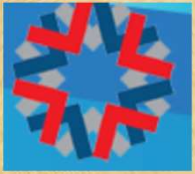


The effects of current geopolitical tensions on the energy portfolio of the CIS, Middle East, and European countries

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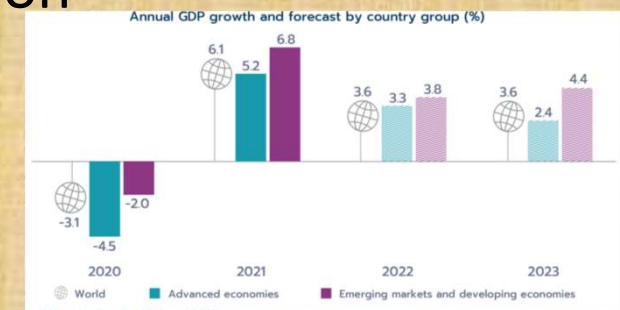
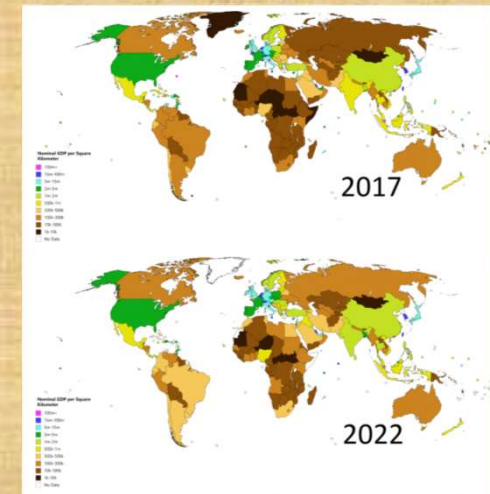
Content:

- Introduction
- What is going on based on various scenarios
- How to proceed



Introduction:

- After Corona Pandemic it is assumed that the countries all around the world are going to their back track GDP growth
- Energy is one of the main dominant factor in country economical growth(GDP growth is an exponential function of energy)
- Environmental crisis creates some restrictions on energy resources(Maximum increase of the earth temperature to 1.5 degree in 2050)
- Geopolitical conflicts has caused barriers on energy exports and imports





Introduction:

- Three scenarios have been defined for the future(IEA & CAREC):
 1. Stated policies scenario(step)- **business as- usual scenario**
 2. Announce pledge scenario(APS). **Government commitment scenario**
 3. Net zero emissions BY 2050 scenario (NZE). **Green growth scenario**



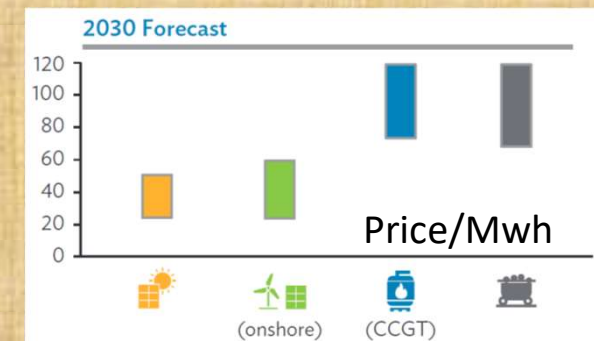
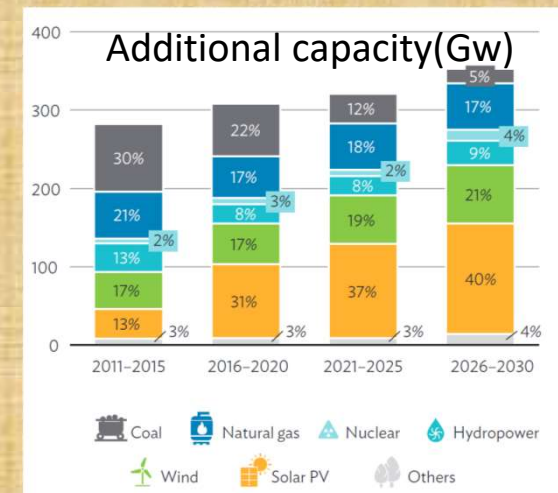
In General:

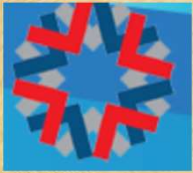
- Prices for spot purchases of natural gas have reached levels never seen before, regularly exceeding the equivalent of USD 250 for a barrel of oil
- The possibility of creation of a looming risk of recessions increased and a huge USD 2 trillion wind fall fuel producers above their 2021 net income
- Faced with energy shortfalls and high prices, governments have so far committed well over USD500 Billion, mainly in advance economies , to shield consumers from the immediate impacts



In General:

- Renewable energy resources were faced with general interest all around the world
- Hydrogen as a new source of energy is going to be developed in many countries and especially in European union and united states
- Energy efficiency program is in high interest all around the world
- Battery technology is highly progressing and create new arena for energy storage system





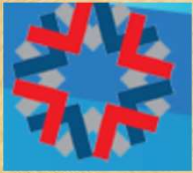
In CIS Countries:

- Electricity is set to be the most growing source of energy
- Electricity consumption growth is very high in the most CIS countries
- GAS and electricity still would be in a high demand in this region
- Energy efficiency investments are one of the most potent tools to introduce technology shifts and accelerate decarbonization
- The massive technical potential of renewables can significantly contribute to phasing out fossil fuels
- Development of Hydrogen technologies can contribute to climate change mitigation and become a key lever of energy carbon decentralization



CIS countries (continue):

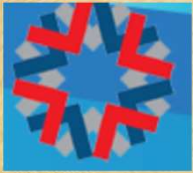
- Development of cross boarder infrastructure can increase energy supply security
- Modernization of energy grid and renewable energy development require the most urgent investment
- Cumulative emission have the potential to decrease under certain scenarios
- the



In Europe:

- 150 m³ Gas Export from Russia is not to be available anymore in coming years
- While replacement of natural gas with LNG was the short term strategy for energy demand, expansion of Renewables is the main strategy that will follow in this part of the world
- Hydrogen pipelines are rapidly growing in this part of the world and especially in the location of offshore wind plants
- Investigations show the existing Gas pipeline can be used for hydrogen transmission as well





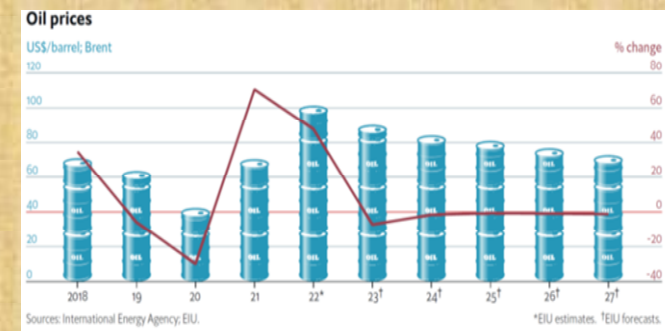
In Europe:

- Medium size nuclear power plant (400 Mw) with EPR technology is under massive development
- For the first time in this continent the economic growth was positive while the growth of energy was negative
- Since 40% of energy is using in the buildings, producing of high efficiency appliances is the main strategy that has been selected



In Middle east:

- Middle east benefits of high gas and oil prices
- As Prediction shows the oil price will dramatically decrease in 2023 (40\$ per Barrel),It seems that the future market of oil and gas will not be as attractive as before
- Attraction of Investors for oil and gas will be more difficult in this new environment especially for well recovery projects





In Middle East(continue):

- Gas to products(including electricity) would be highly feasible in these countries
- High energy demand of east and west Asian countries will create a good electricity export potential
- Energy intensity is very high in this region mostly because of cheap energy, low efficiency home appliances and last but not least low efficiency power plants
- Electricity consumption growth is very high in this region mostly because their move to industrialization.



How to proceed:

because of :

- Available resources, i. e. fossil and Renewables
- High growth of electricity consumption in the whole area
- All countries are interested in cross border electricity trade to increase their electricity security and decrease its relevant cost
- The existing infrastructures and cooperation models that goes back to the USSR strategies and development plan





How to proceed:

Establishment of Multinational Electricity Infrastructure co.

With the propose of:

- Improving the interconnections between countries
- Creating the hub of electricity for exporting the electricity to other regions
- Benefitting peak demand difference to decrease the electricity cost
- Helping the zero emission goals of the countries
- Create adding value for the existing oil and gas recourses

