Overview of the SEE Energy Sector and the Important Role of Albania

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INSTITUTE OF ENERGY
FOR SOUTH EAST EUROPE

The SE European Region Defined

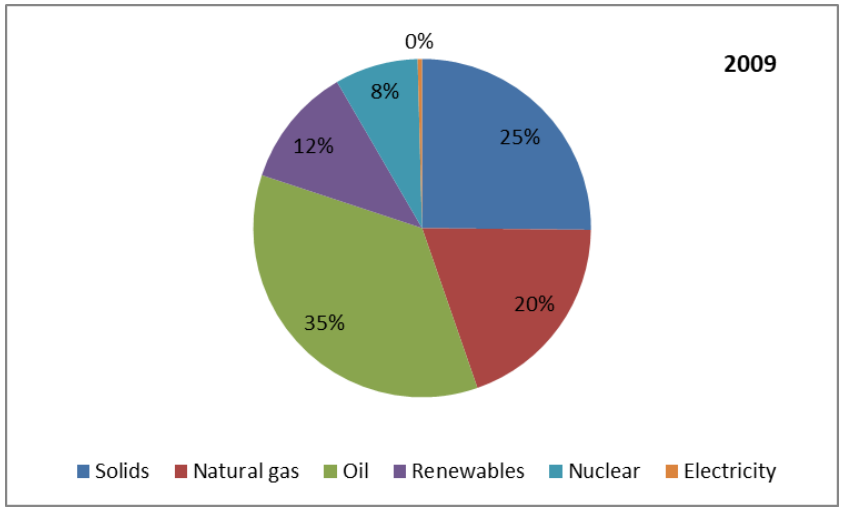
Core countries

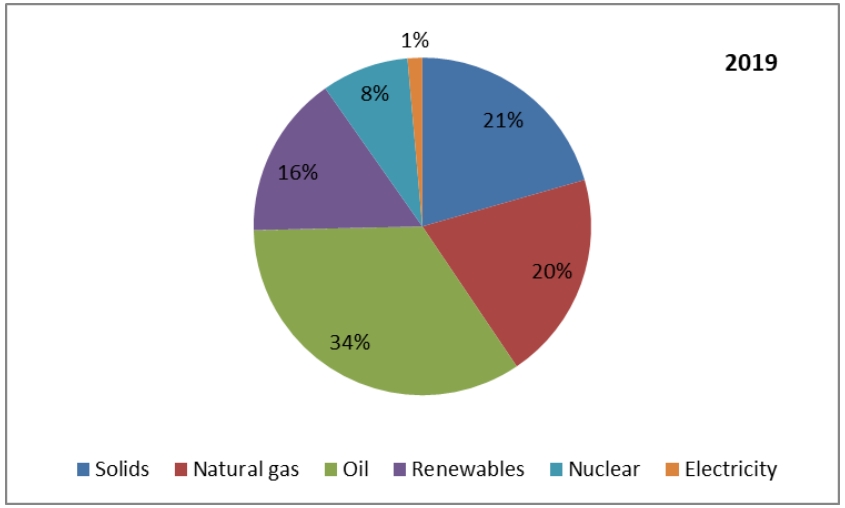
- Albania
- Bosnia and Herzegovina
- Bulgaria
- Croatia
- Cyprus
- Greece
- Hungary
- Israel
- Kosovo
- Montenegro
- North Macedonia
- Romania
- Serbia
- Slovenia
- Turkey

Peripheral countries

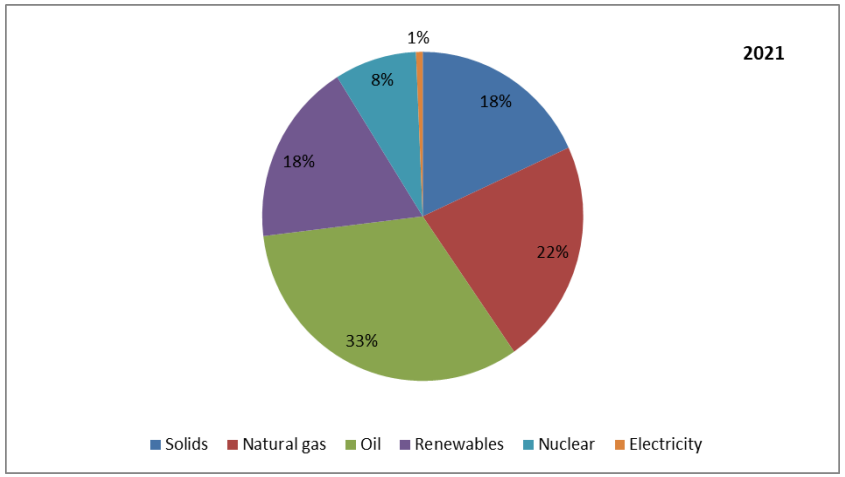
- Austria
- Egypt
- Italy
- Lebanon
- Moldova
- Slovakia
- Syria
- Ukraine

SE Europe's Energy Mix, **Without Turkey**, 2009, 2019 and 2021 - High Oil and Gas Import Dependence



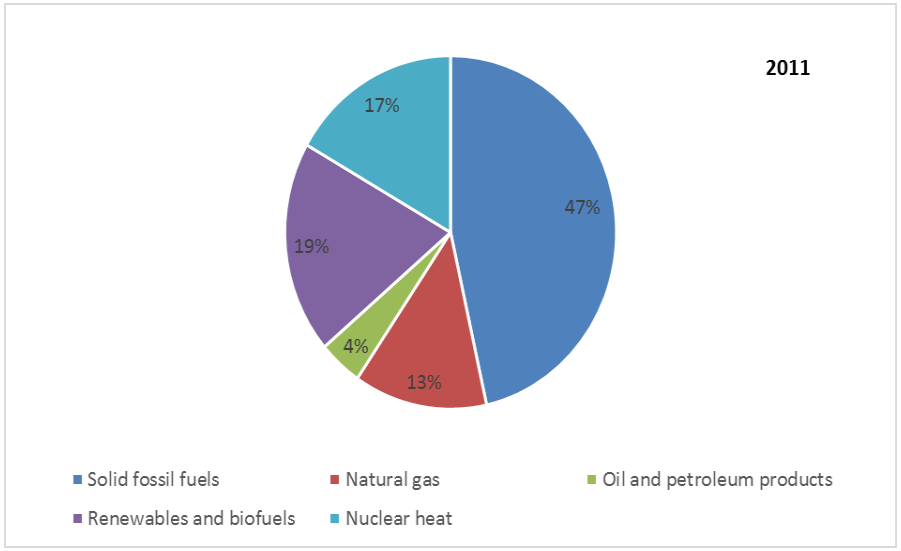


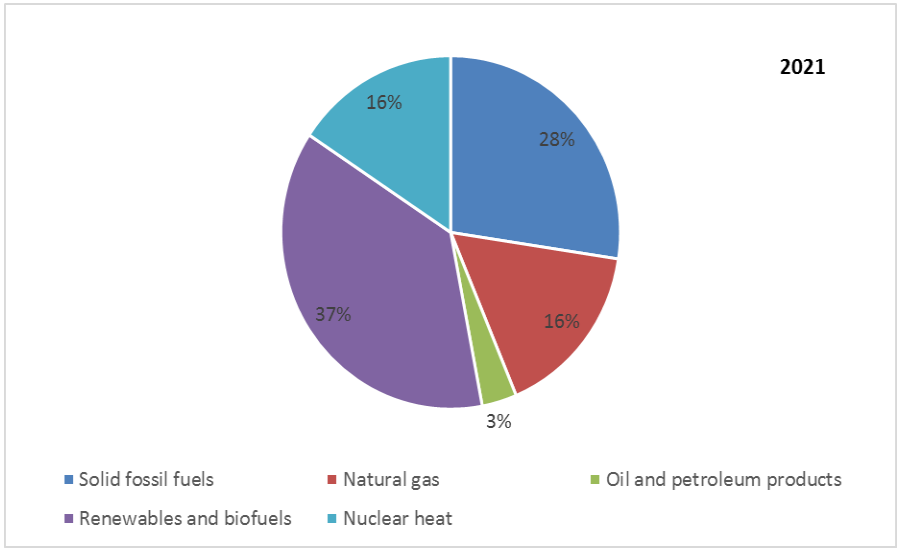
Over the last 10 years, we see considerably less solid fuel use, higher gas consumption, marginally less oil use, much higher RES deployment and steady nuclear use.



Source: Eurostat

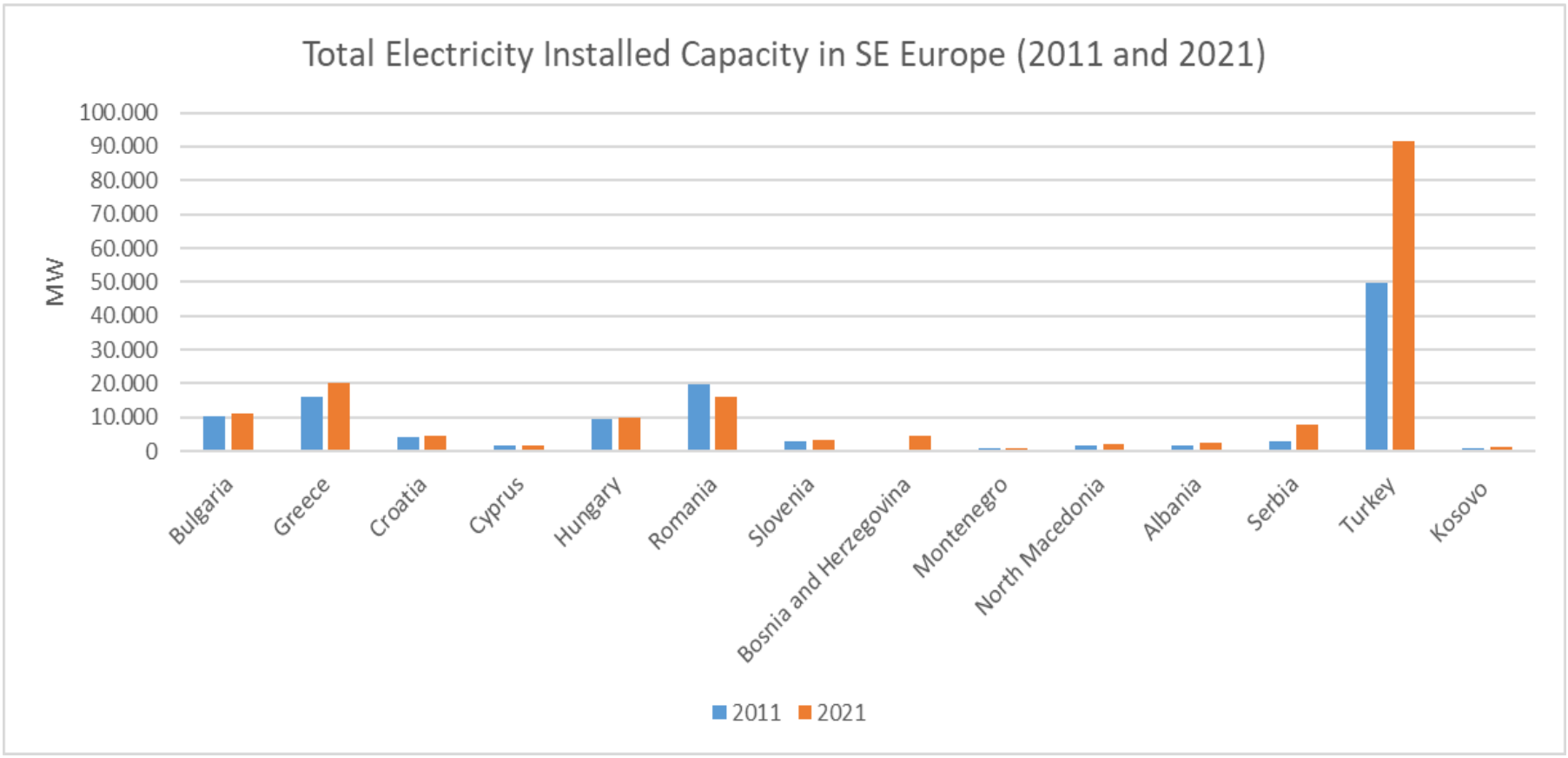
Power Generation Mix per Fuel in SE Europe (2011 and 2021), **Without Turkey**





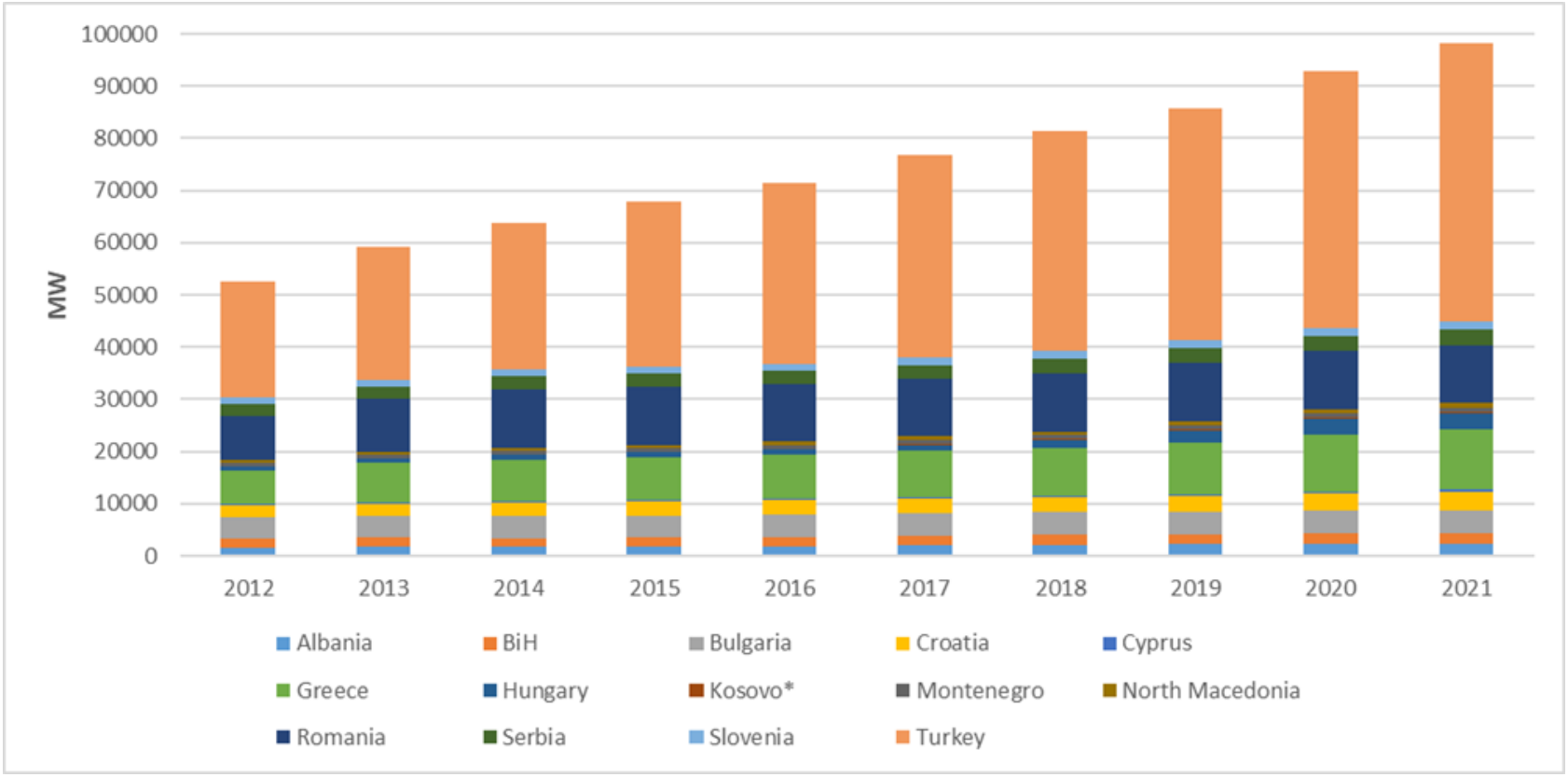
Sources: Eurostat, IENE

Total Electricity Installed Capacity (MW) in SE Europe (2011 and 2021)



Sources: Eurostat, IENE

Total Installed Capacity of RES Systems by Country in SE Europe, Including Hydro, 2012-2021



Note: *Kosovo is presented separately without prejudice to positions on status and in line with the United Nations Security Council Resolution 1244 (1999)

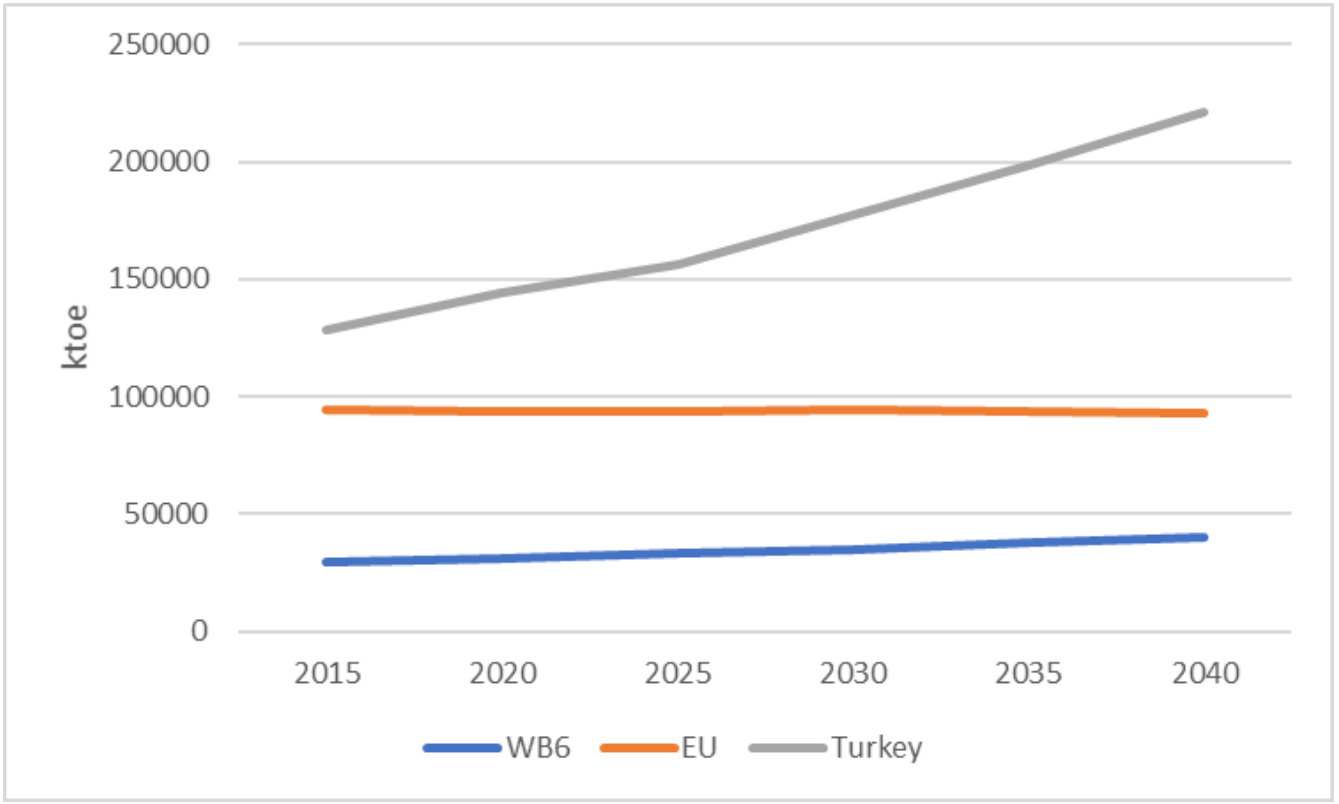
Sources: IRENA, IENE


Western Balkan states
CROATIA
SERBIA
KOSOVO
BOSNIA AND HERZEGOVINA
MONTENEGRO
NORTH MACEDONIA
ALBANIA

Energy Focus in the Western Balkans

- West Balkans have been attracting increased attention over the last 2 years, following a decision by the EU (1 July 2023) to gradually accept most countries in the region by offering them a “candidate” status.
- Although the social and economic structure of these countries differ in many respects, they share some common characteristics when examining acceptance criteria.
- Strong economic and energy growth, as compared to the rest in SEE, as witnessed in the last decade, are some of these characteristics.
- Also, the region has acquired increased geopolitical importance, following Russia’s invasion in Ukraine in February 2022.
- With the exception of Albania, which covers a substantial amount of its energy needs, from local production, all other countries in the West Balkans are heavily dependent on oil and gas imports.
- Coal remains an important indigenous energy source for all Western Balkans, with the exception of Albania, which produces the bulk of its electricity from hydro.
- Thanks to coal and hydro, the West Balkans have low energy dependence from energy imports.
- According to public polls, economic and social development are prioritised over green transition and decarbonisation in the West Balkans.

Gross Inland Consumption in SE Europe per Group of Countries (2015-2040)



Main Characteristics of Albania's Energy Sector (I)

- **Energy demand characteristics**: Albania does not use coal or peat for power generation, as it depends instead on hydropower augmented by imports. The deployment of a diversified energy mix, which will include more renewable sources, will be critical for the country to bolster its energy security, which is expected to be a key factor in sustainably meeting energy demand growth and enabling economic growth in the years ahead.

- **Local energy production**: Albania is one of the few Balkan countries producing oil. The country also produces a small amount of gas, mostly used in oil production and the refining industry.

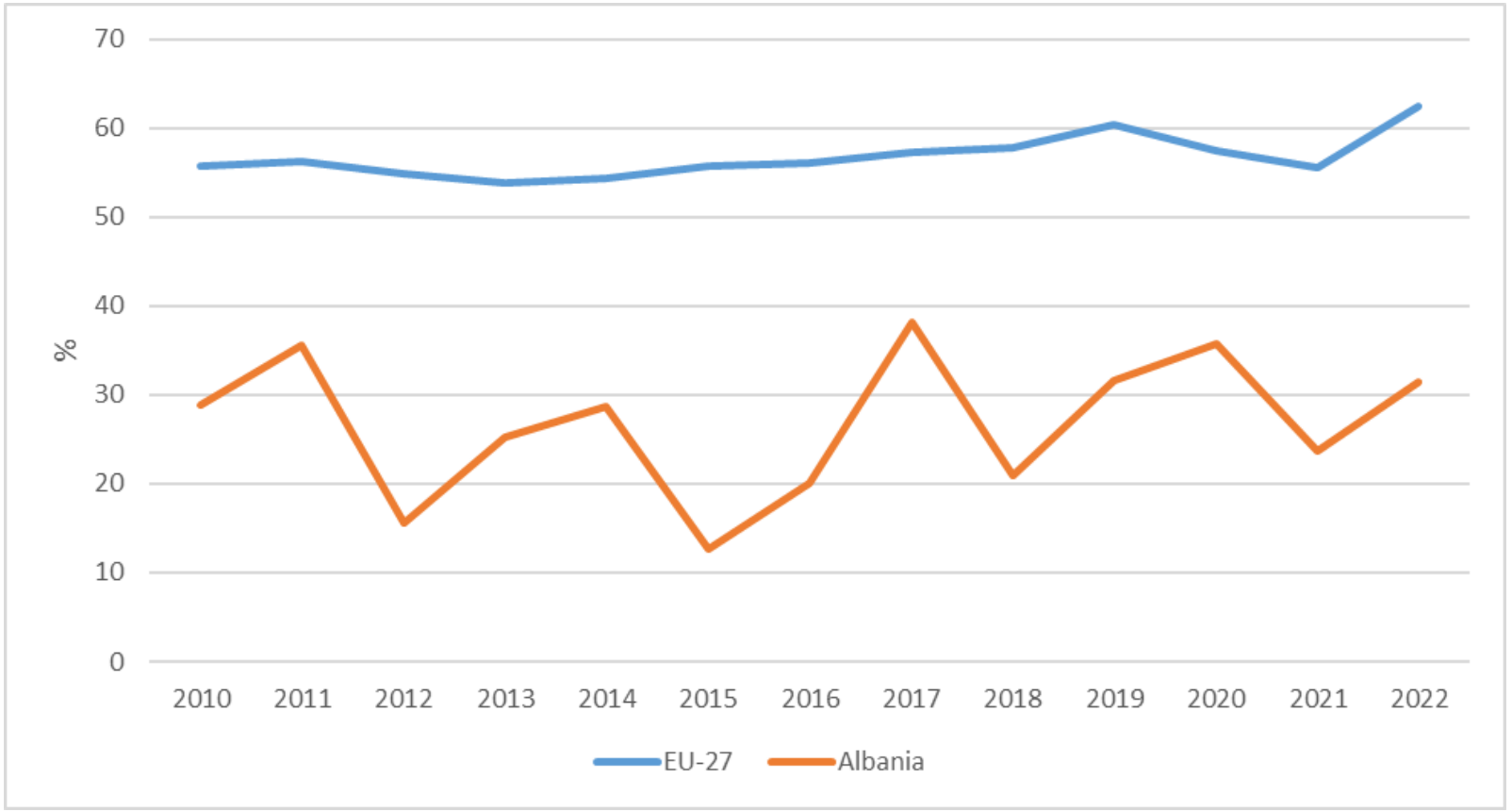
- **Energy imports**: Albania is largely dependent on imports of gas and fossil fuels for several industries, including transportation and heating. Albania is also a net electricity importing country since 1997.

- **Energy exports**: A resilient renewable energy mix could create export opportunities for Albania, which could see electricity and hydrogen, produced using renewable energy, being exported to key European demand centers.

Main Characteristics of Albania's Energy Sector (II)

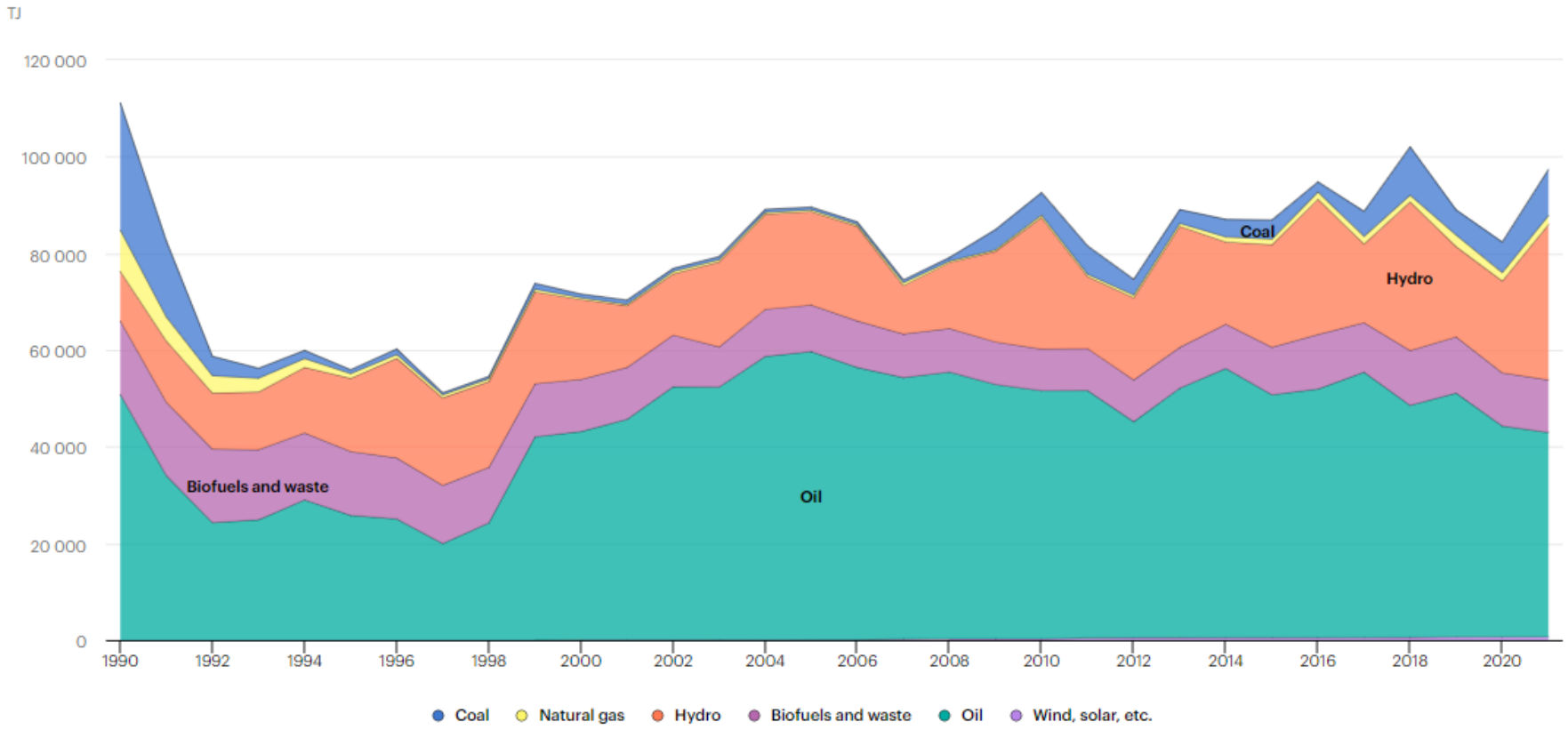
- **Energy dependence**: In 2022, it reached 31.4%, half of the EU-27's energy dependence (62.5%), but increased by 8.9%, compared to 2010 levels.
- **Emphasis on renewables:**
  - Under the Energy Community Treaty, Albania committed to increase the share of RES to 38% of gross final energy consumption by 2020. In reality, it managed 45%, mainly due to hydropower and the use of wood biomass in some households.
  - Until 2017, Albania only offered RES incentives for hydropower and as a result solar PV and wind have remained underdeveloped. However, in late 2023, a 140 MW solar plant was reported to have come online.
  - Albania is the only country in the Western Balkans to have completed new large hydropower plants in the last decade and as of the end of 2022 it had at least 25 operational hydropower plants of more than 10 MW, as well as countless smaller ones.
  - In December 2022, the Energy Community Ministerial Council adopted 2030 climate and energy targets. According to these, Albania needs to achieve a 52% share of RES in gross final consumption of energy.
- **Electricity**: Albania is almost entirely dependent on hydropower for its electricity supply. This gives an advantage in decarbonising its electricity sector but also makes it highly vulnerable to the changing climate. Massively fluctuating hydropower generation means that despite the addition of hundreds of megawatts in new plants in recent years, the country has to import electricity most years.

Energy Dependence in Albania, 2010-2022



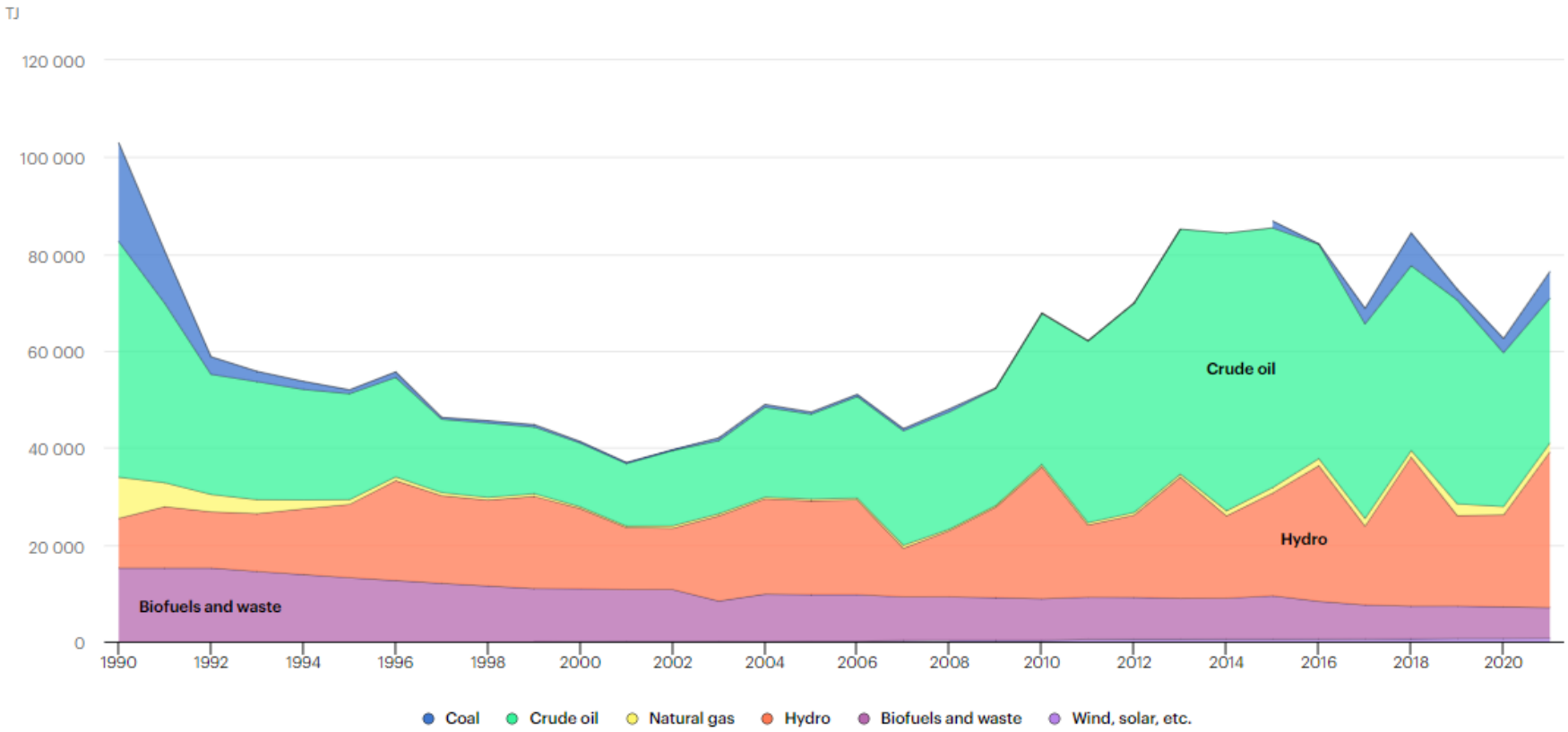
Source: IEA

Total Energy Supply by Source in Albania, 1990-2021



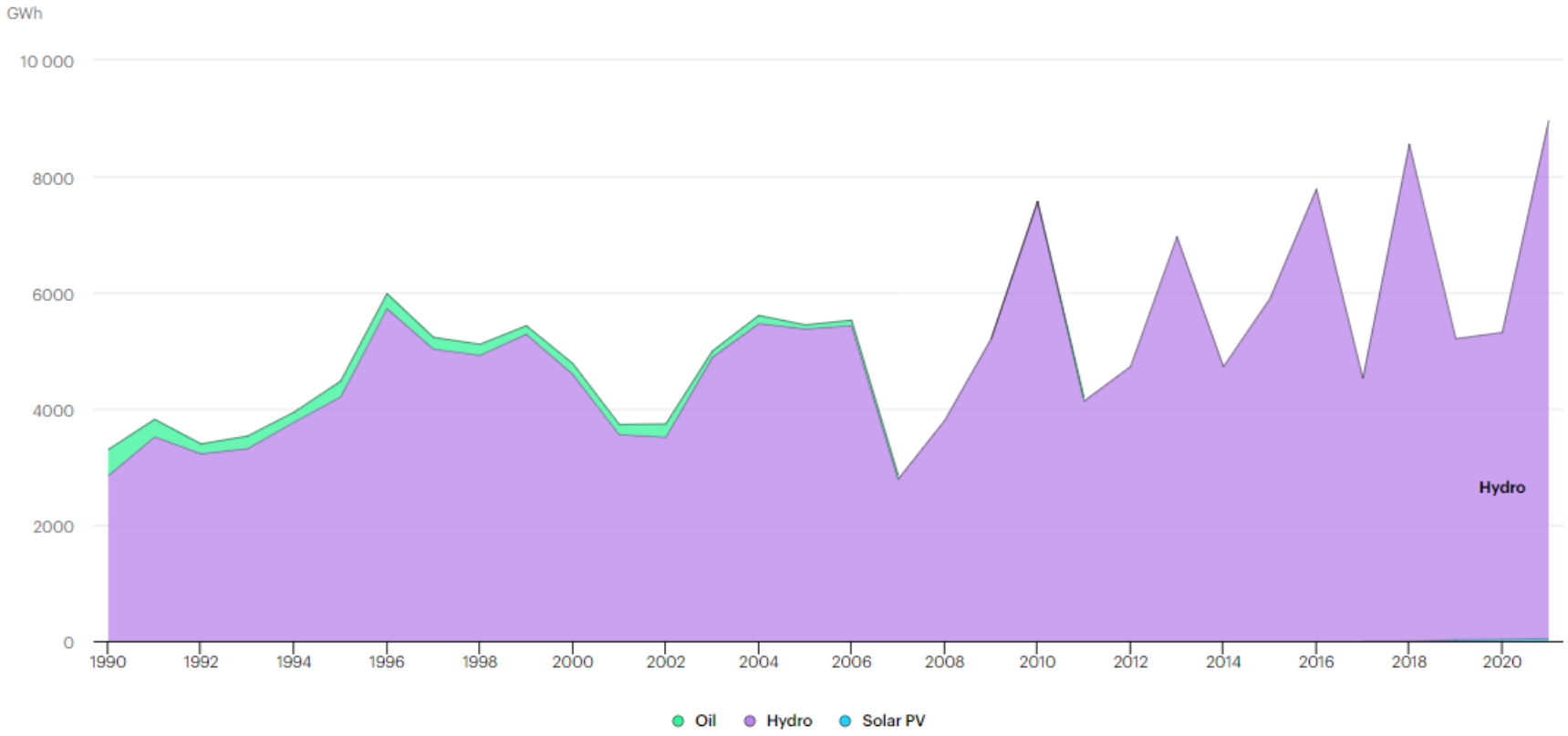
Source: IEA

Domestic Energy Production by Source in Albania, 1990-2021



Source: IEA

Electricity Generation by Source in Albania, 1990-2021

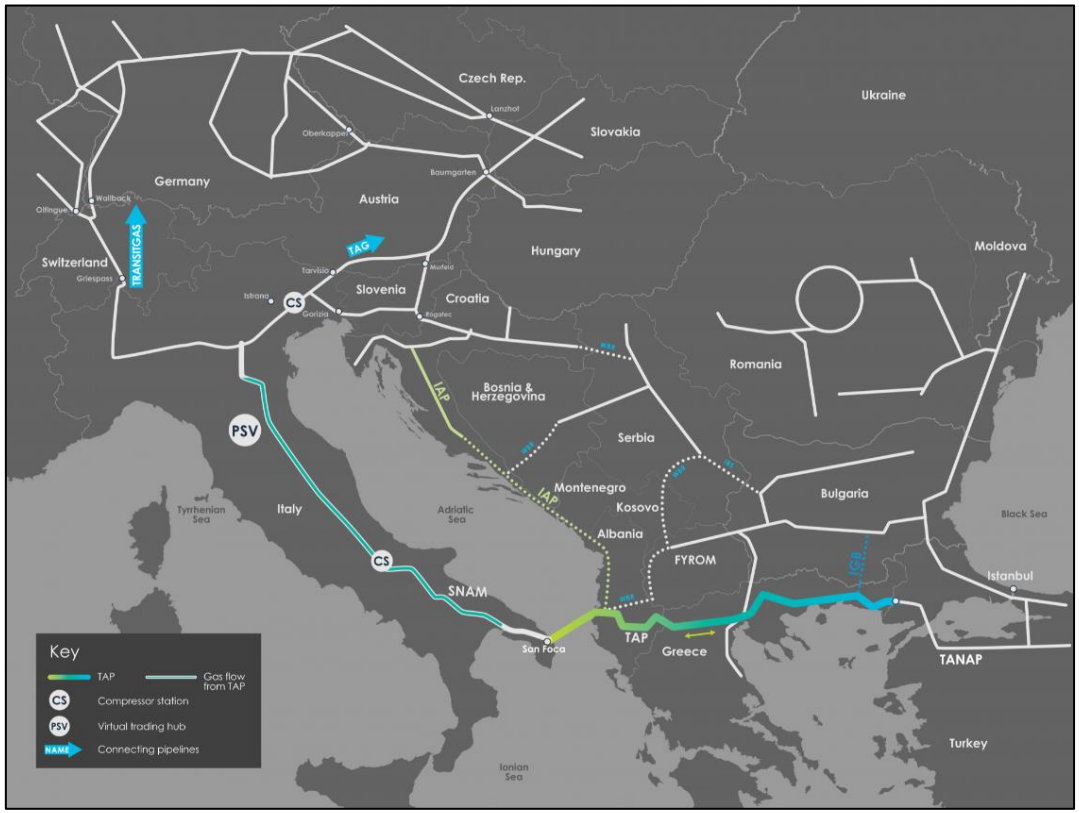


Source: IEA

Electricity Infrastructure in the Western Balkans

Source: ENTSOE

The TANAP-TAP System (In Operation)



TAP	
Length	878 km
Diameter	48-inch (1,200 mm) pipes
Capacity	10-20 bcm/y

TANAP	
Length	1,850 km
Diameter	48-or-56-inch (1,200 or 1,400 mm) pipes
Capacity	up to 31 bcm/y

Source: TAP AG

SEE Energy Investment Outlook 2021-2030

- 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.
- Compared to investment estimates made in the 2017 edition of IENE's "SEE Energy Outlook", the current estimates for energy related investments in SEE are much higher (+€137.5 billion) for the 13 country reference group, indicating strong interest for investments in the region.

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**
TOTAL	**436,900**	**234,822**		

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

Findings of **Albania**'s Energy Investment Outlook Per Sector (2021-2030)

	Project sector	Description	Investment estimate (€ mn)
OIL	Upstream	• Field Exploration • Development of new oil and gas wells	1,500
	Downstream	• Refining (upgrading) • Loading Terminals • Underground storage facilities • Crude / Product Pipeline(s)	
GAS	Gas Network	• Grid development • Main intra country pipeline(s) • Storage facilities • FSRU Terminal	350
ELECTRICITY	Power Generation	• Gas (including CHP) • Large Hydro	1,050
	Electricity Grid	• New H/V transmission lines • Upgrading and expansion of existing grid	
	RES	• Small Hydro • Wind farms • Photovoltaics • Biomass (including liquid biofuels) • Geothermal	900
ENERGY EFFICIENCY		• Awareness campaigns • Energy improvement schemes for buildings	700
	Total anticipated investments by 2030		**4,500**

*(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.

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Thank you
for your attention!

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