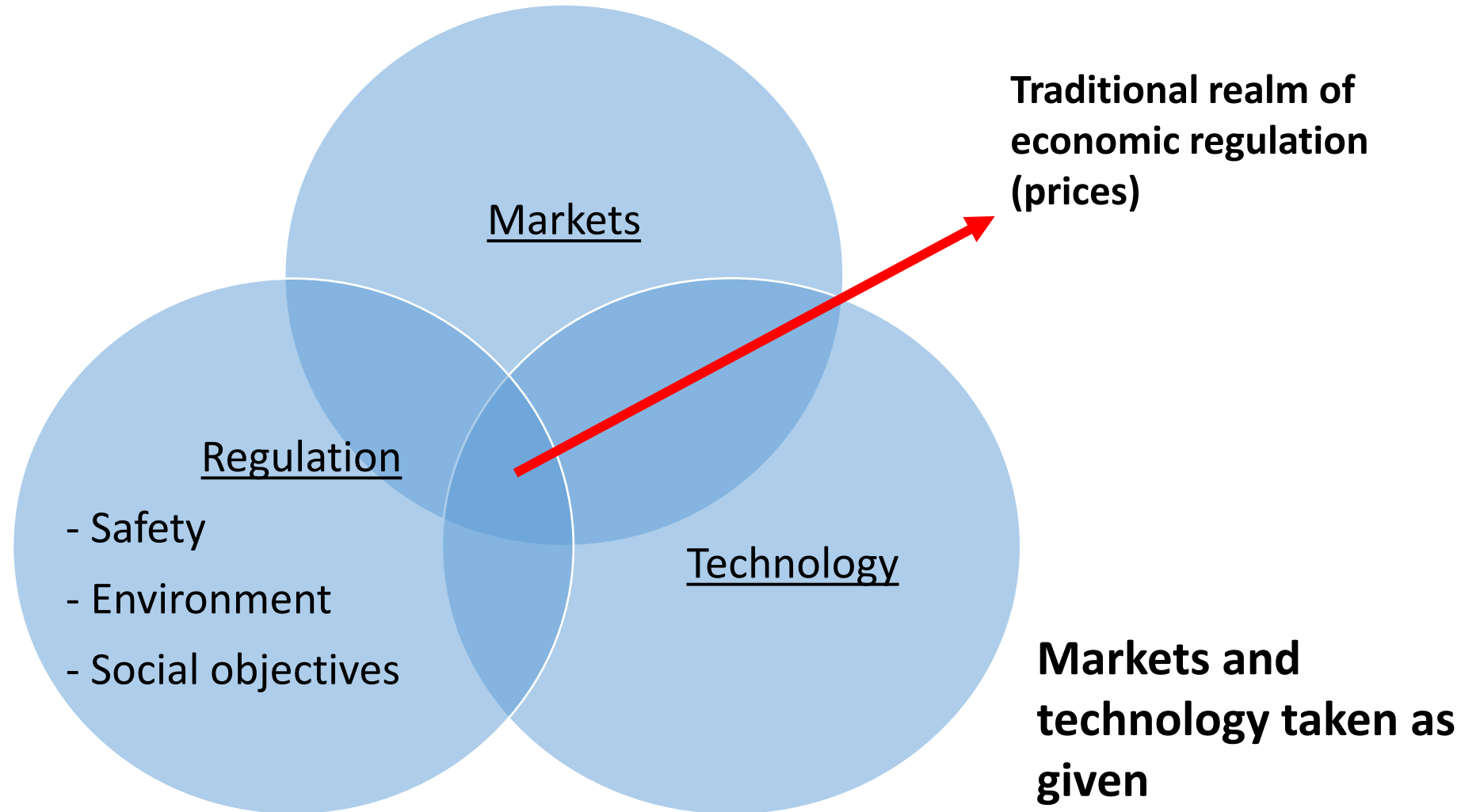
Professor of Economics

The University of Queensland

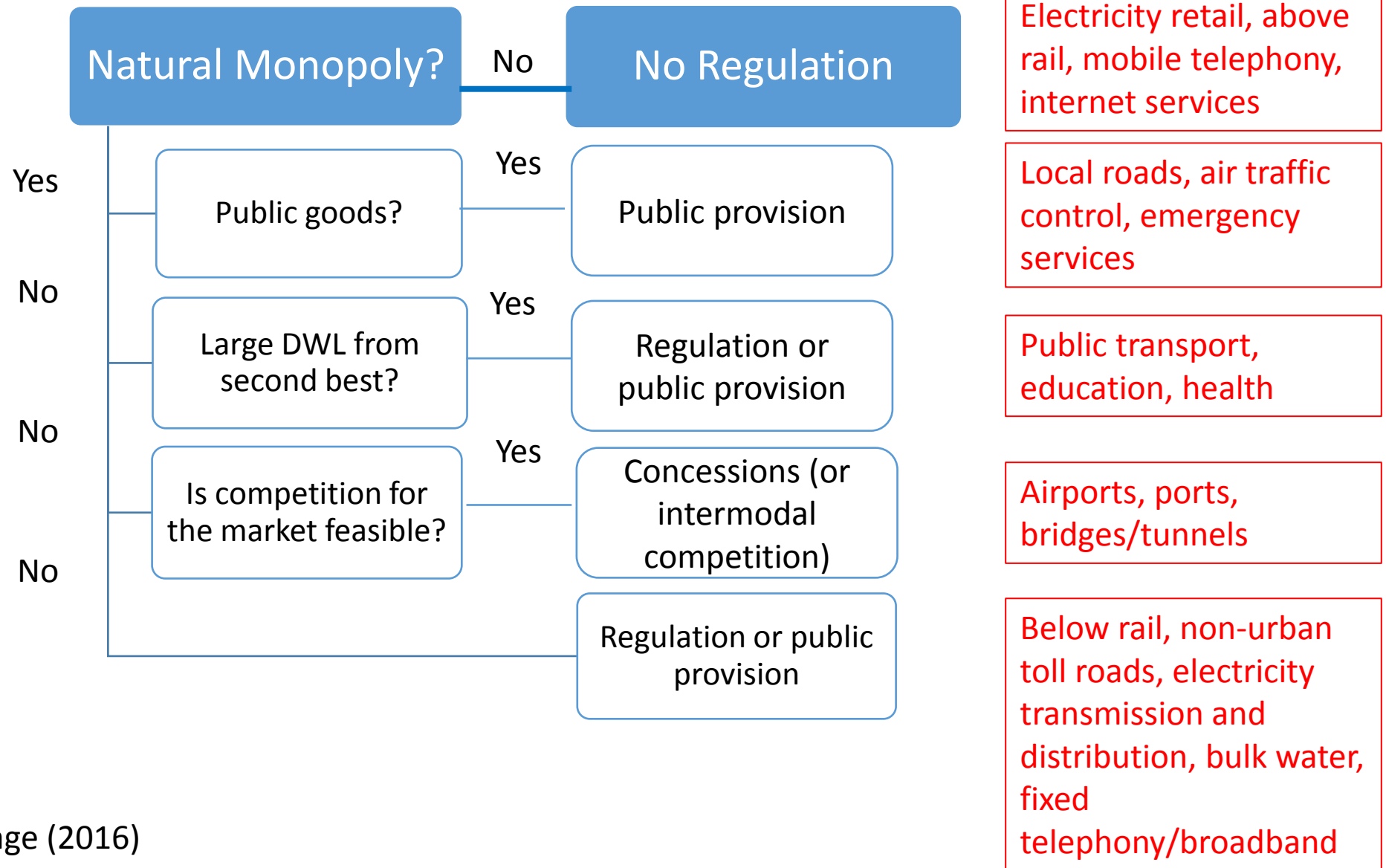
<http://ideas.repec.org/e/pme33.html>

Email: f.menezes@uq.edu.au

# Traditional economic regulation



# The traditional economic regulation approach



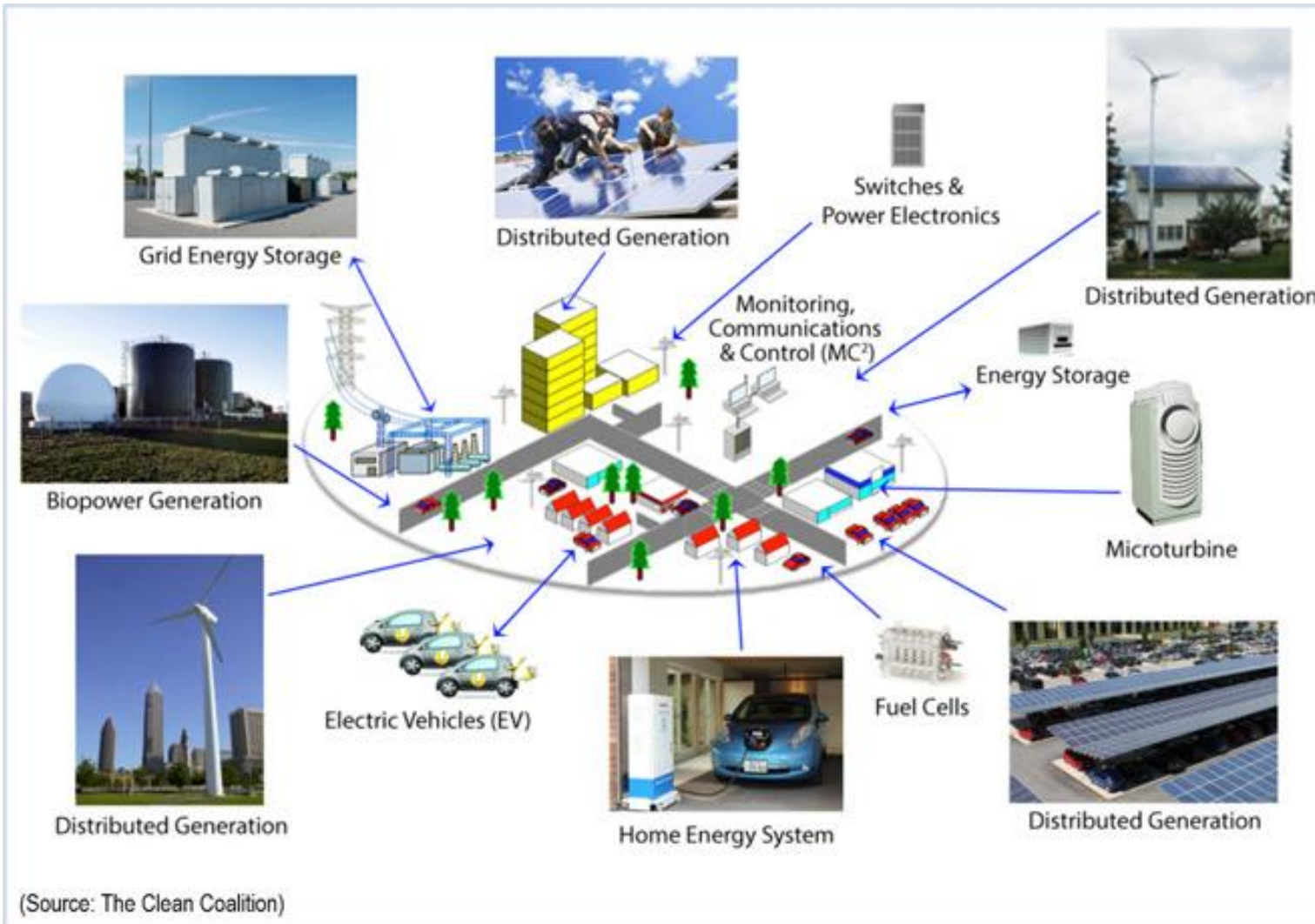
Adapted from Savage (2016)

# Traditional thinking in economic regulation will only take you so far

- Technological change
- Climate change
- Greater urban density
- Security/Resilience (energy, water, transport, communications,...)

# Example 1: Distributed Energy Resources

DER: demand response, distributed generation, distributed storage and end-use energy efficiency

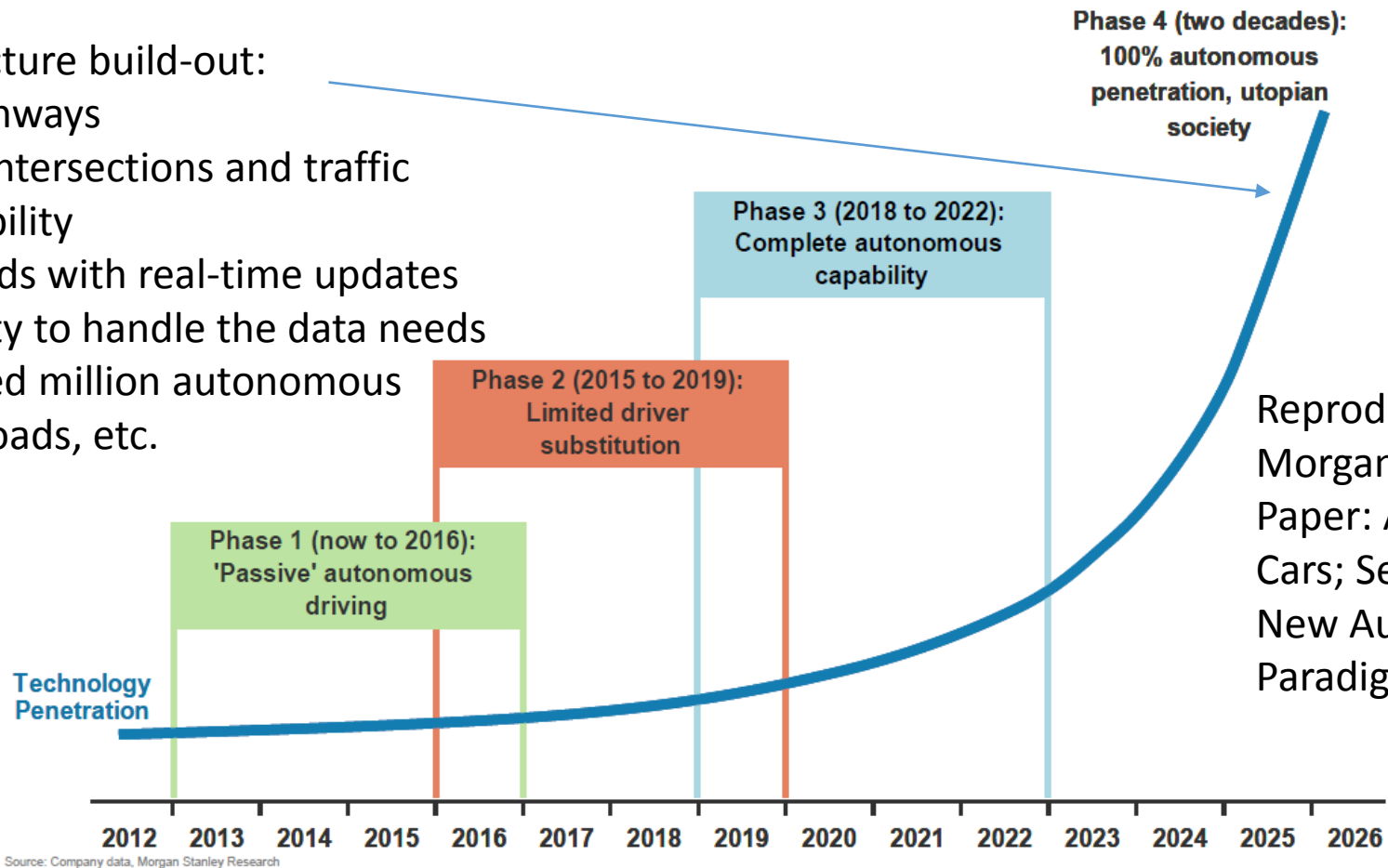


# Example 2: Driverless cars

Exhibit 32  
Timeline for Adoption

Significant infrastructure build-out:

- side lanes on highways
- fully networked intersections and traffic monitoring capability
- fully mapped roads with real-time updates
- network capability to handle the data needs of several hundred million autonomous vehicles on the roads, etc.



Reproduced from Morgan Stanley's Blue Paper: Autonomous Cars; Self-Driving the New Auto Industry Paradigm, 2013.

# Some immediate implications for regulation

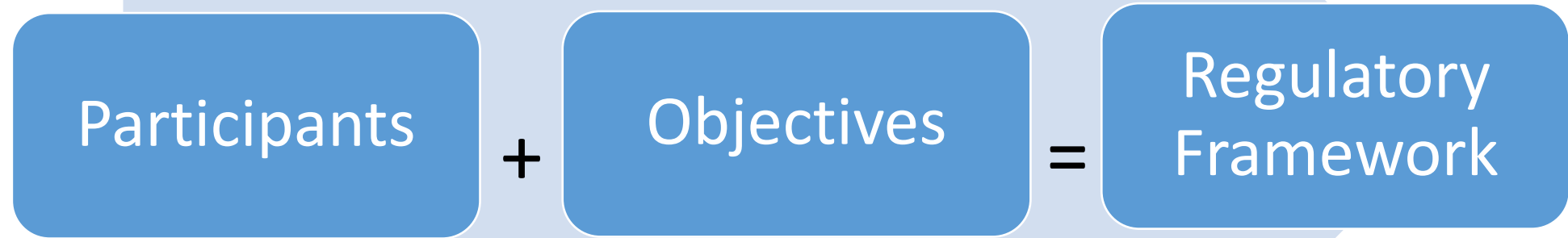
- Creation of new markets
  - E.g., for short trips, in areas with high population density or for behind the meter services
- Recovery of large, sunk capital costs will become harder
  - Roads, electricity transmission and distribution infrastructure
  - Uniform (volumetric) prices/charges become more problematic
- Access to data and cyber security become more crucial
  - Move from a centralised synchronous electricity sector to a partially decentralised system
  - New technology allows a vehicle to communicate with other vehicles (V2V), roadside infrastructure (V2I), and other devices such as mobile phones (V2P)
- Complex interface with safety, environmental, legal, and privacy issues
  - Regulator's role as 'rule maker'



# More implications

- Technology neutral regulation or government intervention
  - E.g., Heavy vehicles taxed (registration fees + fuel taxes) to level playing field
  - Let the 'market' decide how best to reduce emissions
- Move to smarter pricing to account for social (e.g., congestion, emissions) and private (fixed and variable) operating costs
  - Develop a framework for managing and accessing data
- Price regulation needs to provide incentives for quality and innovation while retaining incentives for cost reduction
  - Move to menu regulation

# The future of regulation and the regulator of the future



users, operators and infrastructure owners, data aggregators

efficient use of and investment in infrastructure

market mechanisms, regulatory institutions and rules, funding arrangements

- The Regulator's task is to design regulation with incentives that align participants' decisions with some pre-specified socially desired goal
- A market design approach: regulators can't take markets and technology as given - instead they will have a major role in setting up markets and need to be conscious that regulation may affect the technological adoption



Thank You!