## Sustainable Energy in the South Eastern Europe

Aleksandar Kovacevic
OIES

# Sustainable energy demand supplied by sustainable energy transit and facilitated by sustainable economics and governance patterns

- Sustainable energy demand
  - District heating
  - Residential heating
  - Power generation
  - Industrial co-generation
  - Industrial feed-stock
- Sustainable economics
  - Competitiveness
  - Access to maritime markets
- Governance patterns

#### District heating

- Heat-only-boilers (HoB)
- 2<sup>nd</sup> Law on Thermodynamics
- Competitive threshold of district heating services at the consumer's doorsteps
- Heat-or-power (HoP) versus CHP concepts

#### Residential heating

- Competitive threshold (Heat pump, biomass, etc)
- Building energy efficiency
- Affordability
- Security of Supply (SoS)

#### Power generation

- Spark spread
- Flexibility at the market
- Capacity markets
- Utilization rates
- Heat-or-power (HoP) versus CHP concepts

### Industrial co-generation & Industrial feed-stock

- Only competitive value added industries
- Access to the maritime markets, Danube transport, supply chains with various industrial inputs
- Low energy costs to labor
- Opens market for commodity competition

#### Sustainable economics

- Multi-polarity of transit rents and access to the sea
- Competitive stage of commodity supply
- Gas-to-gas competition
- Distance and transport costs breakeven
- Net-back pricing for natural gas supplies?
- Economics of construction period
- Monetary impacts & exchange rate?
- Competitiveness of export oriented industry in new exchange rate environment
- Rebound effects?

#### Sustainable Governance

- Transit rents combined with "Dutch disease" and quality of governance
- Rebound effects

#### Potentials and likely outcomes

- Requires significant improvement in the development framework and project components including:
  - Use of river Danube rules and regulations
  - Massive industrial restructuring
  - Sterilization of transit rents
  - Reconsideration of demand projections
  - Delicate power plant concepts
  - Adjustments in EU related energy framework
  - Change in financial and fiscal structures
  - Energy policy