The Country Report

Ömer Faruk GÜMRÜKÇÜ

16 JUNE 2025

General Information

REPUBLIC of TÜRKİYE

Capital City: Ankara

Political System:
Unitary Presidential Republic

Geographic Location:
At the crossroads of Europe and Asia;
Strategic Position For Energy Transit

GDP: 1,32 Trillion $ (2024)

Population:
85,7 Million (2024)

Economic Indicators

Years	GDP (billion $)	Population (million)	Number of Households (million)
2014	938,9	77,7	21,1
2015	864,3	78,7	21,7
2016	869,7	79,8	22,2
2017	859,0	80,8	22,7
2018	779,0	82,0	23,2
2019	761,0	83,2	24,0
2020	720,3	83,6	24,6
2021	819,9	84,7	25,3
2022	907,1	85,3	26,1
2023	1.120	85,4	26,3
2024	1.320	85,7	26,6

General Information

ORGANISATIONAL STRUCTURE OF MINISTRY OF ENERGY AND NATURAL RESOURCES

UNITS

Central Organisations

- General Directorate of Energy Affairs
- Strategy Development Department
- General Directorate of Nuclear Energy and International Projects
- Department of Energy Efficiency and Environment
- …

Subsidiaries

- General Directorate of Mineral Research and Exploration
- General Directorate of Mining and Petroleum Affairs

Relevant Organisations

- The Electricity Generation Corporation
- Turkish Electricity Transmission Corporation
- Türkiye Electricity Distribution Corporation
- …

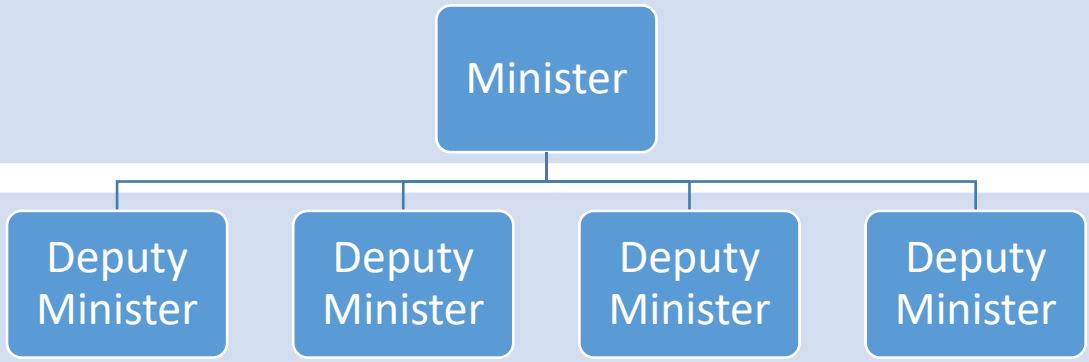
Associated Organisations

- Republic of Türkiye Energy Market Regulatory Authority
- Nuclear Regulatory Authority

Supervised Units by Minister or Deputy Ministers

Some Central Organisations and a Subsidiary

The Rest of Central Organisations, Subsidiary and Relevant Organisations



Past Energy Demand and Supply (1/3)

Primary Energy Supply by Source (ktoe)

	Local Production	İmport	Export	Bunker Fuel	Stock Change (+/-)	TOTAL
2014	28.591	102.384	6.246	4.262	38	120.505
2015	30.936	112.798	8.119	4.599	-1.877	129.139
2016	35.374	113.117	7.250	4.478	-534	136.229
2017	35.357	124.425	7.853	4.575	-2.050	145.305
2018	39.675	115.792	6.067	4.978	-756	143.666
2019	44.821	115.453	10.762	5.638	331	144.205
2020	44.069	114.286	8.842	2.504	160	147.168
2021	46.720	124.296	9.012	3.380	807	159.432
2022	50.830	125.129	10.893	4.796	-2.500	157.770
2023	49.224	125.853	11.270	5.273	-111	158.422

Primary Energy Supply by Energy Source (ktoe)

Years	Hard Coal	Lignite	Asphaltite	Coke	Coal Tar	Crude Oil	Petroleum Products	Natural Gas	Bioenergy and Waste	Hydro	Wind	Electricity	Geotermal	Solar	TOTAL
2014	20.199	12.702	372	234		20.802	13.742	40.201	3.246	3.495	733	452	3.524	803	120.505
2015	22.428	11.446	499	299	-79	28.015	11.194	39.651	2.938	5.775	1.002	339	4.805	828	129.139
2016	23.597	13.556	778	527	-101	28.709	13.495	38.338	2.843	5.782	1.334	420	6.034	917	136.229
2017	24.707	13.791	555	504	-98	29.491	14.786	44.319	2.531	5.007	1.540	-49	7.128	1.091	145.305
2018	24.679	15.086	697	513	-114	25.099	16.814	41.171	3.014	5.155	1.716	-55	8.343	1.547	143.666
2019	25.120	15.453	1.022	420	-96	35.448	5.821	37.128	3.157	7.639	1.869	-50	9.651	1.622	144.205
2020	25.449	13.863	979	430	-105	34.393	7.797	39.806	3.396	6.716	2.135	-51	10.576	1.784	147.168
2021	23.444	16.672	707	744	-95	36.241	7.742	49.231	4.099	4.810	2.704	-159	11.234	2.059	159.432
2022	23.083	17.673	644	728	-109	38.699	6.414	43.304	4.513	5.745	3.005	234	11.514	2.321	157.770
2023	24.575	14.476	573	492	-90	37.803	10.027	41.524	5.108	5.504	2.933	346	12.384	2.768	158.422

increasing trend

For last 10 years: 72%

Yearly average increase: 3,1%

2023:

Fossil Fuel: 81,7%

Renewables: 18,1%

Past Energy Demand and Supply (2/3)

Final Energy Consumption by Sector (ktoe)

Years	Industry	Transportation	Others				Non-energy Consumption	Statistical Difference	TOTAL
			Residential	Commercial & Public Services	Agriculture & Husbandry	Total Others			
2014*	28.689	21.940	30.418	-	3.887	34.305	4.413	-98	89.249
2015	32.157	24.936	18.952	13.377	3.932	36.262	5.652	460	99.467
2016	33.254	26.812	19.646	13.575	4.056	37.277	6.989	242	104.573
2017	35.318	28.429	22.836	13.179	4.227	40.242	7.372	289	111.650
2018	36.155	28.441	21.313	11.985	4.581	37.879	6.296	668	109.438
2019	34.300	27.687	23.368	12.241	4.712	40.321	7.076	1.264	110.649
2020	36.256	26.971	25.781	11.453	4.978	42.211	7.578	683	113.701
2021	41.614	30.562	26.148	11.973	5.129	43.250	7.717	715	123.859
2022	37.753	30.740	26.699	12.937	5.057	44.692	7.020	233	120.438
2023	36.470	33.246	26.705	12.868	5.492	45.066	6.615	150	121.547

Final Energy Consumption by Energy Source (ktoe)

Years	Hard Coal	Lignite	Asphaltite	Coke	Derived Gases	Coal Tar	Crude Oil	Petroleum Products	Natural Gas	Bioenergy and Waste	Hydro	Wind	Electricity	Other Heat	Geothermal	Solar	TOTAL
2014	7.718	2.914	151	3.128	320		0	33.702	17.909	3.045	0	0	17.747	321	1.491	803	89.249
2015	8.535	2.892	262	3.239	504	62	0	37.831	20.972	2.684	0	0	18.560	-	3.115	811	99.467
2016	8.763	3.141	116	3.261	436	21	0	40.765	21.932	2.480	0	0	19.730	-	3.100	827	104.573
2017	8.883	3.057	5	3.284	407	40	0	43.139	24.432	2.165	0	0	21.257	2.281	1.860	843	111.650
2018	6.606	3.190	153	3.299	430	27	0	41.681	24.237	2.548	0	0	22.058	2.378	1.954	877	109.438
2019	7.196	2.918	388	3.180	412	32	0	40.988	25.772	2.546	0	0	21.925	2.513	1.954	826	110.649
2020	7.432	3.738	370	3.145	500	32	0	41.631	26.423	2.618	0	0	22.367	2.648	1.954	843	113.701
2021	6.909	4.897	145	3.410	467	19	0	44.233	29.705	2.835	0	0	24.447	3.977	1.954	860	123.859
2022	5.360	4.875	303	3.318	440	10	0	43.388	29.869	2.931	0	0	24.419	2.703	1.954	869	120.438
2023	5.134	4.394	176	2.967	339	20	0	45.765	28.553	3.146	0	0	24.662	2.684	2.838	869	121.547

increasing trend

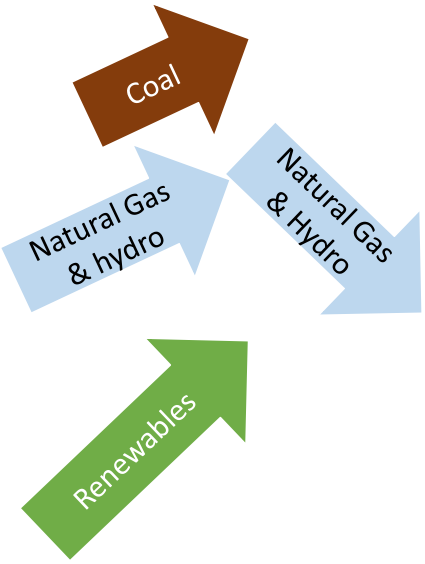
For last 10 years: 36%

Yearly average increase: 3,6%

Past Energy Demand and Supply (3/3)

Electricity Generation by Energy Source (GWh)

Years	Imported Coal	Lignite	Hard Coal + Asphaltite	Total Coal	Natural Gas	Fuel Oil	Diesel Oil	LPG	Naphtha	Renew. + Wastes + Waste Heat	Total Thermal	Hydro	Geothermal + Wind	Solar	GENERAL TOTAL
2015	39.986	31.336	4.844	76.166	99.219	980	1.244	0	0	1.758	179.366	67.146	15.077	194	261.783
2016	47.718	38.570	5.985	92.273	89.227	969	957	0	0	2.372	185.798	67.231	20.336	1.043	274.408
2017	51.118	40.694	5.664	97.476	110.490	521	679	0	0	2.972	212.138	58.218	24.031	2.889	297.278
2018	62.989	45.087	5.173	113.249	92.483	329	0	0	0	3.623	209.683	59.938	27.380	7.800	304.802
2019	60.395	46.872	5.627	112.894	57.288	335	1	0	0	4.624	175.143	88.823	30.682	9.250	303.898
2020	62.506	37.938	5.368	105.812	70.931	322	1	0	0	5.737	182.803	78.094	34.856	10.950	306.703
2021	54.948	42.983	5.450	103.382	111.181	281	1	0	0	7.779	222.623	55.927	42.230	13.943	334.723
2022	62.541	45.140	6.038	113.719	75.059	382	10	1	0	9.453	198.625	66.802	46.064	16.888	328.379
2023	72.719	41.735	5.342	119.796	69.454	465	2	3	0	10.125	199.845	64.002	45.211	22.091	331.149
2024	75.247	40.739	4.506	120.491	65.397	1.074	3	0	0	9.966	196.932	73.080	47.829	25.804	343.645



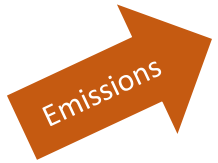
Greenhouse Gas Emissions by Sectors (Mt CO_2 eq.)

Years	Energy	IPPU	Agriculture	LULUCF	Waste	Total (Excl. LULUCF)	Total (Incl. LULUCF)
2014	330,6	60,8	59,5	-77	17,1	468	391
2015	344,3	60,3	59,2	-73	17,7	481,5	408,5
2016	362	63,9	61,7	-73,8	17,3	505	431,2
2017	382	67,2	66,3	-76,1	16,9	532,4	456,3
2018	375	68,6	68,9	-70,5	17,3	529,7	459,2
2019	369,3	60,3	71,5	-64,4	16,8	517,9	453,4
2020	369,8	68,9	76,4	-57,7	17	532,1	474,4
2021	406,8	76,5	75,4	-48	15,4	574,1	526,1
2022	400,7	71,9	71,5	-56,3	16	560,2	503,9
2023	442,2	70,9	71,8	-69,2	14,1	598,9	529,7

2024:

Fossil Fuels: 54,4%

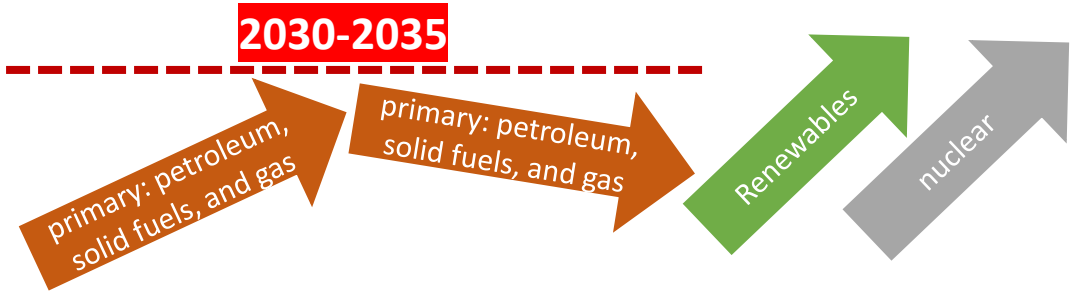
Renewables: 45,6%



Outlook of Energy Demand and Supply

Primary Energy Consumption

Energy Sources	2025		2030		2035	
	Mtoe	%	Mtoe	%	Mtoe	%
Petroleum	50,5	28,5	54,8	27,5	54,5	26,5
Solid Fuels	47,0	26,6	47,9	24,1	43,9	21,4
Gas	42,9	24,2	47,7	23,9	46,2	22,5
Renewable	32,6	18,4	40,6	20,4	48,7	23,7
Nuclear	4,0	2,3	8,0	4,1	12,0	5,9
TOTAL	**177,0**	**100**	**199,0**	**100**	**205,3**	**100**



Final Energy Consumption

Energy Sources	2025		2030		2035	
	Mtoe	%	Mtoe	%	Mtoe	%
Liquid Fuels	41,9	33,8	45,5	32,6	45,3	30,5
Gas	29,4	23,8	33,7	24,2	36,7	24,7
Electricity	27,7	22,4	33,0	23,6	36,6	24,7
Solid Fuels	15,7	12,6	16,5	11,8	15,4	10,3
Renewable	5,7	4,6	7,0	5,0	10,4	7,0
Heat	3,4	2,8	3,9	2,8	4,1	2,8
TOTAL	**123,8**	**100**	**139,6**	**100**	**148,5**	**100**

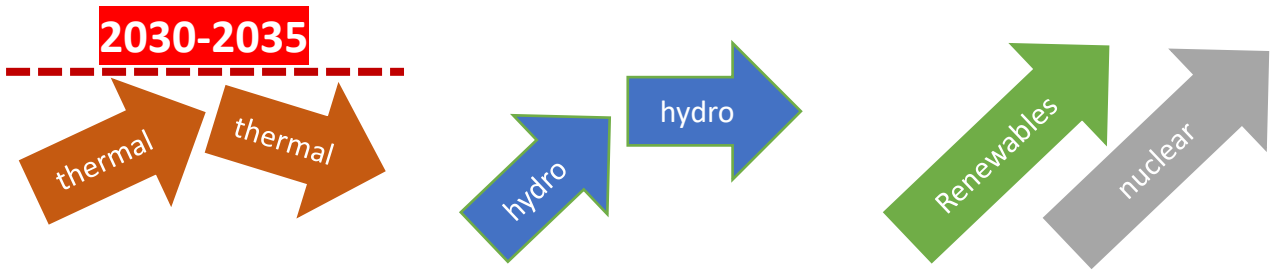
Final Energy Consumption

Sectors	2025		2030		2035	
	Mtoe	%	Mtoe	%	Mtoe	%
Industry	45,4	36,6	52,1	37,3	57,6	38,7
Transportation	32,7	26,5	37,3	26,7	39,2	26,4
Household	26,9	21,7	29,5	21,2	30,7	20,7
Services	18,9	15,2	20,7	14,8	21,0	14,2
TOTAL	**123,9**	**100**	**139,6**	**100**	**148,5**	**100**

Outlook of Energy Demand and Supply

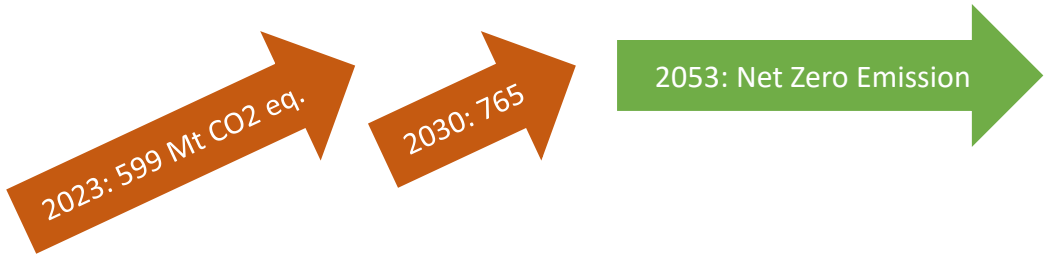
Electricity Generation

Energy Sources	2025		2030		2035	
	TWh	%	TWh	%	TWh	%
Thermal	196,4	51,7	201,2	44,5	173,7	34,2
Nuclear	18,6	4,9	37,2	8,2	55,8	11,1
Hydro	81,9	21,5	87,9	19,4	87,9	17,3
Wind	38,3	10,1	53,7	11,9	90,1	17,7
Solar	28,3	7,4	52,2	11,5	84,0	16,5
Others	16,7	4,4	20,5	4,5	16,2	3,2
Total	**380,2**	**100**	**452,7**	**100**	**507,7**	**100**



GHG Emission*

Target Year	Mt CO_2 eq.
2030	765
2053	Net Zero



Current Energy Policies and Measures

- Ministry Vision
  - Complete Independence in Energy and Mining

- Utilization of Domestic and National Resources
  - Renewable Energy Investments
  - Expansion of Charging Stations for Electric Vehicles
  - Development of Hydrogen and Energy Storage Technologies
  - Strengthening of the Electricity Grid Infrastructure
  - Supporting the Local Technology

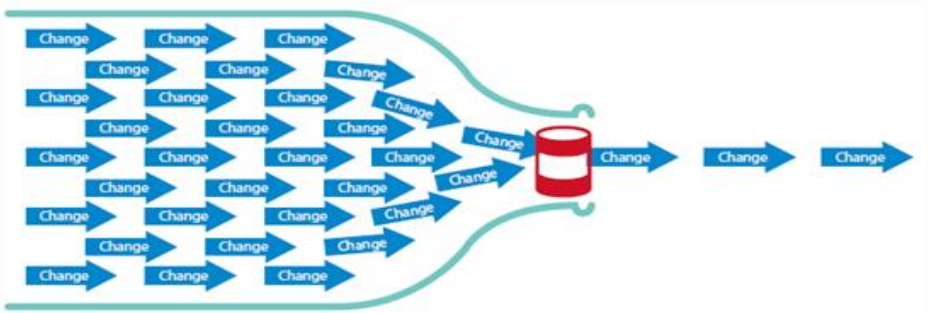
- Paris Agreement and Net Zero Emission Target
  - Renewable Energy Investments
  - Nuclear Power Plants
  - Small Nuclear Modules

- Exploration and Discovery of Natural Resources on Land and at Sea
  - Natural Gas Exploration and Production
  - Mining Exploration and Production
  - Discovery and Extraction of Rare Earth Elements
  - R&D (Research and Development) and Product Development Activities

Major Difficulties and Bottlenecks

- According to SWOT Analysis Which is Made in the Ministry, Some of the Designated Threats

  - Considering the Intermittent Nature of Renewable Energy Sources, the Allocated Capacities Have not yet Been Commissioned at The Desired Level by Investors
  - the Demand for Distributed Generation Remains Low
  - There is a Lack of Public Awareness Regarding Clean Energy and Energy Efficiency in Line With Climate Change and the Net-zero Carbon Target
  - Given the Country's Increasing Energy Demand, There is a High Level of Foreign Dependency in Certain Areas of Energy Supply and Technology
  - There are Difficulties in Securing Financing for Energy and Mining Investments
  - Despite Supportive Policies, R&D and Innovation Infrastructure in Energy and Mining Has not yet Reached the Desired Level



Aims and Expectation Regarding to the Program

- What I Would Like to Gain From This Program is
  - Improving my Knowledge
    - ➢ Related to Energy Transition and Policy Transition by Understanding How These Issues are Managed in Japan and in the World.
    - ➢ on Preparing Better Energy Policies by Learning Concepts and Methods of Energy Demand Forecasting And Modeling
- My Superior’s Expectation
  - ➢ Using my Knowledge to Contribute to the Development of Energy Transition Policies
  - ➢ Participating in Efforts Aimed at Improving Energy Transitions / Decarbonization

Thank You For Listening

Appendix

Energy Prices for End-Users in Türkiye

Natural Gas Price for Some End-Users in Ankara (capital city) (c$/m3)

Date	Household	Industry	Electricity Production
June 2025	25,7	44,6	46,6

Electricity Price for Some End-Users (c$/kWh)

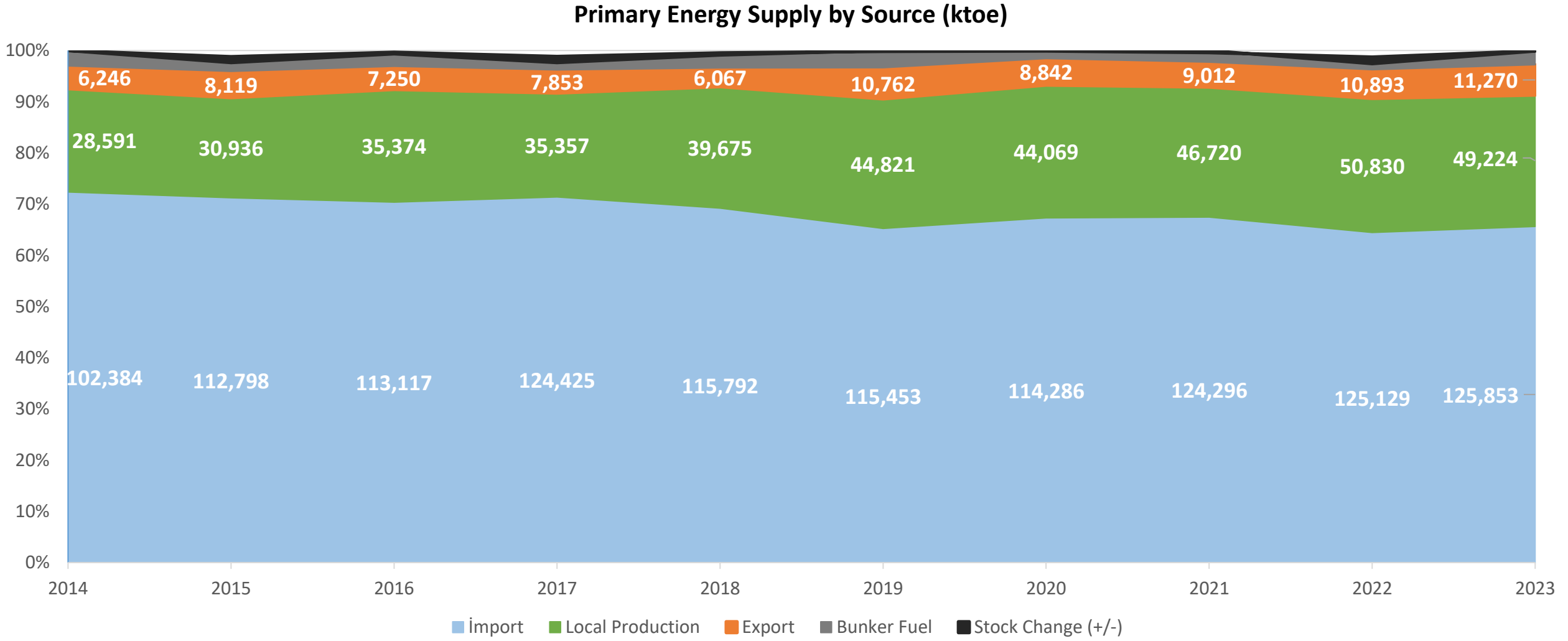
Date	Household (for 8 kWh/day or below)	Household (for above 8 kWh/day)	Public and Private Services Sector (for 30 kWh/day or below)	Public and Private Services Sector (for above 30 kWh/day)	Industry
June 2025	6,6	9,9	14,0	16,3	11,9

Coal Price (c$/kg)*

Date	Coal Type: Washed +18 mm (bagged)
June 2025	11,5

- Energy Related Investment For Domestic And Overseas in 2025
  - A Discovery of 75 Billion Cubic Meters of Natural Gas in Türkiye
  - Inauguration of the Second Phase of the Aliağa Solar Cell and Panel Integrated Production Facility
  - Natural Gas Import Agreement with Turkmenistan
  - The Opening of the Iğdır – Nakhchivan Natural Gas Pipeline
  - Agreement Regarding Unconventional Oil and Natural Gas Production
  - A Hydrocarbon Exploration and Production Agreement in Somalia Onshore Areas
  - First Concrete Step to New Green Interconnection Lines between Four Countries (Azerbaijan, Bulgaria, Georgia, Türkiye)
  - Agreement with Pakistan for Hydrocarbon Exploration Activities
  - Ongoing Hydrocarbon Drilling Operations

Past Energy Demand and Supply



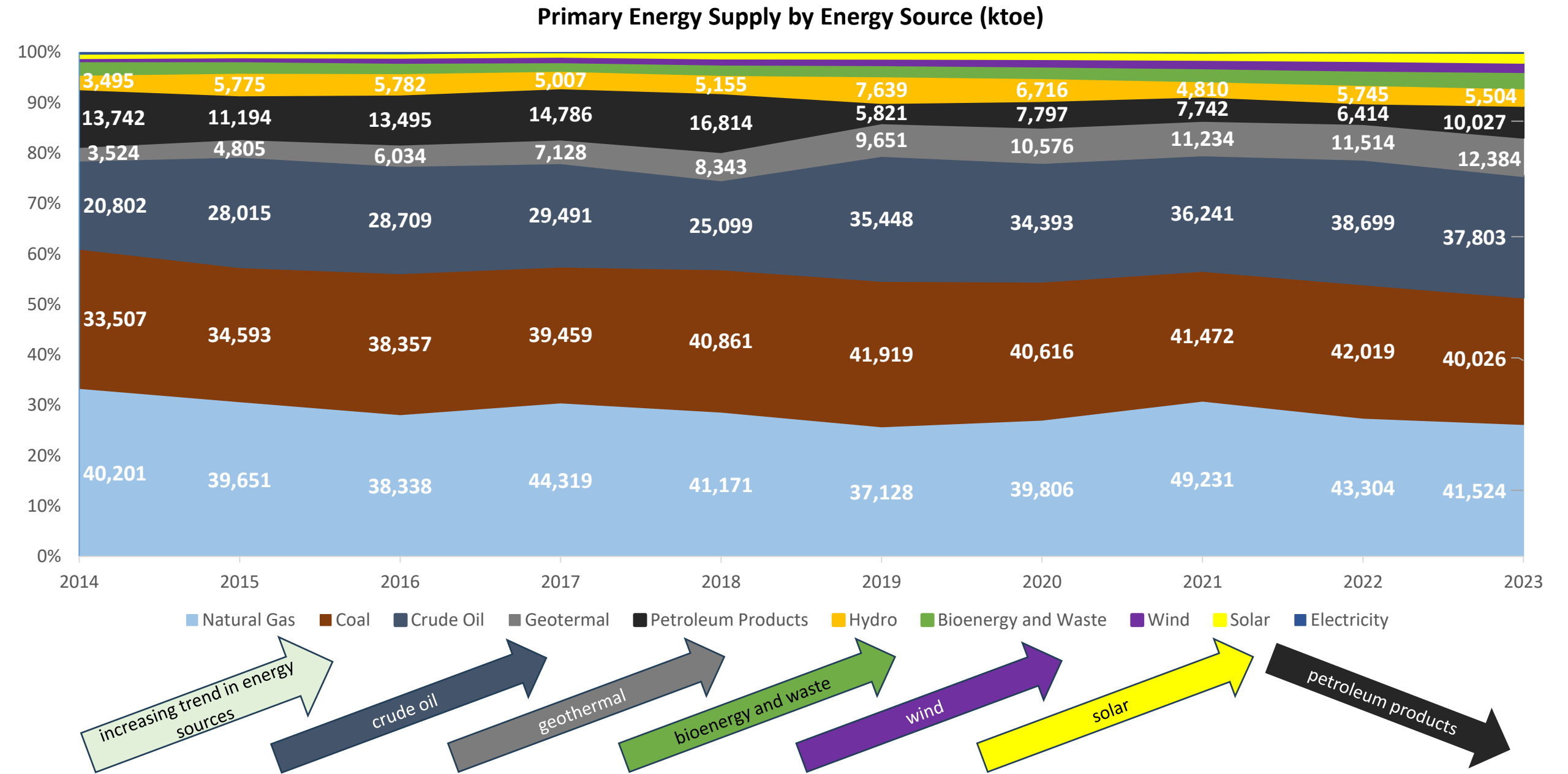
increasing trend in sources

increase in amount but decrease in share

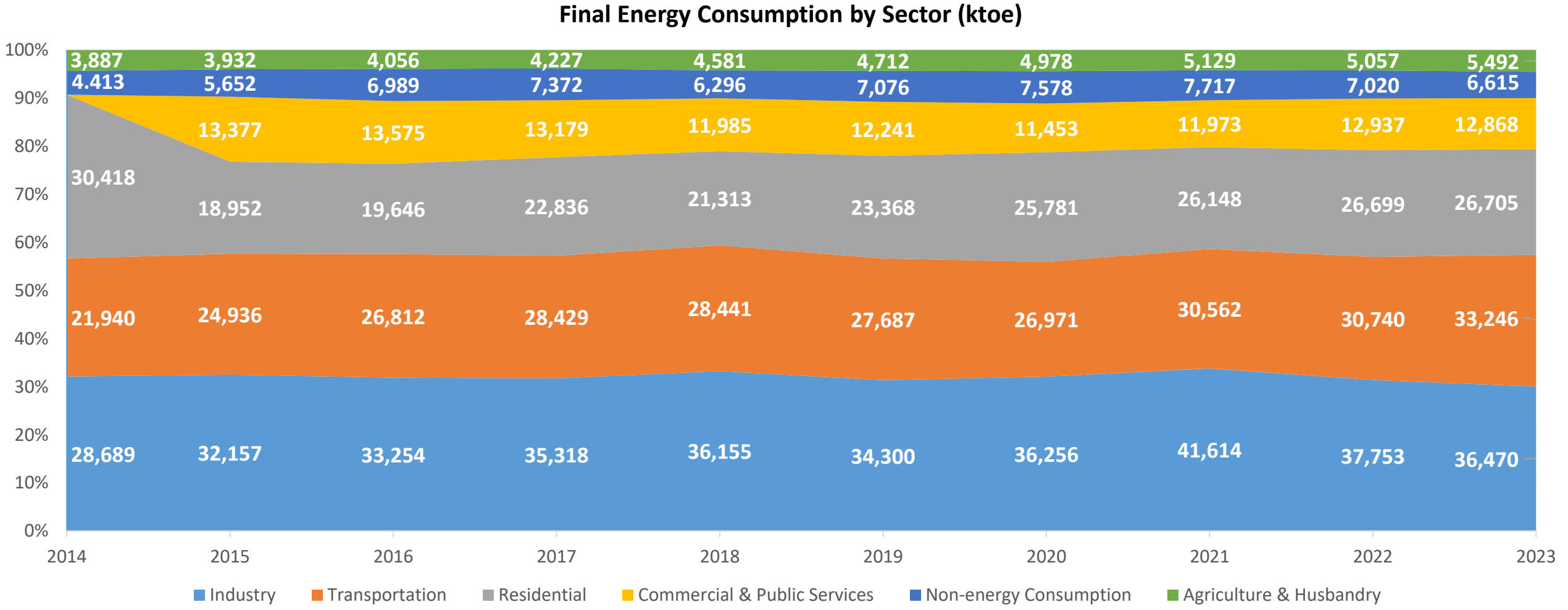
increase in both amount and share

increase in both amount and share

Past Energy Demand and Supply



Past Energy Demand and Supply



increasing trend in sectors

decrease in commercial & public services in both amount and share

For the last few years, decrease in industry in both amount and share

Past Energy Demand and Supply