

Understanding Caspian Region's Role in Ensuring Central Asia's Energy Security Prospects for Cooperation and Interdependence

'Achieving Energy Security in Central Asia: Role of Renewable Energy'

12-13 March, 2018

Ayhan Gücüyener- Research Fellow, NATO Energy Security Center of Excellence

Introduction: Paradigm Shift in Global Energy Politics



- The **traditional paradigm** in “energy politics” is **shifting** in macro and micro levels.
- **Asian energy dynamics** has been changing constantly.
- Like consumers, **energy security is still a problematic for the Asian energy producers**
- “**Competition for ensuring energy security**” has been a source for conflict; “**cooperation on energy**” could also provide a solid platform to trigger a **positive interdependence** and **mutual benefits**
- **Research Problematic:** Could “cooperation around Caspian energy resources” generate a **successful model of regional cooperation** and **strengthen regional energy security?**

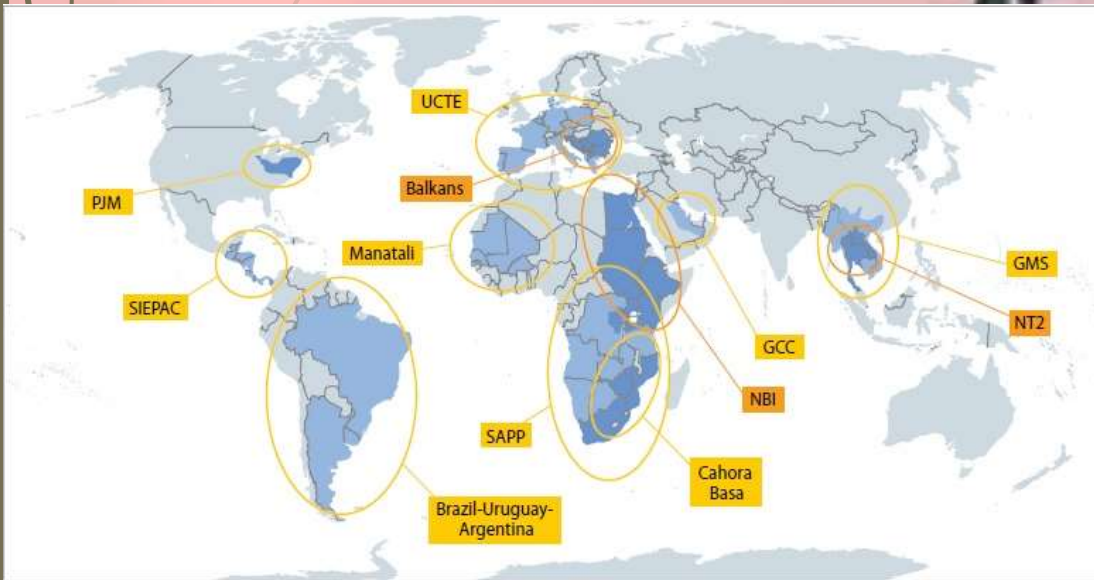
Cooperation on Energy: Prospects & Challenges



- During the history energy resources have long been a **main cause of conflicts** or similarly they have been used as a **tool or leverage**
- Early studies of energy politics were motivated by the **national security implications** of resource dependence and energy resources -particularly oil- was handled
- Today, in contrast; “**neo-liberal**” theory fits and could better interpret “**cooperation**” dimension in energy field.
- “**Energy cooperation**”- No uniform definition. **Target and the purpose** of energy cooperation is **ensure the energy security**
- **Limitations of this brief:** Power Trade (Renewables) & Gas Infrastructure, **Caspian Region** in broad sense

Cooperation on Energy: Prospects & Challenges

Ex of Regional markets of Regional Power System Integration's: Central American Electrical Interconnection System, Gulf Coast Countries, Nile Basin Initiative, European Network of Transmission System Operators for Electricity...



Why states are keen to cooperate on energy

- **Cooperation on energy** : A key role in socio-economic development
- **Which motivations** makes attractive to cooperate over energy sector ? (For ex: **Power Trade** → Regional Power System Integration's → Reliable, affordable electricity); attracting investments and facilitate financing; economic growth through trade etc.
- **Infrastructure development** → Driving force for national and regional economic growth and prosperity

Cooperation on Energy: Benefits and Interdependence

The forms of regional energy cooperation:

- Development of market relations
- Transit arrangements
- Investments
- Relationships under agreements of joint use of sea-bed or trans-border river resources
- Knowledge and information sharing

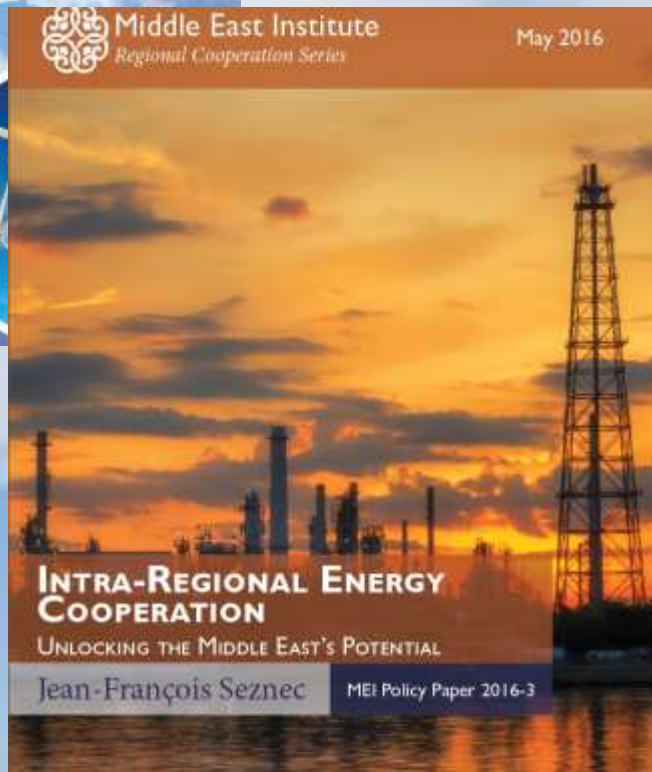
- (ADB, 2011): In Europe, electricity system interconnection has resulted with a **7-10% reduction** in generation capacity costs
- Advantages of **emergence of a larger market**
- **Security of supply** improved through better interconnections,
- **More flexibility** through access a wider range of energy resources
- **Lower requirement for capital**
- **Transfer of technology; know-how sharing**
- Reduce **vulnerability for supply disruptions**
- **Interdependence → The costs of disengagement** are so high that the related parties tend to separate political issues from economic cooperation; they **need to seek peaceful solutions** to reduce the risk of confrontations.

Cooperation on Energy: Challenges and Obstacles

- **Obstacles:** Aligning national and regional **investment decisions**, differences in **regulatory environments**, insufficient regional **institutions**, and problems with **financing**, changes in **political frameworks**, **national sovereignty and energy independence** concerns.
- There is no **one size fits all** approach (The differences in resources, endowments, market mix and related interests of different parties)
- **Overcoming challenges** → Design, approaches and the phasing of regional efforts must adapt to **local realities** with a considerable room for **flexibility and adjustment**

East and South Asia	Southeast Asia	Central and West Asia (Including Caspian Region)
Driven by large countries	Greater Mekong Subregion Program	Efficient energy cooperation during the Soviet Period
Based on their resource diversification strategies	Multilateral framework in a competitive market with interconnected grids	Intra-regional cooperation is low, reintegration is required

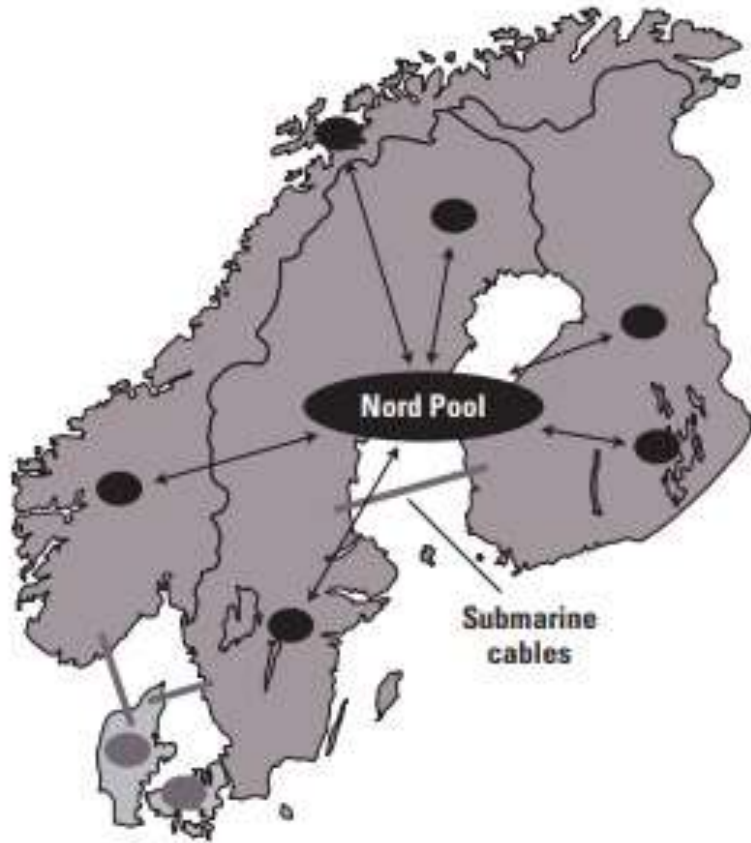
Unlocking Producers' Side: Examples from Middle East and North Africa



Ex. From producers' side:

- ▶ North African countries have not yet taken full advantage of cooperation. Intra-regional trade represented less than 4% of total trade
- ▶ **Vast quantity** of energy resources in the MENA Region, the level of **wealth distributed is low** and instead of cooperating, energy-rich states have pursued a ***go it alone approach***
- ▶ Little energy cooperation on ***mutually beneficial*** energy relations and many attempts to cooperate have been derailed by **geopolitical rivalries**
- ▶ The lack of energy cooperation has been associated with the ***lack of good governance***
- ▶ ***“Cooperation requires leaders with a vision that goes beyond ideological and historical barriers to focus on future”***

Best Practice for Regional Power Trade Cooperation: Nord Pool



● Finnish, Norwegian, and Swedish players trade on equal terms.

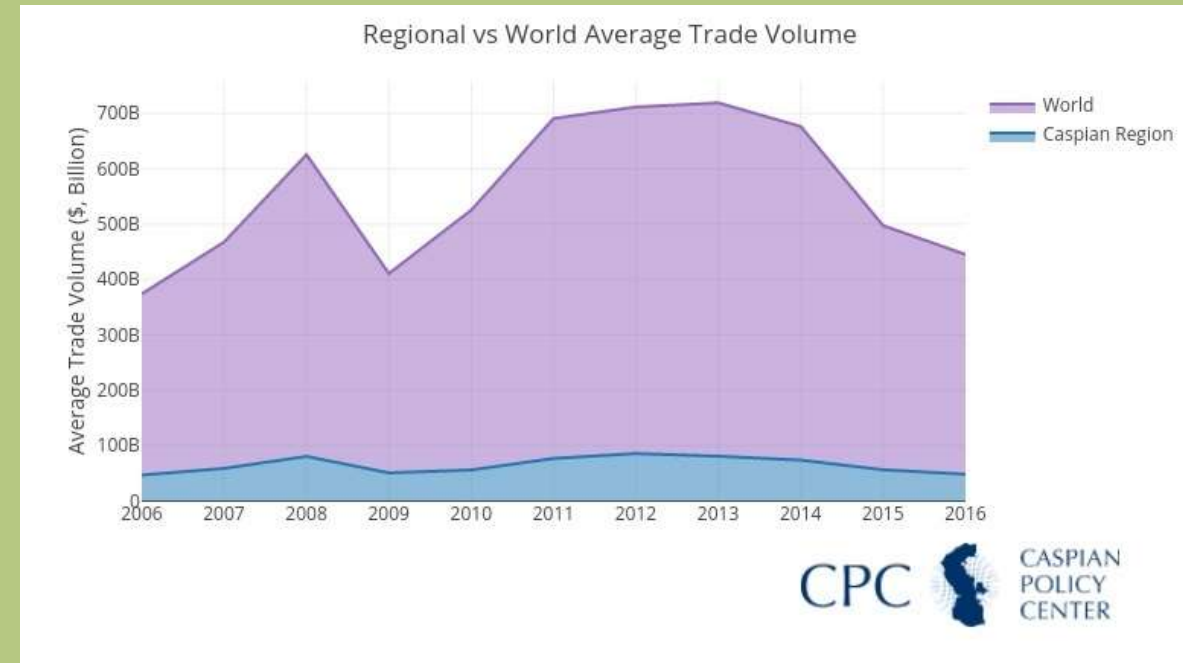
● From outside the free trade area Danish participants trade on special terms.

- World's most developed international market for power exchange has already established in 1996
- **A favorable regional platform:** Long existing tradition of cross-border bilateral trade, cooperation, large differences in generation and the existence of cross border transmission structures
- **Might not be a suitable model** or best practice for developing countries who are just passing from a traditional governmental ownership model to a more market-oriented structure
- Real proof and evidence of a fully integrated power trade system and international energy cooperation

Unlocking Caspian Energy Cooperation: Towards Interdependence

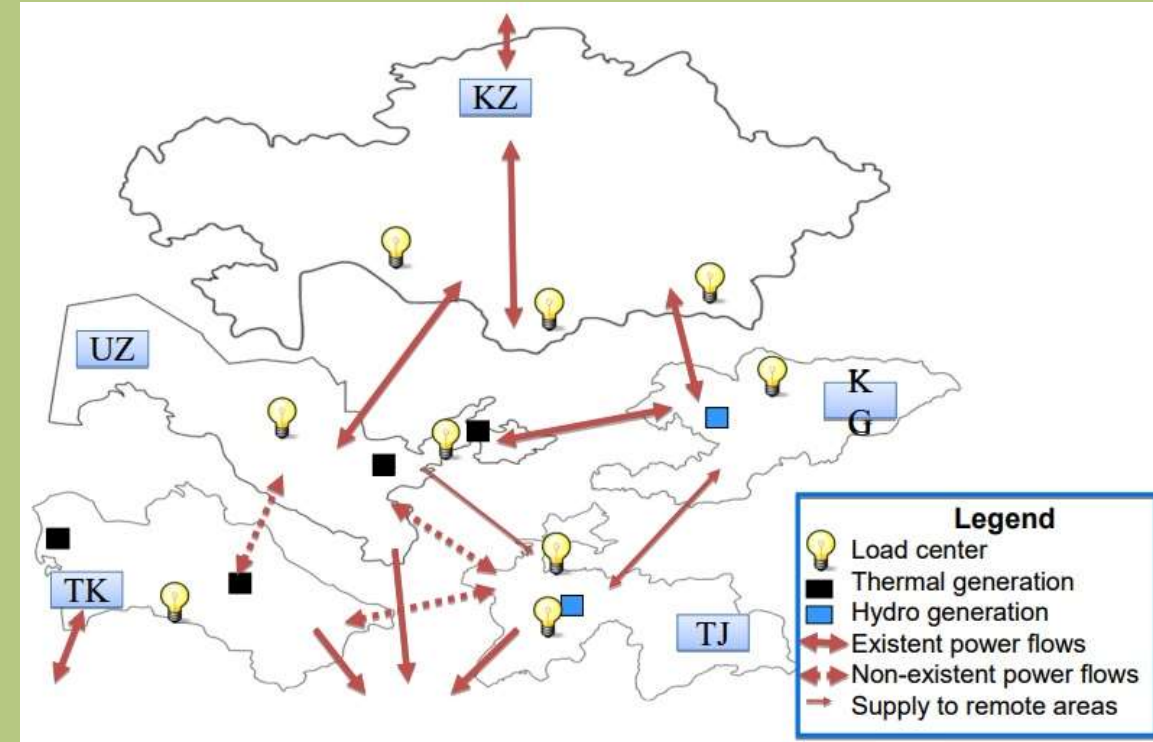
MAIN POINTS :

- Large **untapped oil and gas reserves** in the world.
- **Definition of Caspian Region ?** (In broad sense) + Regional / Global players and their interests
- Includes **Southern Caucasus** and **Central Asia** while **Russia** and **Iran** make up **wider Caspian** together with the other pivotal economic powers
- (Existing Literature) **First concern :** “Extraction of fossil fuels” and their safe and feasible export to world markets ?
- **Intra-regional cooperation** has decreased ? : On energy politics, **go it alone approach ?**



Regional Power Trade System: Central Asia Power System (CAPS)

- **Central Asia Power System (CAPS)** designed in former Soviet Union to serve to former Soviet republics
- **Aim:** Allow the coordinated and optimized use of fossil fuel and hydroelectric resources to meet electricity demand and manage water flows.
- **The current status: Economically inefficient use of regional energy resources, a costly situation for the region**
- Tajikistan suffered most, due to seasonal variation in hydroelectricity production and limited fossil fuel reserves
- **Lack of confidence** in joint operations based on the real problems, solved by joint operation and work



Caspian: A Fragmented Energy Outlook; Complementary Energy Security Approach

MAIN POINTS :

- Energy outlook of the Caspian countries : **Fragmented Picture**
- **Diversities triggers unity ? :**
Complementary energy security approaches
- Interests of major powers in the region : “Cooperation and development” in energy sector mostly targeting external markets ; **intra-regional attempts remained weak**

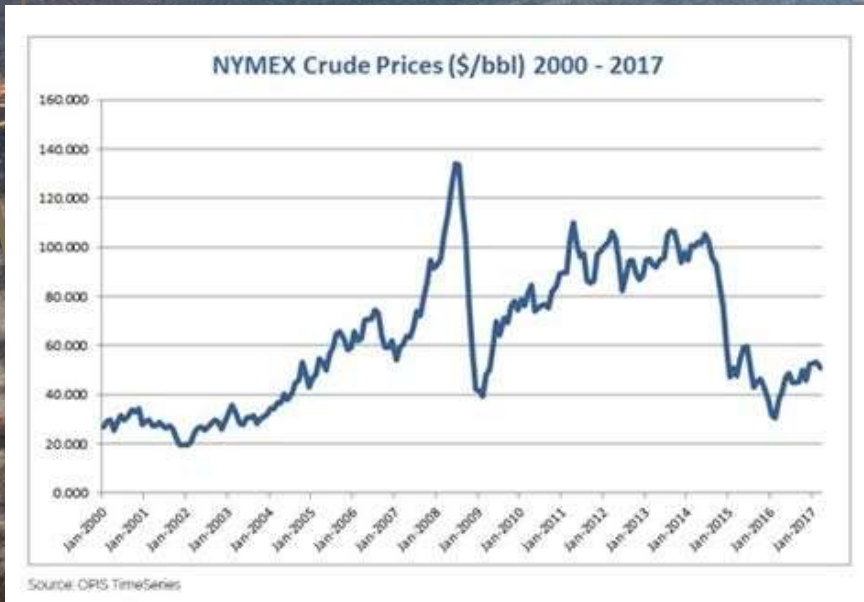
What if they cooperate:

- States with **sufficient energy resources** for exports secure access to export markets
- States rich in **hydropower resources** lacking fossil fuels gaining access to export markets for hydroelectricity
- **Transit countries** earning valuable transit and transmission fees, becoming an alternative energy transit route
- China importing oil and natural gas from CAC
- **Azerbaijan** trading larger volumes of power
- Central Asian countries exporting power and natural gas to South Asia

	Azerbaijan	Kazakhstan	Kyrgyz Republic	Tajikistan	Uzbekistan	Afghanistan	China
Azerbaijan	xx	Kazakh oil and gas exports through BTC and BTE under Discussion; Littoral agreements in place					
Kazakhstan	Kazakh oil and gas Exports through BTC and BTE under Discussion; Littoral agreements in place.	xx	Imports Kyrgyz Hydropower; Transit for Power exports north by Swap arrangements; Water sharing agreements	Import of Tajik hydro power. Water sharing agreements	Import of Uzbek gas/power. Water sharing agreement		Export of Kazakh oil to China
Kyrgyz Republic		Import of Kazakh oil, coal and gas. Export of power to Kazakhstan	xx	Export of Power; Electricity transit north – south in relation to Tajikistan	Import of Uzbek coal and gas. Export of electricity to Uzbekistan		Power exports to China
Tajikistan		Export of power to Kazakhstan	Transit for Power exports north	xx	Power transit, Power exchanges & Import of Uzbek and gas	Export of Tajik Power To AFG	
Uzbekistan		Gas exports/power transit/ Water agreements	Export of Uzbek gas	Export of Uzbek gas/power transit/water agreements	xx	Export of Uzbek power	Oil and gas Exploration concessions to China
Afghanistan				Import of Tajik power	Import of Uzbek power	xx	
China		Energy Investments in Kazakhstan.; Import of Kazakh oil	Import of about 1 GWh of power/year During 2003-2007	Chinese financing of North-South power line and hydro power project	Investments in UZB. Oil and gas exploration	xx	

Caspian Region Energy Cooperation: Barriers and Obstacles- Market

Decreasing Crude Oil Prices...



- **Evolving market context:** Newly and emerging energy hubs and ports in, new extractions in Mediterranean could shift the trade focus to Caspian
- **Decreasing oil and gas prices:** Investing less attractive and decrease the income, Difficulties to find proper investment and finance options
- **More robust and cohesive Caspian policy framework** which will be shared by wider Caspian stakeholders and moves beyond individual states
- **The fragile and ageing energy infrastructure** : To be competitive with the entrance of new conventional and unconventional resources (East Med, Arctic etc.)

Caspian Region Energy Cooperation: Barriers and Obstacles- Regional Competition



- Market/Infrastructure restrictions + Interests/Competition of Pivotal States
- **Countries in the Northern Caspian** more advanced in the regional cooperation initiatives
- **Rivalry and competition** continue to create a burden especially on **South Caspian**
- **Legal status of Caspian Sea** is still a problematic
- Substantial **Caspian Summits** were place for delimitation, however by now no agreement yet. (Will 2018 make a surprise?)
- Future of the **(Trans-Caspian Pipeline)** yet to be determined

North Caspian Region Energy Cooperation: Best Practices

BAKU-TBILISI-CEYHAN (BTC) OIL-EXPORT PIPELINE



- **Realization of BTC and TANAP : Strong political and financial commitment**
- **BTC:** Cornerstone of the regional energy cooperation and gave a boost to the implementation of other regional cooperation and integration projects: **BTK (Baku-Tbilisi-Kars) Railway Project** (transportation)
- Emergence of a **positive interdependence** among region's states
- **Implementation of TANAP :** Generate economic activity and employment, decrease the vulnerabilities in terms of energy security.

Regional Cooperation on Renewables in Caspian: New Opportunity or Mission Impossible?



- **(IEA, 2012)** : By 2050 it is estimated that nearly **50% of global electricity** will come from RES
- **Highly reliance** on fossil fuels; significant amount of alternative and renewables.
- The potential for **energy efficiency** gains is vast and remains largely untapped
- Azerbaijan (2016), renewable energy sources accounted for about 8 percent of electricity produced in, target **%15 by 2020**
- Kazakhstan, oil accounted 50% of GDP 2017,
- Plan : To increase the share of renewable energy in power generation to **30% by 2030 and 50% by 2050**

Regional Cooperation on Renewables in Caspian: New Opportunity or Mission Impossible?



- AZ signed memorandum of understanding with the EU on the **implementation of reforms in field of alternative energy**
- **IEA Report 2015:** Increasing energy efficiency and renewable energy use would help to **reduce energy consumption by half** in the Caspian region
- The IEA does not predict a **radical change**; however altered by "**raising public awareness** on the **tangible benefits** of energy efficiency and RE
- The possibilities depends largely on **government policies**, especially on **energy pricing**, **market reform** and **improved access to financing** for energy projects.

Regional Cooperation on Renewables in Caspian: Finding the Right Model



Regional Cooperation Mechanisms for the Development of Renewables:

- Role of cooperation to promote renewables: **Learning from the others, sharing resources and expertise** (pooling resources), **reduced cost, expand markets, trans-boundary issues**
- **Plan B for Region ? : Caspian Energy Grid:** Lead by mainly Iran focusing on cooperation in pursuit of the reduction of cost which may be **applicable for all Caspian littoral states**
- **Aim:** Developing a networked physical and financial energy infrastructure throughout and connected Caspian for the regional transition to a low carbon economy.
- **Challenges:** Requirement of huge investment, new and consensual Caspian legal framework for energy cooperation and credit instruments

Regional Cooperation on Renewables in Caspian: Finding the Right Model

- A core solution to regional problems like climate change, economic recession or environmental issues

Suggested types of RCM (Regional Cooperation Mechanism) on Renewables:

- Intergovernmental agreements (IRENA)
- Partnerships
- Networks
- Programs and Plans
- Information and experience sharing platforms/initiatives

Which model is more convenient for Caspian Region ?

- Think globally, act locally
- Rather than focusing on the conflictual dimensions like the status of Caspian Sea, prioritize advantages !!



Thank you for listening

Ayhan Gücüyener

ayhan.gucuyener@enseccoe.org

ayhangucuyener@hotmail.com