

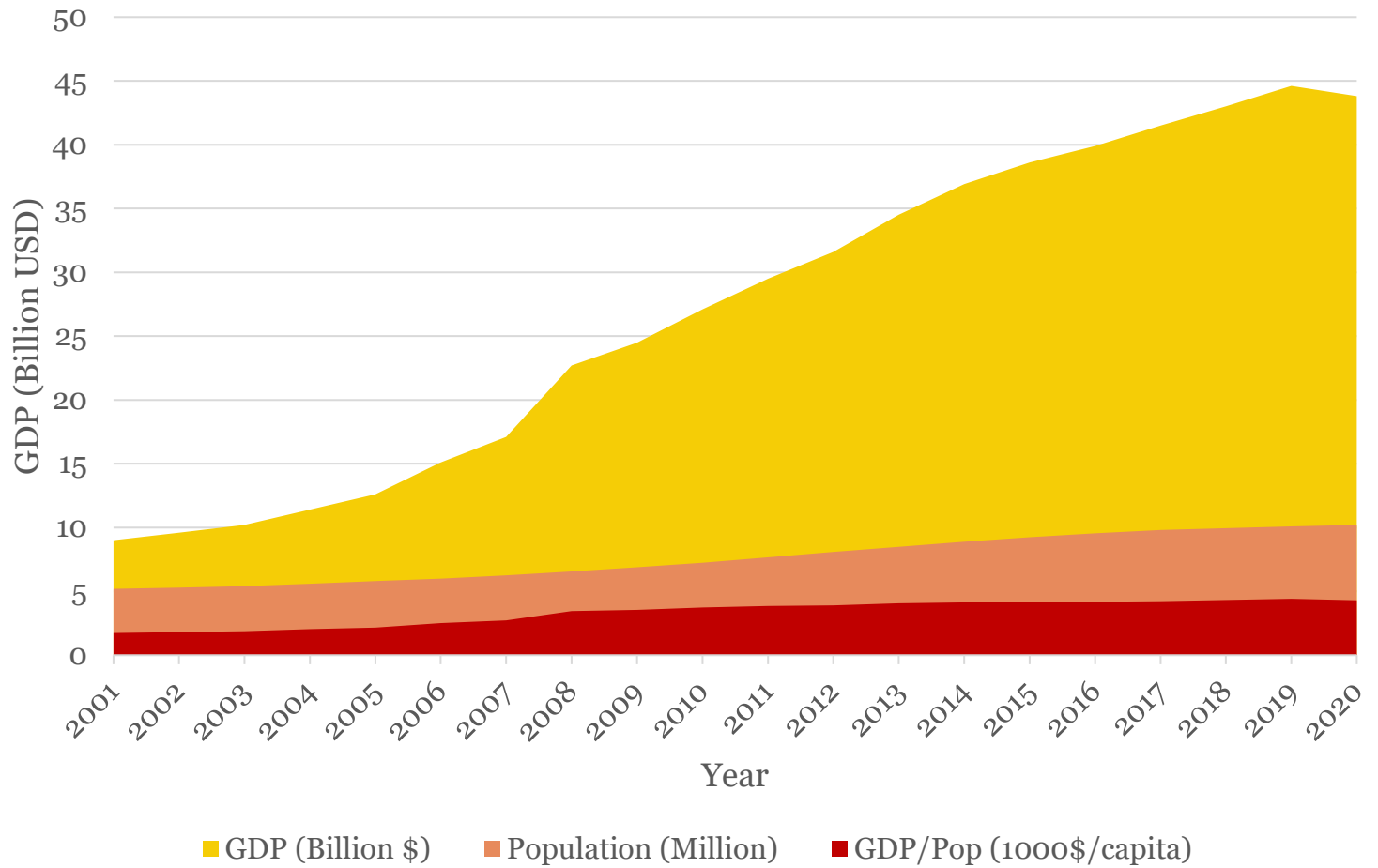
Jordan Country Report

June 2023

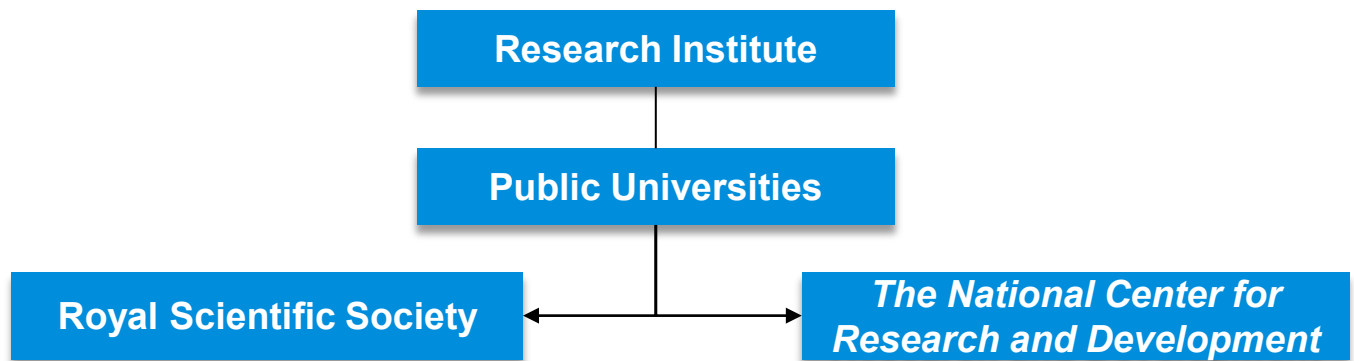
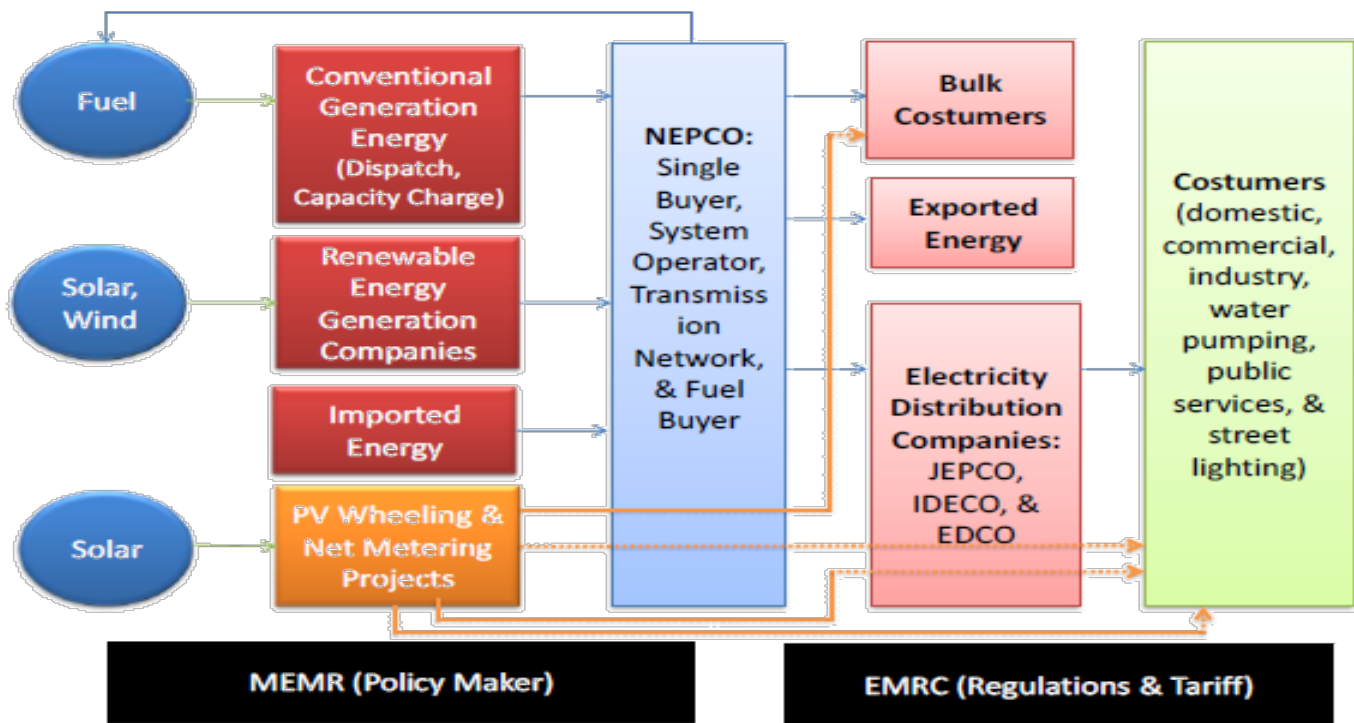


1. General Information



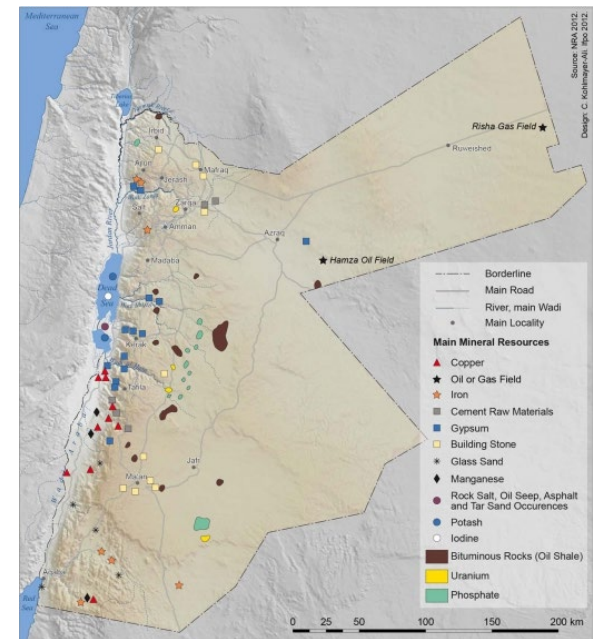
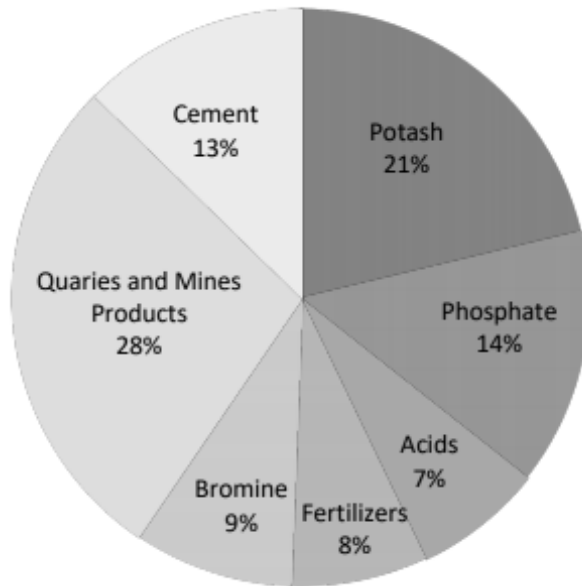
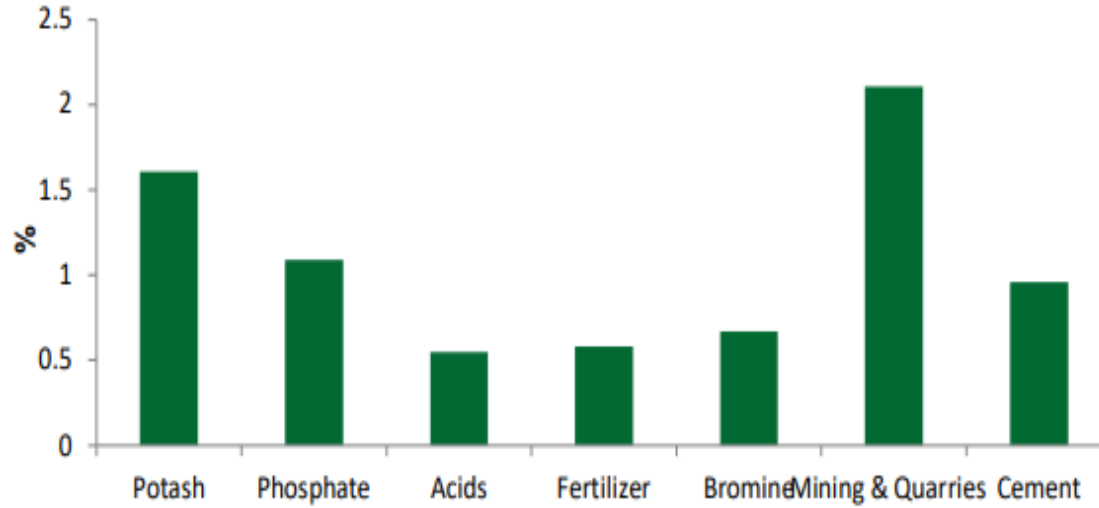


- **Country: The Hashemite Kingdom of Jordan**
- **GDP: \$44,74 million**
- **Population: 11.15 million**
- **No. of Households: 1,977,534**
- **Area: 89,342 km²**
- **Language: Arabic**





Reserves of Mineral Resources



2. Past Energy Supply and Demand/ktoe

2.1. Primary energy supply

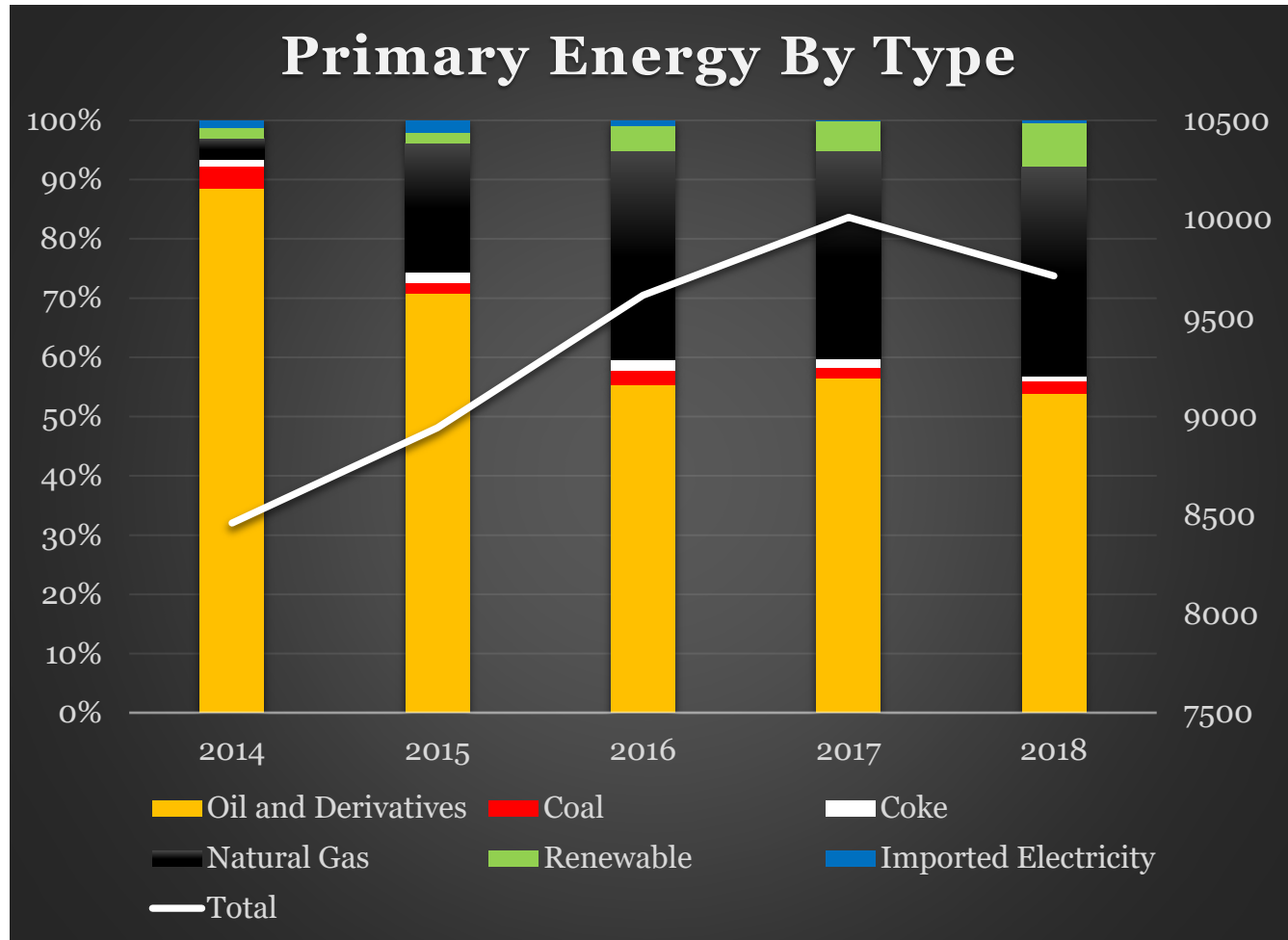
2.4. Final energy consumption by energy source

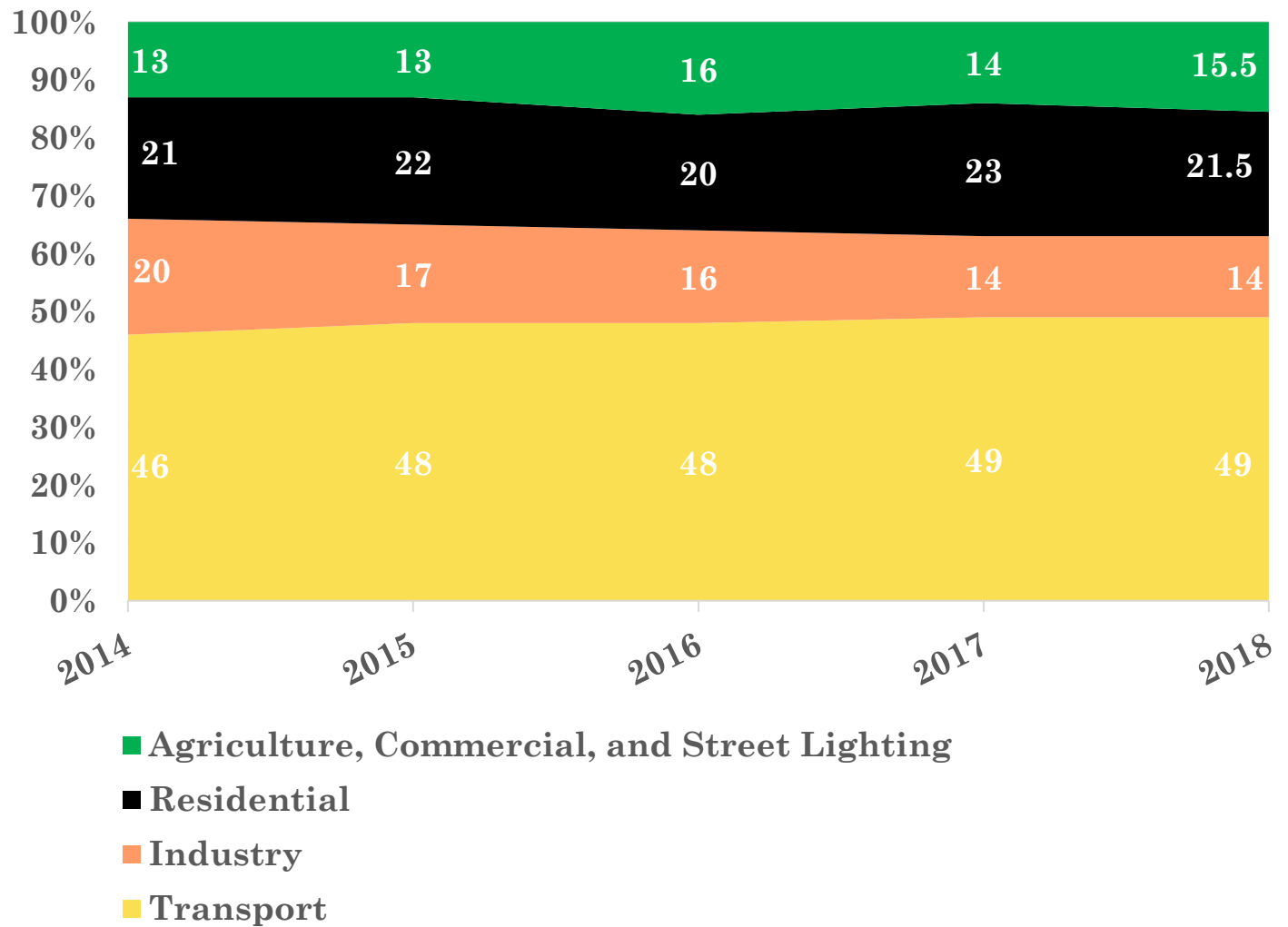
Sector	Crude Oil	Fuel Oil	Diesel	Gasoline	LPG	Kerosene	Jet Fuel	Pet Coke	Other	Total Oil	Coal	L Coke	N. gas	Electricity	Solar Energy	Bio Mass	Total Energy
Indigenous Production	1.0									1.0			77.9	443.1	214.0	54.0	790.0
Imports	2412.8	0.0	1184.7	1031.0	403.5	40.2	71.7	91.5	6.3	5241.8	162.4	42.8	3608.8	47.4		17.5	9120.8
Exports										0.0			-249.1	-23.5			-272.7
Bunkers		0.0	-4.2				-51.3			-55.5							-55.5
Stock Changes	-11.1	2.2	31.3	56.1	6.8	31.9	12.5		-0.6	129.1							129.1
Primary Energy Supply	2402.7	2.2	1211.9	1087.2	410.3	72.1	32.9	91.5	5.7	5316.3	162.4	42.8	3437.6	467.0	214.0	71.6	9711.8
Oil Sector	-2402.7	439.5	764.1	517.2	73.6	-10.7	329.6		-162.6	-126.8							-126.8
Electricity		-120.0	-4.2							-124.2			-3437.6	1694.0			-1867.8
Transp. & Dist. Losses														-229.5			-229.5
Cons. Energy Supply		-155.3	0.00						-41.8	-197.1				-33.44			-230.5
Final Energy Consump.	0.0	166.4	1971.8	1604.3	483.9	61.4	362.4	91.5	126.5	4868.2	162.4	42.8	0.0	1507.7	214.0	71.6	6866.8
Industry		152.0	159.9		11.5			91.5		414.9	162.4	42.8	0.0	333.4			953.5
Transport		6.0	1382.0	1613.0			362.4			3363.4							3363.4
Household			117.9		378.6	61.4				557.9				691.2	160.8	53.6	1463.5
Services			88.5		72.6					161.1				215.6	53.2	18.0	448.0
Others			242.8	0.8	21.3					264.8				267.5			532.3
Non-Energy use									126.5	126.5							126.5
Statistical Differences	0.0	8.4	-19.2	-9.5	0.0	0.0	0.0	0.0	0.0	-20.4	0.0	0.0	0.0	0.0	0.0	0.0	-20.3

❑ This data can be viewed and shared with those who is interested through the Ministry's of Energy and Mineral Resources website:

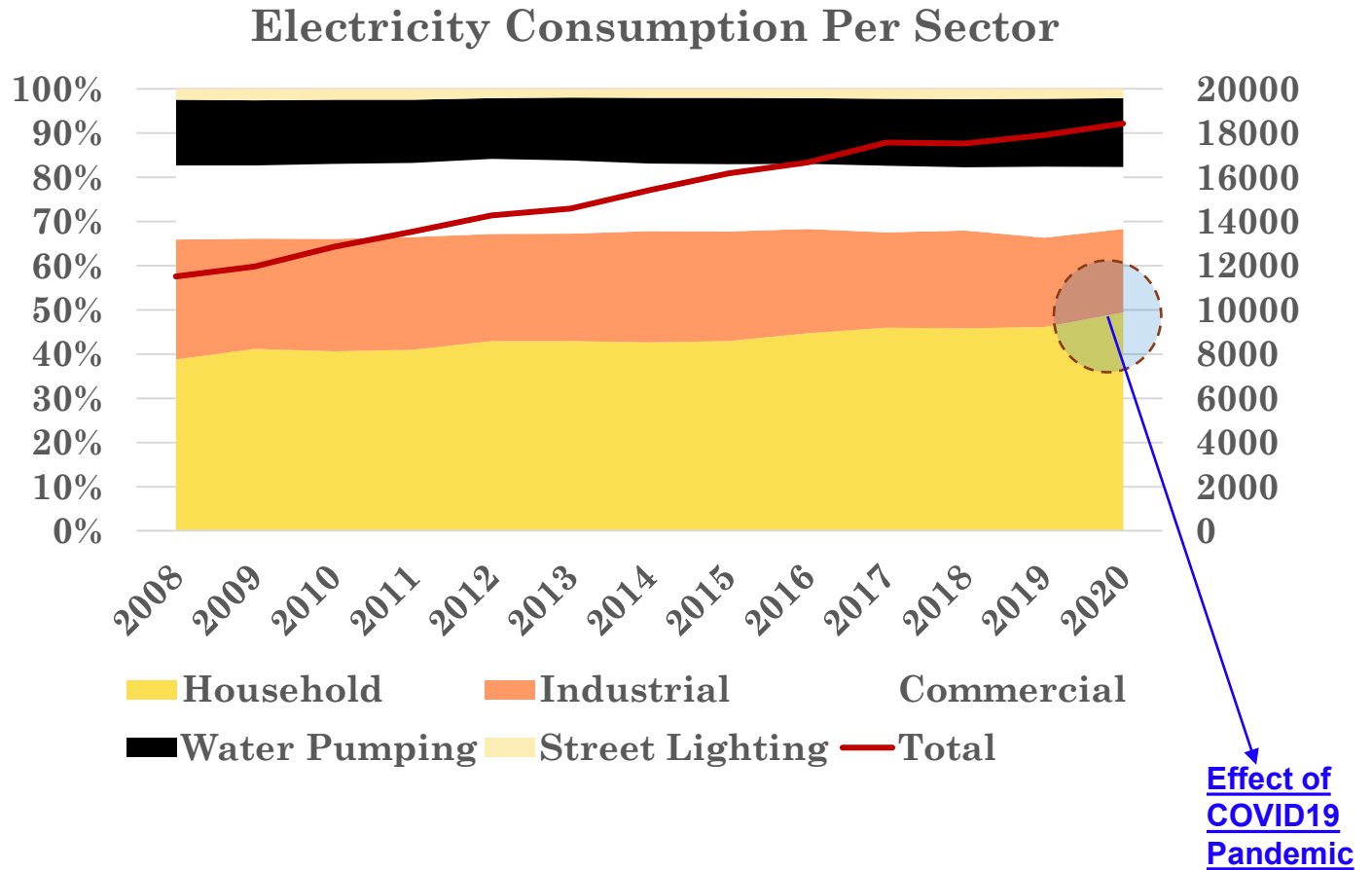
- https://www.memr.gov.jo/En/List/Enargy_Brochure
- https://www.memr.gov.jo/ebv4.0/root_storage/ar/eb_list_page/eb_2021.pdf

2.2. Primary Energy Supply By Energy Source





2.3. Final energy consumption by sector/Ktoe & the impact of COVID-19 on energy demand and supply in 2021



2.5. Electricity generation by energy source/ GWh

	2013	2014	2015	2016	(%)
1. Electricity Sector	16973.5	17883.5	18536.9	19171.5	3.4
CEGCO	7381	7964	6382.6	4260.4	(33.2)
SEPGCO	4499	4521	5386.9	7194.4	33.6
AES Jordan PSC (IPP1)	2640	1988	1825.9	3163.0	73.2
QEPCO (IPP2)	2437	1520	2274.3	2880.6	26.7
AAEPCO (IPP3)	—	1140	1401.3	262.8	(81.2)
AES Levant (IPP4)	—	730	1122.4	509.0	(54.7)
Wind Energy	—	—	121.0	387.5	220.2
Solar Energy	—	—	1.6	491.0	30587.5
King Talal Dam	13	17	16.9	18.7	10.7
Jordan Biogas Company	3.5	3.5	4.0	4.1	2.5
2. Industrial Sector	286	383	472.2	558.7	18.3
Potash Co.	79	101	109.3	222.0	103.1
Indo-Jordan Chemicals Co.	64	71	68.6	46.4	(32.4)
Refinery	51	66	65.2	84.1	29.0
Fertilizer Co.	92	97	80.2	51.2	(36.2)
Qatranna Cement Co.	—	48	148.9	155.0*	4.1
3. Imported Energy	381	435	603.8	333.8	(44.7)
Imported Energy from Egypt	381	435	603.8	333.8	(44.7)
Total	17640.5	18701.5	19612.9	20064.0	2.3

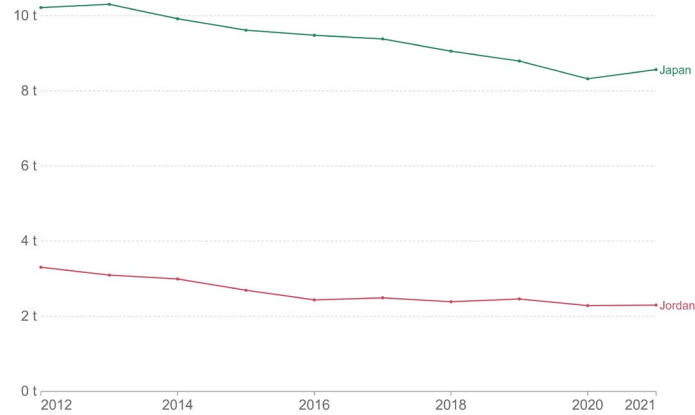
	2017	2018	2019	2020	2021	(%)
A- Generation Companies / Electricity Sector	19231.9	18719.7	19028.0	18810.3	19221.4	2.2
Steam Units	1909.3	792.1	140.4	71.6	323.3	351.5
Combined Cycle	14868.4	14811.9	15313.3	14585.4	13924.8	(4.5)
Simple Cycle	349.5	315.6	313.2	413.0	514.9	24.7
Diesel Engines	1026.3	1234.2	1026.6	698.0	681.6	(2.3)
Hydro Units	38.0	22.7	18.4	18.3	18.7	2.2
Wind Energy	449.1	707.0	874.9	1378.8	1595.5	15.7
Solar Energy	591.3	836.2	1341.2	1645.2	2162.6	31.4
B- Industrial Sector	4.0	4.7	5.4	3.3	2.6	(21.2)
C- Imported Energy / Egypt	51.3	188.3	239.3	380.6	394.8	3.7
Total Energy Purchased	19287.2	18912.7	19272.7	19194.2	19618.8	2.2

2.6. CO2 Emission by sector

Per capita CO2 emissions

Carbon dioxide (CO₂) emissions from fossil fuels and industry¹. Land use change is not included.

Our World
in Data



Source: Our World in Data based on the Global Carbon Project (2023) OurWorldInData.org/co2-and-greenhouse-gas-emissions • CC BY

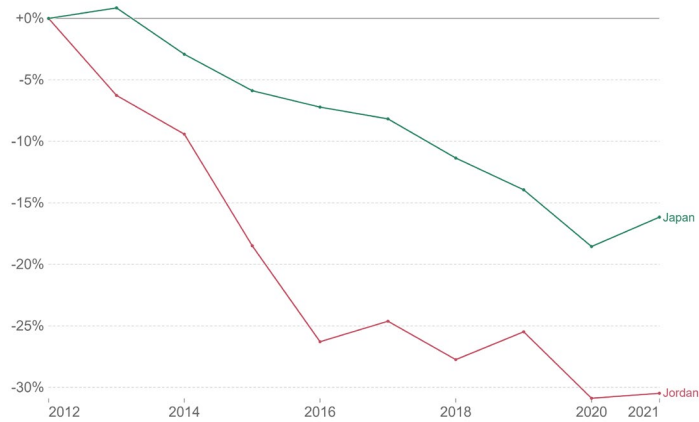
1. **Fossil emissions:** Fossil emissions measure the quantity of carbon dioxide (CO₂) emitted from the burning of fossil fuels, and directly from industrial processes such as cement and steel production. Fossil CO₂ includes emissions from coal, oil, gas, flaring, cement, steel, and other industrial processes. Fossil emissions do not include land use change, deforestation, soils, or vegetation.

Country or region	Annual CO ₂ emissions (per capita) tonnes per capita			
	2012	2021	Absolute Change	Relative Change
Japan	10.22t	8.57t	-1.65t	-16%
Jordan	3.30t	2.30t	-1.01t	-30%

Per capita CO2 emissions

Carbon dioxide (CO₂) emissions from fossil fuels and industry¹. Land use change is not included.

Our World
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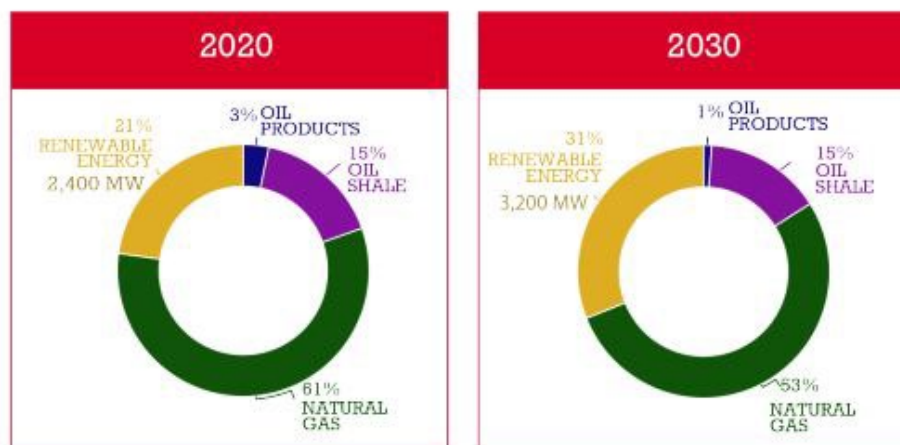
3. Outlook of Energy Demand in Jordan (2020-2030)

Primary Energy Demand Forecasts of the High Dependency Scenario

Table -1-
Primary Energy Demand Forecast for (2020-2030)

Year	Primary Energy Demand (Overall domestic consumption) (toe)
2020	10,039
2021	10,267
2022	10,420
2023	10,595
2024	10,668
2025	10,967
2030	11,760

The ratio of fuel contribution to the electricity generation
(2030 -2020)





4. Major difficulties and bottlenecks faced in formulating energy policies in Jordan:

4.1. Limited Domestic Energy Resources:

Jordan has limited domestic energy resources, with almost no oil or natural gas reserves. This creates a heavy dependence on energy imports, making the country vulnerable to fluctuations in global energy prices and supply disruptions.

4.2. Energy Security:

Due to the reliance on imported energy, Jordan faces challenges in ensuring a stable and secure energy supply. Geopolitical tensions and conflicts in the region can impact the availability and affordability of energy resources, leading to energy insecurity.

4.3. Cost Burden:

The high cost of energy imports places a significant economic burden on the country. Jordan has to allocate a significant portion of its budget to subsidizing energy prices, which strains its fiscal resources and limits investment in other sectors.



4.4. Infrastructure Constraints:

The development of energy infrastructure, such as transmission and distribution networks, is crucial for an efficient and reliable energy sector. However, Jordan faces challenges in expanding and upgrading its infrastructure to meet growing energy demands and integrate renewable energy sources.

4.5. Public Awareness and Participation:

Enhancing public awareness and engagement in energy policy formulation is crucial for the success of sustainable energy initiatives. Educating and involving the public in decision-making processes can help address concerns, build support, and promote the adoption of energy-efficient practices.



5. The expectation of energy policies training program:

- **Engaging in an energy policies training program shall provide the participants with a wide range of knowledge and skills related to energy policy development, implementation, and analysis. Here are some things:**

5.1. Energy Policy Frameworks (understanding of the basic concepts and principles of energy policy).

5.2. Policy Analysis and Evaluation (how to analyze and evaluate energy policies, considering their economic, social, and environmental impacts).

5.3. Energy Sector Dynamics (The key stakeholders, market structures, and regulatory frameworks).

5.4. Energy Transitions and Renewable Energy.

5.5. Energy Efficiency and Demand-Side Management (strategies aimed at reducing energy consumption and improving energy efficiency in various sectors).

5.6. Energy Policy Case Studies.

5.7. International Energy Governance (such as the United Nations Framework Convention on Climate Change (UNFCCC), International Energy Agency (IEA), and regional energy organizations).