

INSTITUTE OF ENERGY FOR SE EUROPE



INSTITUTE OF ENERGY  
FOR SOUTH-EAST EUROPE

# South East Europe Energy Outlook **2021/2022**

**IENE Press Conference**

*April 4, 2022*

By **Costis Stambolis**

Chairman and Executive Director of IENE



# Contents of SEEO 2021/2022 Study



# Raison d' Être



## □ Why a regional approach?

Because SE Europe, on the strength of its history, cultural background and current urban and industrial setting, constitutes a region both geographically and geopolitically and it has a strong impact on the rest of Europe and the East Med (see Energy Security).

- The need to **understand** the geopolitical and geographical sphere within which IENE operates, but also to **define** and **evaluate** in an objective manner the major policy challenges of the energy sector of the region.
- To **study, analyse** and **understand** the region's energy market structure and associated energy flows.
- To **identify** the important investment and business opportunities across the SE European area and assess the region's energy related investment potential within the given business climate.
- Energy Atlas of the region.
- An in-depth study of the energy prospects and perspectives of a particular geographic region, such as SE Europe, has an impressive cumulative effect, as the **sum often exceeds the value of its constituent parts**. Very much along the lines of Aristotle's logic when he proclaimed the *"The whole is greater than the parts"*.

# The SE European Region Defined



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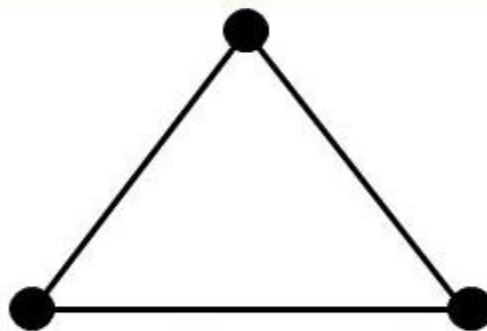




# The Three Pillars of EU Energy Policy

## COMPETITIVENESS

- complete single energy market
- cut Europe's energy bill
- create jobs
- boost R&D and create markets in which EU can become a global leader



## SECURITY OF SUPPLY

- reduce Europe's dependence on energy imports
- help balance trade

## SUSTAINABILITY

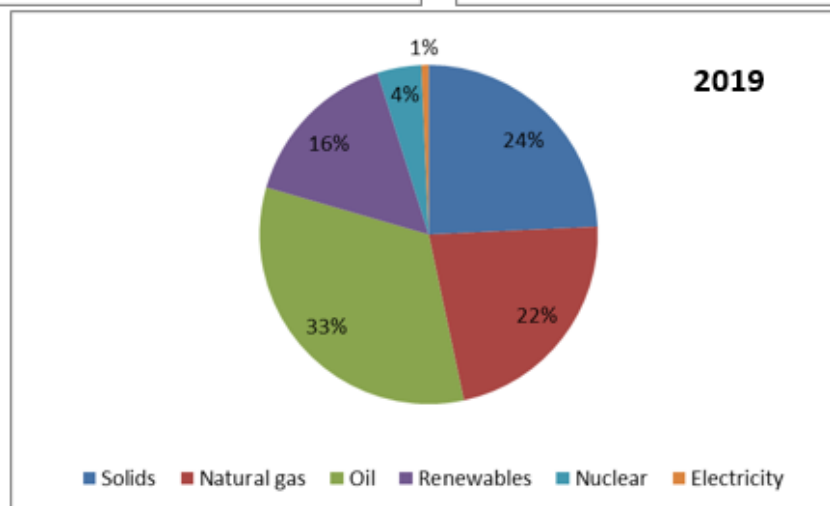
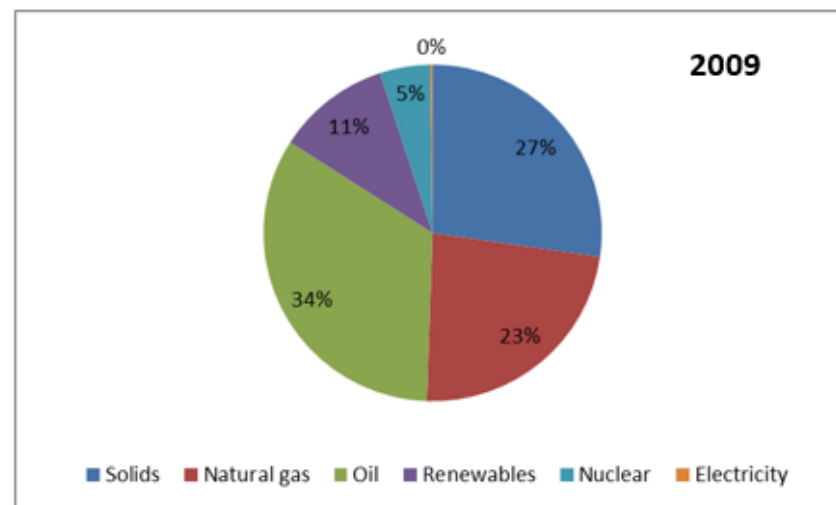
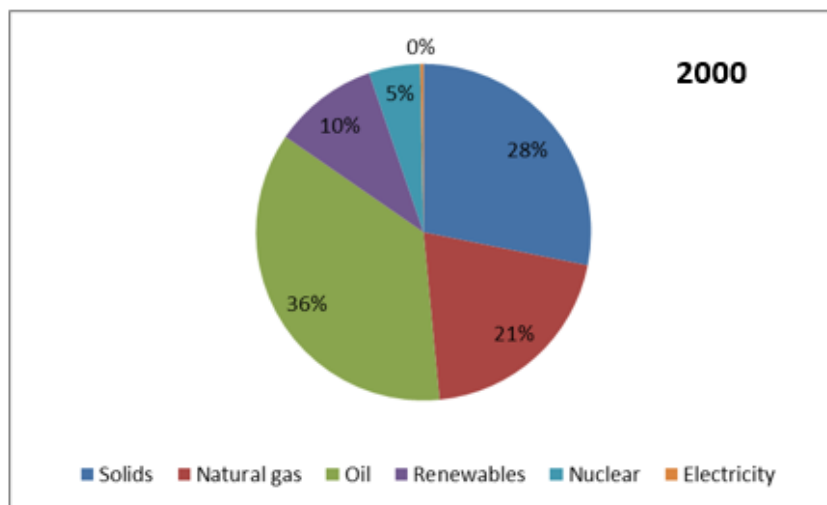
- reduce environmental degradation and greenhouse gas emissions
- increase energy efficiency
- increase role for renewables

# 2020 Basic Energy Data for SE Europe

Region	Final Oil Consumption (thousand tonnes)	Gas Inland Consumption (bcm/y)	Gross Electricity Production (TWh)
SE Europe	82,508.3 (20% of EU-27)	75.76 (18.9% of EU-27)	594.1 (21.3% of EU-27)
EU-27	411,530.4	399.6	2,786

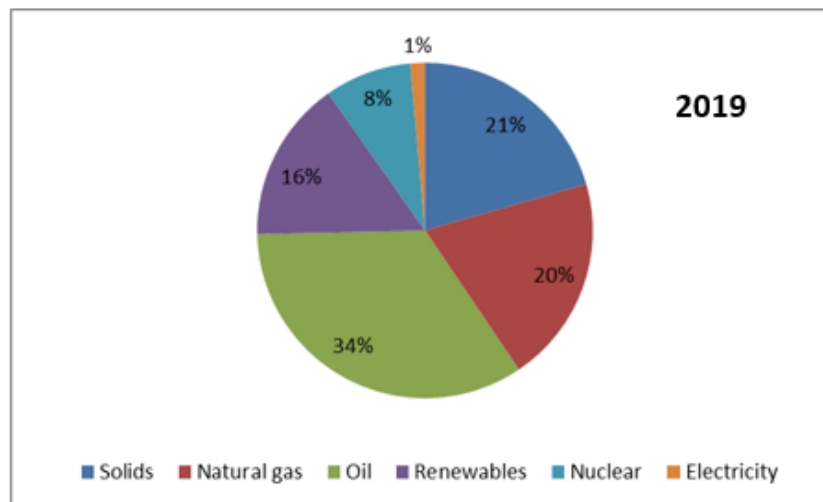
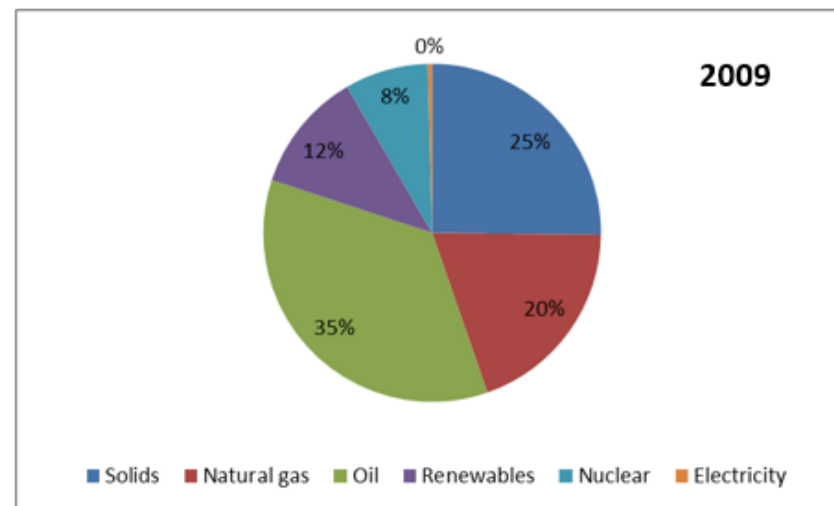
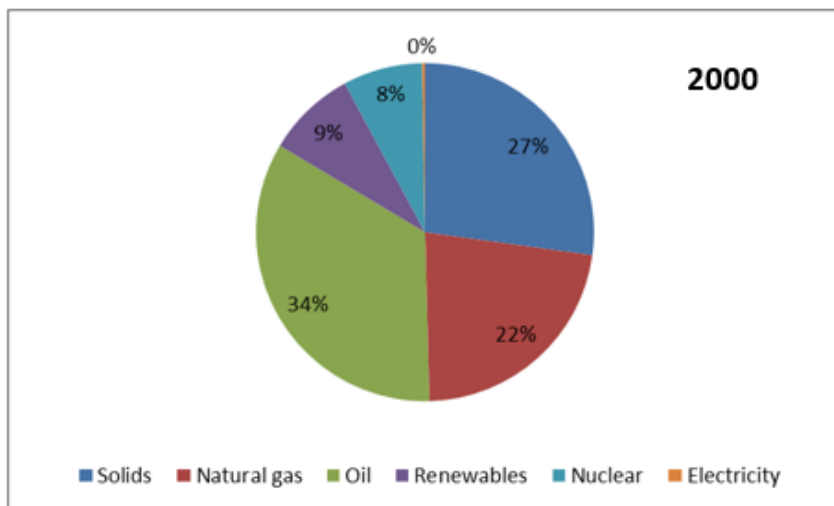
Source: IENE study “SE Europe Energy Outlook 2021/2022”, Athens, 2022

# SE Europe's Energy Mix, Including Turkey, 2000, 2009 and 2019



Source: Eurostat

# SE Europe's Energy Mix, **Without Turkey**, 2000, 2009 and 2019



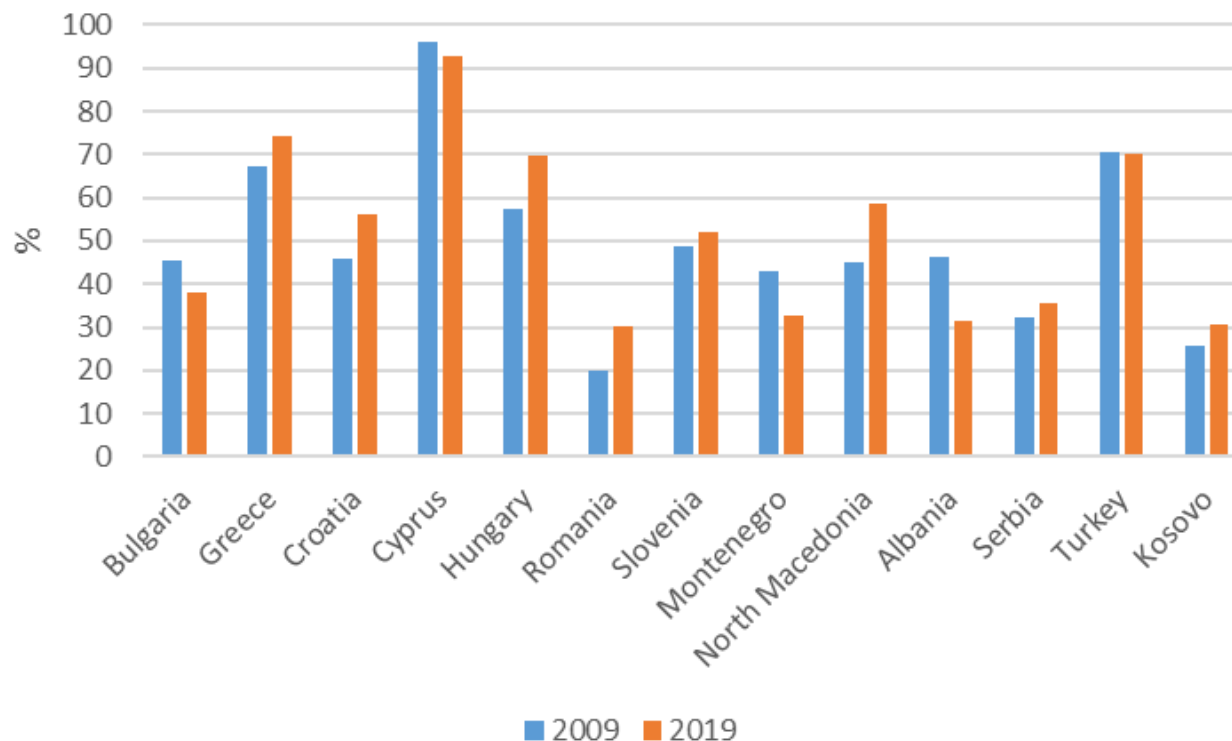
Source: Eurostat

# Key Regional Energy Issues



- ❑ Marked divergence between EU and SEE energy strategies
- ❑ SEE is more energy security vulnerable than the rest of Europe
- ❑ SEE's high hydrocarbon dependence
- ❑ Electricity's newcomer gas alters supply balance
- ❑ Lack of adequate electricity and gas interconnections
- ❑ Coal/lignite is and will continue for sometime to be relevant
- ❑ SEE's path towards decarbonisation is difficult and uncertain
- ❑ Nuclear remains a viable option for SEE power generation
- ❑ RES growth impeded due to repeated policy failures and electricity grid constraints

# Energy Dependence in SE Europe (2009 and 2019)



Source: IENE study “SE Europe Energy Outlook 2021/2022”, Athens, 2022

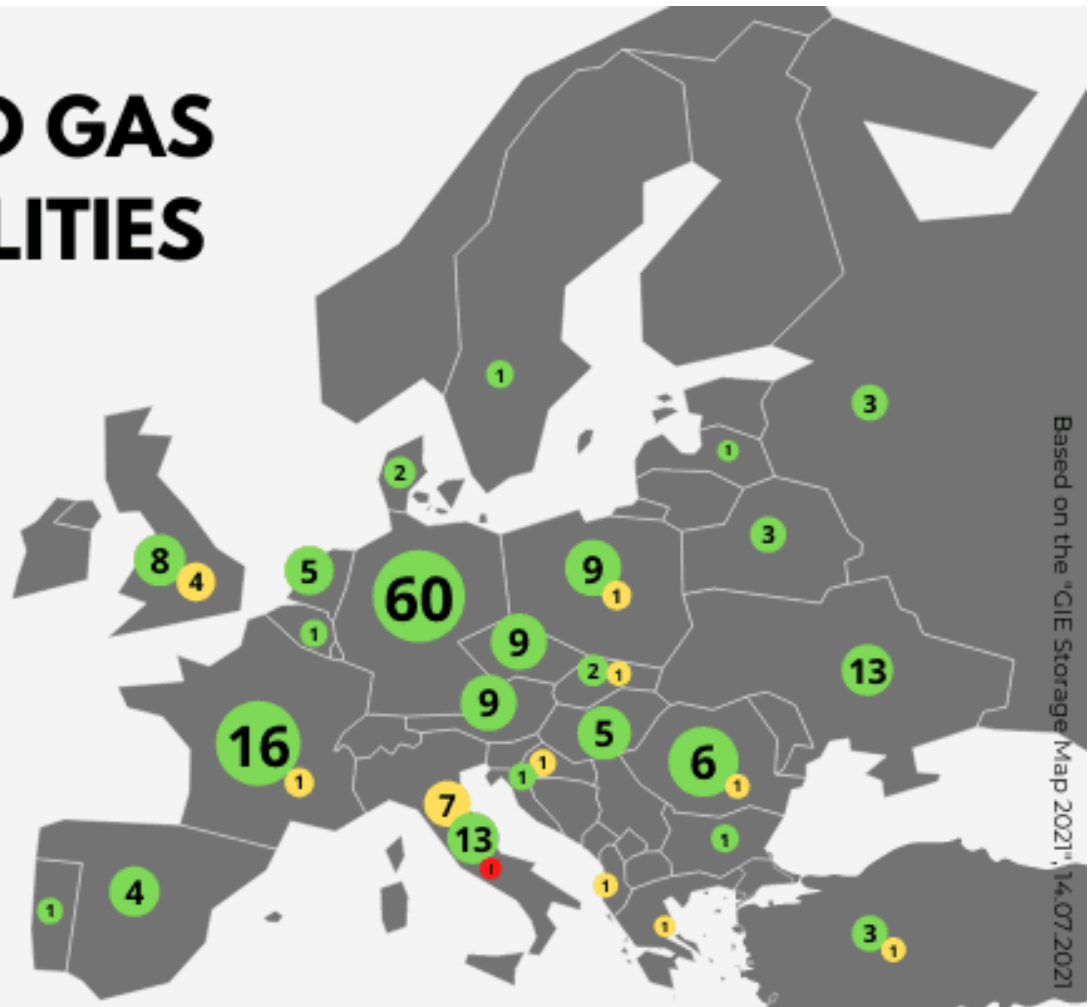
# An Expanded South Gas Corridor



**Note:** The TANAP, TAP and Turk Stream have been completed, while BRUA and IGB are still under construction. The IAP, the IGI Poseidon in connection with East Med pipeline and the Vertical Corridor and the IGF are still in the study phase. Blue Stream and Trans Balkan are existing pipelines.

## UNDERGROUND GAS STORAGE FACILITIES IN EUROPE

BY COUNTRY



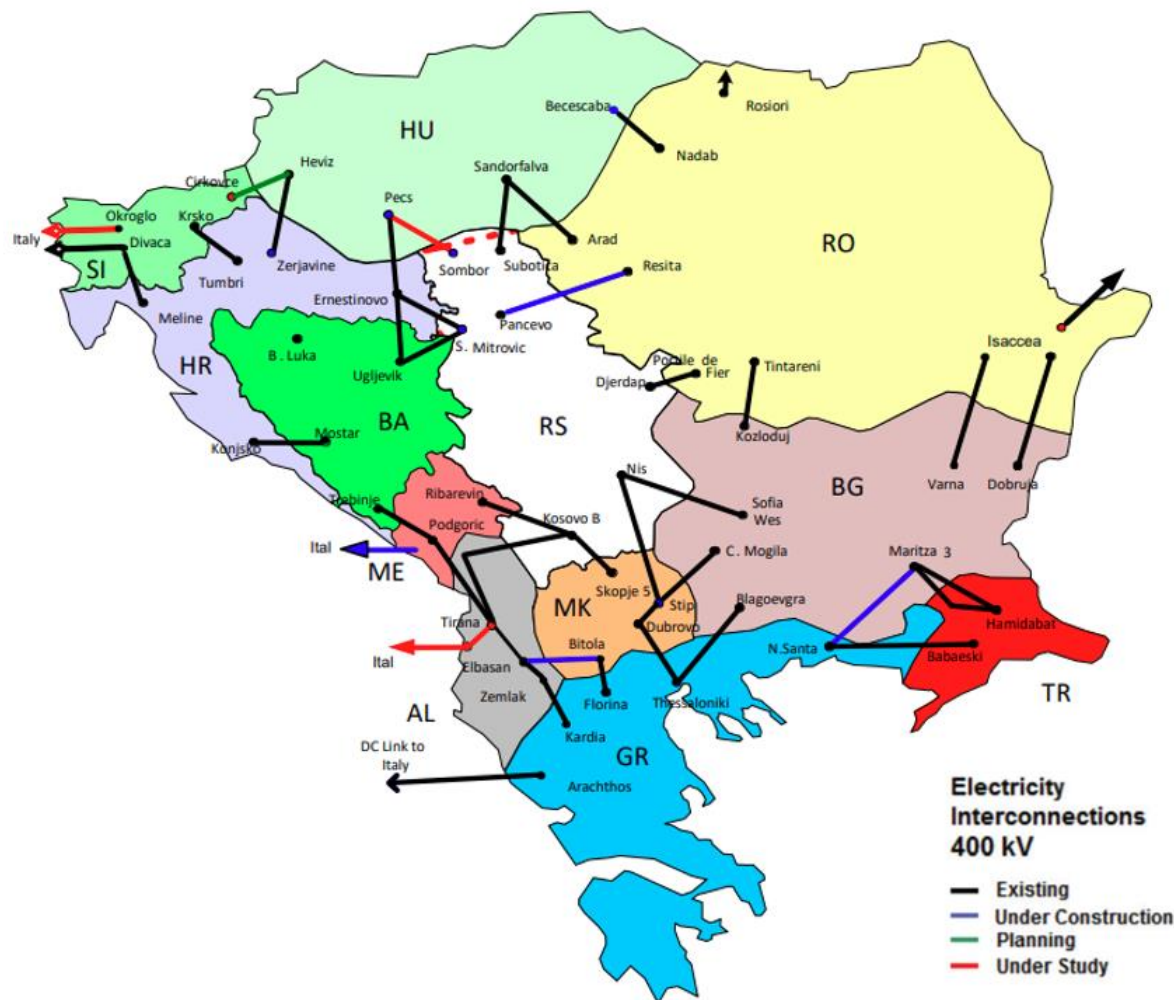


# LNG Terminals in SE Europe



Source: IENE

# Electricity Interconnections in SE Europe



Source: IPTO's Ten Year Network Development Plan 2021-2030

# Διασυνδεδεμένο Σύστημα Ηλεκτρικής Ενέργειας του ΑΔΜΗΕ έως το 2030



- Υφιστάμενη Γραμμή Μεταφοράς
- Σημαντικά έργα που θα κατασκευαστούν έως το 2024
  - Διασυνδέσεις Κρήτης
  - Διασύνδεση Βορείων Κυκλάδων
  - Διασύνδεση Νοτίων & Δυτικών Κυκλάδων
  - Διασύνδεση Εύβοιας-Σκιάθου
  - 2η διασύνδεση Ελλάδας-Βουλγαρίας
  - Επέκταση Συστήματος 400 kV στην Πελοπόννησο
  - Ανακατασκευή ΚΥΤ Κομοτηνών
- Σημαντικά έργα που σχεδιάζονται έως το 2030
  - Διασύνδεση Δωδεκανήσων
  - Διασύνδεση Βορειοανατολικού Αιγαίου
  - Νέα ΓΜ 400 kV Φιλίππων- Νέα Σάντα
  - ΚΥΤ Αργυρούπολης

Source: IPTO



# Nuclear Power Plants in SE Europe

- On February 2, 2022, the European Commission presented a **Taxonomy Complementary Climate Delegated Act**, which may reignite nuclear projects in SE Europe. There appears to be **limited interest for new nuclear power plants in the region**. Only Romania and Turkey have specific plans.

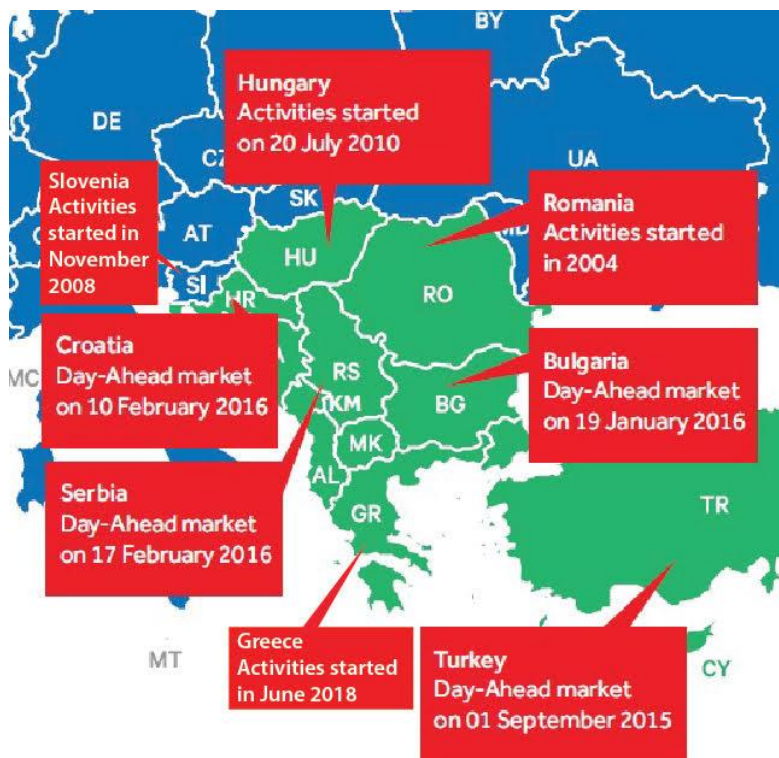


Source: IENE study “SE Europe Energy Outlook 2021/2022”, Athens, 2022

# Power Exchanges in SE Europe

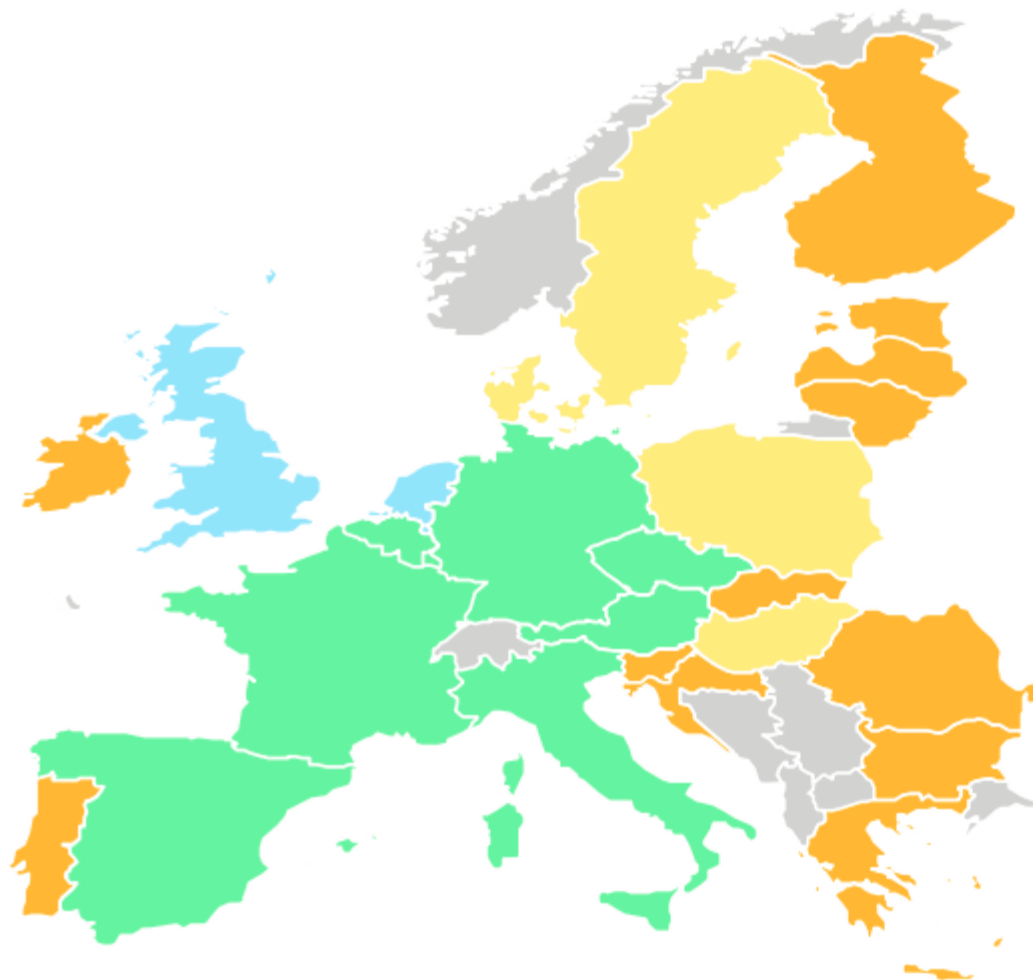


- Currently, there are **eight active power exchanges** in SE Europe: in Bulgaria, Hungary, Croatia, Greece, Serbia, Romania, Slovenia and Turkey.
- However, there are plans for the establishment of power exchanges in Montenegro and a joint energy market between Albania and Kosovo.



Source: IENE study “SE Europe Energy Outlook 2021/2022”, Athens, 2022

# Where Does SE Europe Stand Today in Terms of Gas Hubs?



## Established hubs

- Broad liquidity
- Sizeable forward markets which contribute to supply hedging
- Price reference for other EU hubs and for long-term contracts indexation

## Advanced hubs

- High liquidity
- More reliant comparatively on spot products
- Progress on supply hedging role but relatively lower liquidity levels of longer-term products

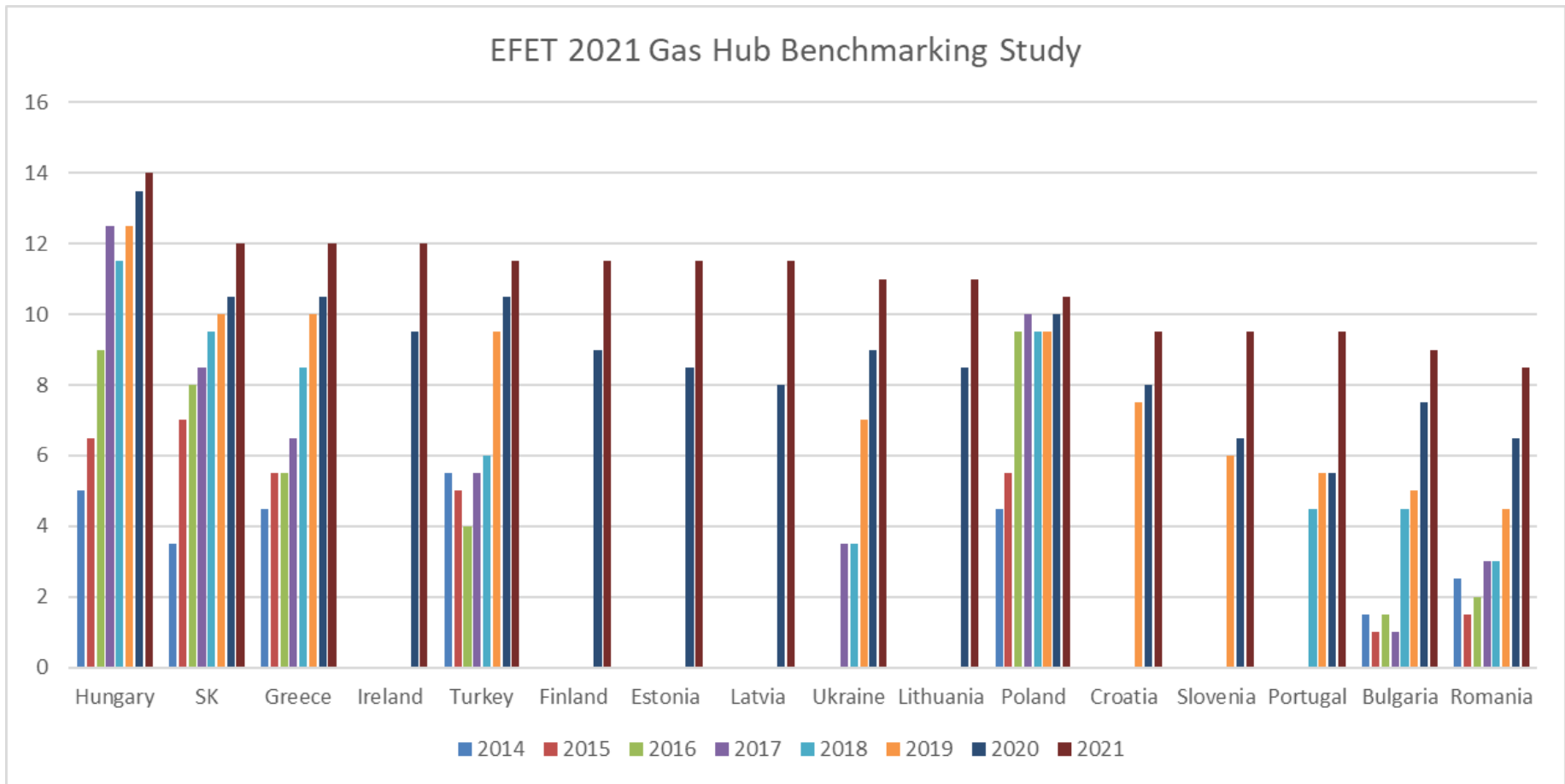
## Emerging hubs

- Improving liquidity from a lower base taking advantage of enhanced interconnectivity and regulatory interventions
- High reliance on long-term contracts and bilateral deals

## Illiquid-incipient hubs

- Embryonic liquidity at a low level and mainly focused on spot
- Core reliance on long-term contracts and bilateral deals
- Diverse group with some jurisdictions having
  - organised markets in early stage
  - to develop entry-exit systems

Source: ACER Market Monitoring Report 2020

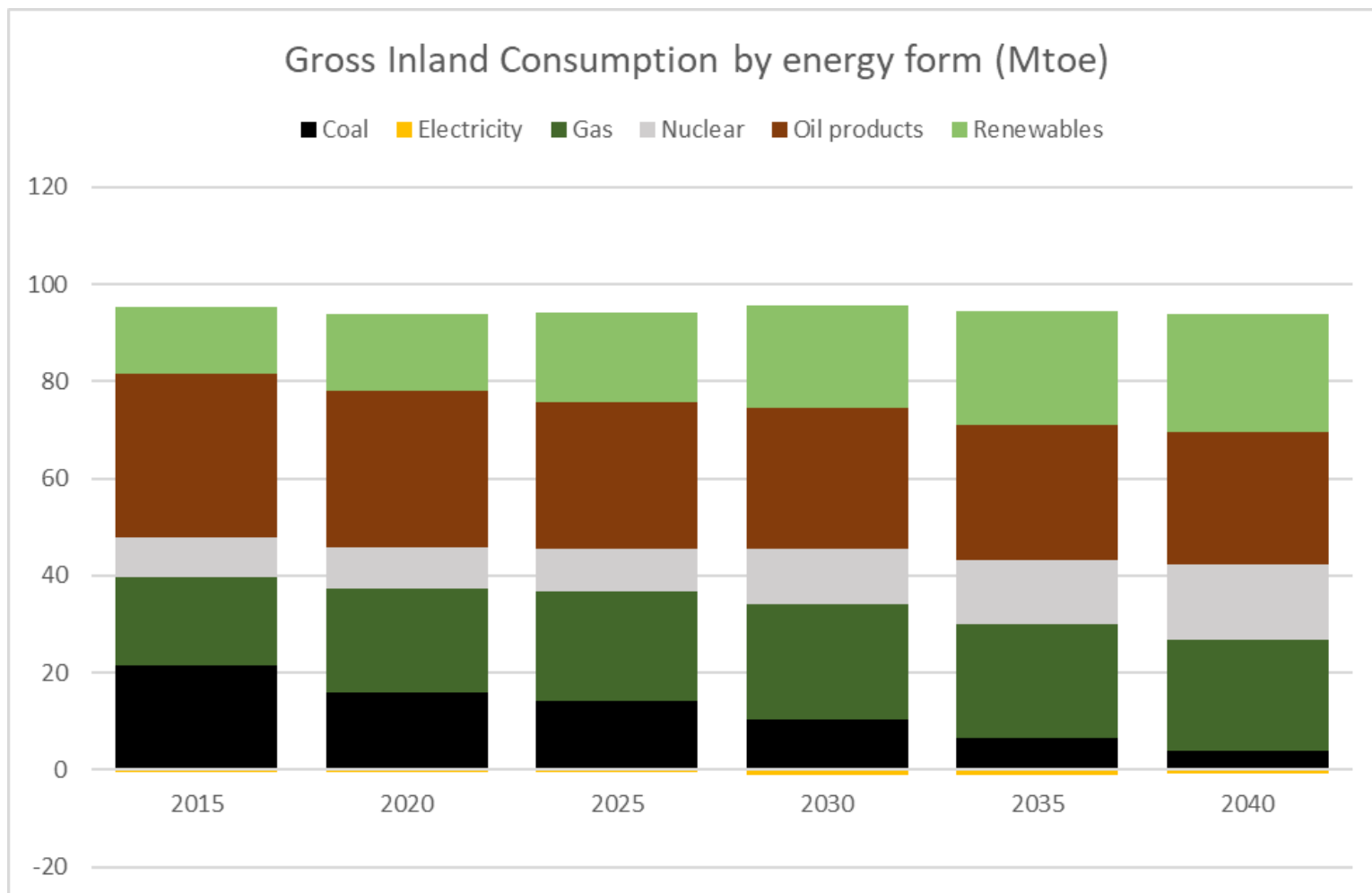


Source: EFET



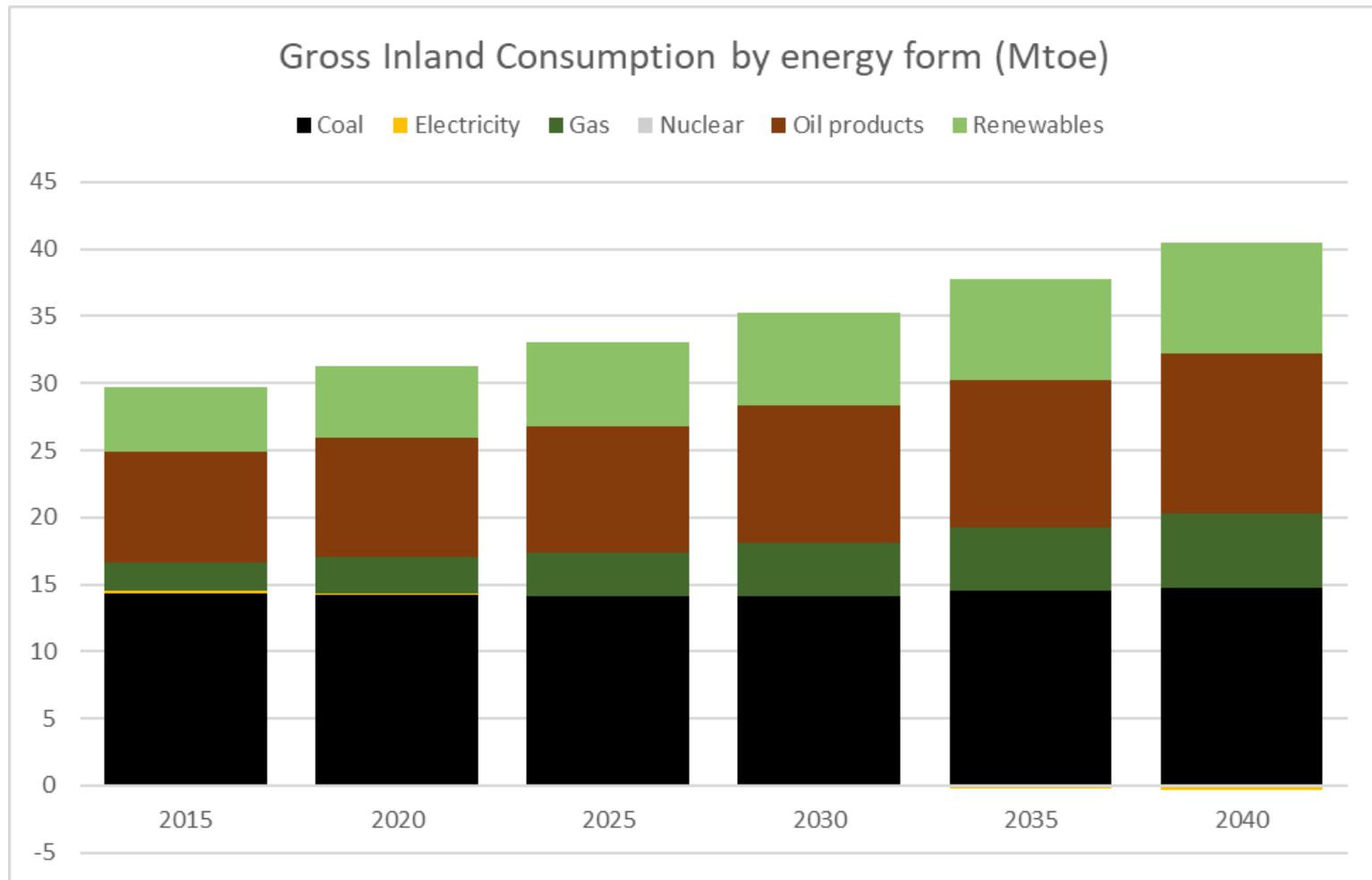
- The projections for the development of the energy systems of the SEE countries under a **“Baseline” scenario** approach was considered appropriate in order to present the possible future pathways paved by current policies.
- The **most recently available studies** and the **official country submissions of strategic documents** (such as the Integrated National Energy and Climate Plans) were used in order to collect and analyse these projections.
- The purpose is to present the evolution of the national energy systems corresponding to a **“where we are heading” storyline**, providing a simple but comprehensive picture of the energy and GHG emissions dynamics under the “current policy” efforts until 2040.
- It should be noted that most of the available analyses do not include the effect of the **COVID-19 pandemic** and its possible long-term effects to the macroeconomic development and the energy systems of the countries in the region.

# EU Member States in SE Europe: Gross Inland Consumption (2015-2040)



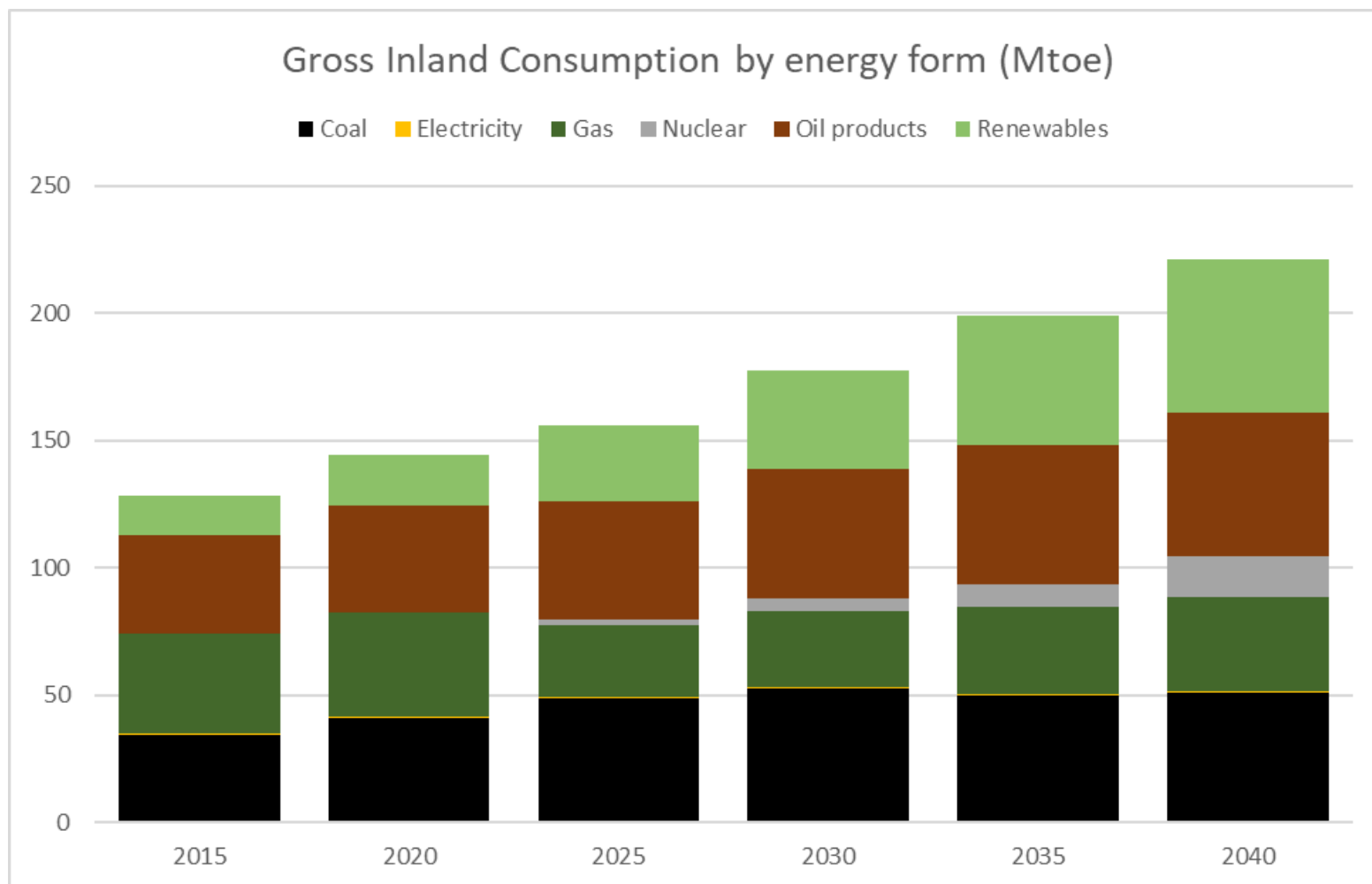
Source: IENE study "SE Europe Energy Outlook 2021/2022", Athens, 2022

# Western Balkan Countries: Gross Inland Consumption (2015-2040)



Source: IENE study "SE Europe Energy Outlook 2021/2022", Athens, 2022

# Turkey: Gross Inland Consumption (2015-2040)



Source: IENE study "SE Europe Energy Outlook 2021/2022", Athens, 2022

- The **investment prospects** in the energy sector of SE Europe over the next 10 years can only be described as **positive**.
- In terms of planned investments, a group of **five countries (i.e. Turkey, Bulgaria, Romania, Serbia, Greece)** appear to be moving **much faster than others** in attracting the needed investment for a variety of energy projects, while progress in the rest of the countries is moving more slowly.
- The region as a whole can be considered as presenting **attractive business opportunities in almost all branches of the energy sector**. The present analysis shows that investment in the energy sector will be spread as follows between countries and interregional projects.

# Findings of SEE Energy Investment Outlook Per Country (2021-2030)



Country	Estimated Investment (mn €) 2021 Estimate	Estimated Investment (mn €) 2017 Estimate	GDP growth 2021 (%) IMF World Economic Outlook	GDP growth annual projection to 2025 (%)
Albania	4,500	7,460	5.3	3.5-4.5
Bosnia and Herzegovina	9,400	8,722	2.8	3-3.2
Bulgaria	47,000	11,050	4.5	3.1-4.5
Croatia	21,000	8,525	6.3	3.2-5.8
Cyprus	16,200	7,350	4.8	2.7-3.6
Greece	44,400	23,300	6.5	1.5-4.6
Hungary	25,300	-	7.6	2.6-5.1
Israel	39,300	-	7.1	3.2-4.1
Kosovo	7,400	2,605	4.8	n/a
Montenegro	4,600	2,400	7.0	2.9-5.6
North Macedonia	10,400	3,400	4.0	3.6-4.2
Romania	50,100	20,630	7.0	3.6-4.8
Serbia	15,200	11,260	6.5	4.0-4.5
Slovenia	12,100	3,185	6.3	2.9-4.6
Turkey	130,000	124,935	9.0	3.3
<b>TOTAL</b>	<b>436,900</b>	<b>234,822</b>		

NB. Hungary and Israel were not included in the 2017 SEE Country Survey and hence no estimates have been prepared by IENE.

Source: IENE study “SE Europe Energy Outlook 2021/2022”, Athens, 2022

# Findings of SEE Energy Investment Outlook Per Sector (2021-2030)



	Project sector	Description	2021 Investment estimate (€ mn)	2017 Investment estimate (€ mn)*
<b>OIL</b>	Upstream	<ul style="list-style-type: none"> <li>Field Exploration</li> <li>Development of new oil and gas wells</li> </ul>	63,000	38,790
	Downstream	<ul style="list-style-type: none"> <li>Refining (upgrading)</li> <li>Loading Terminals</li> <li>Storage facilities</li> <li>Crude / Product Pipeline(s)</li> </ul>		
<b>GAS</b>	Country Gas Network	<ul style="list-style-type: none"> <li>Grid development</li> <li>Main intra country pipeline(s)</li> <li>Storage facilities</li> <li>FSRU and LNG Terminals</li> </ul>	25,150	16,550
<b>ELECTRICITY</b>	Power Generation	<ul style="list-style-type: none"> <li>Lignite</li> <li>Coal</li> <li>Gas (including CHP)</li> <li>Nuclear</li> <li>Large Hydro</li> </ul>	150,150	139,550
	Electricity Grid	<ul style="list-style-type: none"> <li>New H/V transmission lines</li> <li>Upgrading and expansion of existing grid</li> </ul>		
	RES	<ul style="list-style-type: none"> <li>Small Hydro</li> <li>Wind farms</li> <li>Photovoltaics</li> <li>Concentrating Solar Power</li> <li>Biomass (including liquid biofuels)</li> <li>Geothermal</li> </ul>	109,900	40,009
<b>ENERGY EFFICIENCY</b>		<ul style="list-style-type: none"> <li>Buildings</li> <li>Industry</li> <li>Electric vehicles</li> </ul>	88,700	-
Total anticipated investments by 2021-2030			436,900	234,822
Gas infrastructure			23,303	33,350
Electricity Interconnections			8,440	4,700
Cross-border energy projects (total)			31,743	38,050
<b>Grand Total</b>			<b>468,643</b>	<b>272,872</b>

\*(1) This estimate refers to Scenario A as stated in SEE Energy Outlook 2016/2017, p. 1123-1124.

(2) No investment estimates for Energy Efficiency applications were provided in the SEE Energy Outlook 2016/2017.

- The **main sources of finance** for planned energy infrastructure projects in SE Europe include:
  - Government/own resources
  - International Financial Institutions (IFIs)
    - European Commission
    - European Bank for Reconstruction and Development (EBRD)
    - European Investment Bank (EIB)
    - World Bank
    - German government-owned development bank KfW
    - European Western Balkans Joint Fund (EWBJF)
    - International Development Association (IDA)
  - Commercial banks/private investors
  - Financial facilities for investments in energy efficiency and renewable energy



# Key Messages (I)



- ❑ **Geography**, followed by **economy**, has emerged as a key factor in SEE's energy assessment
- ❑ **Energy strategies and policies**: There is considerable divergence between stated objectives and actual progress on the ground (e.g. Decarbonisation, RES penetration, regional co-operation)
- ❑ There is **clear failure at EU policy level** in achieving national targets especially in RES, as conflict is in evidence over strict budgetary rules and allowed deficit levels
- ❑ The **coronavirus pandemic (COVID-19)** led governments to impose unprecedented containment measures on transportation and economic activity in general. Combined with a fall in global oil prices, especially during March-May 2020, this crisis is producing imbalances in the energy sector, affecting both investments and the transition to decarbonisation
- ❑ The SEE region's **energy mix** is still characterized by glacial change in terms of differentiation of the dominant fuels
- ❑ The **persisting relevance of solid fuels** is explained on account of the large amounts of indigenous coal and lignite deposits and are seen as partly preventing a determined move towards decarbonisation
- ❑ The SEE region is characterized by **high oil and gas import dependence**
- ❑ The outlook for the SE European **upstream oil and gas industry** has rarely looked so uncertain
- ❑ **Peripheral countries** are playing an increasingly more influential role in the channeling of energy flows into the SEE region
- ❑ **Natural gas is becoming increasingly important** to the energy mix of the various SEE countries, both for power generation and commercial/domestic use

# Key Messages (II)



- ❑ **Market liberalization** in the electricity sector has made huge strides over the last five years with unbundling having taken place and competition in the retail area now evident after many years of protectionism. Less impressive is progress in the natural gas sector where competition, is largely limited to the industrial sector with retail lagging seriously behind
- ❑ **Nuclear power**, although it contributes only 4.1% to total gross inland consumption in SEE, (including Turkey), remains a viable option since it covers important base load requirements in certain key countries (Romania, Bulgaria, Croatia, Slovenia, Hungary) and is fully compatible and supportive of EU's (revised) decarbonisation policies
- ❑ **Energy efficiency** in SE Europe until very recently was not given enough priority or attention although its role has been recognized in all EU Member States. Further efforts are required to introduce Energy efficiency as an integral part of national energy planning
- ❑ The SEE countries have particularly high levels of **energy poverty** due to low incomes, high energy needs stemming from energy-inefficient housing, and limited access to diversified energy supply
- ❑ In terms of **security of energy supply**, the SEE region as a whole appears more vulnerable than the rest of Europe (mainly Western European countries)
- ❑ Alongside power grid reinforcement, a diverse mix of **flexible generation technologies** in SEE can facilitate the integration of variable RES – especially wind and solar PV.
- ❑ In SE Europe, the **Electric Vehicle deployment** is still at a very early stage, even though it shows significant annual growth.

# Key Messages (III)



- ❑ Looking at the **projection of gross inland energy consumption in the EU member states of the SEE region**, the overall tendency shows a stabilisation and even a small reduction in the time horizon to 2040
- ❑ In contrast, the **projection of gross inland energy consumption in the six Western Balkan countries** presents a rather different story from that of the EU member states in the region. Following the expected growth of GDP, gross inland energy consumption is projected to increase by almost 40% between 2015 and 2040, with the amount of coal being held almost constant, close to 15 Mtoe
- ❑ **Gross inland energy consumption in Turkey** is slated to increase by more than 50% between 2020 and 2040
- ❑ **Investment prospects** for energy related basic infrastructure and energy projects across the board look positive over the next decade
  - ❑ Compared to projections made in 2017 for the period 2016-2025, total estimated energy related investment in the region is much higher and amounts to €483.7 billion.
  - ❑ Corresponding investments for the original 13-country group (as they appear in the 2017 Outlook) are slated at €387 billion, which is 41.8% higher compared to the 2017 estimates.
  - ❑ **This is a vast improvement compared to 5 years ago and clearly shows the substantially increased interest and appetite for energy investments in SE Europe.**

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