

# The Role of RES in Enhancing Energy Security in the Region

## 2nd IENE Colloquium on “The Geopolitics of Energy Transition”

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# RES and Energy Transition

- The energy transition will be one of the major elements that reshape geopolitics in the 21<sup>st</sup> century
- A transition from fossil fuels to renewable energy could transform global power relations no less than the historical shifts from wood to coal and from coal to oil.
- RES are in the epicenter of this transformation and will affect trends in
  - **socioeconomics,**
  - **inequality and human poverty,**
  - **Counter-urbanization trends,**
  - **Technology and innovation,**
  - **environmental sustainability,**
  - **military capability**
  - **domestic politics**
  - **Space exploration**

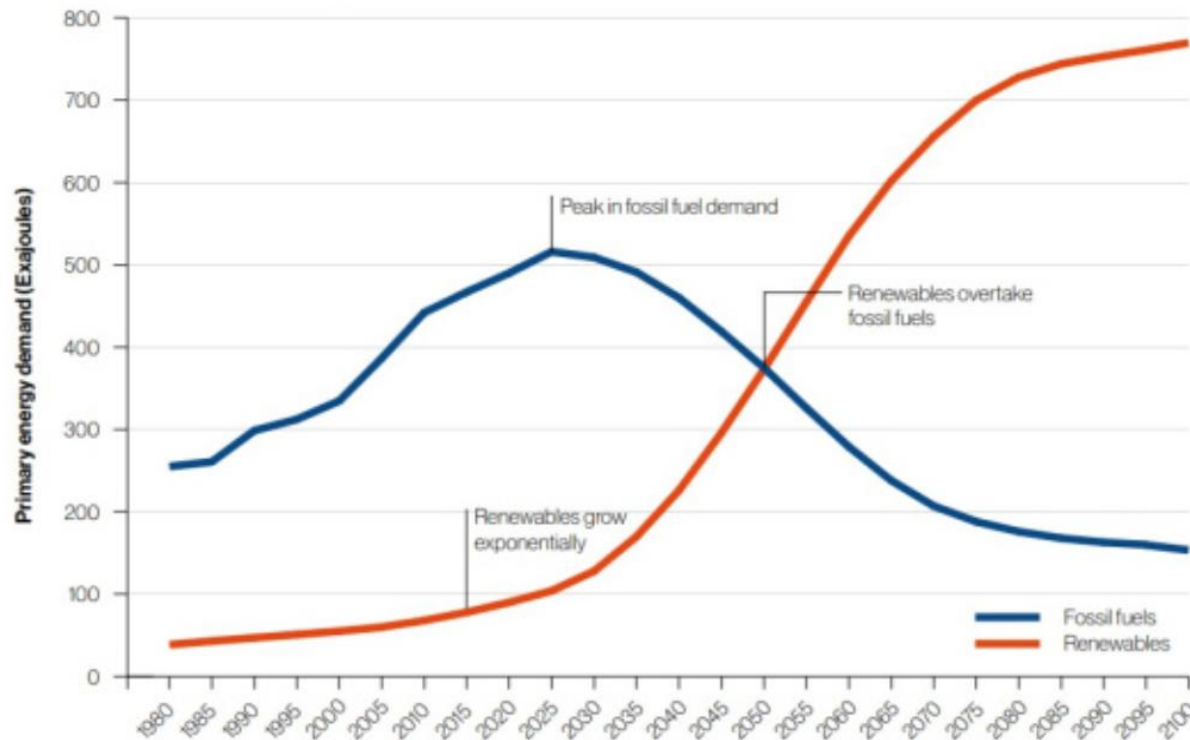
# Energy Dependence and the Role of RES in Energy Security

- In strategic terms, fossil fuel importing countries are vulnerable to risks of supply disruption and price volatility caused by political instability, terrorist attacks, or armed conflicts that may occur in oil- and gas-exporting nations.
- In economic terms, a high degree of import dependence also generates costs and risks. Countries that import most of their energy are exposed to currency fluctuations and volatile fuel prices that can result in balance-of-payment problems.
- countries that are able to develop their own renewable sources of energy are better placed to achieve energy security and economic stability. As a matter of fact, countries that switch from imported fossil fuels to domestically generated renewable energy will significantly improve their trade balance.
- In a renewable energy economy, most countries will be able to achieve energy independence, greater energy security more freedom to take energy decisions.
- Increasing the share of renewables in the energy mix can mitigate such risks and provide new pulses of economic growth.

# Renewable Energy and Geopolitics

- The rapid growth of renewable energy is likely to alter the power and influence of some states and regions relative to others, and to redraw the geopolitical map in the 21st century
- Increasing energy security through renewable energy deployment may change the dynamics between energy exporters and importers. It will also diminish the role of oil and gas in international politics.

**The energy transition framework**

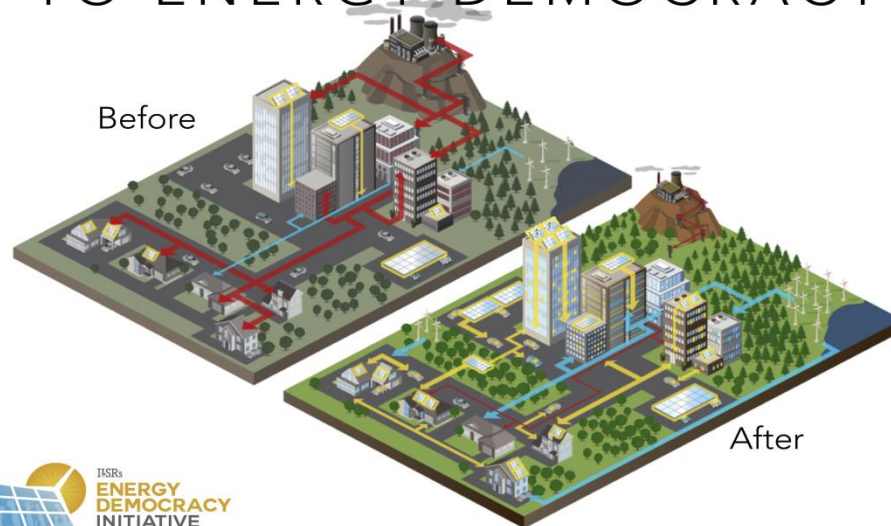


Shell Sky  
Scenario  
(2018)

# Democratization and Decentralization

- In a centralized energy system, the financial benefits of energy also tend to be centralized and concentrated in the hands of corporations and governments.
- A decentralized, renewable electricity system, by contrast, gives consumers a true choice of energy sources and a share in its economic benefits, while enhancing social acceptance of renewables investments.

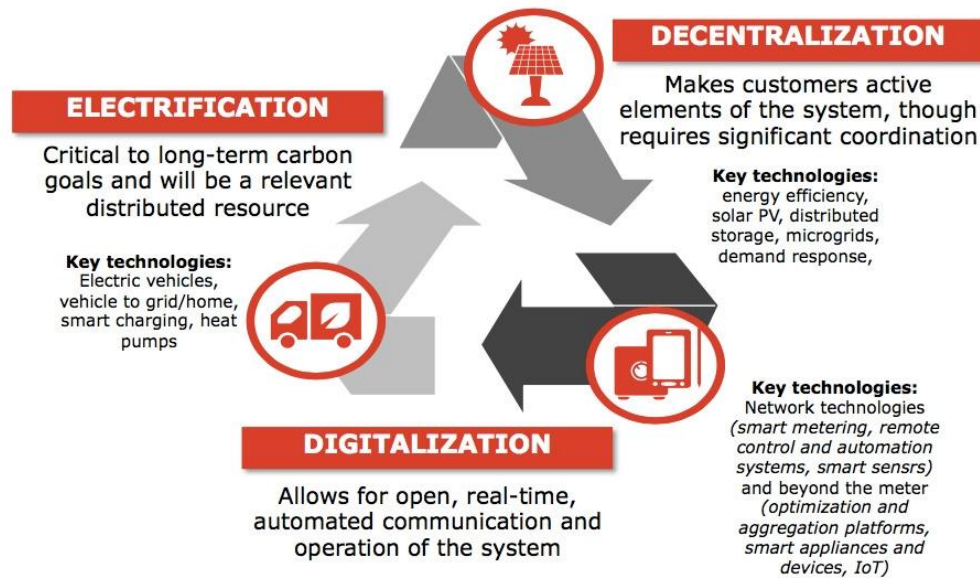
## FROM ENERGY MONOPOLY TO ENERGY DEMOCRACY



# Energy Decentralization and Digitalization

- Decentralized renewables can also help to increase the resilience of local communities against environmental disasters. In the United States, microgrids became popular after Hurricane Sandy knocked out power for 8.5 million people in 21 states.
- The decline of the fossil fuel era and the advent of decentralized power generation in an increasingly electrified world may have profound implications for the role of the nation state

Three trends of the grid edge transformation

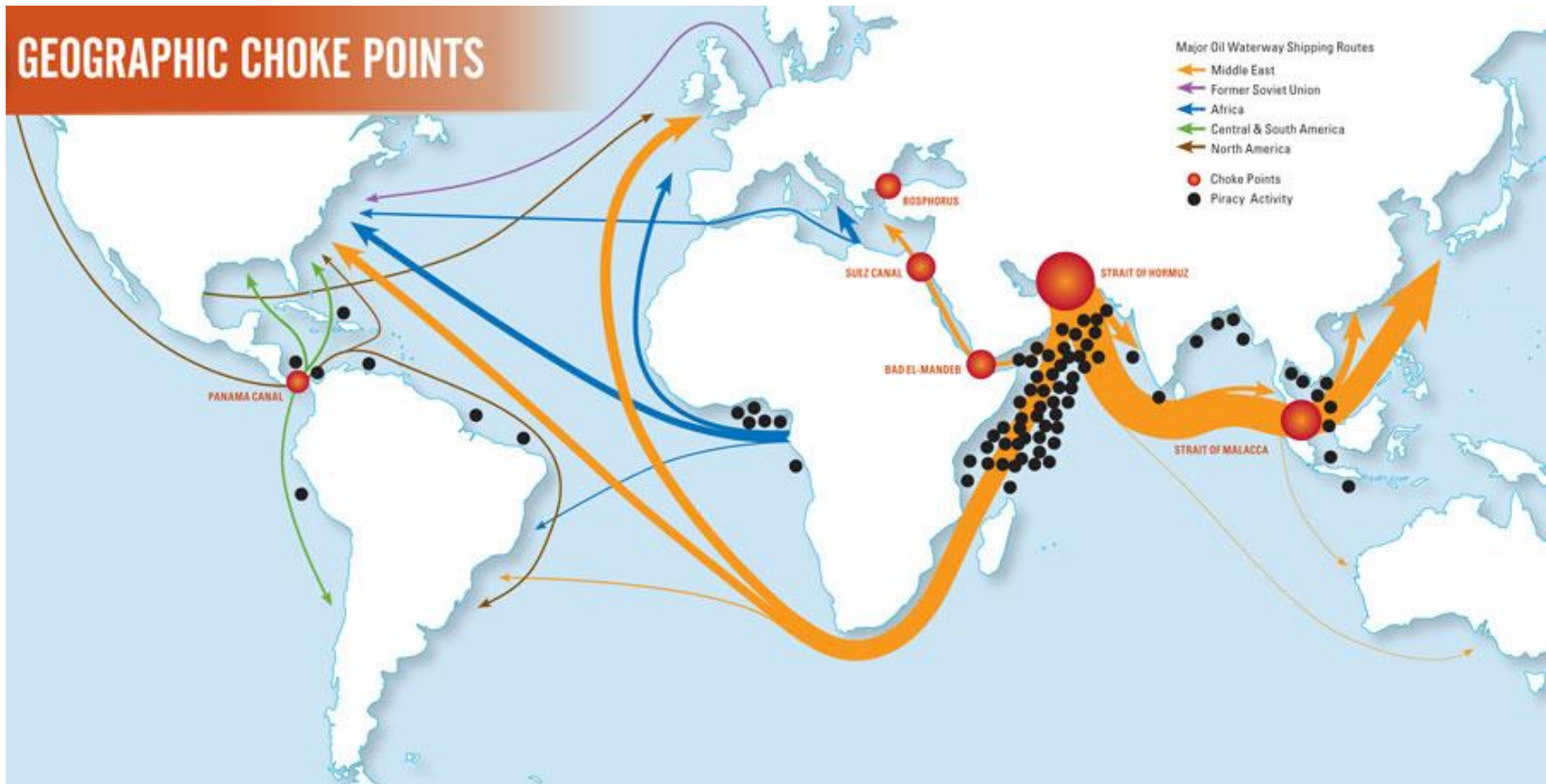


# New Alliances between States

- Renewable energy will reconfigure alliances and trade flows, and create new interdependencies around electric grids and new commodities.
- The weight of energy dependence will shift from global markets to regional grids.
- Countries that today import oil from the other side of the world will seek to develop renewables at home and to integrate their grids with those of neighbouring countries.
- Global energy markets are therefore likely to become more regional.
- If global demand for fossil fuels declines, alliances built on fossil fuels are likely to weaken.

# Energy Geopolitics Take New Forms

- Control over grid infrastructure will become vital for national security and for projecting global influence and power. As energy trade routes redraw themselves, the geopolitical map will take new forms. Some maritime trade routes will therefore become relatively less important.





"The International Solar Alliance (ISA) will play the role of OPEC in the future"  
*Narendra Modi, India's Prime Minister*



## New International Relations

- The international energy strategy and energy diplomacy no longer concentrates exclusively on securing fossil fuel imports but also includes renewables.
- Several new alliances and initiatives are emerging to promote multilateral cooperation and boost specific renewable technologies.
- The Paris 2015 climate conference alone gave birth to the International Solar Alliance, the Global Geothermal Alliance, and Mission Innovation.
- While many of these alliances are at an early stage of development and focus on technological cooperation, they are likely to gain in geopolitical impact.

# SE Europe is Changing

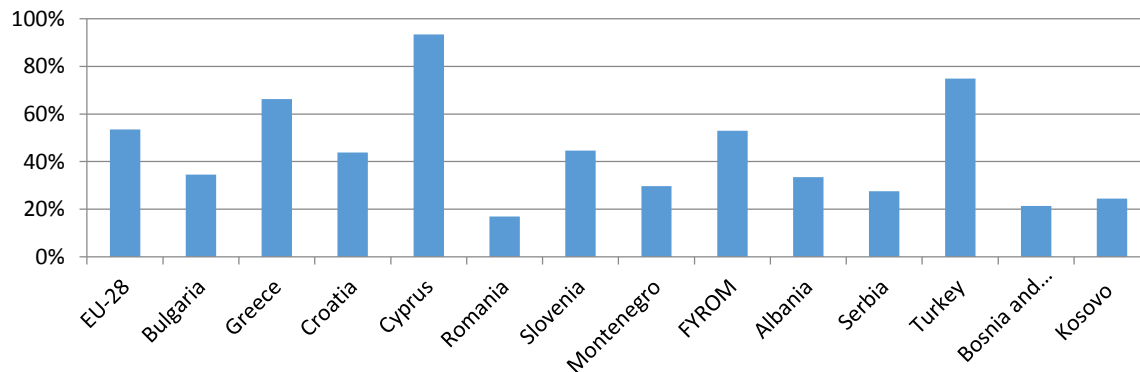
- The eastern Mediterranean Sea as a production area and the Balkan Peninsula as a transit region greatly increase the geo-economic and geopolitical importance of Balkan countries
- The region is continuously changing by reforms, negotiations with the EU and NATO, regional cooperation, attempts for the improvement of bilateral relations between neighbours.
- Some of the countries are attempting to expand their partnership circle
- Growing presence of China, Turkey and the Arab Emirates, both at the level of trade and investments

## **Energy Transition**

- An energy transition could soon be underway in South East Europe as it is realized that energy, throughout the region, is used inefficiently, well below the average standards of EU members.
- Improving energy efficiency is the key to address many economic and social issues.
- The Energy Union framework provides a number of opportunities for the EU to enable a transition to 100% sustainable renewable energy in the region.

## Energy Import Dependency in SE Europe (2016)

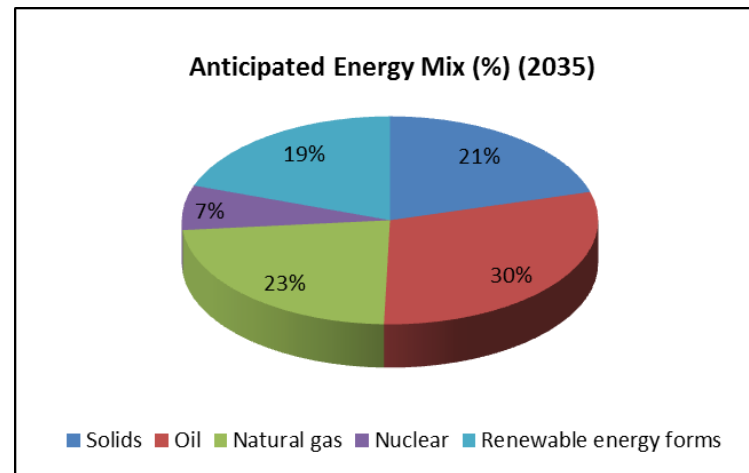
- Oil and gas import dependency in SE Europe is an important issue which is causing considerable anxiety.
- The region's economy will continue to be exposed to risks related to energy price instability and energy flow variability, including potential oil shocks or oil and gas shortages.
- SEE is especially vulnerable to energy poverty as a result of many years of regulated and heavily subsidized energy prices



- Balkan countries must ensure their energy security through further RES development
- Appropriate energy infrastructure planning and specialized investment incentives.

## RES in SE Europe

- In terms of installed RES capacity Greece, Turkey, Bulgaria, Romania and Cyprus have achieved a combined 20 GW no less over a period of just five to six years (2009-2015).
- Yet because of the intermittent nature of power generation from RES, their contribution into the electricity production of the different countries appears limited.



Source: IENE study "South East Europe Energy Outlook 2016", Athens, 2016

- there will be a 8% decline in solid fuel use between 2015 and 2035 with the majority of this share being taken by RES.

# A New Energy Strategy Needed for SE Europe

- Balkan countries must have an unambiguous energy policy.
- Increase of energy autonomy and improvement of energy cooperation.
- SE Europe region needs a well-defined and pragmatic strategy for energy security
- Policy makers at national and regional level must achieve a balanced energy mix
- SE European countries should adopt an holistic approach to cover all forms of energy supply
- Lower-cost projects such as Renewables and energy efficiency have proven easier to implement
- RES will increase business competitiveness, will decrease energy bills for consumers, and will reduce local air pollution
- The decline of the fossil fuel era in an increasingly electrified world may have significant implications also in the region of SE Europe