



## Conventional Sources of Energy Electricity & Gas

# Market Regulation Principles

1. Creation of Market
2. Security of Supply
3. Cross-Border Access



# Creation of Market

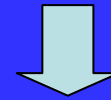
Natural Monopoly ?

Wholesale Market

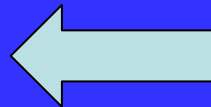
Production



Transmission



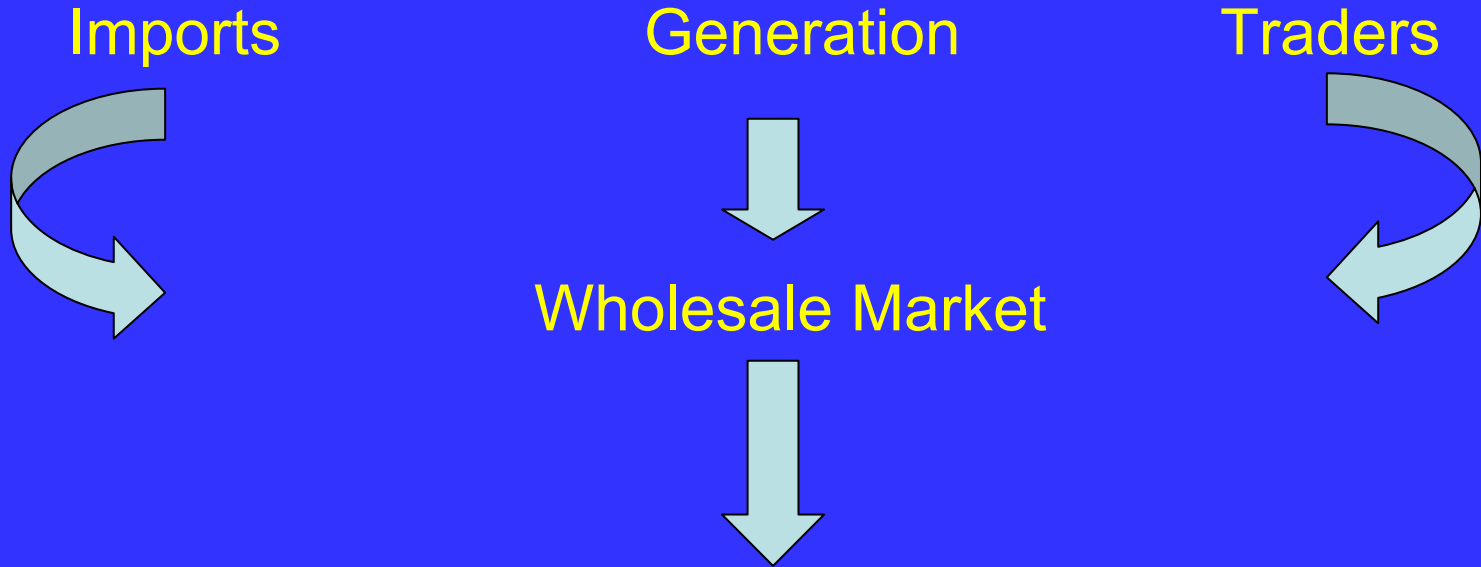
Consumption



Distribution



# Wholesale Market



**Liquid, Deep and Transparent**



# Natural Monopoly Elements

## Transmission and Distribution

1. Asymmetry of Information
2. Cross-subsidy – tariffs / unit prices
3. Economy of parallel networks
4. Environmental / economic cost of non-utility investment



# Natural Monopoly Solution

Distinguish transmission and supply (tariff and unit cost)

Transparency of tariff composition (cost based + reasonable return on investment)

Accounts transparency

In preference, ownership unbundling. When not feasible, legal unbundling



# Security of Supply

Are market incentives enough?

Usually in growing market.

In stable market, perhaps not?

- Investment lifetimes prolonged
- Generation reaches commodity level
- Opportunistic entry
- Cost of capital and opportunity cost



# Cross-border trade

More than just letting markets exist!

Active integration requires active intervention to harmonisation of secondary market standards

1. Market design
2. Standards / Interoperability
3. Commercial conditions