



AFRICAN UNION ENERGY

**African Energy Commission
Commission Africaine de l'Energie**

Africa Energy Balances 2023

AFRICAN ENERGY COMMISSION - AFREC





AFRICAN UNION



ENERGY

An Integrated, Prosperous
and Peaceful Africa

African Energy Commission
Commission Africaine de l'Energie

Africa Energy Balances

2023

To order copies of this report, please contact:

African Energy Commission (AFREC)
02 Street Chenoua, PO791, Hydra, 16035
Algiers, Algeria

Tel: +213 23 45 91 98

Fax: +213 23 45 92 00

Web: www.au-afrec.org

E-mail: afrec@africa-union.org

f African Energy Commission of the African Union
t @AU_AFREC
in African Energy Commission of the African Union
o @AU_AFREC (African Energy Commission of the African Union)

©2023 African Energy Commission
Department of Infrastructure and Energy
African Union
Algiers, Algeria
All right reserved
First printing 2020

Title: Africa Energy Balances
Available languages: English and French
Language: English

ISBN: 978-9931-9593-9-7



978-9931-9593-9-7

©No reproduction, copy, transmission, or translation of this publication may be made without written permission. Applications should be sent to AFREC in Algiers. Material in this publication may be freely quoted. Acknowledgement is requested, together with a copy of the publication.

The designations used and the presentation of material in this publication do not imply the expression of any opinion whatsoever on the part of the African Energy Commission for the African Union Commission concerning the legal status of any country, territory, city, or area, or of its authorities, or concerning the delimitation of its frontiers or boundaries, or its economic system or degree of development. Designations such as “developed”, “industrialized” and “developing” are intended for statistical convenience and do not necessarily express a judgment about the stage reached by a particular country or area in the development process.

FOREWORD



We are delighted to present to you this energy balance of Africa for the year 2021. This report provides us with a detailed overview of energy production, transformation, and consumption on the African continent, as well as the opportunities and challenges that lie ahead in the energy sector.

Africa, with its abundant natural resources and vibrant economic growth, is constantly evolving in the field of energy. This energy balance allows us to understand the crucial significance of primary energy supply, where biomass stands as the predominant source, meeting the energy needs of African households.

However, as we celebrate the progress made in energy supply, we also face challenges related to dependence on petroleum products and the difficulties in accessing clean and affordable energy for all.

In this context, the African Union's Agenda 2063 emerges as an essential roadmap for the continent's energy development. With its commitment to inclusive and sustainable economic growth, this Agenda places the transformation of the energy sector at its core. Hence, Africa strives to achieve the United Nations' Sustainable Development Goals (SDGs), especially SDG 7, which aims to ensure access to clean and sustainable energy for all.

This energy balance offers us an opportunity to collectively reflect on Africa's energy future based on accurate and reliable energy statistics which will help informed decision-making processes in African energy sector. The data presented in this publication will definitely give guidance on the African Energy Transition by seizing the opportunities of abundant renewable energy sources, improving energy efficiency, and promoting an inclusive and environmentally conscious approach that can shape a sustainable energy future for Africa.

I invite you to carefully peruse the following pages, which provide an in-depth analysis of Africa's energy data for 2021 which will guide on future perspectives and necessary actions to realize AU Agenda 2063 our vision of a dynamically energized Africa we want.

RASHID Ali Abdallah
Executive Director, African Energy Commission

TABLE OF CONTENTS

Unit abbreviations	5	Guinea	65
Unit abbreviations	6	Guinea-Bissau	67
The African Energy Commission (AFREC)	7	Kenya	69
Strategic pillars	8	Lesotho	71
Overview	10	Liberia	73
1. Energy Production	10	Libya	75
2. Energy Supply	10	Madagascar	77
3. Transformation	11	Malawi	79
4. Final Consumption	11	Mali	81
4.1. Consumption by Fuel	11	Mauritania	83
4.2. Final Consumption of Oil Products	12	Mauritius	85
4.3. Final Consumption of Electricity	12	Morocco	87
Africa	16	Mozambique	89
Algeria	19	Namibia	91
Angola	21	Niger	93
Benin	23	Nigeria	95
Botswana	25	Rwanda	97
Burkina Faso	27	Sao Tome and Principe	99
Burundi	29	Senegal	101
Cape Verde	31	Seychelles	103
Cameroon	33	Sierra Leone	105
Central African Republic	35	Somalia	107
Chad	37	South Africa	109
Comoros	39	South Sudan	111
Congo Republic	41	Sudan	113
Côte d'Ivoire	43	Tanzania	115
Democratic Republic of the Congo	45	Togo	117
Djibouti	47	Tunisia	119
Egypt	49	Uganda	121
Equatorial Guinea	51	Zambia	123
Eritrea	53	Zimbabwe	125
Eswatini	55	Glossary	128
Ethiopia	57	Conversion factors	132
Gabon	59	Notes	133
Gambia	61		
Ghana	63		

UNIT

ABBREVIATIONS

-	Not Applicable
AEIS	Africa Energy Information System
AfDB	African Development Bank
AFREC	African Energy Commission
AU	African Union
AUC	African Union Commission
BKB	Brown Coal Briquettes
CHP	Combined Heat and Power
CTL	Coal-to-Liquid
DDP	Deep De-carbonization Pathways
FAO	Food and Agriculture Organization of the United nations
GCV	Gross Calorific Value
GDP	Gross Domestic Product
GHG	Greenhouse Gas
GTL	Gas-to-Liquid
HHV	High Heating Value
IDDR	Institute for Sustainable Development and International Relations
IEA	International Energy Agency
ISIC	International Standard Industrial Classification
LPG	Liquefied Petroleum Gas
LHV	Low Heating Value
NGL	Natural Gas Liquids
NCV	Net Calorific Value
OAU	Organisation of African Unity
PPP	Purchasing Power Parity
SIEC	Standard International Energy Product Classification
STC	Specialized Technical Committee
TTIET	Transcontinental and Interregional Infrastructure, Energy and Tourism.
TFC	Total Final Consumption
TPES	Total Primary Energy Supply
UN	United Nations

UNIT

ABBREVIATIONS

bcm	Billion cubic metres
Gcal	Gigacalorie
GCV	Gross calorific value
GW	Gigawatt
GWh	Gigawatt hour
kb/cd	Thousand barrels per calendar day
kcal	Kilocalorie
kg	Kilogram
kJ	Kilojoule
kWh	Kilowatt hour
MBtu	Million British thermal units
Mt	Million tons
Mtoe	Million tons of oil equivalent
t	Metric ton = tonne = 1000kg
kt	Kilotonnes
TJ	Tera joule
toe	Ton of oil equivalent = 107 kcal
TWh	terawatt hour

THE AFRICAN ENERGY COMMISSION (AFREC)



The African Energy Commission (AFREC) is a specialized agency of the African Union (AU), under the Department of Infrastructure and Energy of the African Union Commission (AUC) that is in charge of coordinating, harmonizing, protecting, conserving, developing, rational exploitation, commercializing and integrating energy resources in Africa. AFREC was created by a Decision of the 37th Summit of the Organisation of African Unity (OAU) Heads of States and Governments which was held in Lusaka, Zambia, on 11th July 2001 and was launched by the AU Ministers in charge of energy in 2008 in Algiers, Algeria.

AFREC's mandate include developing policies, strategies, research, and plans based on Member States (MS), sub-regional, regional, and continental development priorities and recommend their implementation. AFREC is also responsible for designing, creating, and updating an energy continental database and facilitates rapid dissemination of information among MS, sub-regional, regional, and continental institutions. The agency also provides technical support, mobilize financial, provides capacity building to the MS, regional and continental institutions and addresses other energy related issues in African as stated in AFREC Convention.

STRATEGIC PILLARS

The energy sector in Africa still faces huge challenges that include low generation capacity and efficiency, high costs, unstable and unreliable energy supplies, and low access rates, amongst others. These challenges

have adversely affected socio-economic development on the continent. With the demand for modern energy consistently on the rise, there is a need to develop huge energy infrastructure at the continental, regional and national levels to meet current and future demands. The development of the energy infrastructure and electricity market at each of the three levels is recognized as one of the key strategies to address the energy challenges.

In the 2nd Ordinary Session of the African Union (AU) Specialized Technical Committee on Transport, Transcontinental and Interregional Infrastructure and Energy (STC TTIE, 18 April 2019), the Ministers requested the African Energy Commission (AFREC) to implementation following strategic pillars:

- Bioenergy Monitoring and Reporting in Africa
- African Energy Transition
- African Energy Information System
- African Energy Efficiency
- Oil and Natural Gas.

During the 3rd Ordinary Session of the African Union (AU) Specialized Technical Committee on Transport, Transcontinental and Interregional Infrastructure and Energy (STC TTIE, 30 June 2021), AFREC reported on the status of implementation of the approved and presented an additional strategic pillar on Energy Sector Capacity Building which was approved by the STC.

AFREC'S PILLARS

**African Energy Information System (AEIS).
Programme (AEIS).
Bioenergy Programme.
Energy Efficiency Programme.
Oil and Gas Programme.
Energy Transition Programme.
Capacity Building programme.**

1. The bioenergy program provides sustainability indicators for bioenergy and related Food and Agriculture Organization (FAO) best practices by providing technical support and capacity building to relevant institutions of the beneficiary countries to measure/collect, analyze and monitor bioenergy data. This enables them to track the environmental, social, and economic impacts of their bioenergy production and consumption, particularly the actual contribution to GHG emission reductions by replacing fossil fuel and traditional biomass use while harnessing socio-economic co-benefits.

2. African energy efficiency program was developed with the aim of significantly reducing the final energy demand and pollution emissions across the continent and to provide increased electricity access, competitiveness, energy security and economic development by supporting the unlocking of some \$175 Billion in available savings by 2030.

3. AFREC's programme on Oil and Natural Gas focuses on promoting the Africa domestic oil and Gas market in collaboration with institutions and key African crude oil producers, net oil products consumers, current owners of unused and underused refineries, and regional and national authorities. The programme concentrates on the following:

- Create African Domestic Market to enable cross-border trade opportunity for crude oil, oil products and natural gas.
- Revisit the existing oil and gas policies and laws with a view to strengthen policies targeted at oil and gas market.

- Develop policies, strategies and action plans for expansion of refinery production capacity in Africa.

4. In 2019, AFREC evaluated the African Energy Information System (AEIS) and came up with a holistic improvement plan to address the challenges including the information technology infrastructure requirements, procedural mechanisms & information flow processing and finally enhancement and expansion of the energy data and indicators collection including monitoring of the UN Sustainable Development Goals (SDG7). The enhancement entailed the following :

- Improving the existing questionnaires and developing new ones (focus on energy efficiency for all sectors (transport, Industry, residential and commercial services), energy prices and taxes, CO2 emission, SDG7 tracking, Power Plants capacity installed, etc.), new flows, in multiple AU languages and in full alignment with International Recommendation for Energy Statistics (IRES), definitions and best practices.
- Improving data collection and submission mechanism by adopting online data collection system.
- Developing a data visualization tool, data dissemination & reporting system.
- Capacity building for Member States through regional and national workshops

AFREC'S PILLARS



5- The African Energy Sector Transition program (AFRETRAP) intends to accelerate the African Energy Transition and transformation required in the continent to foster jointly inclusive economic growth, wealth creation, poverty eradication, and inequality reduction in a sustainable climate compatible development manner. AFRETRAP is designed to catalyze the African energy transition, informed by a clear and common understanding of the transformations in the energy sector needed in the short, medium, and long-term to achieve the intertwined visions of Agenda 2063, the SDGs, and the Paris Agreement. The program will identify frameworks and show how they can support the development of sectorally and technologically detailed, policy-relevant, and country-driven strategies consistent with national development agendas.

6. The African Energy Sector capacity building aims in identifying skills gap in energy sector, and design accordingly a training module that will improve the capacity of policymakers, energy planners, regulators and experts from AU Member States, RECs, regional power pools, centers for renewable energy and energy efficiency, and other relevant stakeholders in

the African energy sector. This programme shall enhance and bridge the skills gap in the energy sector in the Member States. The programme will focus on the following topics:

- Policy and regulatory frameworks for energy sector
- Solar Photovoltaics and Hybrid systems
- Wind energy resource assessment and wind power plants
- Financing of small and large – scale photovoltaic and wind power plants
- Entrepreneurship in Renewable Energy and Energy investments
- Integration of renewables into the national grid
- Mini-grid models
- Etc.

INTRODUCTION



OVERVIEW

In 2021, Africa recorded a primary energy supply of 808,768 ktoe (kilotons of oil equivalent), with an energy dependence of 139%. Biomass constituted the main source of supply, accounting for 45.3% of the total, while oil, petroleum products, coal, and natural gas shared the remainder almost equally. Electricity represented a relatively low share of 3%.

Refineries achieved a high efficiency of 94.81% in transforming crude oil into petroleum products, while thermal power plants reached an average efficiency of 39.46% in converting fuels into electricity.

Regarding energy consumption, biomass was the predominant energy source for households (51%), followed by petroleum products for transportation (27%). Electricity accounted for 11% of consumption, natural gas 8%, and coal 3%.

Africa must face challenges to diversify its energy sources and improve access to electricity while promoting renewable energies and energy efficiency for sustainable development.

1. Energy Production

In 2021, primary energy production was nearly dominated by crude oil, accounting for 32.19% of the total production. However, renewable energies, especially biomass, played a crucial role, representing 32.62% of the production. These figures highlight the growing significance of renewable energies in the African energy landscape. Primary energy production is illustrated in Figure 1.

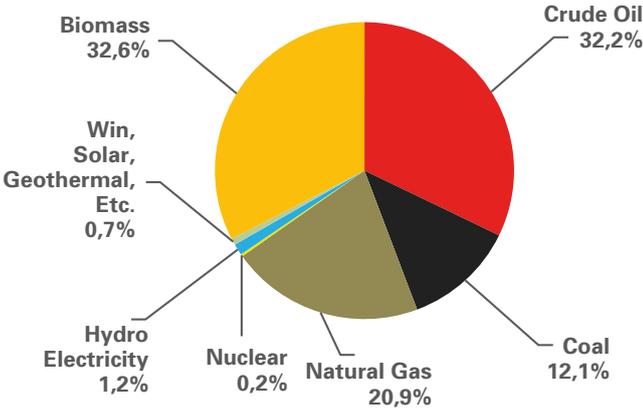


Figure 1.- Primary energy production

2. Energy Supply

The total primary energy supply in 2021 amounted to 808,768 thousand tons of oil equivalent (ktep), corresponding to an energy independence rate of 139%.

Biomass was the main source of supply, accounting for 45.3% of the total. Crude oil, petroleum products, mineral coal, and natural gas shared the remaining supply almost equally, with shares ranging from 18% to 7.9%. Electricity represented a relatively small share, only 3%. It is important to note that this analysis does not consider secondary electricity, focusing solely on primary electricity exchanges in accordance with the energy flow accounting methodology.

These figures highlight Africa's continued dependence on biomass and emphasize the need to diversify the energy mix by promoting renewable sources.

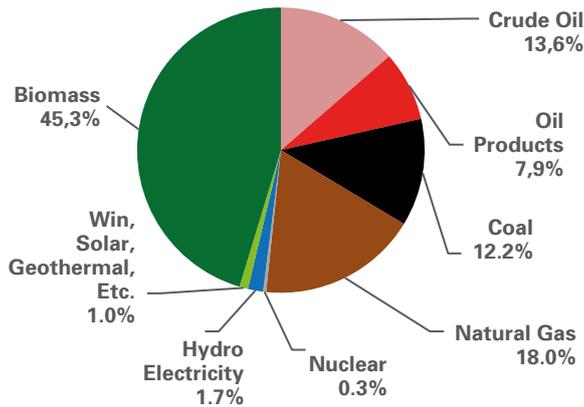


Figure 2. – Total Primary Energy Supply

3. Transformation

The conversion efficiency of crude oil into petroleum products in refineries is 94.81%. On the other hand, the average efficiency of converting fuels into electricity in thermal power plants is 39.46%.

Out of the 1,016.9 TWh (terawatt-hours) of electricity produced in 2021, the thermal sector accounts for a predominant share, with 78.98% of the total production. Mineral coal and natural gas are the primary fuels used in thermal electricity generation.

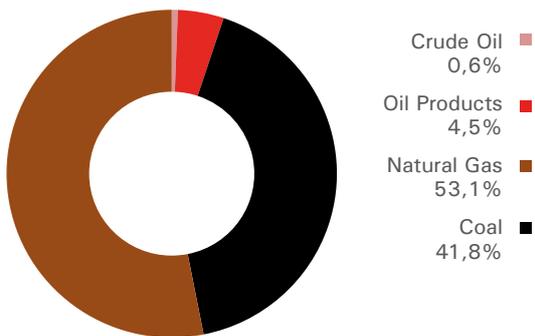


Figure 3.1. – Input fuel for thermal electricity generation

In terms of renewable energies in primary electricity production, hydroelectricity takes the lead, accounting for 15.82% of the total output. Following closely, the combined contributions of wind, geothermal, and solar energy make up 4.11% of the production. Nuclear power represents the smallest portion at 1.05%.

These figures emphasize the significance of thermal energy in electricity production across Africa, primarily relying on mineral coal and natural gas. However, hydroelectricity, as well as wind, geothermal, and solar energy, demonstrate a growing potential in the landscape of primary electricity production. Nuclear power remains a relatively limited energy source in the region.

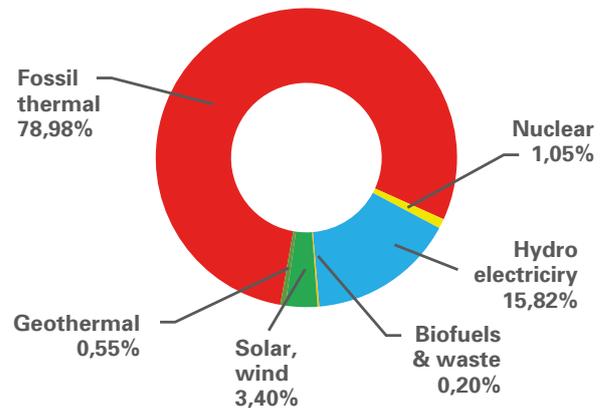


Figure 3.2. – Electricity generation by fuel

4. Final Consumption

4.1. Consumption by Fuel

In 2021, Africa's total energy consumption reached 583,083 thousand tons of oil equivalent (ktep) to meet diverse energy demands. Biomass, primarily in the form of firewood and charcoal, emerged as the dominant energy source, accounting for 51% of the overall consumption. It played a crucial role in meeting the energy needs of households. Following closely, petroleum products held the second position with 27% of the consumption, predominantly fueling the transportation sector.

Electricity contributed to 11% of the consumption, while natural gas and mineral coal accounted for 8% and 3%, respectively. These figures underscore Africa's significant reliance on biomass for domestic energy requirements and the vital role of petroleum products in the transportation industry.

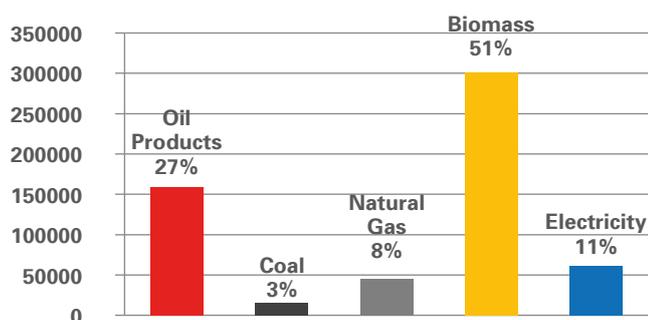


Figure 4.1. – Final Consumption by fuel

4.2. Final Consumption of Oil Products

The consumption of petroleum products in Africa is largely dominated by the transportation sector, which accounts for a substantial share of 70% of the total consumption. Following closely, the industry, households, and agriculture consume 10%, 7%, and 7% of petroleum products, respectively. Other sectors, such as commercial and public services, along with unspecified categories, make up a minor share, totaling less than 6%. This distribution highlights the crucial importance of the transportation sector in driving the demand for petroleum products in Africa, followed by the industry, households, and agriculture, all of which also make significant contributions to the consumption of these products.

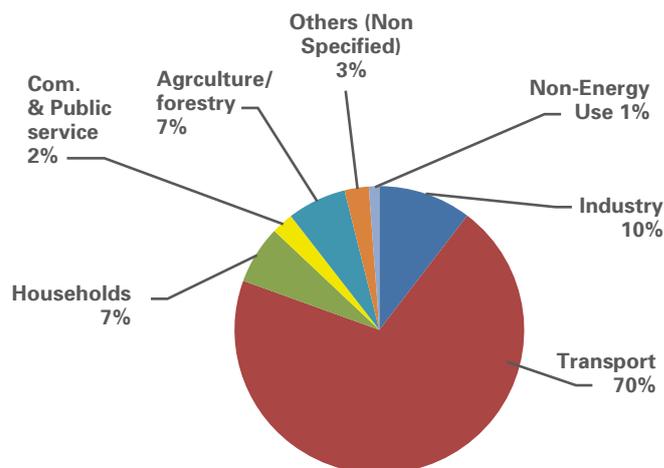


Figure 4.2. – Final consumption of oil products

4.3. Final Consumption of Electricity

In 2021, electricity consumption is primarily distributed among three major sectors. The industry represents the largest share with 39.42%, followed by households with 33.11%, and services with approximately 19.88%.

These sectors encompass a wide range of activities, from industrial production to domestic consumption and professional services. Other sectors, such as agriculture, transportation, and various unspecified sectors, together contribute 7.58% to the final electricity consumption in Africa. While this share may seem relatively small compared to the three main sectors, it remains significant for the overall development of the economy and society in Africa. Monitoring and optimizing electricity consumption in these various sectors are crucial to ensuring efficient energy use and promoting sustainable and balanced development across the continent.

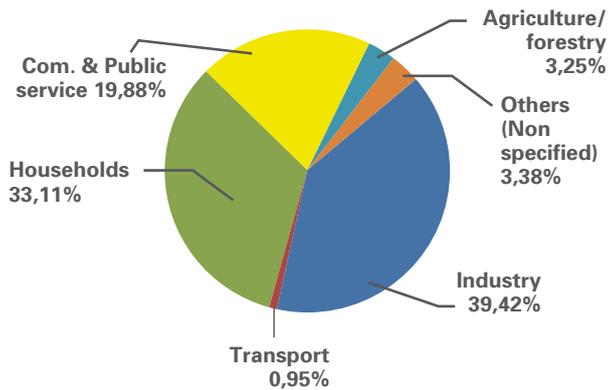


Figure 4.3. – Final consumption of electricity

4.4. Final Consumption by sector

In 2021, energy consumption in Africa was primarily distributed among four sectors. Households accounted for the largest share with 53% of the total final consumption, followed by transportation with 20%, industry with 14%, and services with 8%. Other sectors, such as agriculture, various unspecified sectors, and non-energy uses, together contributed 5% to the final energy consumption in Africa. This sectoral distribution highlights the significance of domestic consumption in households and underscores the need to develop balanced energy policies to support sustainable development and energy efficiency across all economic sectors on the continent.

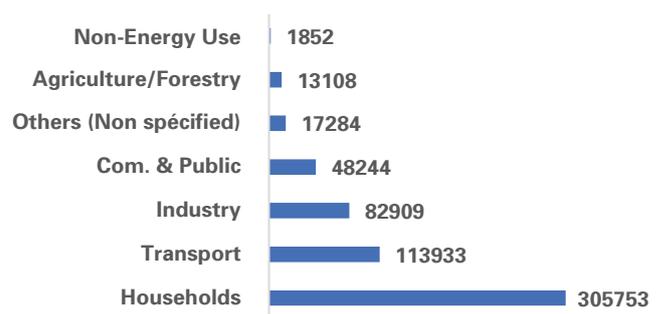


Figure 4.4. - Final consumption by sector by value (ktOE)

4.5. Consumption by Households

The analysis of household energy consumption reveals that biomass constitutes the majority of the supply, representing an impressive 85% of the total consumption. Biomass includes renewable energy sources such as wood, charcoal, crop residues, and wood residues, primarily used for cooking and heating in African households.

Electricity accounts for 7% of household consumption reflecting the limited access to electricity in general in Africa. This indicates that electrification of households remains a challenge in certain regions of Africa, where access to reliable and affordable electricity is still restricted.

Additionally, petroleum products contribute to 3% of household energy consumption, while natural gas represents 4%. These figures suggest that despite the growth of cleaner energy sources, fossil fuels continue to play a significant role in domestic energy consumption in Africa.

Furthermore, it is worth noting that mineral coal is also used in households, but with a relatively small share of 1%. Mineral coal is generally less prevalent in African households due to its negative environmental impacts and limited availability of this resource on the continent.

This distribution of household energy consumption highlights the importance of developing inclusive and sustainable energy policies to ensure equitable access to clean and affordable energy, as well as to promote energy efficiency in African households.

Such efforts will contribute to improving the quality of life for the population and supporting the overall economic and social development of Africa.

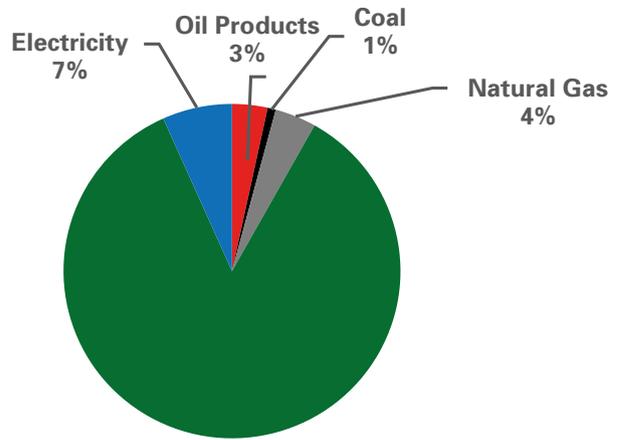


Figure 4.5. - Share of final consumption by households



INDICATORS AND ENERGY BALANCES OF AFRICA

Figure 1. - Total Primary Energy Supply (ktoe)

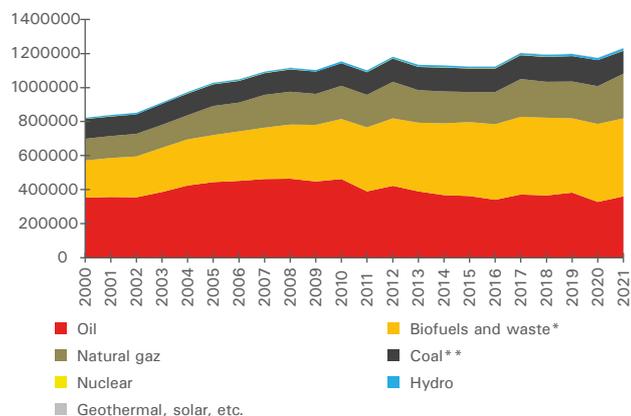


Figure 2. - Total Final Consumption (ktoe)

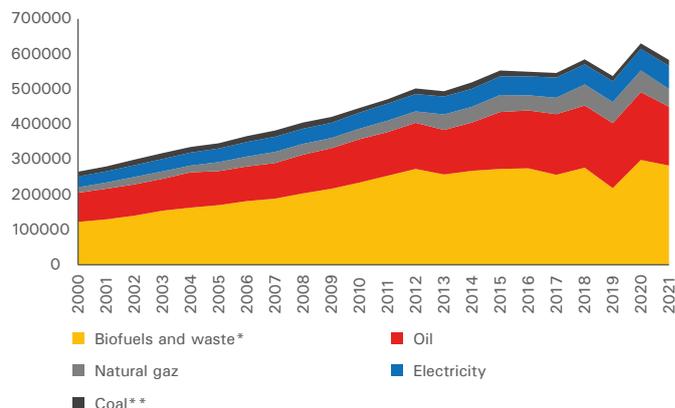


Figure 3. - Electricity Generation by Source (GWh)

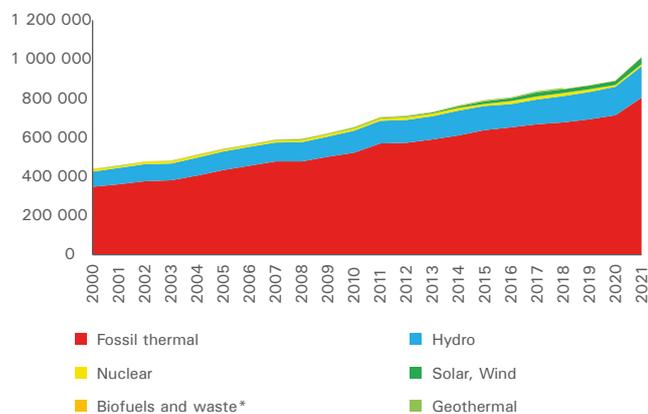


Figure 4. - Refinery Production by product (kt)

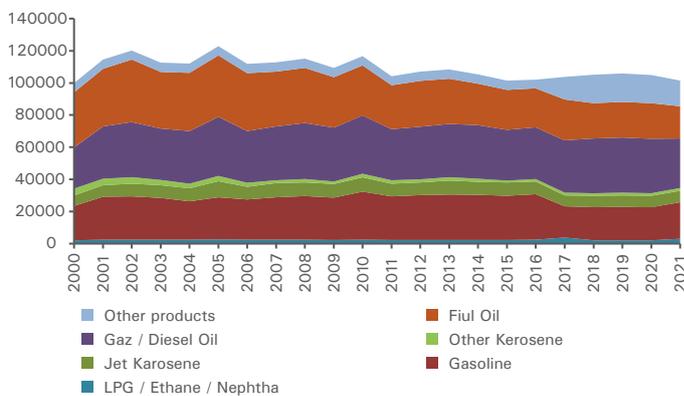
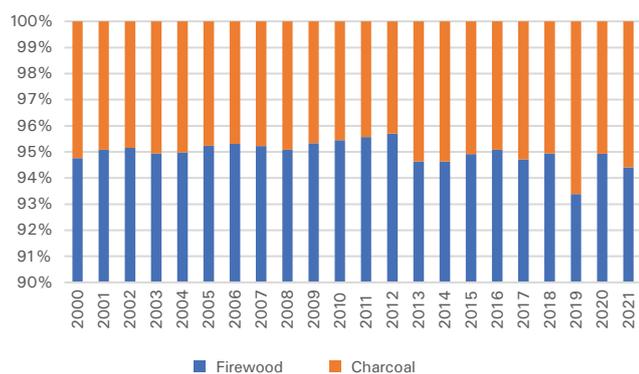


Figure 5. - Consumption of charcoal and firewood



* Includes firewood, charcoal, biogas, agro residues and waste and others biomass.

** Includes steam coal, coking coal, lignite and recovered coal.

Thousand Tonnes of Oil Equivalent (ktoe)

2021		Crude Oil1	Oil Products	Coal2	Natural Gas	Nuclear	Hydro	Wind/ Geother./ Solar	Biofuels / Waste	Electricity	Total
PRIMARY SUPPLY	Production	361 977	-	135 858	235 511	2770	13 837	7 762	366 782	-	1 124 498
	Imports	33 640	114 219	10 118	8 409	-	-	-	-	3 524	169 910
	Exports (-)	-286 449	-41 225	-48 616	-98 459	-	-	-	-	-3 663	-478 412
	Int. Marine Bunkers (-)	-	-5 965	-	-	-	-	-	-	-	-5 965
	Int. Aviation Bunkers (-)	-	-6 375	-	-	-	-	-	-	-	-6 375
	Stock (+ draw, - build)	560	3 287	1 218	46	-	-	-	-	-	5 112
	TPES³	109 729	63 941	98 579	145 507	2 770	13 837	7 762	366 782	-140	808 768
	Transfers	-8 695	8 759	-	-	-	-	-	-	-	64
	Statistical Difference	421	-1 213	-1 252	-10 857	-	-	-	-7 993	-8 433	-29 326
TRANSFORMATION	Transformation	-101 454	89 134	-70 513	-73 235	-2 770	-13 837	-7 762	-125 263	87 444	-218 257
	Electricity Producers	-857	-6 250	-57 672	-73 235	-2 770	-13 837	-7 762	4	87 444	-74 937
	Petroleum Refineries	-100 596	95 384	-	-	-	-	-	0	0	-5 212
	Charcoal Plants	-	-	-	-	-	-	-	-125 267	0	-125 267
	Gas-to-Liquids	-	-	-	-	-	-	-	-	-	-
	Coal-to-Liquids	-	-	-	-	-	-	-	-	-	-
	Blast Furnaces	-	-	-	-	-	-	-	-	-	-
	Other Transformation	-	-	-12 841	-	-	-	-	-	-	-12 841
	Own Use⁴	-	-1 189	-10 775	-15 194	-	-	-	-	-4 929	-32 087
	Losses	-	-76	-	-1 107	-	-	-	-	-12 111	-13 295
FINAL CONSUMPTION	TFC⁵	2	159 356	16 039	45 113	-	-	-	300 742	61 832	583 083
	Industry	-	16 532	11 294	19 442	-	-	-	11 266	24 375	82 909
	Transport	2	111 833	6	1 505	-	-	-	-	589	113 933
	Households	-	10 410	2 401	12 109	-	-	-	260 357	20 475	305 753
	Com. & Public	-	3 910	1 112	1 808	-	-	-	29 119	12 293	48 244
	Agriculture/Forestry	-	10 497	0	603	-	-	-	-	2 009	13 108
	Others (Non-Specified)	-	4 322	1 226	9 645	-	-	-	-	2 091	17 284
	Non-Energy Use	-	1 852	-	-	-	-	-	-	-	1 852

1. Includes crude oil, NGL, refinery feedstock, additives, and other hydrocarbons Includes steam coal, coking coal, lignite and recovered coal
3. Total Primary Energy Supply
4. Energy industry own use
5. Total Final Consumption



INDICATORS AND ENERGY BALANCES OF AFRICAN COUNTRIES

Figure 3.1. - Total Primary Energy Supply (ktoe)

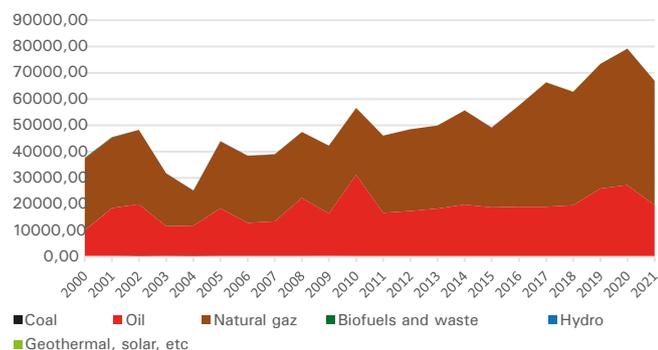


Figure 3.2. - Total Final Consumption (ktoe)

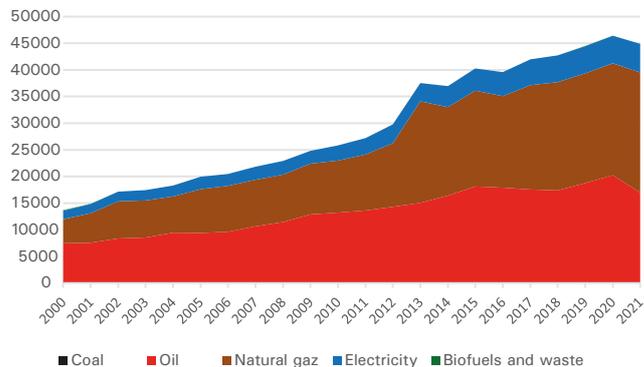


Figure 3.3. - Electricity Generation by Source (GWh)

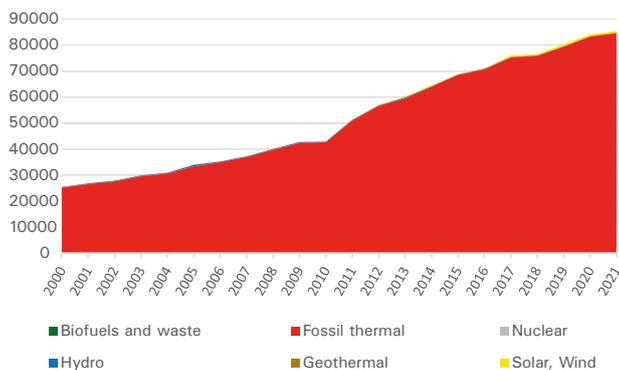


Figure 3.4. - Fuel Shares of Total Final Consumption

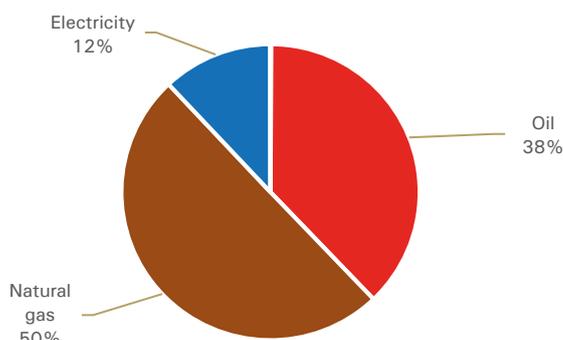


Figure 3.5. - Electricity Consumption by Sector

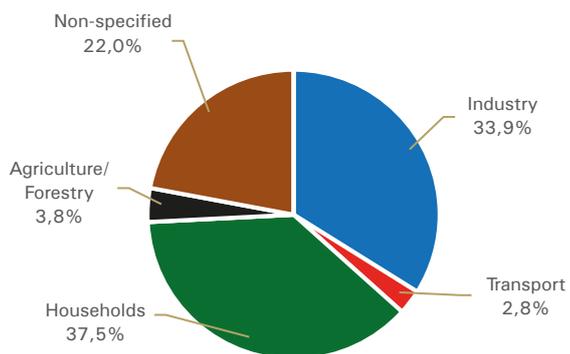
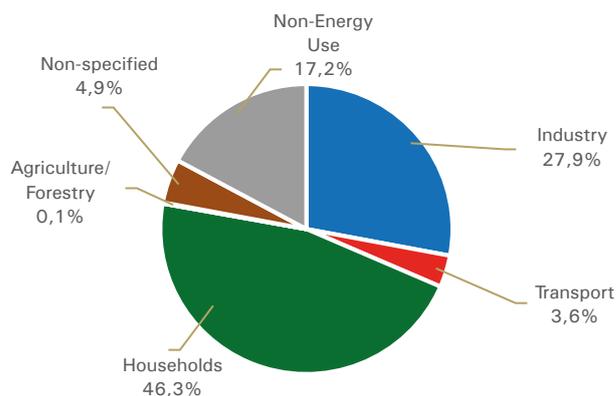


Figure 3.6. - Natural Gas Consumption by Sector



Thousand Tonnes of Oil Equivalent (ktoe)	Coal and Coal Products	Crude oil	Oil products	Natural Gas	Biofuels and waste	Hydro	Solar	Electricity	Total of All energy sources
Production		59503.91		89345.01	2.68	0.80	56.84		148909.24
Imports (+)	261.39		903.13					32.56	1197.08
Exports (-)		-20623.73	-20642.93	-46790.42				-131.50	-88188.58
International Marine Bunkers (-)			-221.76						-221.76
International Aviation Bunkers (-)									
Stock Changes (+ draw, - build)	-4.44	210.72	-22.67						183.60
TOTAL PRIMARY ENERGY SUPPLY	256.95	39090.90	-19984.23	42554.59	2.68	0.80	56.84	-98.94	61879.58
Transfers : Origin (-) and Destination (+)									
Statistical Difference	0.24	8709.48	-8314.5	-250.83	0.08			-30.56	113.83
TRANSFORMATION Inputs (-) and Outputs (+)	-211.01	-29783.51	29317.10	-18259.56	-0.15	-0.80	-56.84	7342.25	-11652.53
Electricity plants			-209.41	-18259.56		-0.80	-56.84	7342.25	-11184.36
CHP Plants									
Heat Plants									
Coke ovens									
Blast furnaces	-200.61								-200.61
Oil Refineries		-29783.51	28896.56						-886.95
Coal-to-liquids plants									
Gas-to-liquids plants			529.40						529.40
Charcoal production plants					-0.15				-0.15
Transformation not elsewhere specified	-10.41		100.55						90.14
Energy Sector Own Use		596.15	270.82	3731.89				780.70	5379.56
Losses			58.07	550.65				771.70	1380.42
FINAL CONSUMPTION	45.70	1.76	17318.55	20263.31	2.45			5721.47	43353.24
Industry	45.70		636.56	5663.11	1.67			1941.05	8288.08
Transport		1.76	13860.23	720.44				157.91	14740.35
Households			1523.49	9385.72	0.78			2145.68	13055.68
Commercial and public services									
Agriculture, Forestry and Fishing			37.31	23.92				215.57	276.80
Non-specified (HH, Com. & PS., Agri.)			499.48	993.37				1261.26	2754.11
Non-Energy Use			761.47	3476.76					4238.23

Figure 3.1. - Total Primary Energy Supply (ktoe)

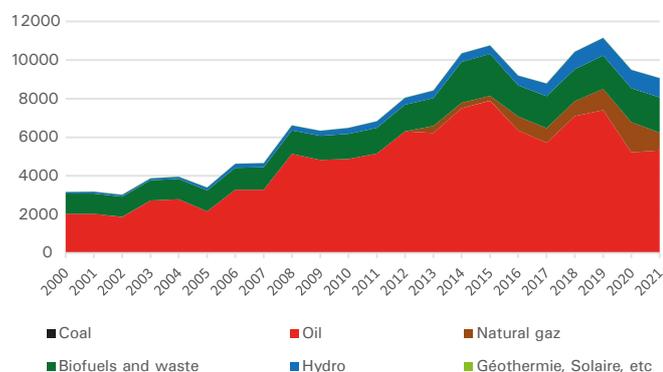


Figure 3.2. - Total Final Consumption (ktoe)

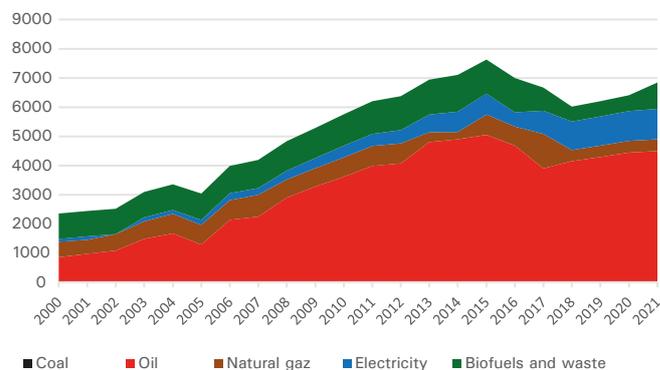


Figure 3.3. - Electricity Generation by Source (GWh)

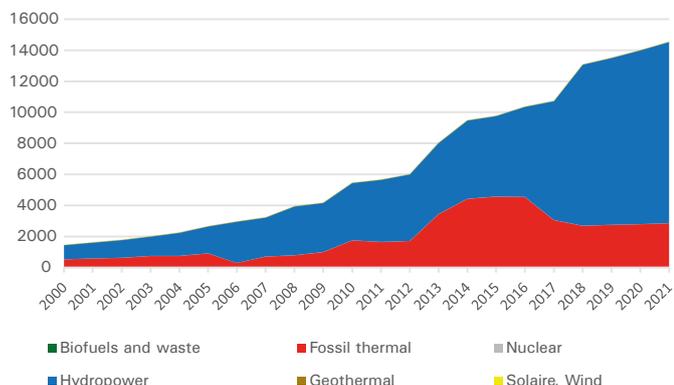


Figure 3.4. - Fuel Shares of Total Final Consumption

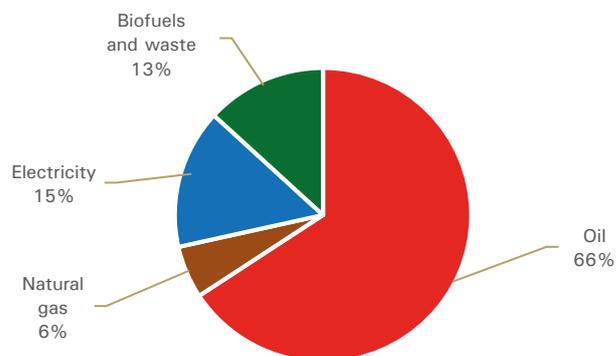


Figure 3.5. - Electricity Consumption by Sector

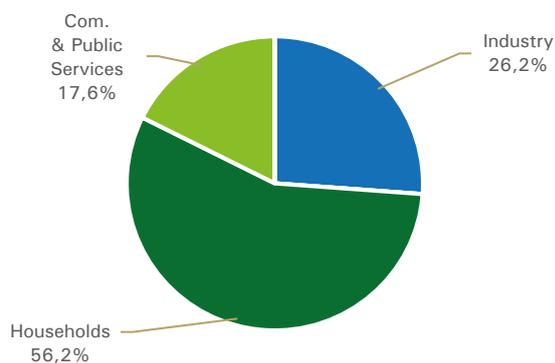
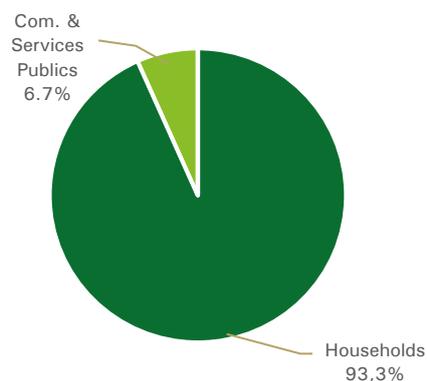


Figure 3.6. - Biofuels and Waste Consumption by Sector



Thousand Tonnes of Oil Equivalent (ktoe)	Crude oil	Oil products	Natural Gas	Biofuels and waste	Hydro	Electricity	Total of All energy sources
Production	84547.76		5672.64	4203.77	1003.91		95428.08
Imports (+)		2415.76					2415.76
Exports (-)	-80072.28	-1532.94	-4850.39				-86455.61
International Marine Bunkers (-)		-219.48					-219.48
International Aviation Bunkers (-)		-351.84					-351.84
Stock Changes (+ draw, - build)	-2300.66	1092.94					-1207.72
TOTAL PRIMARY ENERGY SUPPLY	2174.83	1404.43	822.25	4203.77	1003.91		9609.19
<hr/>							
Transfers : Origin (-) and Destination (+)							
Statistical Difference	3.81	33.17	1.80	86.06		8.50	133.34
<hr/>							
TRANSFORMATION Inputs (-) and Outputs (+)	-2171.02	1197.81		-707.23	-1003.91	1249.60	-1434.74
Electricity plants		-624.81			-1003.91	1249.60	-379.11
CHP Plants							
Heat Plants							
Coke ovens							
Blast furnaces							
Oil Refineries	-2171.02	1822.62					-348.40
Coal-to-liquids plants							
Gas-to-liquids plants							
Charcoal production plants				-707.23			-707.23
Transformation not elsewhere specified							
<hr/>							
Energy Sector Own Use			419.50			24.47	443.97
Losses						167.27	167.27
<hr/>							
FINAL CONSUMPTION		2569.07	400.95	3410.48		1049.37	7429.88
Industry		112.66	400.95			274.53	788.15
Transport		1292.25					1292.25
Households		475.15		3182.94		590.03	4248.12
Commercial and public services		566.60		227.54		184.81	978.95
Agriculture, Forestry and Fishing		6.63					6.63
Non-specified (HH, Com. & PS., Agri.)							
Non-Energy Use		115.78					115.78

Figure 3.1. - Total Primary Energy Supply (ktoe)

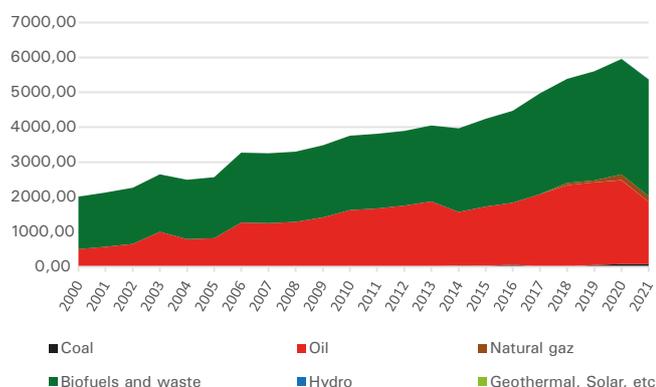


Figure 3.2. - Total Final Consumption (ktoe)

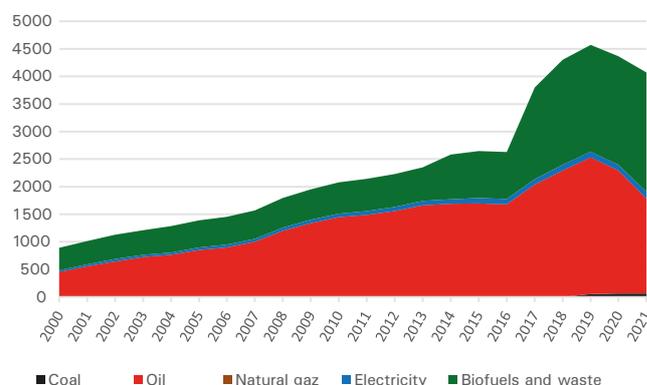


Figure 3.3. - Electricity Generation by Source (GWh)

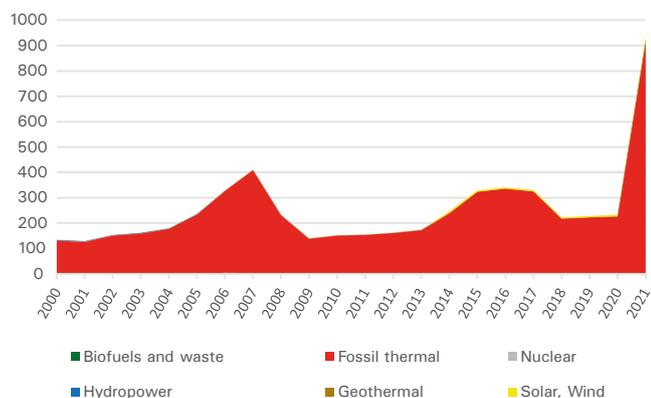


Figure 3.4. - Fuel Shares of Total Final Consumption

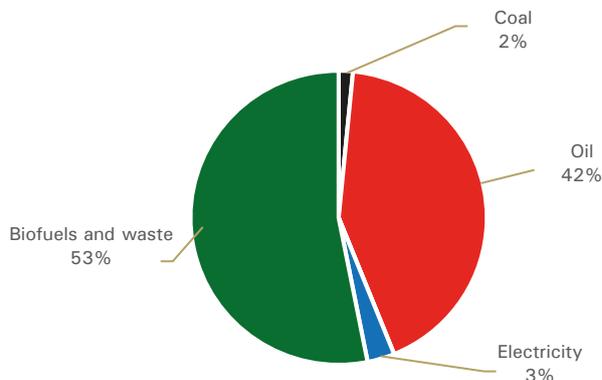


Figure 3.5. - Electricity Consumption by Sector

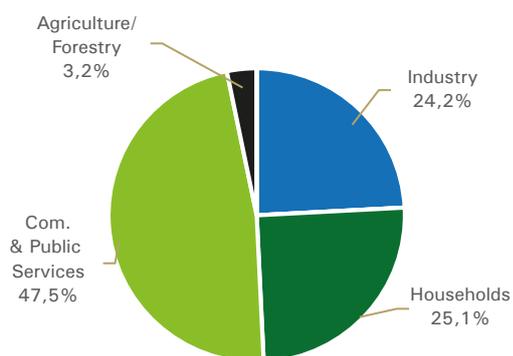
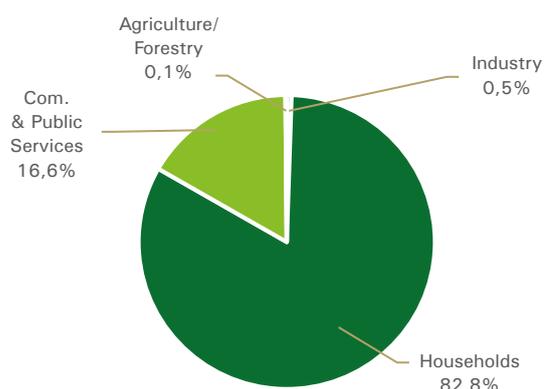


Figure 3.6. - Biofuels and Waste Consumption by Sector



Thousand Tonnes of Oil Equivalent (ktoe)	Coal and Coal Products	Oil products	Natural Gas	Biofuels and waste	Solar	Electricity	Total of All energy sources
Production				3250.63	1.44		3252.07
Imports (+)	100.57	1822.76	138.81			52.23	2114.38
Exports (-)						-0.16	-0.16
International Marine Bunkers (-)		-0.17					-0.17
International Aviation Bunkers (-)		-18.30					-18.30
Stock Changes (+ draw, - build)	-20.41	-21.37					-41.78
TOTAL PRIMARY ENERGY SUPPLY	80.16	1782.92	138.81	3250.63	1.44	52.07	5306.04
<hr/>							
Transfers : Origin (-) and Destination (+)							
Statistical Difference	1.37	5.76		-3.25		1.30	5.18
<hr/>							
TRANSFORMATION Inputs (-) and Outputs (+)		-50.63	-138.81	-1001.50	-1.44	96.90	-1095.49
Electricity plants		-50.63	-138.81		-1.44	96.90	-93.99
CHP Plants							
Heat Plants							
Coke ovens							
Blast furnaces							
Oil Refineries							
Coal-to-liquids plants							
Gas-to-liquids plants							
Charcoal production plants				-1001.50			-1001.50
Transformation not elsewhere specified							
<hr/>							
Energy Sector Own Use		1.96				0.80	2.76
Losses						25.75	25.75
<hr/>							
FINAL CONSUMPTION	78.79	1724.57		2252.39		121.11	4176.86
Industry	78.79	52.92		11.75		29.26	172.72
Transport		1420.29					1420.29
Households		45.13		1864.48		30.38	1940.00
Commercial and public services		12.23		372.90		57.55	442.67
Agriculture, Forestry and Fishing		8.28		3.26		3.92	15.46
Non-specified (HH, Com. & PS., Agri.)							
Non-Energy Use		185.71					185.71

Figure 3.1. - Total Primary Energy Supply (ktoe)

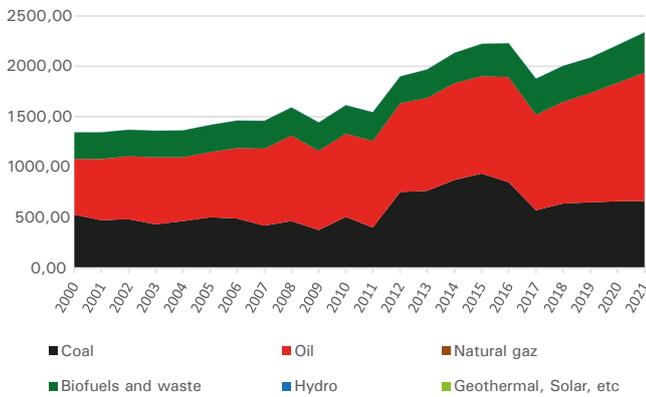


Figure 3.2. - Total Final Consumption (ktoe)

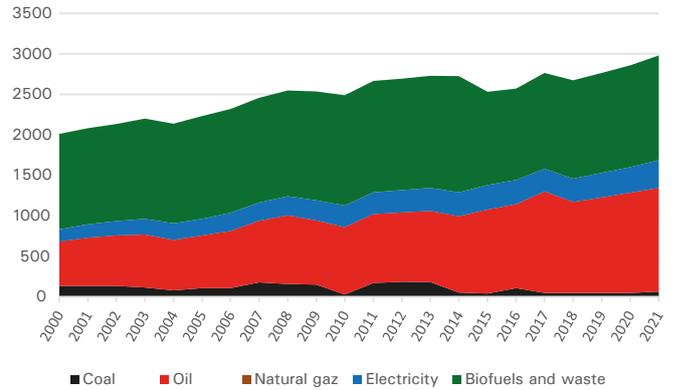


Figure 3.3. - Electricity Generation by Source (GWh)

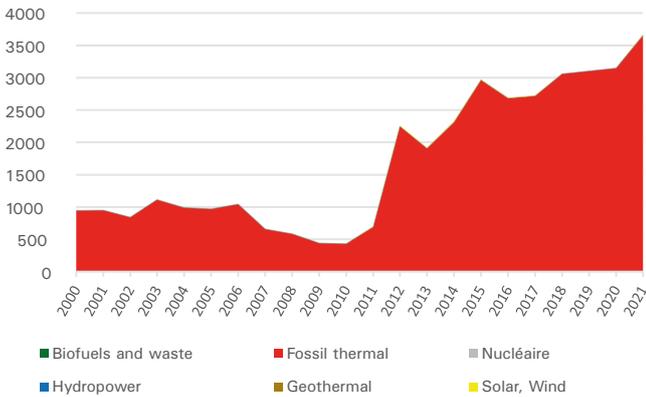


Figure 3.4. - Fuel Shares of Total Final Consumption

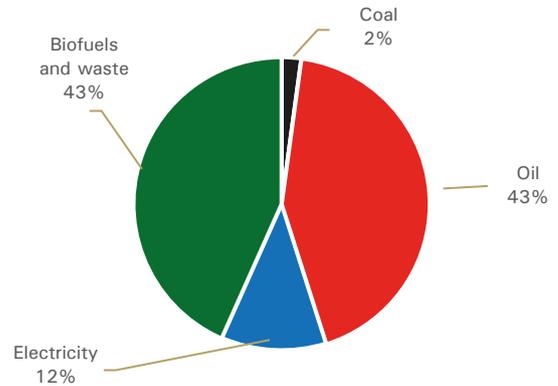


Figure 3.5. - Electricity Consumption by Sector

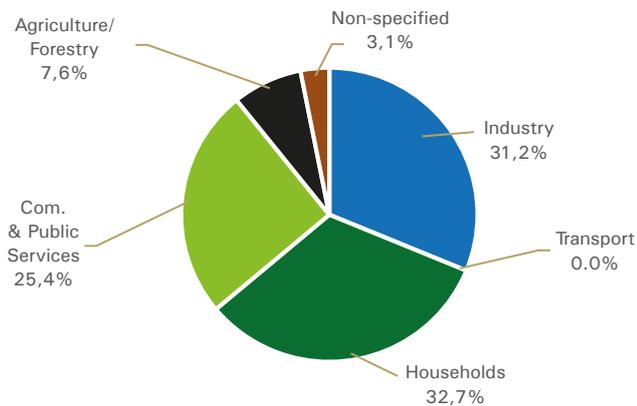
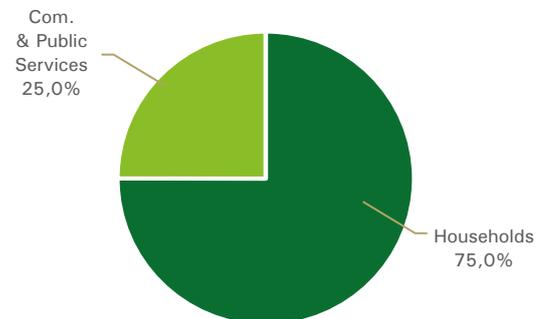


Figure 3.6. - Biofuels and Waste Consumption by Sector



Thousand Tonnes of Oil Equivalent (ktoe)	Coal and Coal Products	Oil products	Biofuels and waste	Solar	Electricity	Total of All energy sources
Production	992.67		363.24	0.52		1356.43
Imports (+)		1323.51			119.78	1443.28
Exports (-)	-187.49					-187.49
International Marine Bunkers (-)						
International Aviation Bunkers (-)		-22.68				-22.68
Stock Changes (+ draw, - build)	-29.70					-29.70
TOTAL PRIMARY ENERGY SUPPLY	775.48	1300.82	363.24	0.52	119.78	2559.84
<hr/>						
Transfers : Origin (-) and Destination (+)						
Statistical Difference	-36.45		1.30		7.45	-27.70
<hr/>						
TRANSFORMATION Inputs (-) and Outputs (+)	-735.15	0.00	-150.93	-0.52	314.92	-571.69
Electricity plants	-735.15			-0.52	314.92	-420.75
CHP Plants						
Heat Plants						
Coke ovens						
Blast furnaces						
Oil Refineries						
Coal-to-liquids plants						
Gas-to-liquids plants						
Charcoal production plants			-150.93			-150.93
Transformation not elsewhere specified						
<hr/>						
Energy Sector Own Use					23.62	23.62
Losses					60.10	60.10
<hr/>						
FINAL CONSUMPTION	76.77	1300.82	211.01		343.51	1932.12
Industry	47.39	203.61			107.23	358.23
Transport		1020.73				1020.73
Households		35.53	158.29		112.21	306.03
Commercial and public services	29.38	9.42	52.72		87.10	178.62
Agriculture, Forestry and Fishing		1.13			26.23	27.35
Non-specified (HH, Com. & PS., Agri.)		1.38			10.75	12.12
Non-Energy Use		29.03				29.03

Figure 3.1. - Total Primary Energy Supply (ktoe)

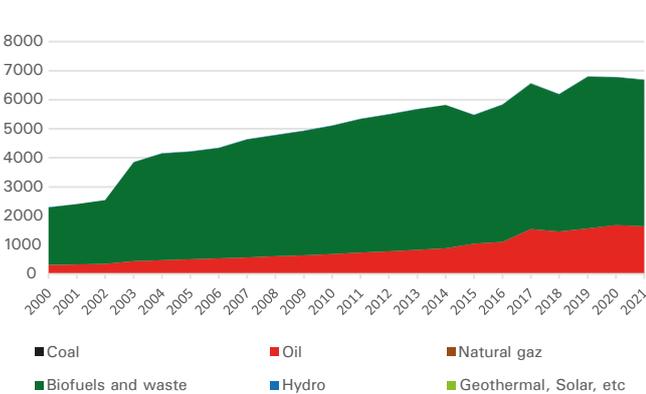


Figure 3.2. - Total Final Consumption (ktoe)

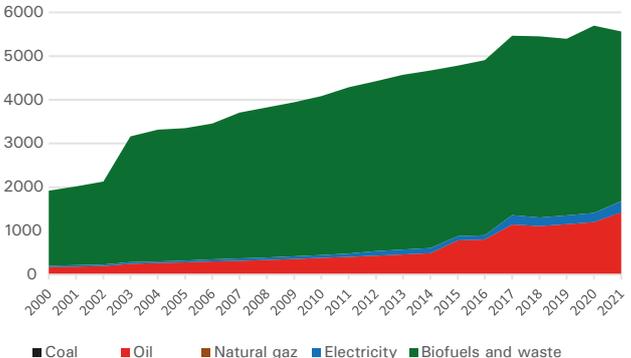


Figure 3.3. - Electricity Generation by Source (GWh)

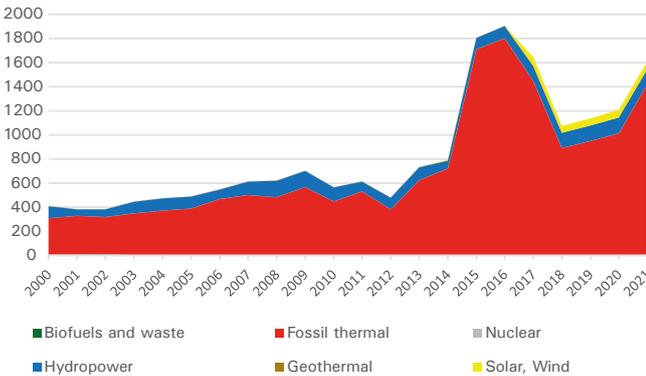


Figure 3.4. - Fuel Shares of Total Final Consumption

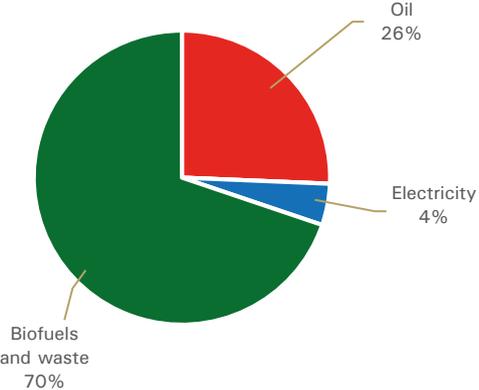


Figure 3.5. - Electricity Consumption by Sector

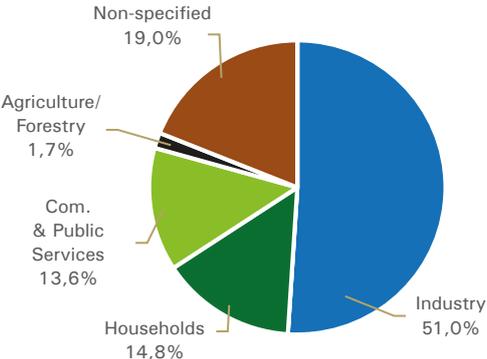
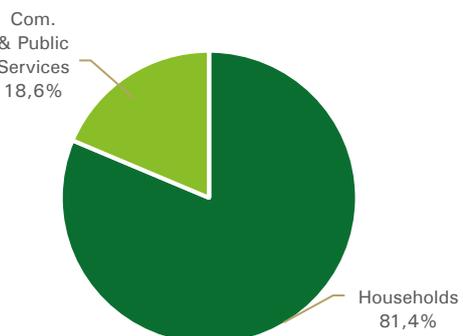


Figure 3.6. - Biofuels and Waste Consumption by Sector



Thousand Tonnes of Oil Equivalent (ktoe)	Coal and Coal Products	Biofuels and waste	Hydro	Solar	Electricity	Total of All energy sources
Production		4973.25	10.63	5.41		4989.29
Imports (+)					134.85	134.85
Exports (-)	1697.89					1697.89
International Marine Bunkers (-)						
International Aviation Bunkers (-)						
Stock Changes (+ draw, - build)	14.68					14.68
TOTAL PRIMARY ENERGY SUPPLY	1712.57	4973.25	10.63	5.41	134.85	6836.71
Transfers : Origin (-) and Destination (+)						
Statistical Difference	-1.16				-0.01	-1.17
TRANSFORMATION Inputs (-) and Outputs (+)	-259.38	-753.81	-10.63	-5.41	138.22	-891.00
Electricity plants	-259.38	-74.37	-10.63	-5.41	138.22	-211.56
CHP Plants						
Heat Plants						
Coke ovens						
Blast furnaces						
Oil Refineries						
Coal-to-liquids plants						
Gas-to-liquids plants						
Charcoal production plants		-679.44				-679.44
Transformation not elsewhere specified						
Energy Sector Own Use					2.41	2.41
Losses					17.29	17.29
FINAL CONSUMPTION	1454.35	4219.45			253.38	5927.18
Industry	227.51				129.28	356.79
Transport	1065.55					1065.55
Households	93.00	3433.89			37.38	3564.26
Commercial and public services	61.53	785.56			34.38	881.46
Agriculture, Forestry and Fishing	6.77				4.31	11.08
Non-specified (HH, Com. & PS., Agri.)					48.04	48.04
Non-Energy Use						

Figure 3.1. - Total Primary Energy Supply (ktoe)

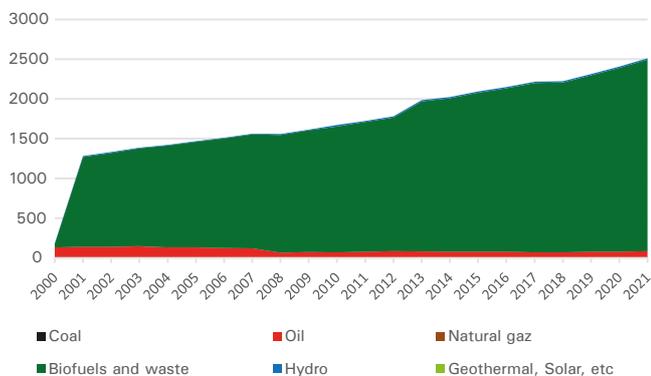


Figure 3.2. - Total Final Consumption (ktoe)

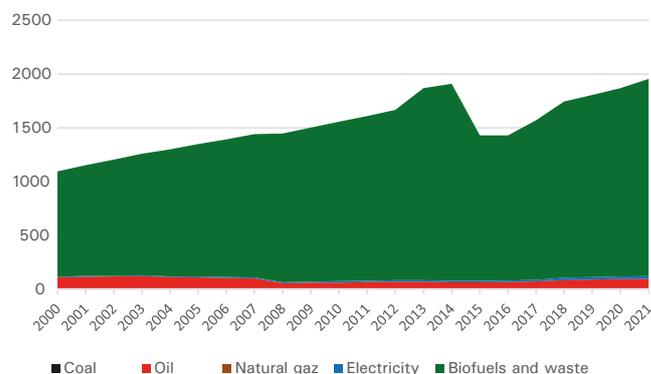


Figure 3.5. - Electricity Consumption by Sector

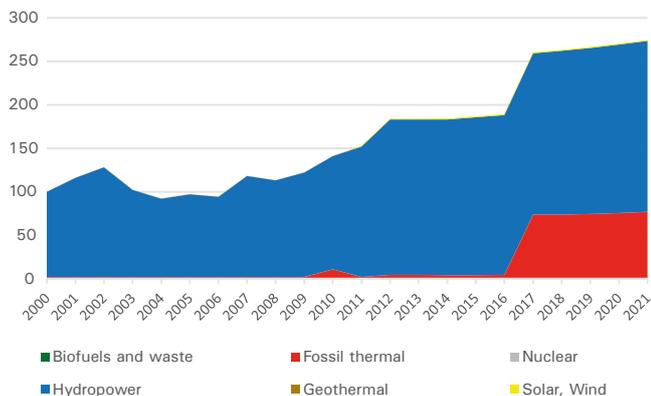


Figure 3.6. - Biofuels and Waste Consumption by Sector

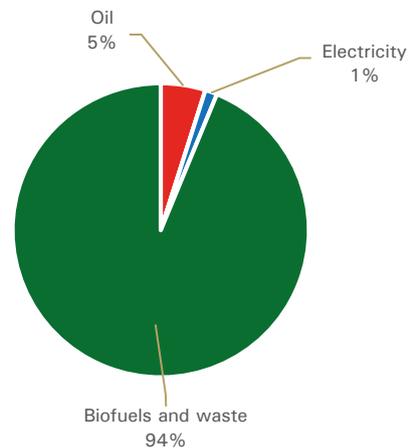


Figure 3.5. - Electricity Consumption by Sector

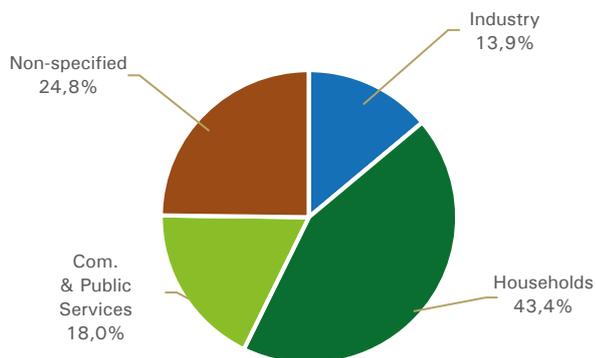
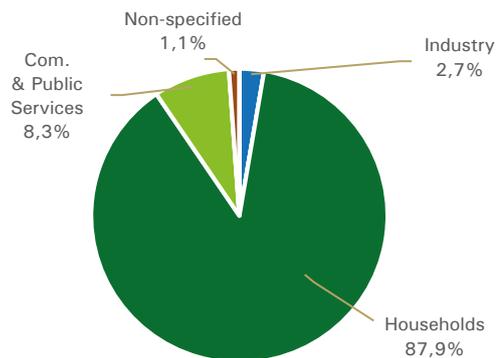


Figure 3.6. - Biofuels and Waste Consumption by Sector



Thousand Tonnes of Oil Equivalent (ktoe)	Coal and Coal Products	Biofuels and waste	Hydro	Solar	Electricity	Total of All energy sources
Production		2458.15	16.89	0.09		2475.13
Imports (+)	88.40				12.46	100.86
Exports (-)						
International Marine Bunkers (-)						
International Aviation Bunkers (-)	-4.27					-4.27
Stock Changes (+ draw, - build)	23.94					23.94
TOTAL PRIMARY ENERGY SUPPLY	108.07	2458.15	16.89	0.09	12.46	2595.66
<hr/>						
Transfers : Origin (-) and Destination (+)						
Statistical Difference	22.51	23.78			0.30	46.60
<hr/>						
TRANSFORMATION Inputs (-) and Outputs (+)	11.35	-425.17	-16.89	-0.09	23.59	-407.21
Electricity plants	11.35		-16.89	-0.09	23.59	17.97
CHP Plants						
Heat Plants						
Coke ovens						
Blast furnaces						
Oil Refineries						
Coal-to-liquids plants						
Gas-to-liquids plants						
Charcoal production plants		-425.17				-425.17
Transformation not elsewhere specified						
<hr/>						
Energy Sector Own Use					2.15	2.15
Losses					7.92	7.92
<hr/>						
FINAL CONSUMPTION	96.91	2009.19			25.68	2131.79
Industry	29.44				3.56	33.00
Transport	62.14					62.14
Households	3.98	1601.05			11.14	1616.18
Commercial and public services	1.34	408.14			4.61	414.09
Agriculture, Forestry and Fishing						
Non-specified (HH, Com. & PS., Agri.)					6.37	6.37
Non-Energy Use						

Figure 3.1. - Total Primary Energy Supply (ktoe)

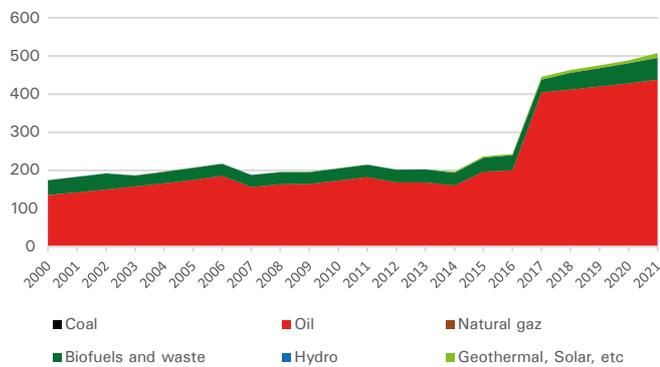


Figure 3.2. - Total Final Consumption (ktoe)

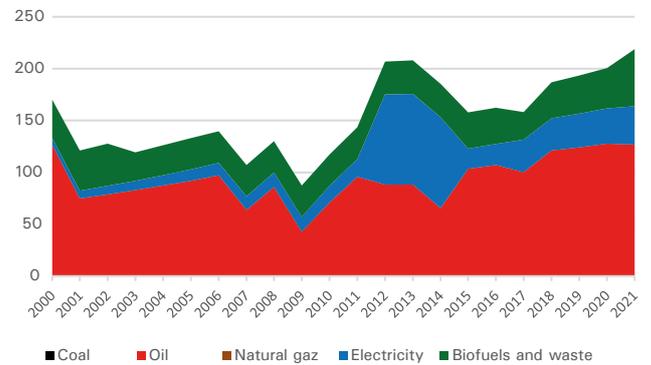


Figure 3.3. - Electricity Generation by Source (GWh)

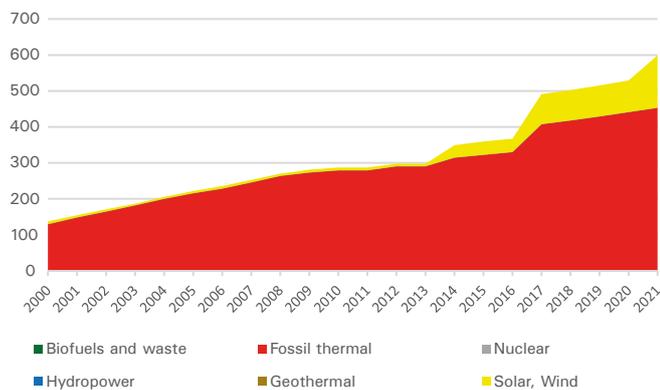


Figure 3.4. - Fuel Shares of Total Final Consumption

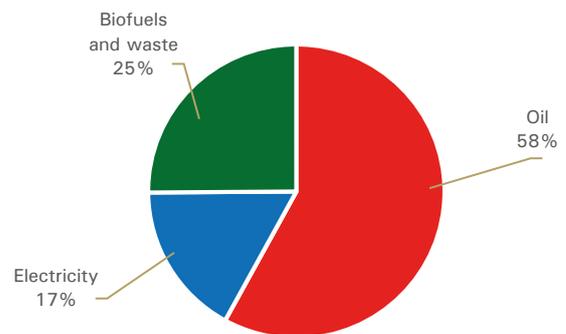


Figure 3.5. - Electricity Consumption by Sector

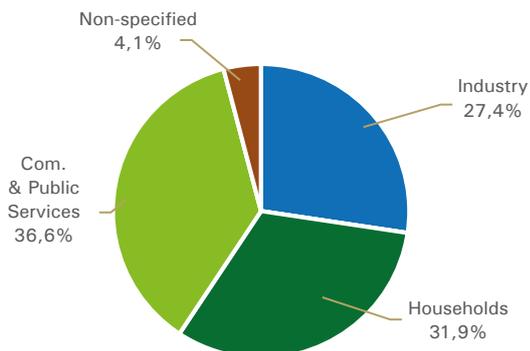
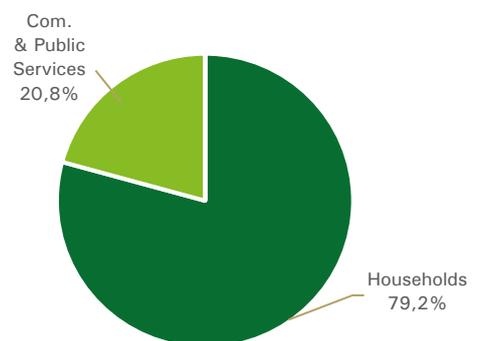


Figure 3.6. - Biofuels and Waste Consumption by Sector



Thousand Tonnes of Oil Equivalent (ktoe)	Oil products	Biofuels and waste	Solar	Wind	Electricity	Total of All energy sources
Production		63.08	0.99	11.53		75.60
Imports (+)	443.01					443.01
Exports (-)						
International Marine Bunkers (-)	-155.05					-155.05
International Aviation Bunkers (-)	-89.98					-89.98
Stock Changes (+ draw, - build)	28.11					28.11
TOTAL PRIMARY ENERGY SUPPLY	226.10	63.08	0.99	11.53		301.69
Transfers : Origin (-) and Destination (+)						
Statistical Difference	-0.75	0.25			0.11	-0.39
TRANSFORMATION Inputs (-) and Outputs (+)	-97.91	-1.68	-0.99	-11.53	51.49	-60.61
Electricity plants	-97.91		-0.99	-11.53	51.49	-58.93
CHP Plants						
Heat Plants						
Coke ovens						
Blast furnaces						
Oil Refineries						
Coal-to-liquids plants						
Gas-to-liquids plants						
Charcoal production plants		-1.68				-1.68
Transformation not elsewhere specified						
Energy Sector Own Use					1.64	1.64
Losses					12.74	12.74
FINAL CONSUMPTION	128.94	61.15			37.01	227.09
Industry	19.52				10.13	29.65
Transport	87.92					87.92
Households	8.37	48.46			11.81	68.64
Commercial and public services	9.09	12.69			13.55	35.33
Agriculture, Forestry and Fishing						
Non-specified (HH, Com. & PS., Agri.)	3.28				1.51	4.79
Non-Energy Use	0.76					0.76

Figure 3.1. - Total Primary Energy Supply (ktoe)

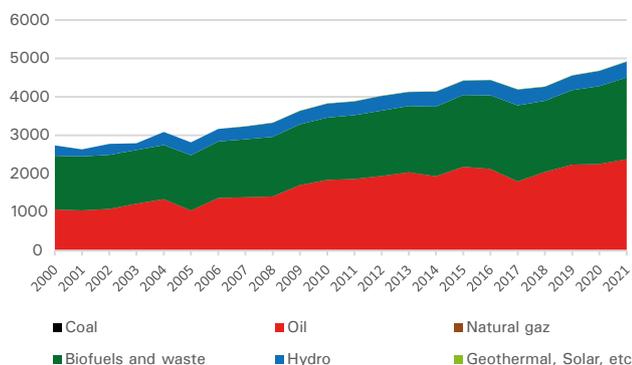


Figure 3.2. - Total Final Consumption (ktoe)

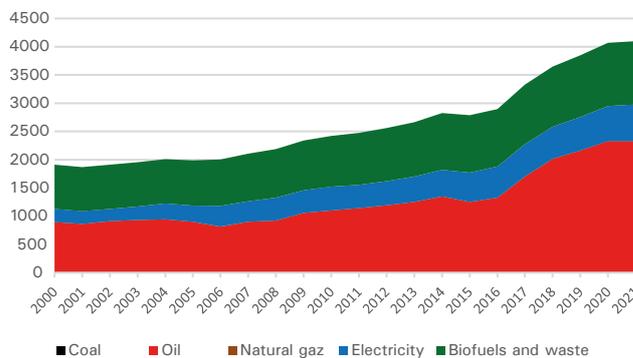


Figure 3.3. - Electricity Generation by Source (GWh)

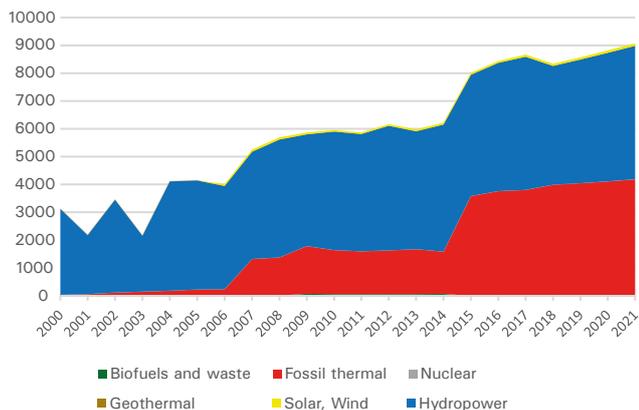


Figure 3.4. - Fuel Shares of Total Final Consumption

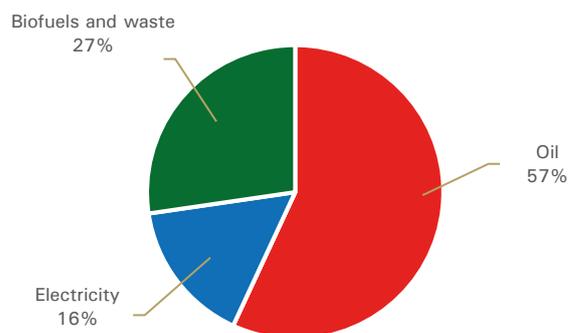


Figure 3.5. - Electricity Consumption by Sector

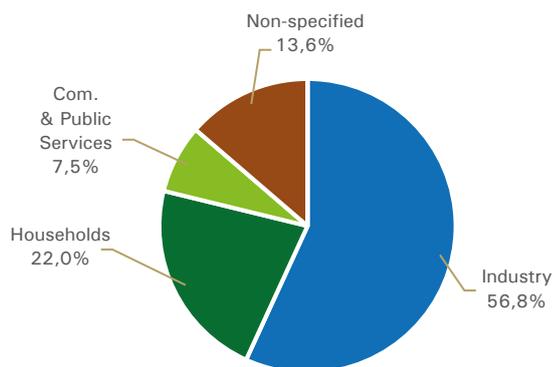
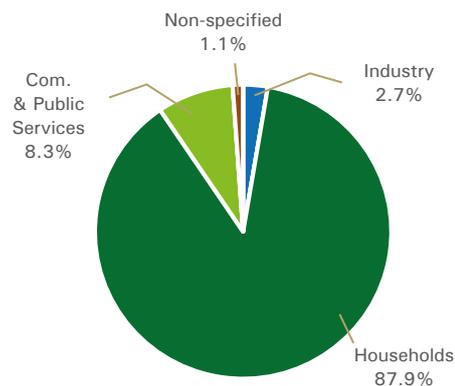


Figure 3.6. - Biofuels and Waste Consumption by Sector



Thousand Tonnes of Oil Equivalent (ktoe)	Crude oil	Oil products	Natural Gas	Biofuels and waste	Hydro	Solar	Electricity	Total of All energy sources
Production	4362.71		639.66	9122.35	489.07	9.22		14623.00
Imports (+)	338.45	1649.17					5.59	1993.22
Exports (-)	-3973.31	-228.31						-4201.62
International Marine Bunkers (-)		-47.76						-47.76
International Aviation Bunkers (-)		-19.97						-19.97
Stock Changes (+ draw, - build)	1400.30	92.52						1492.82
TOTAL PRIMARY ENERGY SUPPLY	2128.16	1445.64	639.66	9122.35	489.07	9.22	5.59	13839.67
Transfers : Origin (-) and Destination (+)								
Statistical Difference	-0.47	-2.73	7.02	0.51			0.02	4.35
TRANSFORMATION Inputs (-) and Outputs (+)	-2128.63	397.52	-632.64	-5668.69	-489.07	-9.22	954.94	-7575.77
Electricity plants		-347.47	-632.64	-4742.87	-489.07	-9.22	954.94	-5266.32
CHP Plants								
Heat Plants								
Coke ovens								
Blast furnaces								
Oil Refineries	-2128.63	744.99						-1383.63
Coal-to-liquids plants								
Gas-to-liquids plants								
Charcoal production plants				-925.82				-925.82
Transformation not elsewhere specified								
Energy Sector Own Use		77.74					28.04	105.78
Losses							196.40	196.40
FINAL CONSUMPTION		1768.15		3453.14			736.07	5957.37
Industry		98.98		92.54			418.14	609.65
Transport		1309.97						1309.97
Households		216.00		3033.62			162.16	3411.78
Commercial and public services				287.87			55.48	343.34
Agriculture, Forestry and Fishing								
Non-specified (HH, Com. & PS., Agri.)		46.15		39.12			100.30	185.57
Non-Energy Use		97.05						97.05

Figure 3.1. - Total Primary Energy Supply (ktoe)

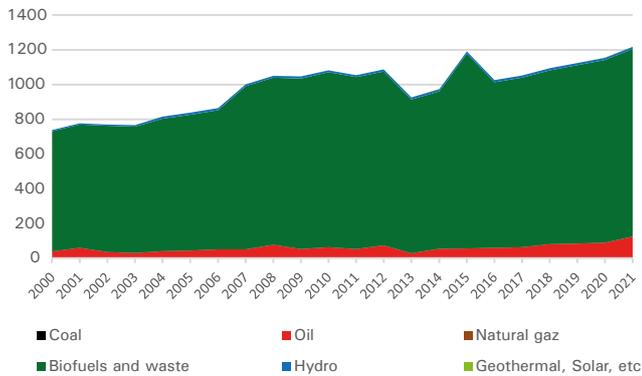


Figure 3.2. - Total Final Consumption (ktoe)

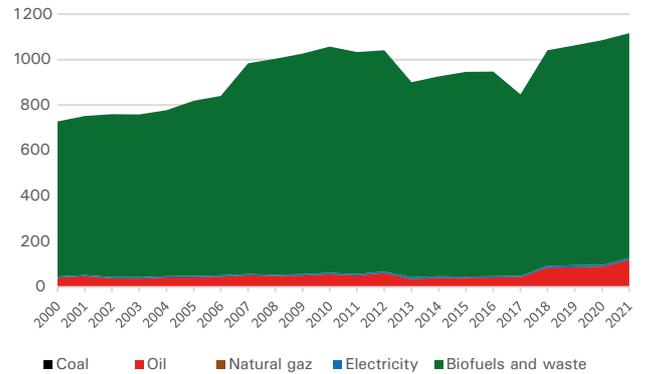


Figure 3.3. - Electricity Generation by Source (GWh)

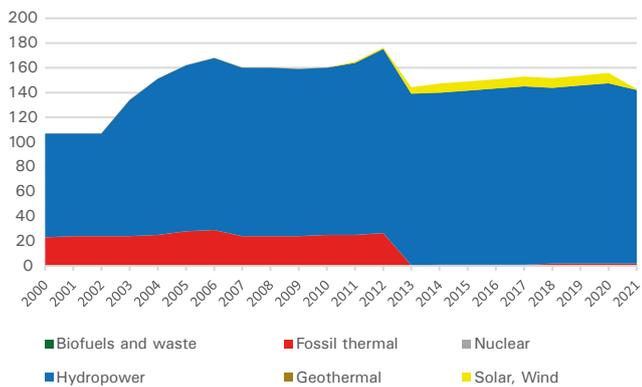


Figure 3.4. - Fuel Shares of Total Final Consumption

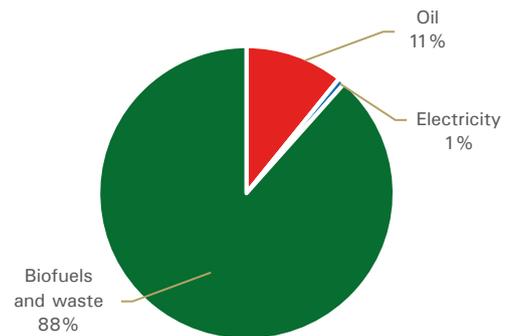


Figure 3.5. - Electricity Consumption by Sector

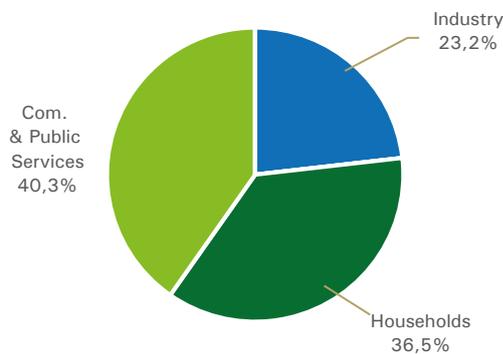
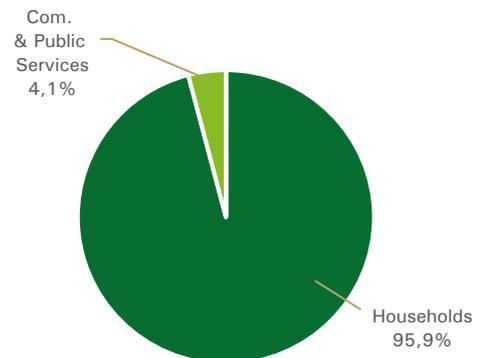


Figure 3.6. - Biofuels and Waste Consumption by Sector



Thousand Tonnes of Oil Equivalent (ktoe)	Oil products	Biofuels and waste	Hydro	Electricity	Total of All energy sources
Production		1276.45	12.04		1288.49
Imports (+)	127.31				127.31
Exports (-)					
International Marine Bunkers (-)					
International Aviation Bunkers (-)	-3.42				-3.42
Stock Changes (+ draw, - build)	-2.11				-2.11
TOTAL PRIMARY ENERGY SUPPLY	121.78	1276.45	12.04		1410.28
<hr/>					
Transfers : Origin (-) and Destination (+)					
Statistical Difference	0.72			0.24	0.96
<hr/>					
TRANSFORMATION Inputs (-) and Outputs (+)	-0.17	-29.58	-12.04	12.11	-29.69
Electricity plants	-0.17		-12.04	12.11	-0.11
CHP Plants					
Heat Plants					
Coke ovens					
Blast furnaces					
Oil Refineries					
Coal-to-liquids plants					
Gas-to-liquids plants					
Charcoal production plants		-29.58			-29.58
Transformation not elsewhere specified					
<hr/>					
Energy Sector Own Use				0.19	0.19
Losses				3.14	3.14
<hr/>					
FINAL CONSUMPTION	120.89	1246.87		8.55	1376.30
Industry	14.14			1.98	16.12
Transport	105.01				105.01
Households	1.69	1195.82		3.12	1200.64
Commercial and public services	0.05	51.05		3.44	54.54
Agriculture, Forestry and Fishing					
Non-specified (HH, Com. & PS., Agri.)					
Non-Energy Use					

Figure 3.1. - Total Primary Energy Supply (ktoe)

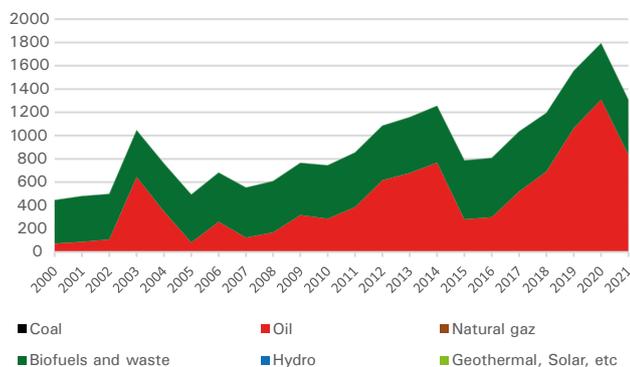


Figure 3.2. - Total Final Consumption (ktoe)

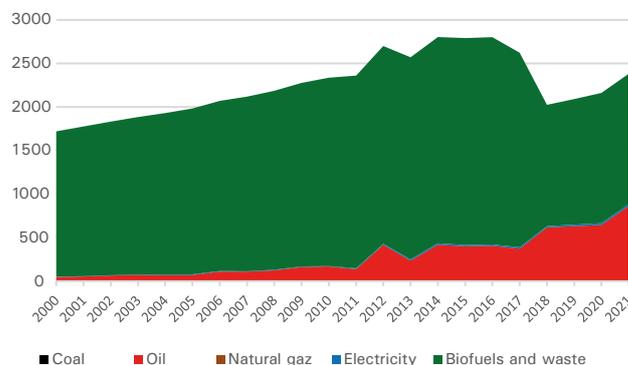


Figure 3.3. - Electricity Generation by Source (GWh)

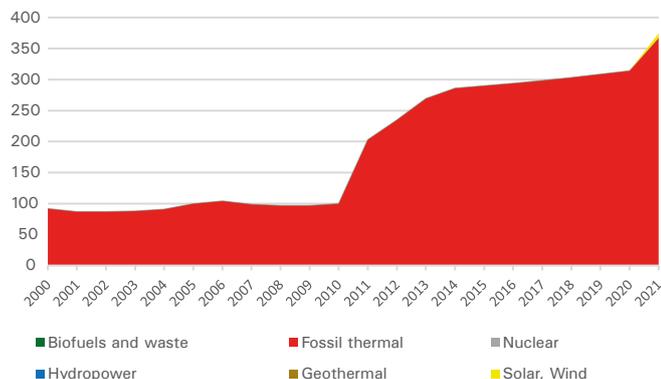


Figure 3.4. - Fuel Shares of Total Final Consumption

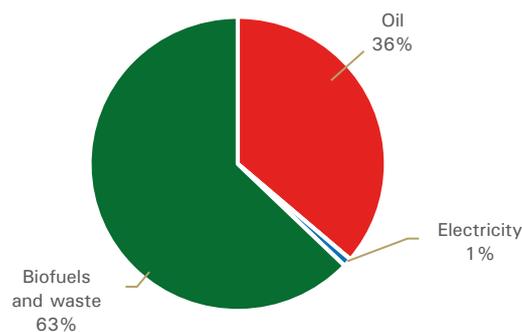


Figure 3.5. - Electricity Consumption by Sector

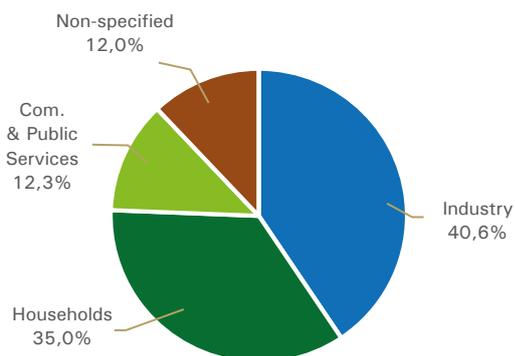
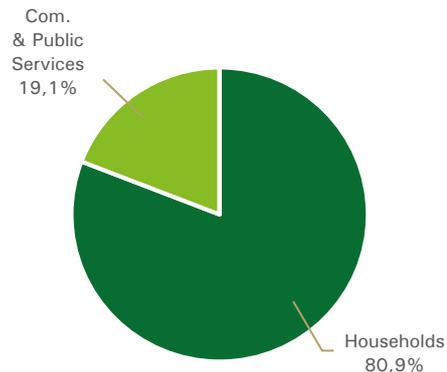


Figure 3.6. - Biofuels and Waste Consumption by Sector



Thousand Tonnes of Oil Equivalent (ktoe)	Crude oil	Oil products	Biofuels and waste	Wind	Electricity	Total of All energy sources
Production	8229.07		2524.03	0.65		10753.76
Imports (+)						
Exports (-)	-7373.33	-19.32				-7392.65
International Marine Bunkers (-)						
International Aviation Bunkers (-)		-57.35				-57.35
Stock Changes (+ draw, - build)	97.80	276.72				374.52
TOTAL PRIMARY ENERGY SUPPLY	953.54	200.04	2524.03	0.65		3678.26
<hr/>						
Transfers : Origin (-) and Destination (+)						
Statistical Difference		-1.03	26.64		0.17	25.77
<hr/>						
TRANSFORMATION Inputs (-) and Outputs (+)	-953.54	675.19	-837.69	-0.65	32.22	-1084.46
<hr/>						
Electricity plants		-251.61		-0.65	32.22	-220.04
CHP Plants						
Heat Plants						
Coke ovens						
Blast furnaces						
Oil Refineries	-953.54	926.81				-26.73
Coal-to-liquids plants						
Gas-to-liquids plants						
Charcoal production plants			-837.69			-837.69
Transformation not elsewhere specified						
<hr/>						
Energy Sector Own Use					1.66	1.66
Losses					8.20	8.20
<hr/>						
FINAL CONSUMPTION		876.27	1659.71		22.20	2558.17
<hr/>						
Industry		215.30			9.01	224.31
Transport		542.30				542.30
Households		11.32	1342.16		7.77	1361.25
Commercial and public services		61.19	317.55		2.74	381.49
Agriculture, Forestry and Fishing						
Non-specified (HH, Com. & PS., Agri.)		46.15			2.67	48.82
Non-Energy Use						
<hr/>						

Figure 3.1. - Total Primary Energy Supply (ktoe)

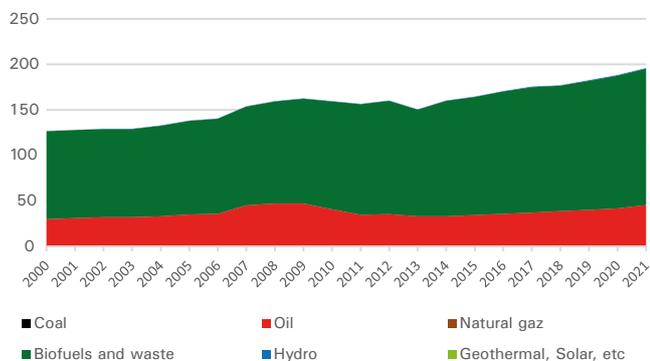


Figure 3.2. - Total Final Consumption (ktoe)

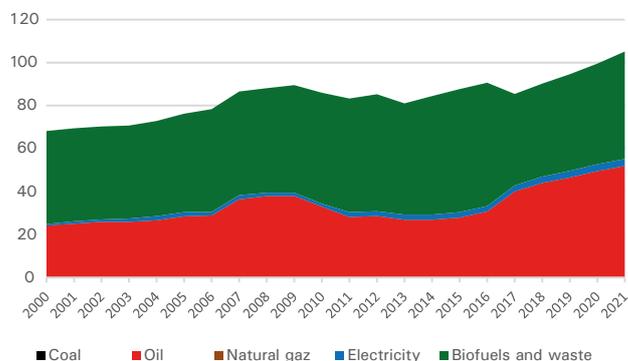


Figure 3.3. - Electricity Generation by Source (GWh)

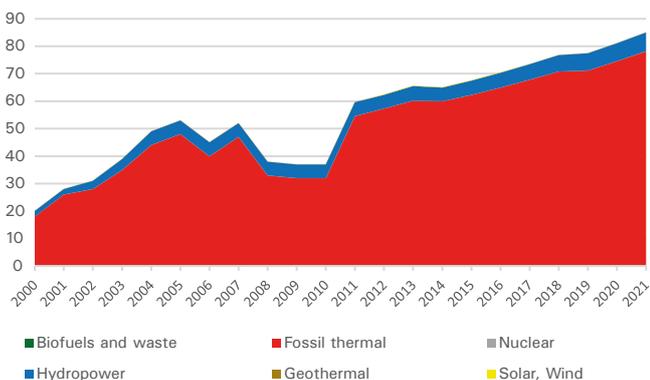


Figure 3.4. - Fuel Shares of Total Final Consumption

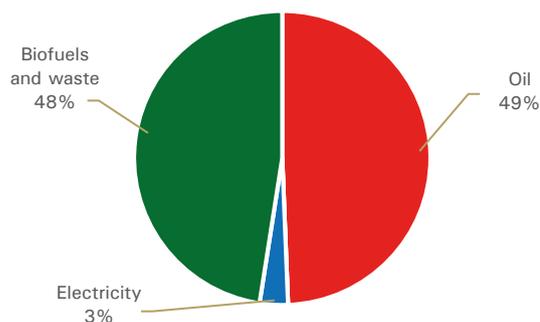


Figure 3.5. - Electricity Consumption by Sector

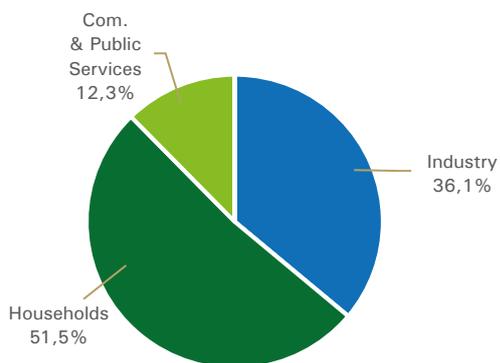
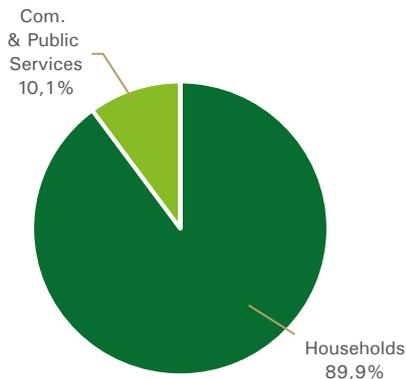


Figure 3.6. - Biofuels and Waste Consumption by Sector



Thousand Tonnes of Oil Equivalent (ktoe)	Oil products	Biofuels and waste	Hydro	Solar	Electricity	Total of All energy sources
Production		461.25	0.59			461.84
Imports (+)	50.92					50.92
Exports (-)						
International Marine Bunkers (-)						
International Aviation Bunkers (-)	-1.91					-1.91
Stock Changes (+ draw, - build)	11.28					11.28
TOTAL PRIMARY ENERGY SUPPLY	60.29	461.25	0.59		-98.94	522.13
Transfers : Origin (-) and Destination (+)						
Statistical Difference	-1.12	16.00			0.03	14.91
TRANSFORMATION Inputs (-) and Outputs (+)	-8.43	-82.99	-0.59		7.32	-84.70
Electricity plants	-8.43		-0.59		7.32	-1.71
CHP Plants						
Heat Plants						
Coke ovens						
Blast furnaces						
Oil Refineries						
Coal-to-liquids plants						
Gas-to-liquids plants						
Charcoal production plants		-82.99				-82.99
Transformation not elsewhere specified						
Energy Sector Own Use					1.29	1.29
Losses					2.75	2.75
FINAL CONSUMPTION	52.98	362.26			3.24	418.48
Industry	8.71				1.17	9.87
Transport	29.65					29.65
Households	11.81	325.57			1.67	339.05
Commercial and public services	2.81	36.69			0.40	39.90
Agriculture, Forestry and Fishing						
Non-specified (HH, Com. & PS., Agri.)						
Non-Energy Use						

Figure 3.1. - Total Primary Energy Supply (ktoe)

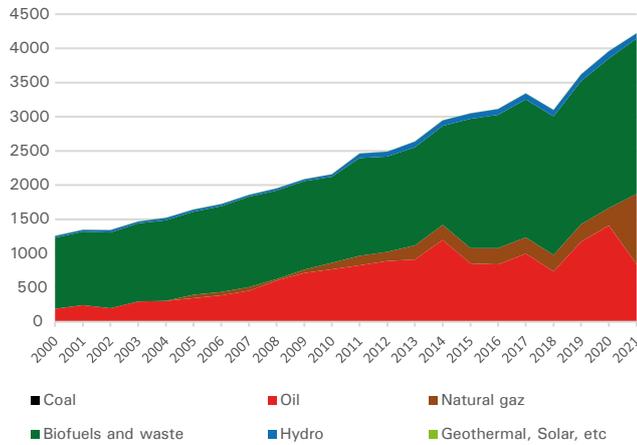


Figure 3.2. - Total Final Consumption (ktoe)

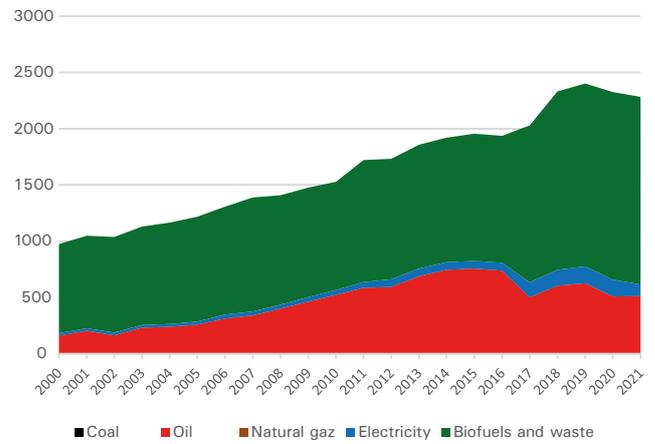


Figure 3.3. - Electricity Generation by Source (GWh)

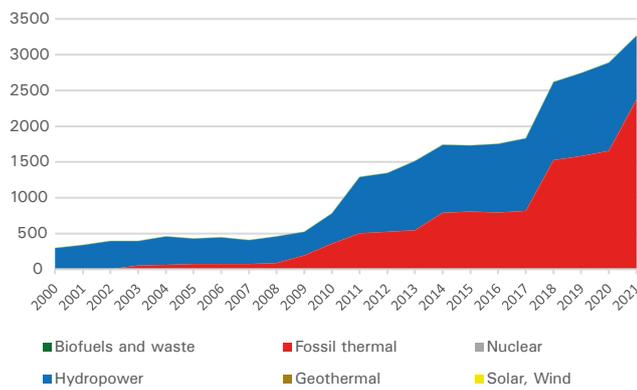


Figure 3.4. - Fuel Shares of Total Final Consumption

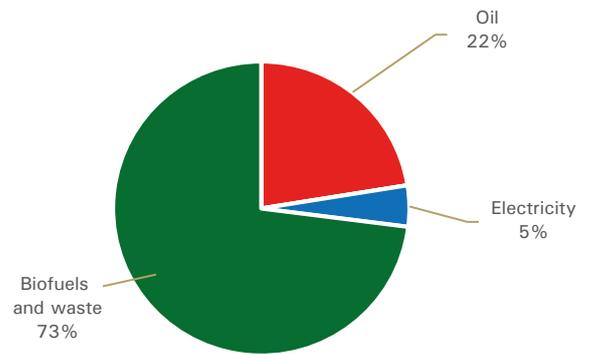


Figure 3.5. - Electricity Consumption by Sector

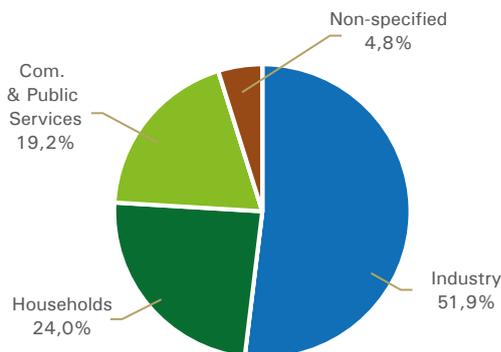
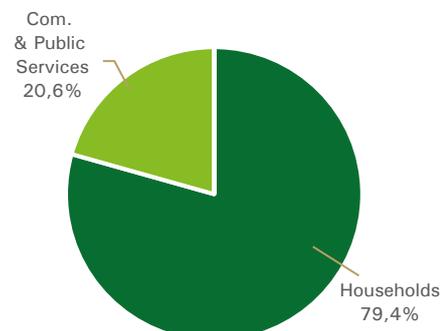


Figure 3.6. - Biofuels and Waste Consumption by Sector



Thousand Tonnes of Oil Equivalent (ktoe)	Crude oil	Oil products	Natural Gas	Biofuels and waste	Hydro	Electricity	Heat	Total of All energy sources
Production	21560.19		924.42	2814.05	76.73			25375.40
Imports (+)		143.75				2.25		146.00
Exports (-)	-20337.70	-491.16				-4.25		-20833.12
International Marine Bunkers (-)		-49.63						-49.63
International Aviation Bunkers (-)		-20.09						-20.09
Stock Changes (+ draw, - build)	-166.70	47.46						-119.24
TOTAL PRIMARY ENERGY SUPPLY	1055.78	-369.67	924.42	2814.05	76.73	-2.00		4499.32
Transfers : Origin (-) and Destination (+)								
Statistical Difference		0.32		-21.65		-15.54		-36.87
TRANSFORMATION Inputs (-) and Outputs (+)	-1055.78	923.25	-924.42	-436.61	-76.73	280.84		-1289.45
Electricity plants		-10.68	-924.42		-76.73	280.84		-730.99
CHP Plants								
Heat Plants								
Coke ovens								
Blast furnaces								
Oil Refineries	-1055.78	933.93						-121.85
Coal-to-liquids plants								
Gas-to-liquids plants								
Charcoal production plants				-436.61				-436.61
Transformation not elsewhere specified								
Energy Sector Own Use		32.12				23.92		56.04
Losses						127.46		127.46
FINAL CONSUMPTION		521.14		2399.10		143.00		3063.24
Industry		19.31				74.23		93.53
Transport		444.40						444.40
Households		34.45		1904.64		34.39		1973.49
Commercial and public services		11.06		494.45		27.51		533.02
Agriculture, Forestry and Fishing								
Non-specified (HH, Com. & PS., Agri.)						6.88		6.88
Non-Energy Use		11.93						11.93

Figure 3.1. - Total Primary Energy Supply (ktoe)

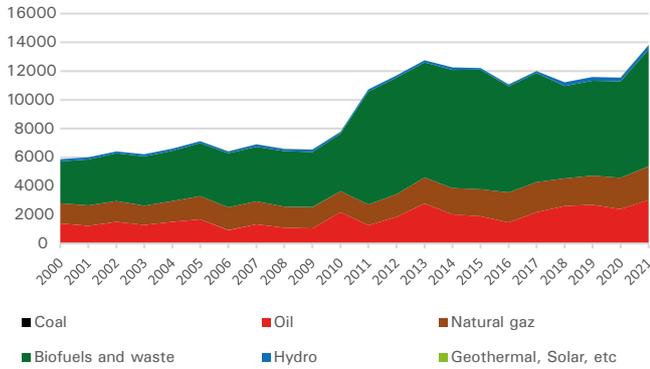


Figure 3.2. - Total Final Consumption (ktoe)

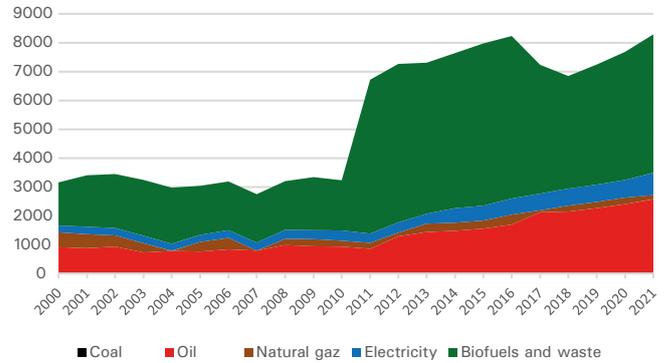


Figure 3.3. - Electricity Generation by Source (GWh)

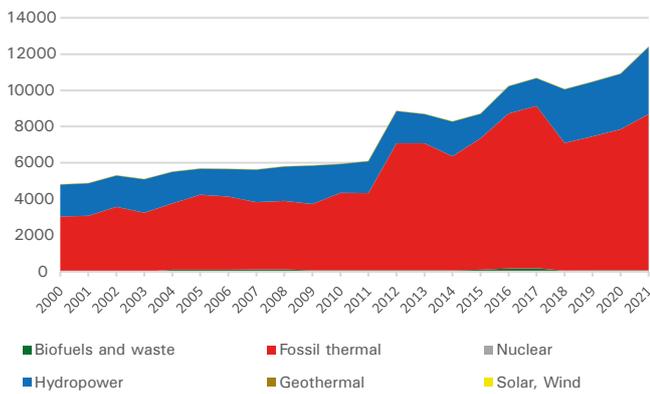


Figure 3.4. - Fuel Shares of Total Final Consumption

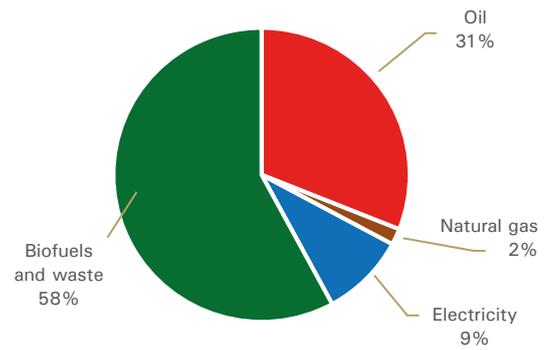


Figure 3.5. - Electricity Consumption by Sector

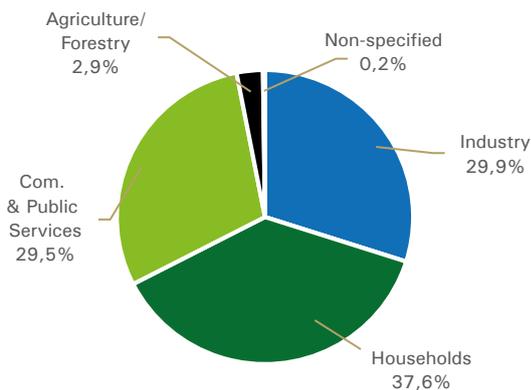
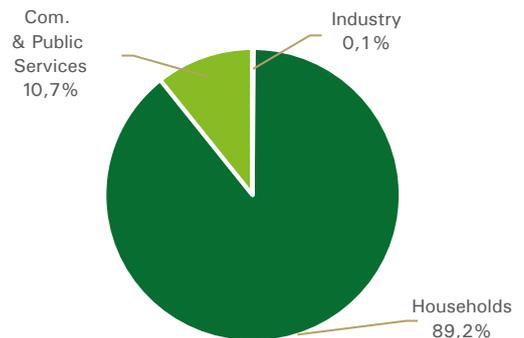


Figure 3.6. - Biofuels and Waste Consumption by Sector



Thousand Tonnes of Oil Equivalent (ktoe)	Crude oil	Oil products	Natural Gas	Biofuels and waste	Hydro	Electricity	Total of All energy sources
Production	1701.09		2105.98	7805.39	319.32		11931.78
Imports (+)	4096.53	520.67				14.38	4631.59
Exports (-)	-1576.08	-1658.84				-125.78	-3360.70
International Marine Bunkers (-)							
International Aviation Bunkers (-)		-112.04					-112.04
Stock Changes (+ draw, - build)	35.34	-106.88					-71.53
TOTAL PRIMARY ENERGY SUPPLY	4256.89	-1357.08	2105.98	7805.39	319.32	-111.40	13019.09
Transfers : Origin (-) and Destination (+)							
Statistical Difference	20.34	9.39	20.03	225.62		17.27	292.65
TRANSFORMATION Inputs (-) and Outputs (+)	-4236.54	4110.47	-1772.88	-2407.08	-319.32	1067.14	-3558.22
Electricity plants			-1772.88		-319.32	1060.33	-1031.87
CHP Plants				-52.68		6.81	-45.87
Heat Plants							
Coke ovens							
Blast furnaces							
Oil Refineries	-4236.54	4110.47					-126.07
Coal-to-liquids plants							
Gas-to-liquids plants							
Charcoal production plants				-2354.40			-2354.40
Transformation not elsewhere specified							
Energy Sector Own Use		0.30	180.27			5.78	186.35
Losses						164.25	164.25
FINAL CONSUMPTION		2743.70	132.80	5172.69		768.43	8817.63
Industry		71.01	132.80	6.51		229.78	440.10
Transport		2009.56					2009.56
Households		501.71		4612.55		288.64	5402.90
Commercial and public services		4.26		553.63		226.36	784.25
Agriculture, Forestry and Fishing		41.52				21.95	63.47
Non-specified (HH, Com. & PS., Agri.)						1.69	1.69
Non-Energy Use		115.65					115.65

Figure 3.1. - Total Primary Energy Supply (ktoe)

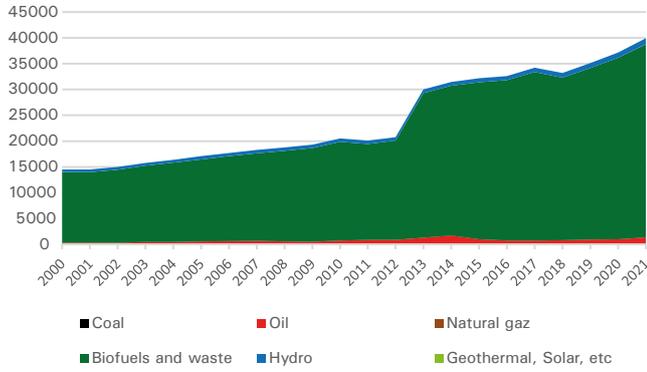


Figure 3.2. - Total Final Consumption (ktoe)

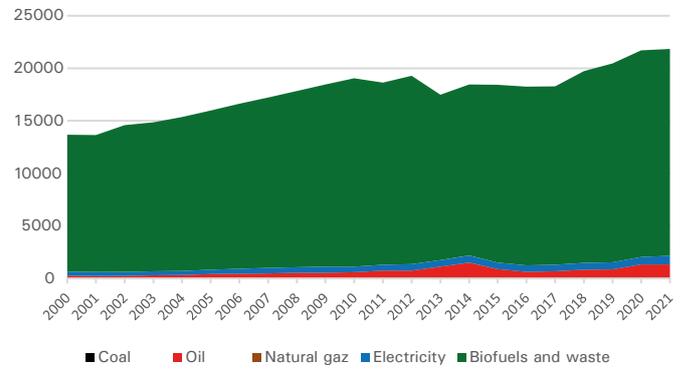


Figure 3.3. - Electricity Generation by Source (GWh)

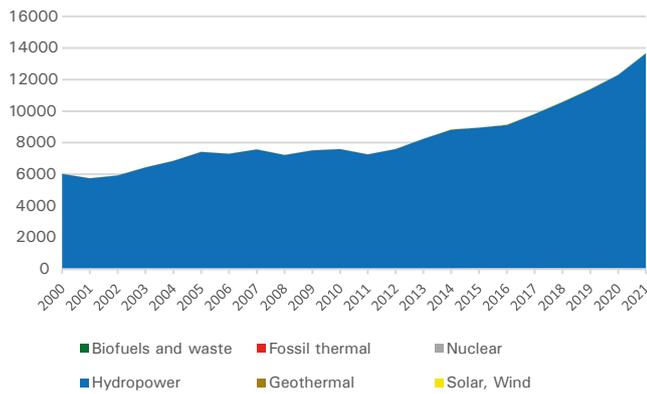


Figure 3.4. - Fuel Shares of Total Final Consumption

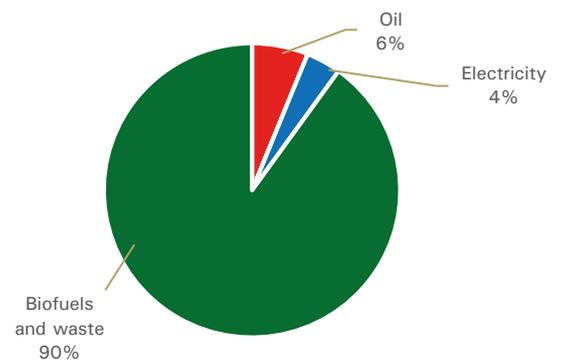


Figure 3.5. - Electricity Consumption by Sector

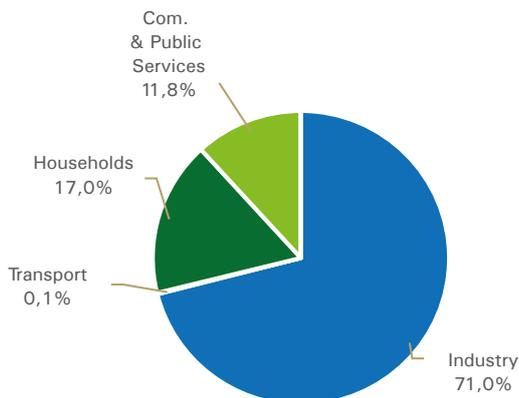
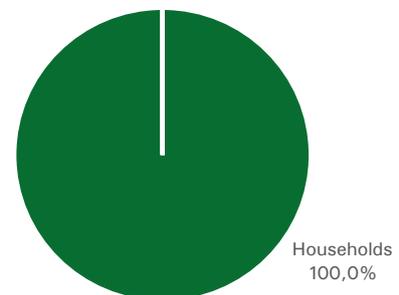


Figure 3.6. - Biofuels and Waste Consumption by Sector



Democratic Republic of the Congo

Energy Balance 2021

Thousand Tonnes of Oil Equivalent (ktoe)	Crude oil	Oil products	Biofuels and waste	Hydro	Solar	Electricity	Total of All energy sources
Production	1330.05		36613.27	1171.87	0.71		39115.90
Imports (+)		1358.45				112.49	1470.94
Exports (-)	-1330.05					-4.74	-1334.79
International Marine Bunkers (-)							
International Aviation Bunkers (-)							
Stock Changes (+ draw, - build)							
TOTAL PRIMARY ENERGY SUPPLY		1358.45	36613.27	1171.87	0.71	107.75	39252.05
Transfers : Origin (-) and Destination (+)							
Statistical Difference						27.24	27.24
TRANSFORMATION Inputs (-) and Outputs (+)			-14413.62	-1171.87	-0.71	1173.24	-14412.96
Electricity plants				-1171.87	-0.71	1173.24	0.66
CHP Plants							
Heat Plants							
Coke ovens							
Blast furnaces							
Oil Refineries							
Coal-to-liquids plants							
Gas-to-liquids plants							
Charcoal production plants			-14413.62				-14413.62
Transformation not elsewhere specified							
Energy Sector Own Use						109.03	109.03
Losses						314.76	314.76
FINAL CONSUMPTION		1358.45	22199.65			829.96	24388.06
Industry		1.27				589.58	590.84
Transport		1341.79				1.15	1342.94
Households		15.40	22199.65			141.35	22356.39
Commercial and public services						97.89	97.89
Agriculture, Forestry and Fishing							
Non-specified (HH, Com. & PS., Agri.)							
Non-Energy Use							

Figure 3.1. - Total Primary Energy Supply (ktoe)

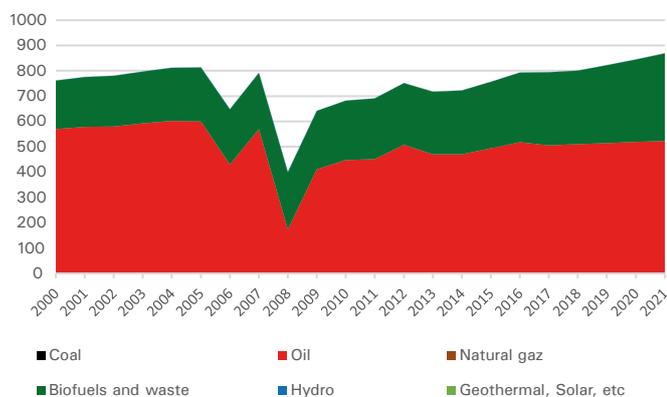


Figure 3.2. - Total Final Consumption (ktoe)

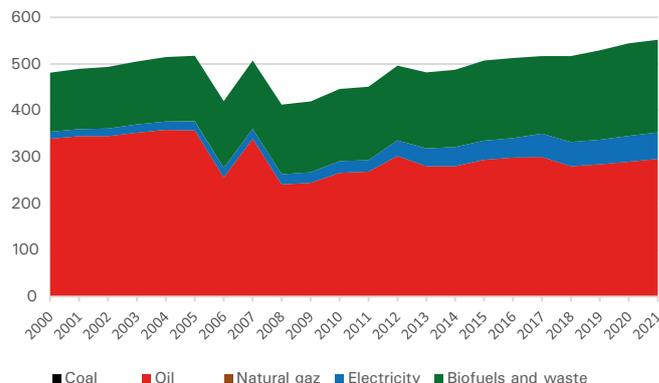


Figure 3.3. - Electricity Generation by Source (GWh)

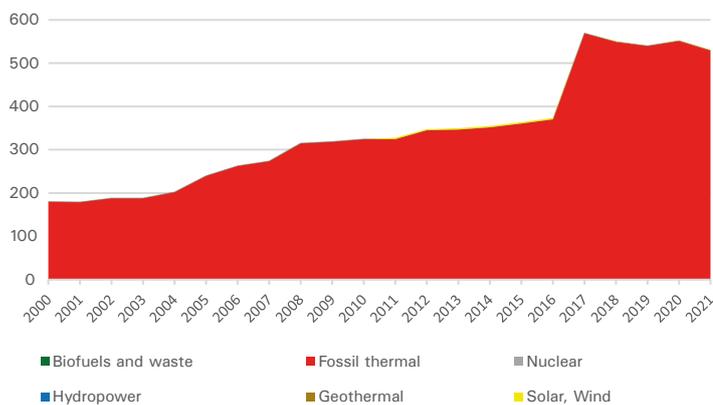


Figure 3.4. - Fuel Shares of Total Final Consumption

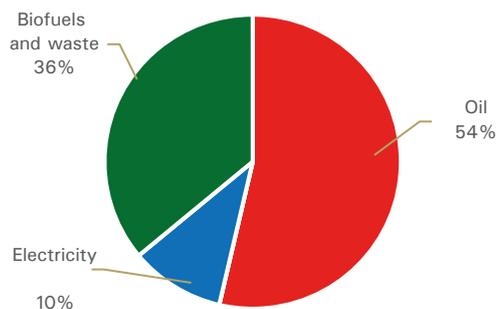


Figure 3.5. - Electricity Consumption by Sector

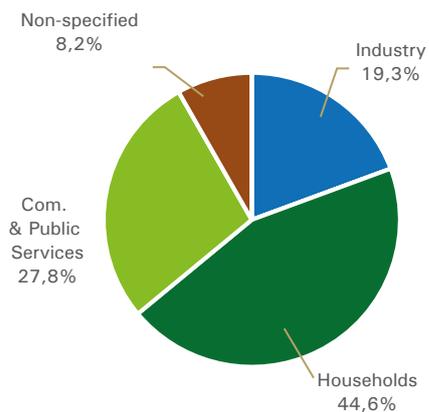
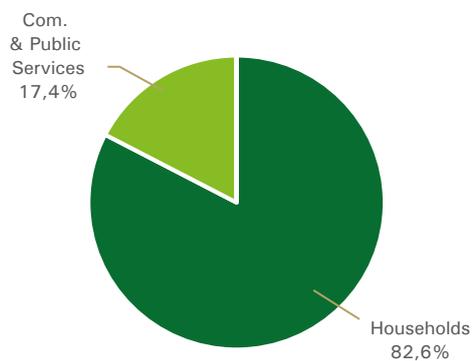


Figure 3.6. - Biofuels and Waste Consumption by Sector



Thousand Tonnes of Oil Equivalent (ktoe)	Oil products	Biofuels and waste	Solar	Electricity	Total of All energy sources
Production		332.61	0.02		332.63
Imports (+)	185.55			54.03	239.58
Exports (-)					
International Marine Bunkers (-)					
International Aviation Bunkers (-)	-47.21				-47.21
Stock Changes (+ draw, - build)	10.82				10.82
TOTAL PRIMARY ENERGY SUPPLY	149.17	332.61	0.02	54.03	535.82
<hr/>					
Transfers : Origin (-) and Destination (+)					
Statistical Difference	13.15	2.30		-2.35	13.10
<hr/>					
TRANSFORMATION Inputs (-) and Outputs (+)	-6.00	-96.76	-0.02	2.79	-99.99
Electricity plants	-6.00		-0.02	2.79	-3.23
CHP Plants					
Heat Plants					
Coke ovens					
Blast furnaces					
Oil Refineries					
Coal-to-liquids plants					
Gas-to-liquids plants					
Charcoal production plants		-96.76			-96.76
Transformation not elsewhere specified					
<hr/>					
Energy Sector Own Use				1.29	1.29
Losses				2.15	2.15
<hr/>					
FINAL CONSUMPTION	130.02	233.55		55.73	419.30
Industry	8.58			10.78	19.36
Transport	95.36				95.36
Households	16.61	193.00		24.87	234.48
Commercial and public services	4.81	40.55		15.50	60.85
Agriculture, Forestry and Fishing					
Non-specified (HH, Com. & PS., Agri.)				4.58	4.58
Non-Energy Use	4.67				4.67
<hr/>					

Figure 3.1. - Total Primary Energy Supply (ktoe)

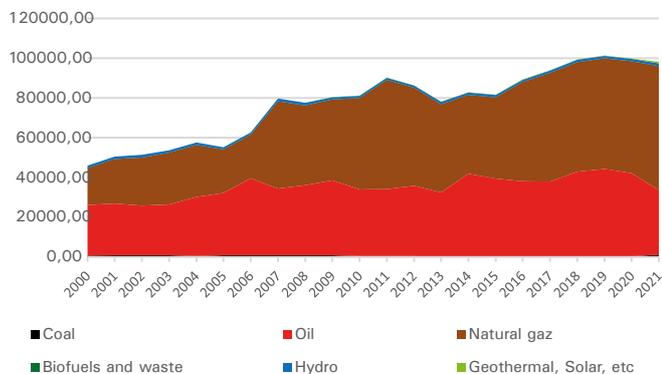


Figure 3.2. - Total Final Consumption (ktoe)

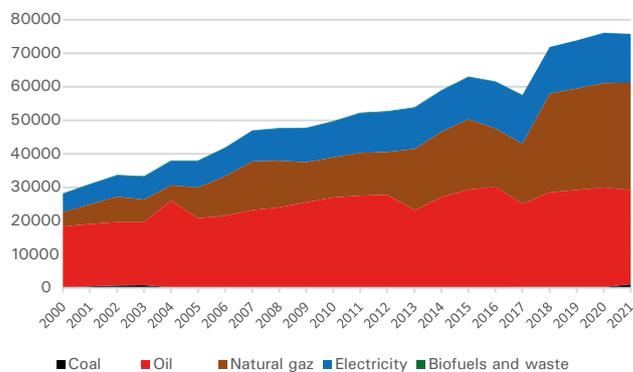


Figure 3.3. - Electricity Generation by Source (GWh)

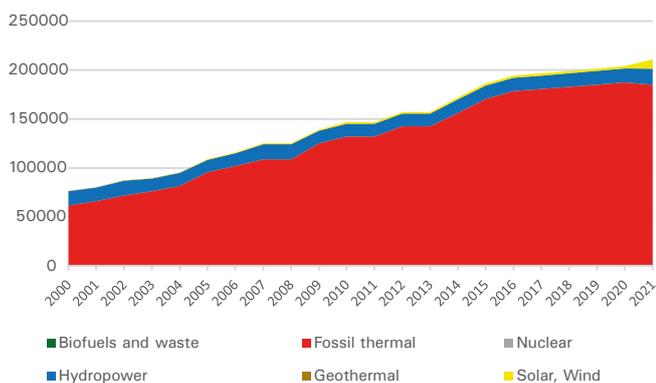


Figure 3.4. - Fuel Shares of Total Final Consumption

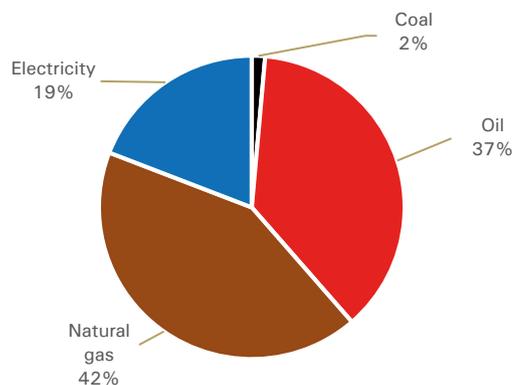


Figure 3.5. - Electricity Consumption by Sector

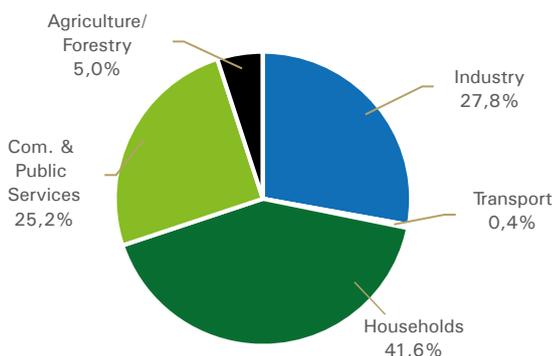
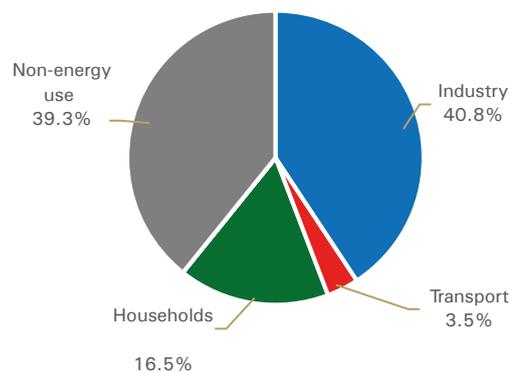


Figure 3.6. - Natural Gas Consumption by Sector



Thousand Tonnes of Oil Equivalent (ktoe)	Coal and Coal Products	Crude oil	Oil products	Natural Gas	Hydro	Solar	Wind	Electricity	Total of All energy sources
Production		32647.78		56052.94	1396.90	426.19	400.37		90924.19
Imports (+)	1203.07	13970.46	6442.62	1931.86				9.27	23557.28
Exports (-)		-11029.11	-9121.40	-1923.79				-96.19	-22170.49
International Marine Bunkers (-)			-349.75						-349.75
International Aviation Bunkers (-)			-1120.44						-1120.44
Stock Changes (+ draw, - build)		311.18	1997.99						2309.17
TOTAL PRIMARY ENERGY SUPPLY	1203.07	35900.31	-2150.97	56061.01	1396.90	426.19	400.37	-86.92	93149.95
Transfers : Origin (-) and Destination (+)		-1315.72	1276.61						-39.11
Statistical Difference		-8.24	2984.04	3806.16				-219.81	6562.15
TRANSFORMATION Inputs (-) and Outputs (+)	-46.93	-34592.83	32485.94	-31567.14	-1396.90	-426.19	-400.37	18128.34	-17816.07
Electricity plants				-31567.14	-1396.90	-426.19	-400.37	18128.34	-15662.25
CHP Plants									
Heat Plants									
Coke ovens									
Blast furnaces									
Oil Refineries		-34592.83	32485.94						-2106.89
Coal-to-liquids plants									
Gas-to-liquids plants									
Charcoal production plants									
Transformation not elsewhere specified	-46.93								-46.93
Energy Sector Own Use				5799.71				559.84	6359.55
Losses								3226.89	3226.89
FINAL CONSUMPTION	1156.14		28627.54	14888.00				14474.51	59146.18
Industry	1155.83		3796.32	6067.40				4030.75	15050.31
Transport			16783.30	517.35				51.93	17352.57
Households	0.31		3944.37	2459.65				6028.62	12432.96
Commercial and public services			826.43					3640.97	4467.40
Agriculture, Forestry and Fishing			890.26					722.24	1612.50
Non-specified (HH, Com. & PS., Agri.)			41.56						41.56
Non-Energy Use			2345.29	5843.60					8188.89

Figure 3.1. - Total Primary Energy Supply (ktoe)

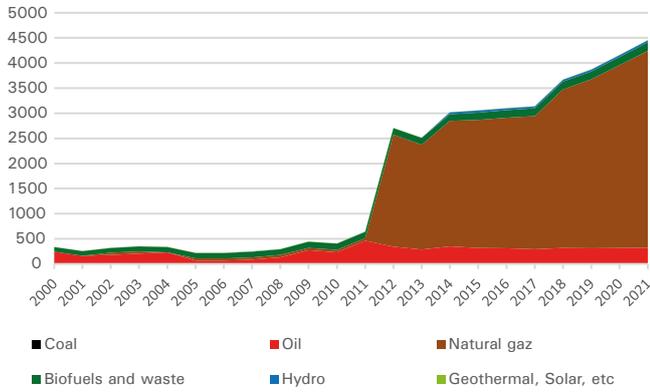


Figure 3.2. - Total Final Consumption (ktoe)

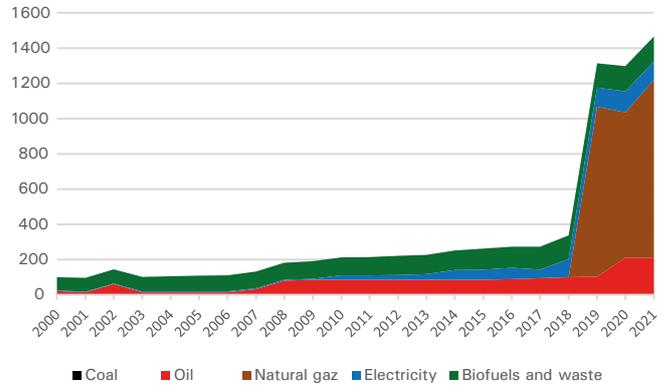


Figure 3.3. - Electricity Generation by Source (GWh)

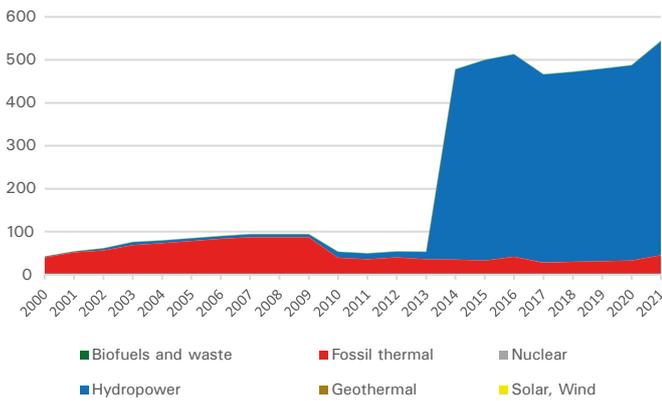


Figure 3.4. - Fuel Shares of Total Final Consumption

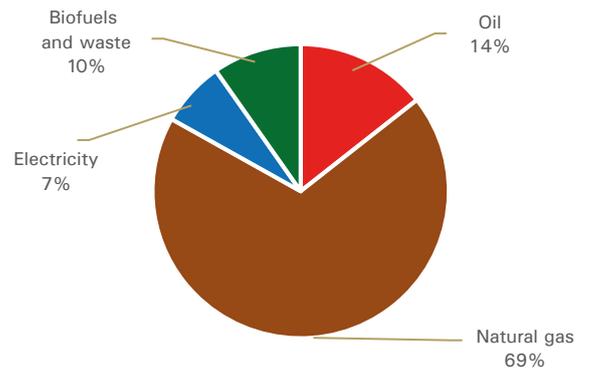


Figure 3.5. - Electricity Consumption by Sector

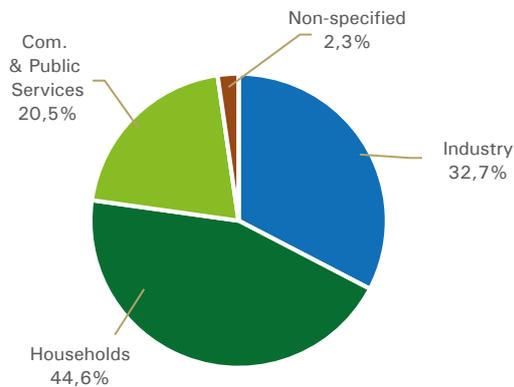
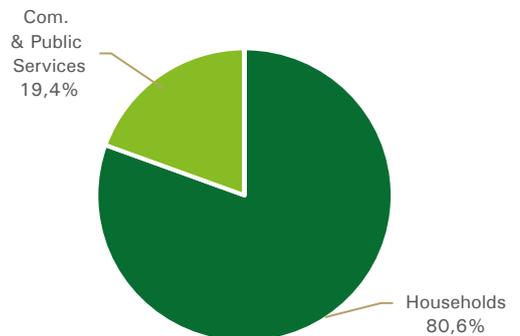


Figure 3.6. - Biofuels and Waste Consumption by Sector



Thousand Tonnes of Oil Equivalent (ktoe)	Crude oil	Oil products	Natural Gas	Biofuels and waste	Hydro	Electricity	Heat	Total of All energy sources
Production	7322.13		5412.35	180.70	42.89			12958.06
Imports (+)		205.07						205.07
Exports (-)	-6824.25	-482.18	-3617.44					-10923.88
International Marine Bunkers (-)								
International Aviation Bunkers (-)		-25.78						-25.78
Stock Changes (+ draw, - build)	-7.39	29.07	-300.95					-279.26
TOTAL PRIMARY ENERGY SUPPLY	490.49	-273.81	1493.96	180.70	42.89			1934.22
Transfers : Origin (-) and Destination (+)	-490.50	490.50						
Statistical Difference	-0.01	0.07	12.36	0.91		3.38		16.72
TRANSFORMATION Inputs (-) and Outputs (+)		-2.07	-258.28	-22.69	-42.89	123.49		-202.44
Electricity plants		-2.07	-258.28		-42.89	123.49		-179.75
CHP Plants								
Heat Plants								
Coke ovens								
Blast furnaces								
Oil Refineries								
Coal-to-liquids plants								
Gas-to-liquids plants								
Charcoal production plants				-22.69				-22.69
Transformation not elsewhere specified								
Energy Sector Own Use			315.58			3.07		318.65
Losses						12.37		12.37
FINAL CONSUMPTION		214.55	907.74	157.10		104.67		1384.05
Industry		34.17	907.74			34.20		976.11
Transport		141.09						141.09
Households		18.33		126.56		46.63		191.52
Commercial and public services		14.69		30.54		21.46		66.69
Agriculture, Forestry and Fishing								
Non-specified (HH, Com. & PS., Agri.)						2.37		2.37
Non-Energy Use		6.27						6.27

Figure 3.1. - Total Primary Energy Supply (ktoe)

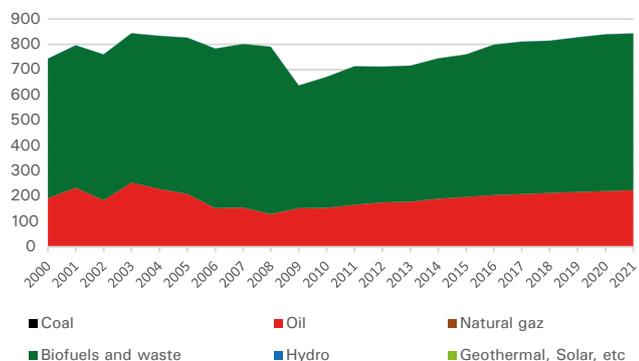


Figure 3.2. - Total Final Consumption (ktoe)

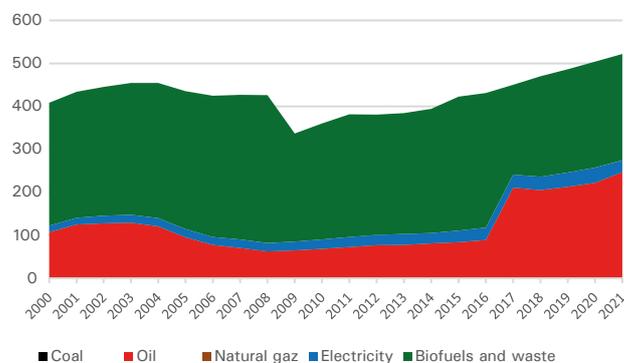


Figure 3.3. - Electricity Generation by Source (GWh)

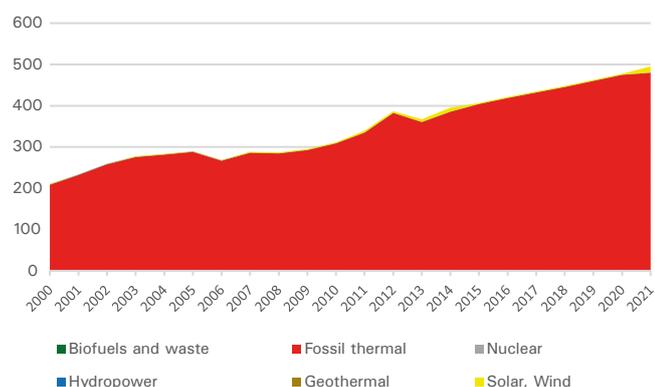


Figure 3.4. - Fuel Shares of Total Final Consumption

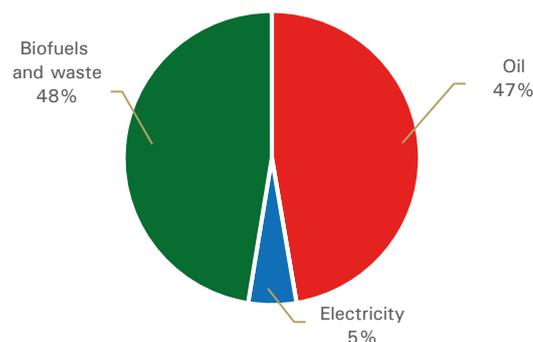


Figure 3.5. - Electricity Consumption by Sector

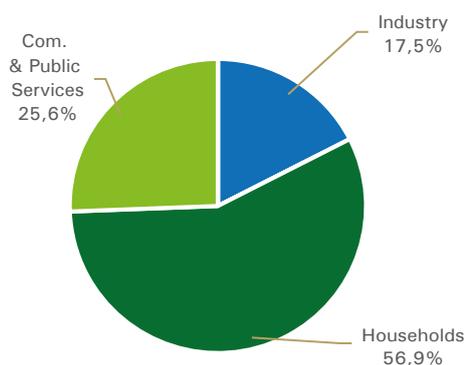
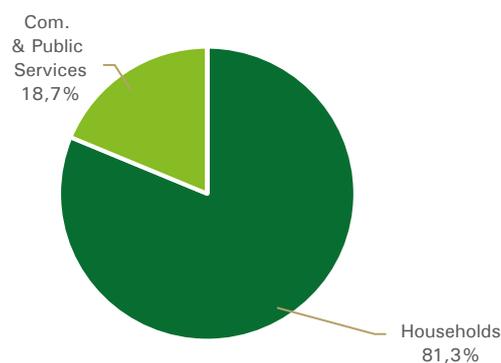


Figure 3.6. - Biofuels and Waste Consumption by Sector



Thousand Tonnes of Oil Equivalent (ktoe)	Oil products	Biofuels and waste	Solar	Wind	Electricity	Total of All energy sources
Production		533.13	1.15	0.18		534.46
Imports (+)	222.20					222.20
Exports (-)						
International Marine Bunkers (-)	-1.87					-1.87
International Aviation Bunkers (-)						
Stock Changes (+ draw, - build)	-66.95					-66.95
TOTAL PRIMARY ENERGY SUPPLY	153.38	533.13	1.15	0.18		687.84
Transfers : Origin (-) and Destination (+)						
Statistical Difference	0.73	-12.91			0.07	-12.11
TRANSFORMATION Inputs (-) and Outputs (+)	-101.09	-292.10	-1.15	-0.18	33.30	-361.21
Electricity plants	-101.09		-1.15	-0.18	33.30	-69.11
CHP Plants						
Heat Plants						
Coke ovens						
Blast furnaces						
Oil Refineries						
Coal-to-liquids plants						
Gas-to-liquids plants						
Charcoal production plants		-292.10				-292.10
Transformation not elsewhere specified						
Energy Sector Own Use					1.59	1.59
Losses					4.30	4.30
FINAL CONSUMPTION	51.56	253.94			27.34	332.85
Industry	7.18				4.78	11.97
Transport	20.59					20.59
Households	11.76	206.41			15.56	233.73
Commercial and public services	3.79	47.53			7.00	58.31
Agriculture, Forestry and Fishing	0.91					0.91
Non-specified (HH, Com. & PS., Agri.)						
Non-Energy Use	7.33					7.33

Figure 3.1. - Total Primary Energy Supply (ktoe)

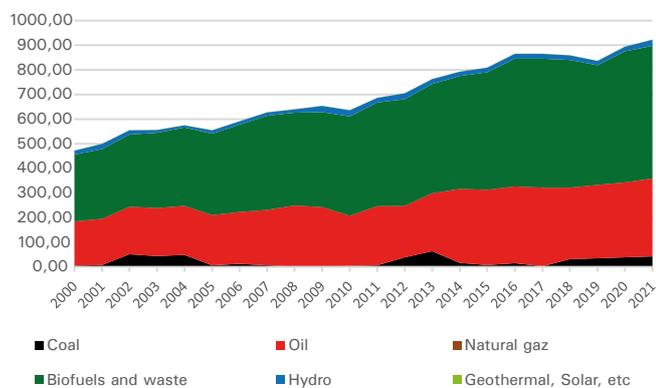


Figure 3.2. - Total Final Consumption (ktoe)

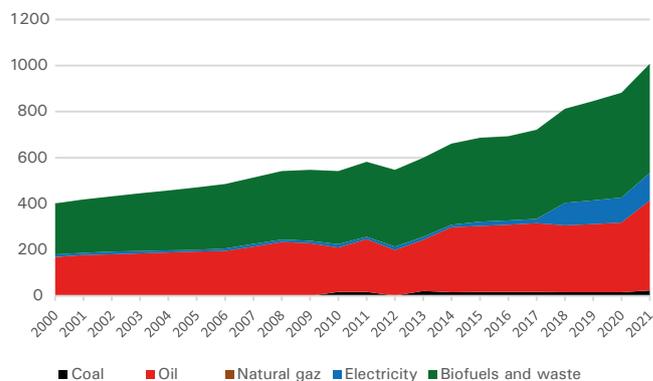


Figure 3.3. - Electricity Generation by Source (GWh)

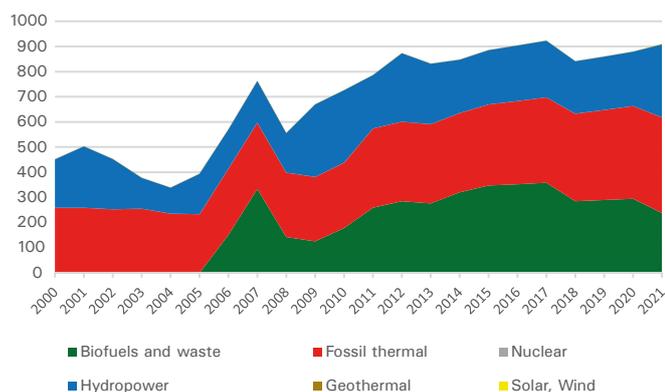


Figure 3.4. - Fuel Shares of Total Final Consumption

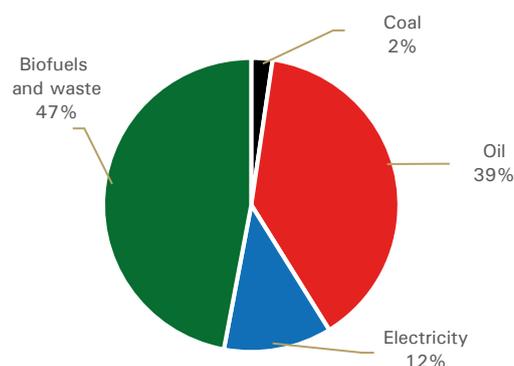


Figure 3.5. - Electricity Consumption by Sector

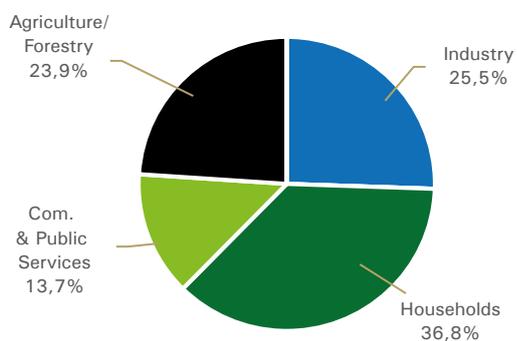
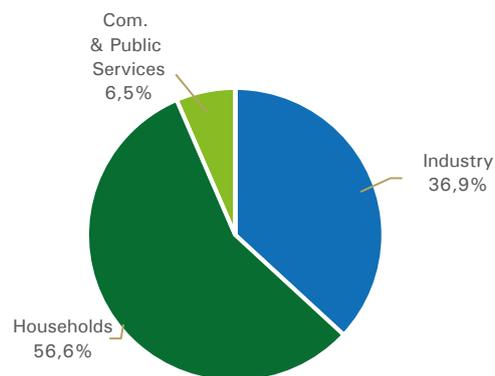


Figure 3.6. - Biofuels and Waste Consumption by Sector



Thousand Tonnes of Oil Equivalent (ktoe))	Coal and Coal Products	Oil products	Biofuels and waste	Hydro	Solar	Electricity	Total of All energy sources
Production	80.87		7985.99	25.06	0.09		8092.02
Imports (+)	50.47	325.68				86.45	462.60
Exports (-)	-80.87						-80.87
International Marine Bunkers (-)							
International Aviation Bunkers (-)		-0.76					-0.76
Stock Changes (+ draw, - build)		71.61					71.61
TOTAL PRIMARY ENERGY SUPPLY	50.47	396.53	7985.99	25.06	0.09	86.45	8544.60
Transfers : Origin (-) and Destination (+)							
Statistical Difference		-1.19	-2.44			1.99	-1.65
TRANSFORMATION Inputs (-) and Outputs (+)	-22.36		-733.71	-25.06	-0.09	49.09	-732.14
Electricity plants	-15.97			-25.06	-0.09	49.09	7.96
CHP Plants	-6.38		-644.35				-650.74
Heat Plants							
Coke ovens							
Blast furnaces							
Oil Refineries							
Coal-to-liquids plants							
Gas-to-liquids plants							
Charcoal production plants			-89.36				-89.36
Transformation not elsewhere specified							
Energy Sector Own Use						0.95	0.95
Losses						13.71	13.71
FINAL CONSUMPTION	28.11	397.72	7254.72			118.89	7799.45
Industry	28.11	51.57	2677.26			30.36	2787.31
Transport		248.18					248.18
Households		1.00	4108.69			43.79	4153.48
Commercial and public services		16.47	468.77			16.27	501.51
Agriculture, Forestry and Fishing		80.50				28.47	108.97
Non-specified (HH, Com. & PS., Agri.)							
Non-Energy Use							

Figure 3.1. - Total Primary Energy Supply (ktoe)

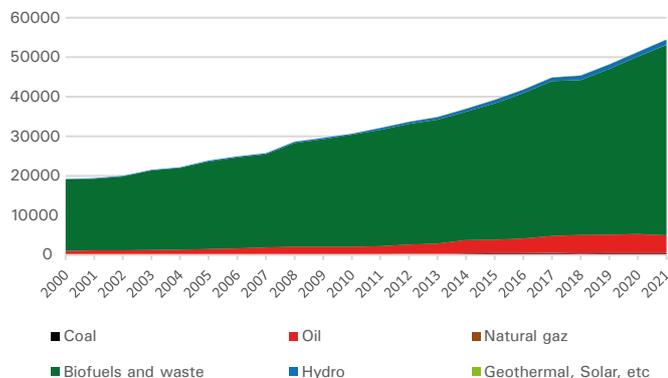


Figure 3.2. - Total Final Consumption (ktoe)

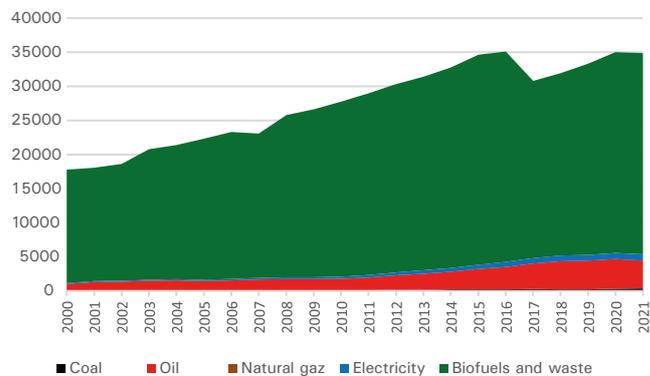


Figure 3.3. - Electricity Generation by Source (GWh)

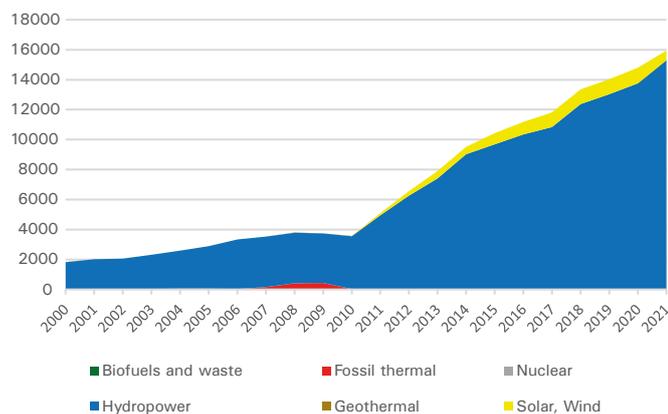


Figure 3.4. - Fuel Shares of Total Final Consumption

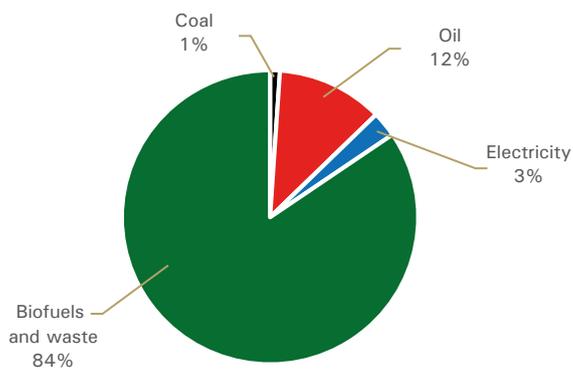


Figure 3.5. - Electricity Consumption by Sector

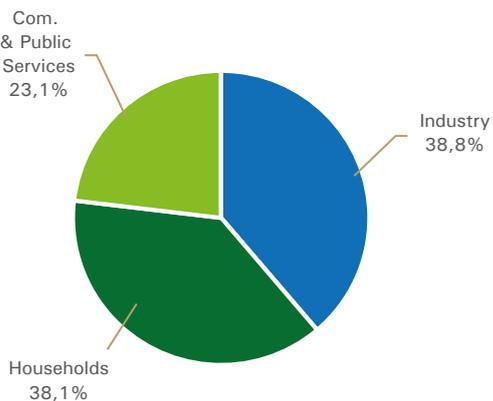
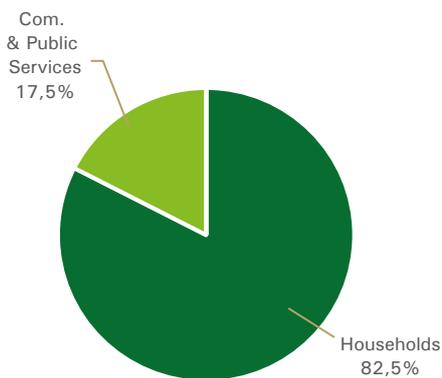


Figure 3.6. - Biofuels and Waste Consumption by Sector



Thousand Tonnes of Oil Equivalent (ktoe)	Coal and Coal Products	Oil products	Biofuels and waste	Hydro	Solar	Wind	Electricity	Total of All energy sources
Production			47615.54	1315.18	2.83	52.44		48985.99
Imports (+)	447.56	4585.55						5033.11
Exports (-)							-141.18	-141.18
International Marine Bunkers (-)								
International Aviation Bunkers (-)		-453.47						-453.47
Stock Changes (+ draw, - build)		-0.79						-0.79
TOTAL PRIMARY ENERGY SUPPLY	447.56	4131.29	47615.54	1315.18	2.83	52.44	-141.18	53423.65
Transfers : Origin (-) and Destination (+)								
Statistical Difference		-2.02	57.37				-44.68	10.67
TRANSFORMATION Inputs (-) and Outputs (+)		-1.40	-14605.71	-1315.18	-2.83	-52.44	1370.88	-14606.68
Electricity plants		-1.40		-1315.18	-2.83	-52.44	1370.88	-0.97
CHP Plants								
Heat Plants								
Coke ovens								
Blast furnaces								
Oil Refineries								
Coal-to-liquids plants								
Gas-to-liquids plants								
Charcoal production plants			-11364.09					-11364.09
Transformation not elsewhere specified			-3241.62					-3241.62
Energy Sector Own Use							3.79	3.79
Losses							299.61	299.61
FINAL CONSUMPTION	447.56	4131.91	32952.46				970.97	38502.90
Industry	447.56	1099.72					376.62	1923.90
Transport		2396.57						2396.57
Households		80.32	27194.17				369.96	27644.45
Commercial and public services		78.18	5758.30				224.38	6060.86
Agriculture, Forestry and Fishing		185.22						185.22
Non-specified (HH, Com. & PS., Agri.)		185.22						185.22
Non-Energy Use		106.67						106.67

Figure 3.1. - Total Primary Energy Supply (ktoe)

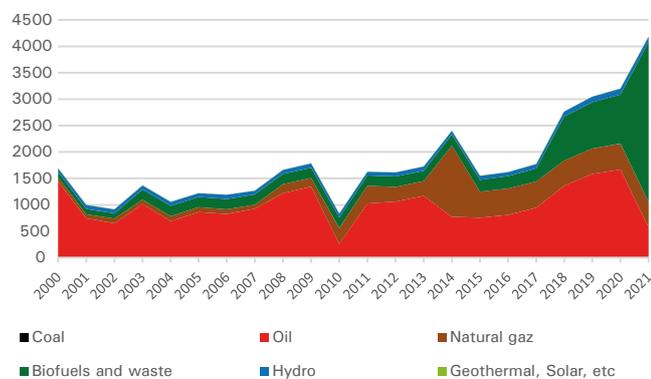


Figure 3.2. - Total Final Consumption (ktoe)

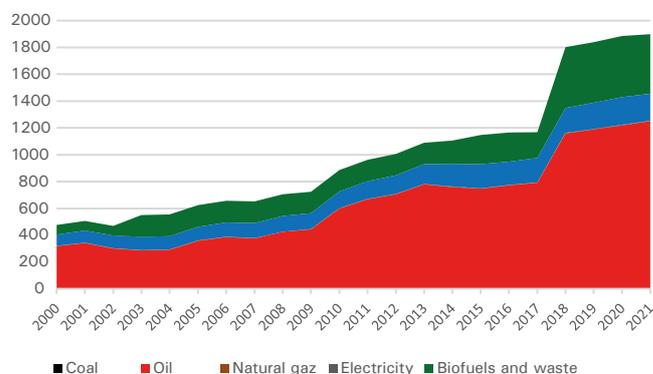


Figure 3.3. - Electricity Generation by Source (GWh)

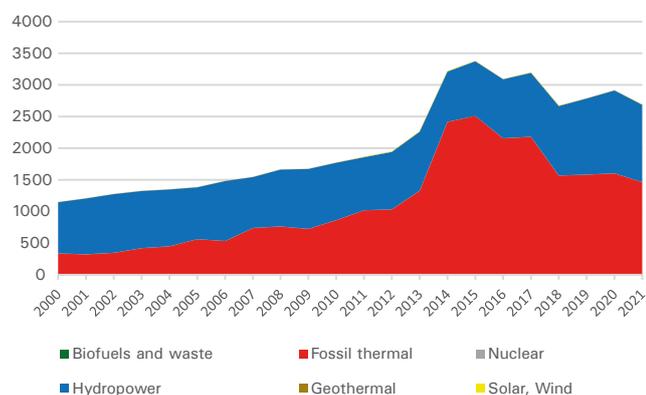


Figure 3.4. - Fuel Shares of Total Final Consumption

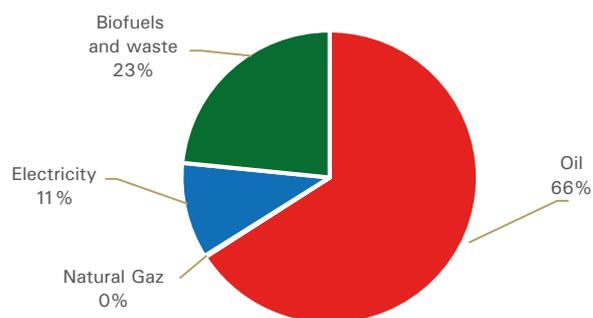


Figure 3.5. - Electricity Consumption by Sector

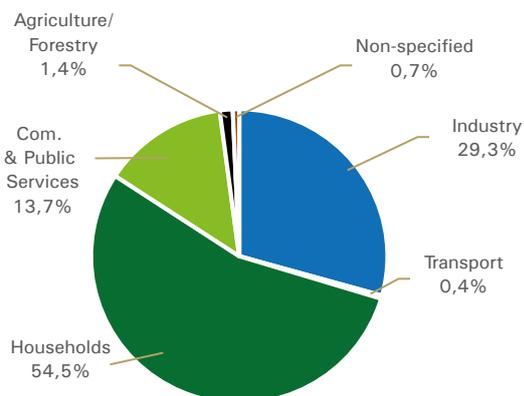
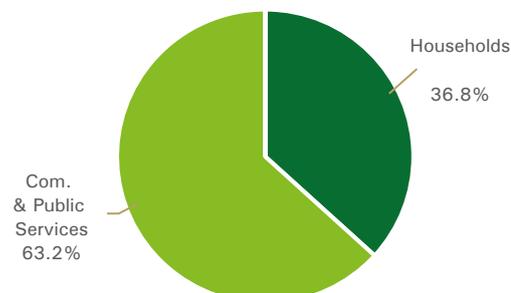


Figure 3.6. - Biofuels and Waste Consumption by Sector



Thousand Tonnes of Oil Equivalent (ktoe)	Crude oil	Oil products	Natural Gas	Biofuels and waste	Hydro	Solar	Electricity	Total of All energy sources
Production	11423.65		431.07	1934.70	105.17	0.18		13894.77
Imports (+)		272.85					36.48	309.33
Exports (-)	-10855.55	-249.50					-9.65	-11114.71
International Marine Bunkers (-)		-161.43						-161.43
International Aviation Bunkers (-)		-31.61						-31.61
Stock Changes (+ draw, - build)	346.64	-176.92	21.93					191.65
TOTAL PRIMARY ENERGY SUPPLY	914.74	-346.61	452.99	1934.70	105.17	0.18	26.82	3088.00
Transfers : Origin (-) and Destination (+)								
Statistical Difference	0.28	3.04	-7.08	42.11			-2.07	36.28
TRANSFORMATION Inputs (-) and Outputs (+)	-914.35	771.32	-358.12	-1532.83	-105.17	-0.18	230.78	-1908.56
Electricity plants		-71.32	-358.12	-1121.09	-105.17	-0.18	230.78	-1425.09
CHP Plants								
Heat Plants								
Coke ovens								
Blast furnaces								
Oil Refineries	-914.35	842.64						-71.72
Coal-to-liquids plants								
Gas-to-liquids plants								
Charcoal production plants				-411.75				-411.75
Transformation not elsewhere specified								
Energy Sector Own Use		123.05	99.39				13.73	236.17
Losses	0.11						44.72	44.83
FINAL CONSUMPTION		298.61	2.57	359.76			201.22	862.15
Industry		158.23	2.57				58.98	219.78
Transport		62.34					0.71	63.05
Households		47.33		132.27			109.73	289.34
Commercial and public services		13.41		227.49			27.54	268.44
Agriculture, Forestry and Fishing		0.74					2.83	3.57
Non-specified (HH, Com. & PS., Agri.)		2.93					1.42	4.34
Non-Energy Use		13.63						13.63

Figure 3.1. - Total Primary Energy Supply (ktoe)

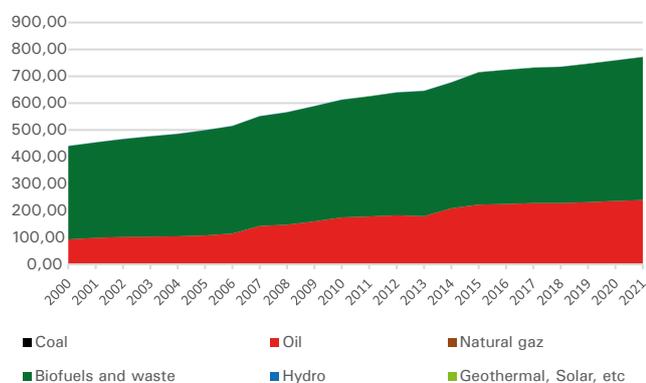


Figure 3.2. - Total Final Consumption (ktoe)

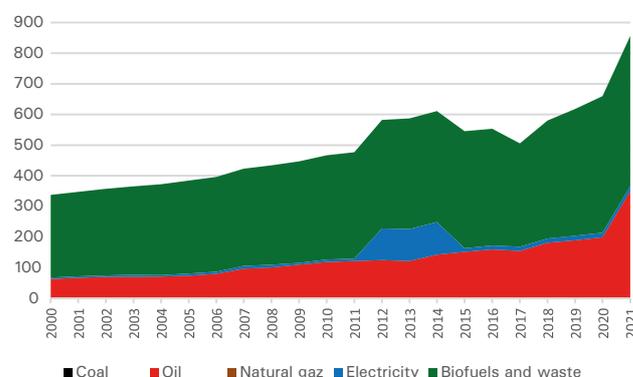


Figure 3.3. - Electricity Generation by Source (GWh)

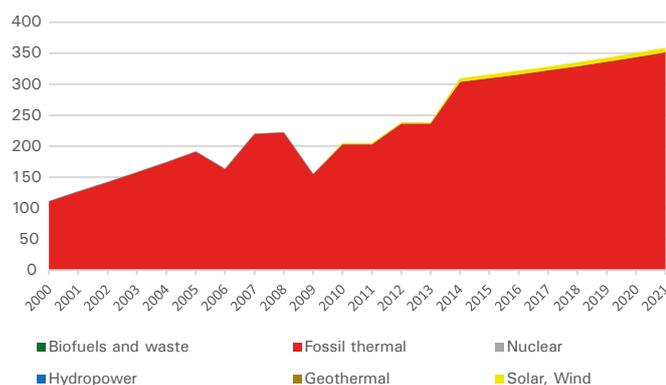


Figure 3.4. - Fuel Shares of Total Final Consumption

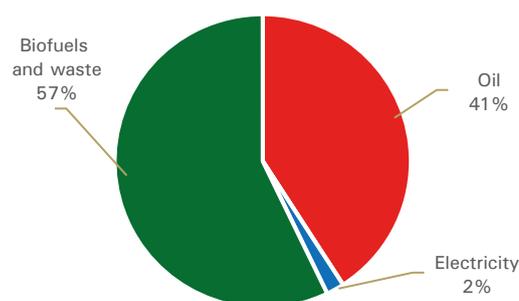


Figure 3.5. - Electricity Consumption by Sector

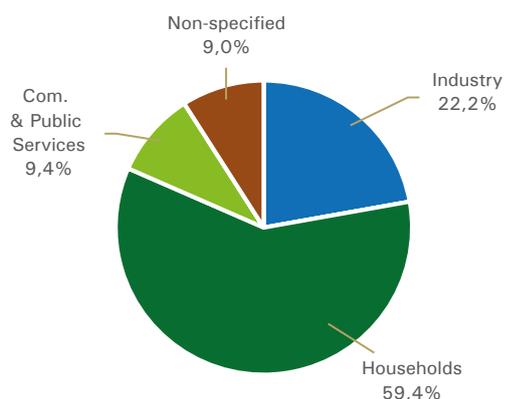
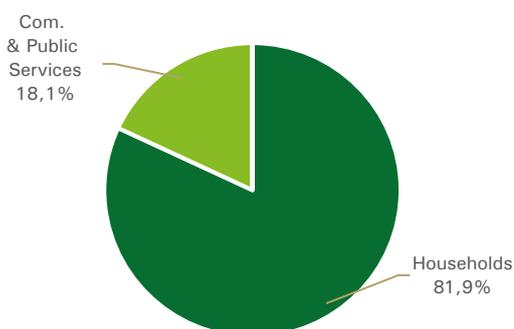


Figure 3.6. - Biofuels and Waste Consumption by Sector



Thousand Tonnes of Oil Equivalent (ktoe)	Oil products	Biofuels and waste	Solar	Electricity	Total of All energy sources
Production		524.33	0.63		524.96
Imports (+)	238.17				238.17
Exports (-)					
International Marine Bunkers (-)					
International Aviation Bunkers (-)	-20.55				-20.55
Stock Changes (+ draw, - build)	180.66				180.66
TOTAL PRIMARY ENERGY SUPPLY	398.28	524.33	0.63		923.24
<hr/>					
Transfers : Origin (-) and Destination (+)					
Statistical Difference	-2.66	-140.08		-0.24	-142.98
<hr/>					
TRANSFORMATION Inputs (-) and Outputs (+)	-47.55	-128.34	-0.63	30.86	-145.66
Electricity plants	-47.55		-0.63	30.86	-17.32
CHP Plants					
Heat Plants					
Coke ovens					
Blast furnaces					
Oil Refineries					
Coal-to-liquids plants					
Gas-to-liquids plants					
Charcoal production plants		-128.34			-128.34
Transformation not elsewhere specified					
<hr/>					
Energy Sector Own Use				1.64	1.64
Losses				12.74	12.74
<hr/>					
FINAL CONSUMPTION	353.39	536.07		16.73	906.18
Industry	66.11			3.71	69.82
Transport	260.06				260.06
Households	5.52	439.26		9.94	454.71
Commercial and public services	2.97	96.81		1.57	101.35
Agriculture, Forestry and Fishing					
Non-specified (HH, Com. & PS., Agri.)				1.51	1.51
Non-Energy Use	18.74				18.74

Figure 3.1. - Total Primary Energy Supply (ktoe)

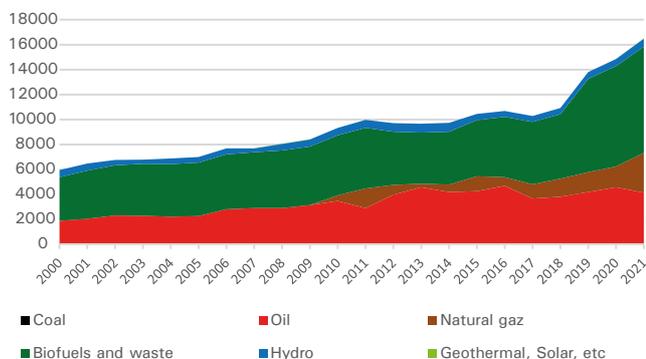


Figure 3.2. - Total Final Consumption (ktoe)

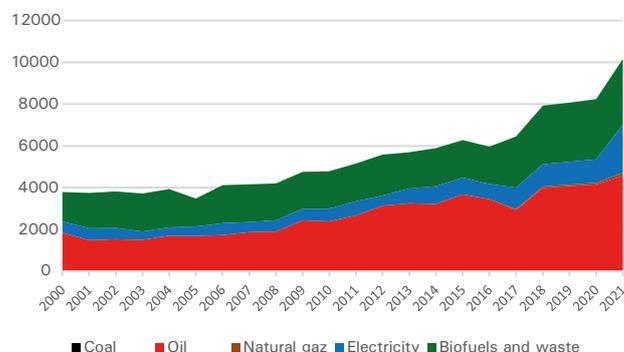


Figure 3.3. - Electricity Generation by Source (GWh)

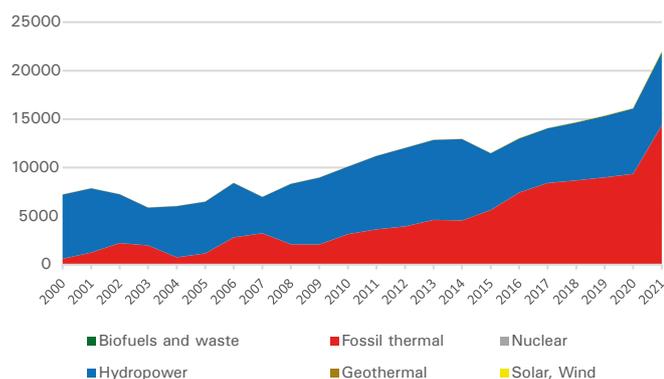


Figure 3.4. - Fuel Shares of Total Final Consumption

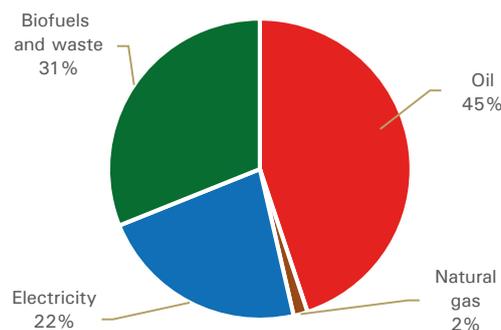


Figure 3.5. - Electricity Consumption by Sector

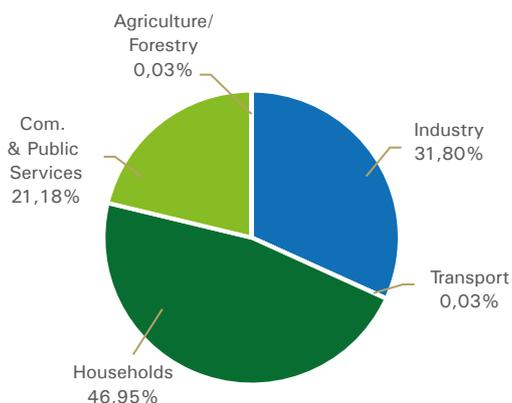
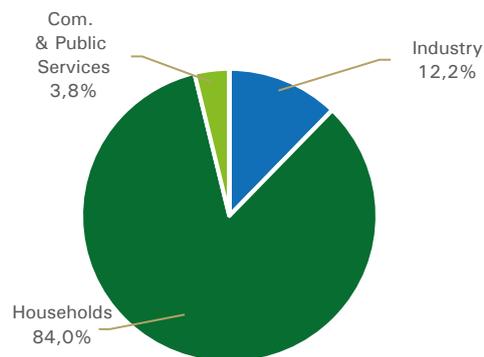


Figure 3.6. - Biofuels and Waste Consumption by Sector



Thousand Tonnes of Oil Equivalent (ktoe)	Crude oil	Oil products	Natural Gas	Biofuels and waste	Hydro	Solar	Electricity	Total of All energy sources
Production	8043.14		2449.14	4189.83	646.67	10.51		15339.30
Imports (+)	74.76	4319.14	425.08				3.78	4822.77
Exports (-)	-7998.69	-95.29		-1.32			-149.10	-8244.40
International Marine Bunkers (-)		-7.07						-7.07
International Aviation Bunkers (-)		-193.93						-193.93
Stock Changes (+ draw, - build)	28.29	205.09						233.38
TOTAL PRIMARY ENERGY SUPPLY	147.51	4227.94	2874.21	4188.52	646.67	10.51	-145.31	11950.05
Transfers : Origin (-) and Destination (+)	-97.41	110.09						12.68
Statistical Difference	-240.88	73.50	261.47	4450.14			-370.96	4173.27
TRANSFORMATION Inputs (-) and Outputs (+)	-290.97	207.04	-2474.81	3423.36	-646.67	-10.51	1896.03	2103.46
Electricity plants	-51.53	-78.52	-2474.81		-646.67	-10.51	1896.03	-1366.01
CHP Plants								
Heat Plants								
Coke ovens								
Blast furnaces								
Oil Refineries	-239.45	285.56						46.11
Coal-to-liquids plants								
Gas-to-liquids plants								
Charcoal production plants				3423.36				3423.36
Transformation not elsewhere specified								
Energy Sector Own Use		31.82					62.00	93.82
Losses							506.02	506.02
FINAL CONSUMPTION		4439.75	137.94	3161.74			1553.65	9293.08
Industry		465.78	137.94	386.82			494.07	1484.61
Transport		3606.28					0.52	3606.80
Households		263.15		2654.88			729.49	3647.52
Commercial and public services		26.23		120.04			329.06	475.34
Agriculture, Forestry and Fishing		78.30					0.52	78.81
Non-specified (HH, Com. & PS., Agri.)								
Non-Energy Use								

Figure 3.1. - Total Primary Energy Supply (ktoe)

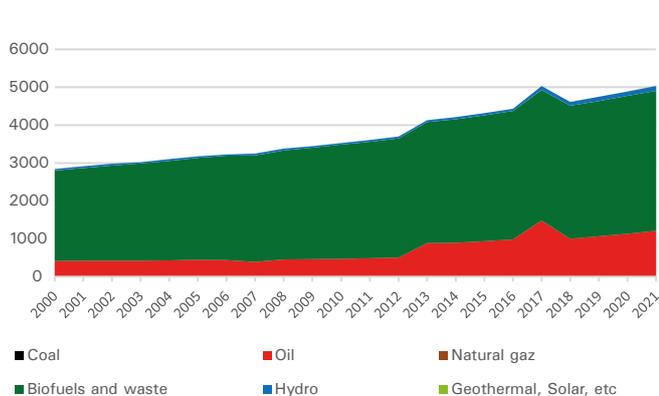


Figure 3.2. - Total Final Consumption (ktoe)

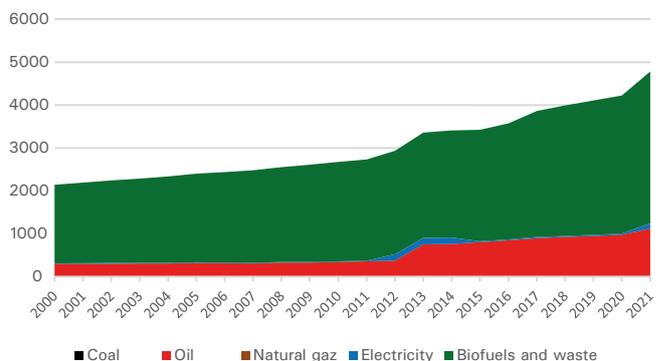


Figure 3.3. - Electricity Generation by Source (GWh)

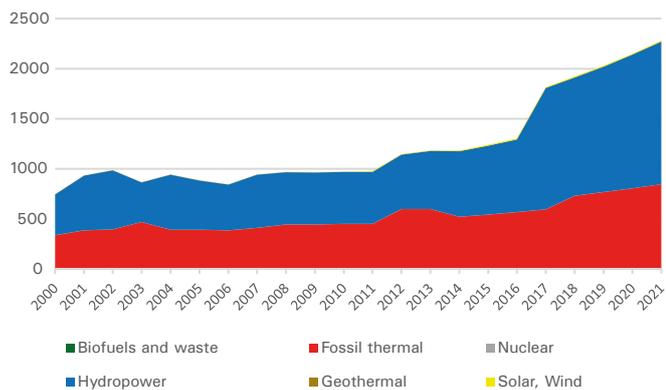


Figure 3.4. - Fuel Shares of Total Final Consumption

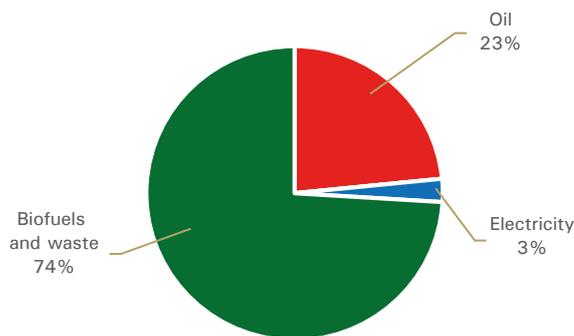


Figure 3.5. - Electricity Consumption by Sector

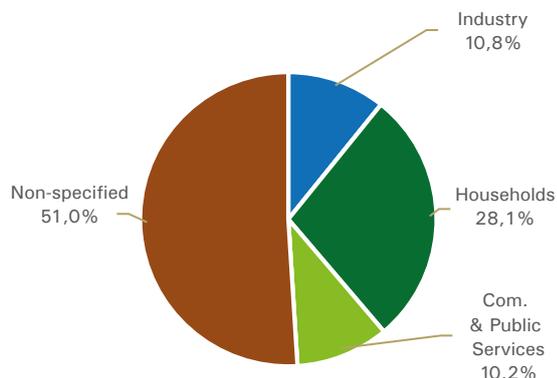
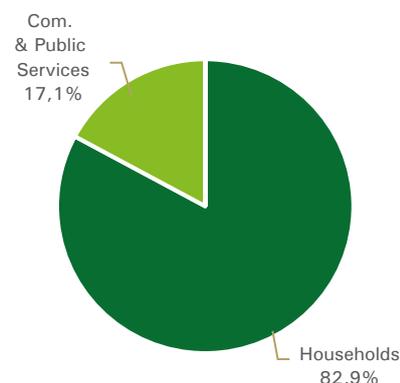


Figure 3.6. - Biofuels and Waste Consumption by Sector



Thousand Tonnes of Oil Equivalent (ktoe)	Oil products	Biofuels and waste	Hydro	Solar	Electricity	Total of All energy sources
Production		4547.14	122.52	0.79		4670.44
Imports (+)	1203.83					1203.83
Exports (-)						
International Marine Bunkers (-)						
International Aviation Bunkers (-)	-0.74					-0.74
Stock Changes (+ draw, - build)	-20.17					-20.17
TOTAL PRIMARY ENERGY SUPPLY	1182.92	4547.14	122.52	0.79		5853.36
<hr/>						
Transfers : Origin (-) and Destination (+)						
Statistical Difference	1.20	-2224.78			17.41	-2206.16
<hr/>						
TRANSFORMATION Inputs (-) and Outputs (+)	-74.34	-3119.98	-122.52	-0.79	196.07	-3121.55
Electricity plants	-74.34		-122.52	-0.79	196.07	-1.57
CHP Plants						
Heat Plants						
Coke ovens						
Blast furnaces						
Oil Refineries						
Coal-to-liquids plants						
Gas-to-liquids plants						
Charcoal production plants		-3119.98				-3119.98
Transformation not elsewhere specified						
<hr/>						
Energy Sector Own Use					7.15	7.15
Losses					50.51	50.51
<hr/>						
FINAL CONSUMPTION	1107.38	3651.93			121.01	4880.32
Industry	523.00				13.02	536.02
Transport	575.26					575.26
Households	7.18	3026.60			33.97	3067.75
Commercial and public services	1.93	625.33			12.32	639.58
Agriculture, Forestry and Fishing						
Non-specified (HH, Com. & PS., Agri.)					61.70	61.70
Non-Energy Use						

Figure 3.1. - Total Primary Energy Supply (ktoe)

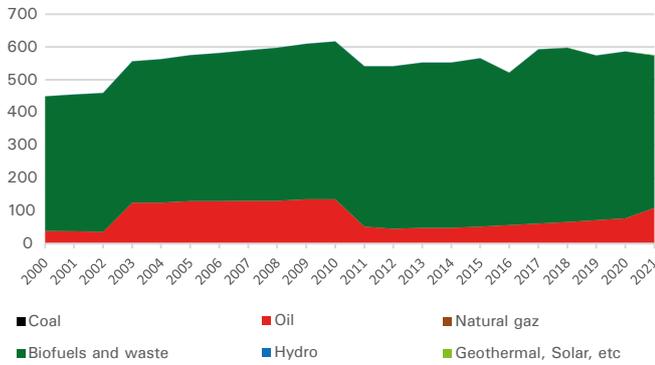


Figure 3.2. - Total Final Consumption (ktoe)

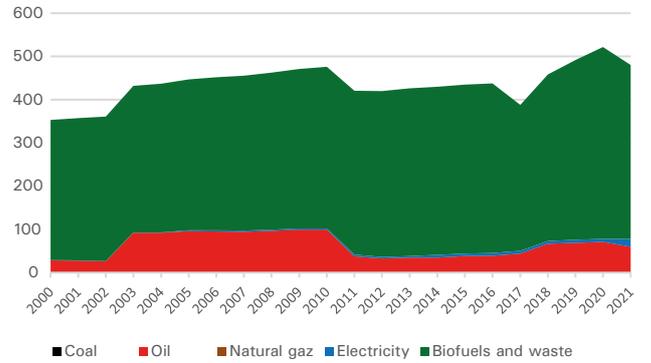


Figure 3.3. - Electricity Generation by Source (GWh)

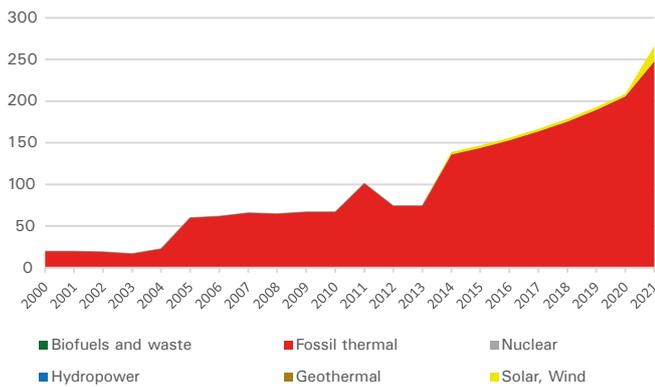


Figure 3.4. - Fuel Shares of Total Final Consumption

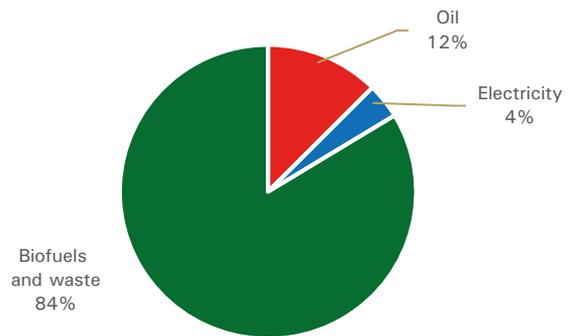


Figure 3.5. - Electricity Consumption by Sector

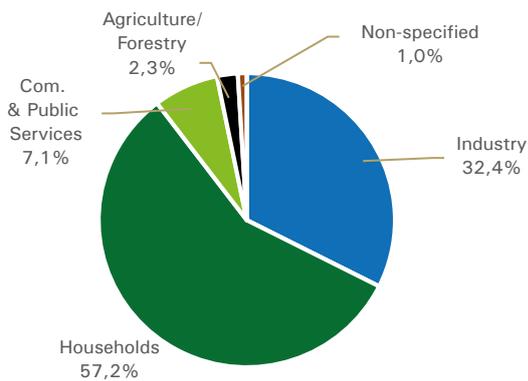
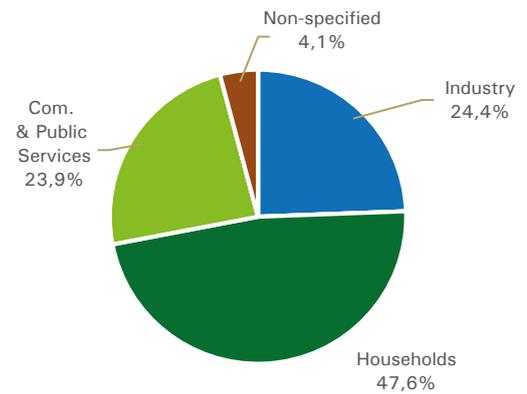


Figure 3.6. - Biofuels and Waste Consumption by Sector



Thousand Tonnes of Oil Equivalent (ktoe)	Oil products	Biofuels and waste	Solar	Electricity	Total of All energy sources
Production		482.90	1.57		484.48
Imports (+)	108.65				108.65
Exports (-)					
International Marine Bunkers (-)					
International Aviation Bunkers (-)					
Stock Changes (+ draw, - build)					
TOTAL PRIMARY ENERGY SUPPLY	108.65	482.90	1.57		593.13
Transfers : Origin (-) and Destination (+)					
Statistical Difference	0.22	0.25		-1.81	-1.34
TRANSFORMATION Inputs (-) and Outputs (+)	-55.71	95.83	-1.57	22.90	61.44
Electricity plants	-54.70		-1.57	22.90	-33.37
CHP Plants					
Heat Plants					
Coke ovens					
Blast furnaces					
Oil Refineries					
Coal-to-liquids plants					
Gas-to-liquids plants					
Charcoal production plants		95.83			95.83
Transformation not elsewhere specified	-1.02				-1.02
Energy Sector Own Use					
Losses				6.18	6.18
FINAL CONSUMPTION	52.72	578.48		18.53	649.73
Industry	7.39	141.20		6.01	154.61
Transport	43.41				43.41
Households	1.86	275.21		10.60	287.68
Commercial and public services		138.12		1.32	139.44
Agriculture, Forestry and Fishing				0.42	0.42
Non-specified (HH, Com. & PS., Agri.)	0.06	23.94		0.18	24.17
Non-Energy Use					

Figure 3.1. - Total Primary Energy Supply (ktoe)

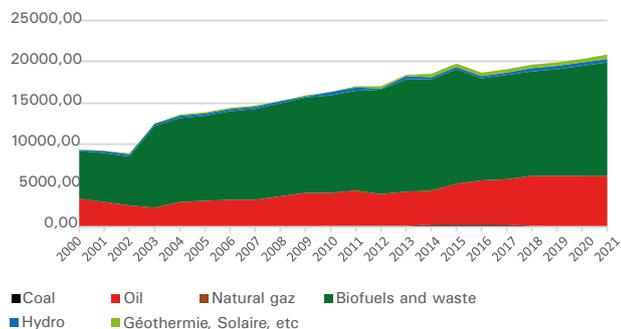


Figure 3.2. - Total Final Consumption (ktoe)

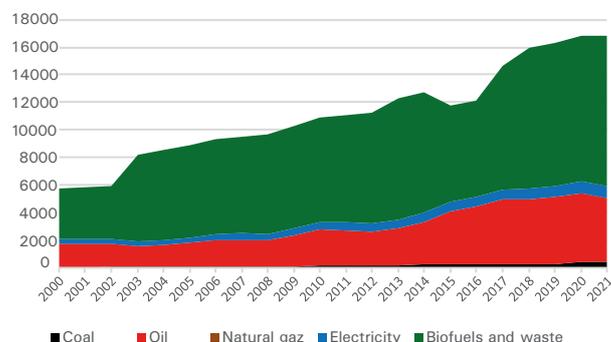


Figure 3.3. - Electricity Generation by Source (GWh)

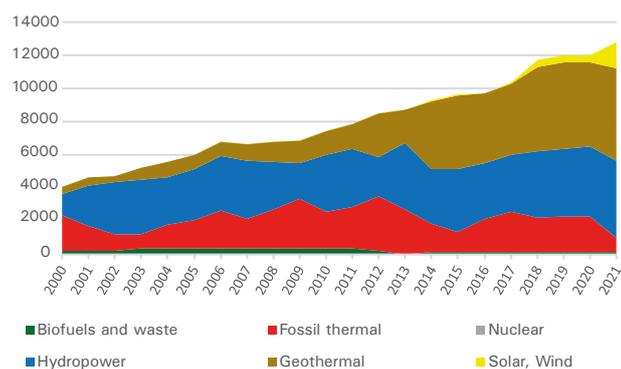


Figure 3.4. - Fuel Shares of Total Final Consumption

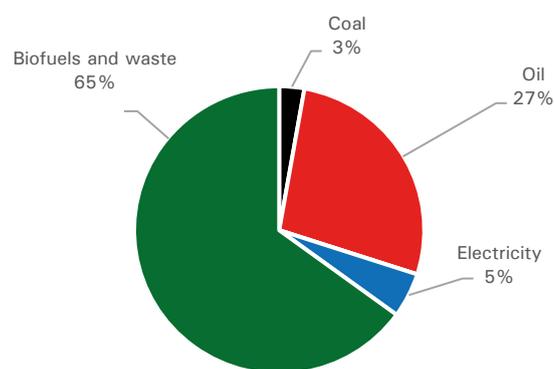


Figure 3.5. - Electricity Consumption by Sector

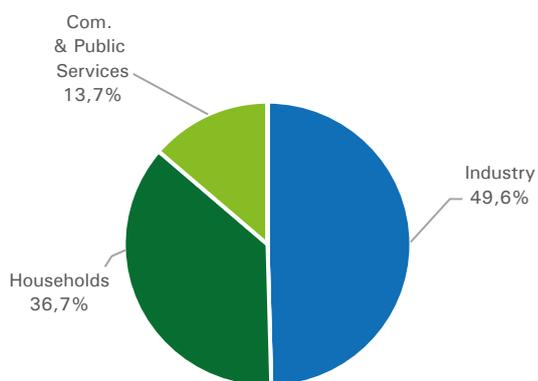
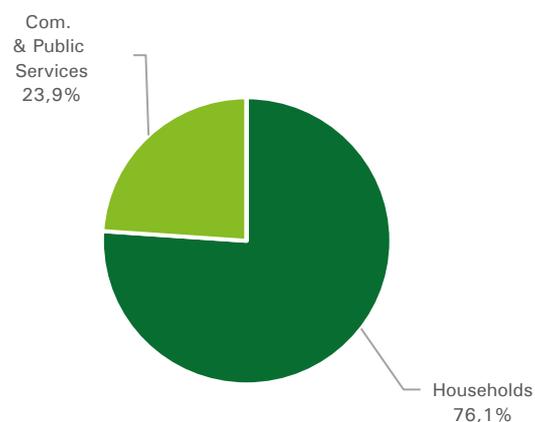


Figure 3.6. - Biofuels and Waste Consumption by Sector



Thousand Tonnes of Oil Equivalent (ktoe)	Coal and Coal Products	Oil products	Biofuels and waste	Hydro	Solar	Wind	Geothermal	Electricity	Total of All energy sources
Production			14567.09	400.37	8.32	125.89	4785.90		19887.57
Imports (+)	567.02	5543.82						12.96	6123.81
Exports (-)								-1.61	-1.61
International Marine Bunkers (-)		-52.60							-52.60
International Aviation Bunkers (-)		-404.87							-404.87
Stock Changes (+ draw, - build)		-205.32							-205.32
TOTAL PRIMARY ENERGY SUPPLY	567.02	4881.04	14567.09	400.37	8.32	125.89	4785.90	11.35	25346.98
Transfers : Origin (-) and Destination (+)									
Statistical Difference		2.13	149.19					-9.65	141.68
TRANSFORMATION Inputs (-) and Outputs (+)		-227.94	-2359.15	-400.37	-8.32	-125.89	-4785.90	1098.49	-6809.09
Electricity plants		-227.94	-412.35	-400.37	-8.32	-125.89	-4785.90	1098.49	-4862.29
CHP Plants									
Heat Plants									
Coke ovens									
Blast furnaces									
Oil Refineries									
Coal-to-liquids plants									
Gas-to-liquids plants			-1946.80						-1946.80
Charcoal production plants									
Transformation not elsewhere specified									
Energy Sector Own Use								8.42	8.42
Losses								263.98	263.98
FINAL CONSUMPTION	567.02	4650.96	12058.75					847.09	18123.82
Industry	567.02	230.86						420.00	1217.88
Transport		3614.88							3614.88
Households		432.01						311.13	9917.80
Commercial and public services		200.88	9174.67					115.96	3200.93
Agriculture, Forestry and Fishing		39.23	2884.09						39.23
Non-specified (HH, Com. & PS., Agri.)		21.12							21.12
Non-Energy Use		111.98							111.98

Figure 3.1. - Total Primary Energy Supply (ktoe)

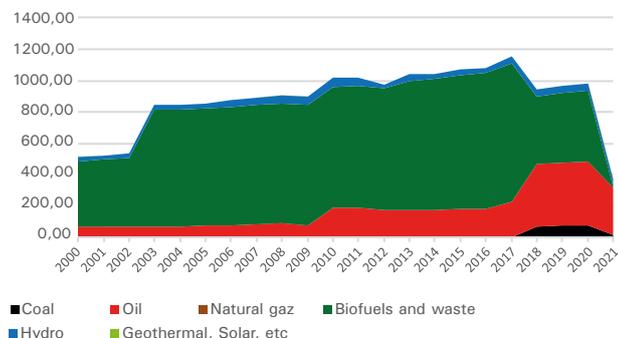


Figure 3.2. - Total Final Consumption (ktoe)

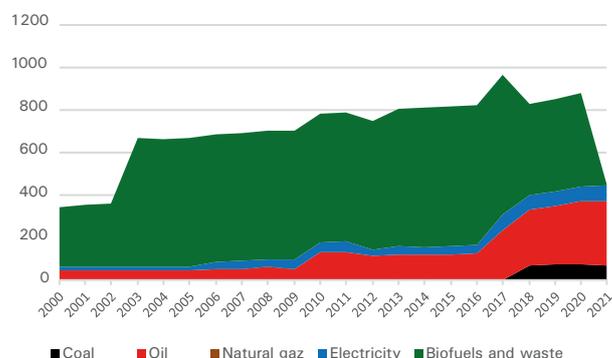


Figure 3.3. - Electricity Generation by Source (GWh)

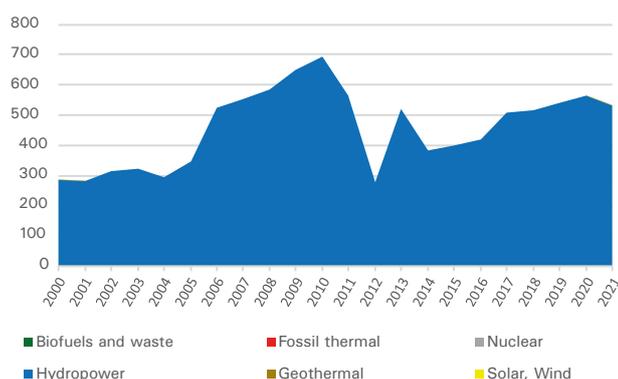


Figure 3.4. - Fuel Shares of Total Final Consumption

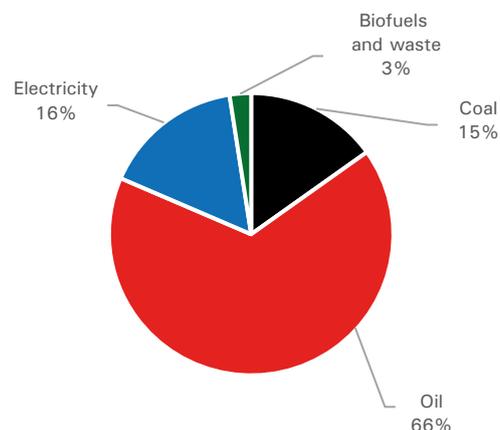


Figure 3.5. - Electricity Consumption by Sector

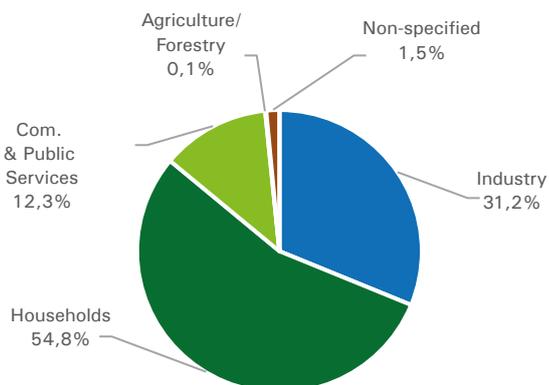
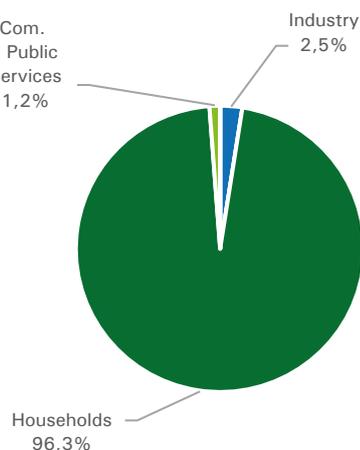


Figure 3.6. - Biofuels and Waste Consumption by Sector



Thousand Tonnes of Oil Equivalent (ktoe)	Coal and Coal Products	Oil products	Biofuels and waste	Hydro	Electricity	Total of All energy sources
Production			9.33	46.22		55.55
Imports (+)	20.40	309.30	0.76		36.70	367.15
Exports (-)					-0.10	-0.10
International Marine Bunkers (-)						
International Aviation Bunkers (-)						
Stock Changes (+ draw, - build)						
TOTAL PRIMARY ENERGY SUPPLY	20.40	309.30	10.09	46.22	36.60	422.60
<hr/>						
Transfers : Origin (-) and Destination (+)						
Statistical Difference		-0.08	0.00	0.00	0.00	-0.08
<hr/>						
TRANSFORMATION Inputs (-) and Outputs (+)				-46.22	46.22	
Electricity plants				-46.2	46.22	
CHP Plants						
Heat Plants						
Coke ovens						
Blast furnaces						
Oil Refineries						
Coal-to-liquids plants						
Gas-to-liquids plants						
Charcoal production plants						
Transformation not elsewhere specified						
<hr/>						
Energy Sector Own Use					0.63	0.63
Losses					10.94	10.94
<hr/>						
FINAL CONSUMPTION	20.40	309.39	10.09		71.25	411.12
Industry	17.67	13.68	0.25		22.24	53.83
Transport		186.75				186.75
Households	0.53	82.08	9.72		39.07	131.40
Commercial and public services	2.20	22.19	0.12		8.79	33.31
Agriculture, Forestry and Fishing		4.68			0.09	4.77
Non-specified (HH, Com. & PS., Agri.)					1.06	1.06
Non-Energy Use						

Figure 3.1 - Total Primary Energy Supply (ktoe)

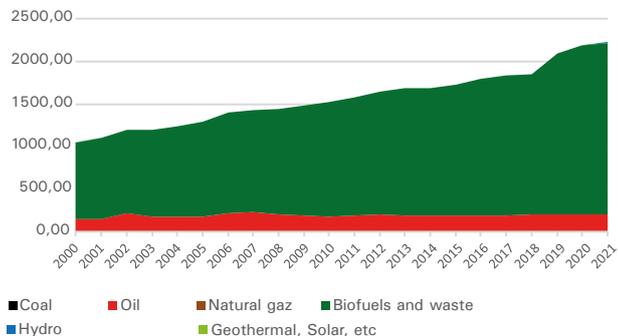


Figure 3.2 - Total Final Consumption (ktoe)

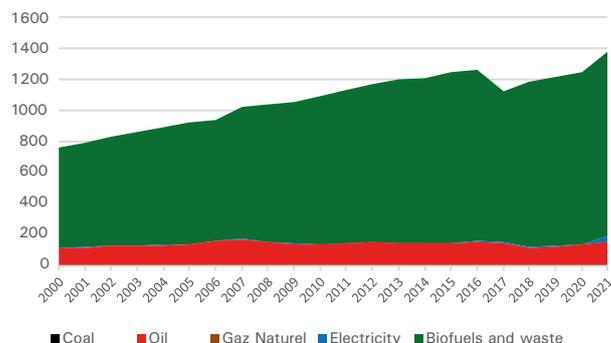


Figure 3.3 - Electricity Generation by Source (GWh)

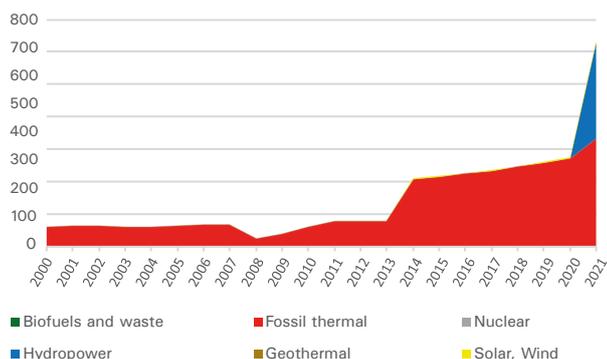


Figure 3.4 - Fuel Shares of Total Final Consumption

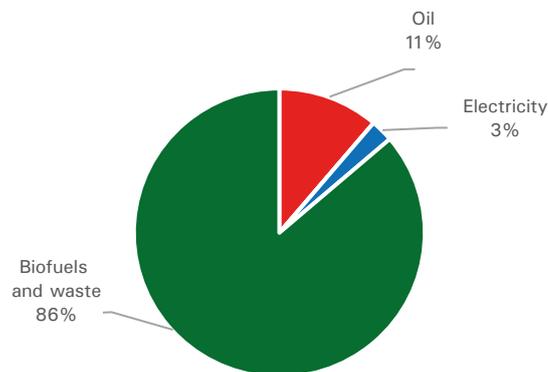


Figure 3.5 - Electricity Consumption by Sector

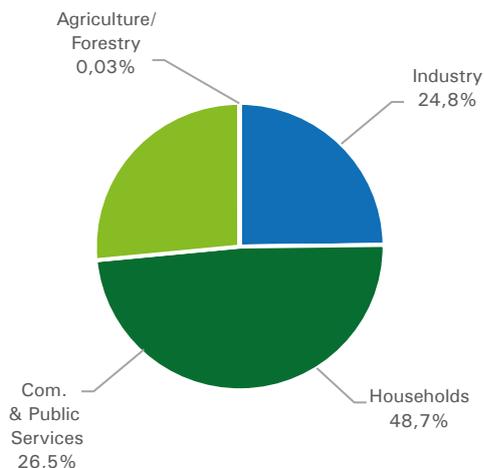
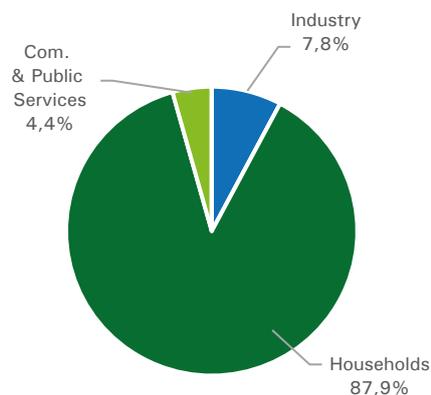


Figure 3.6 - Biofuels and Waste Consumption by Sector



Thousand Tonnes of Oil Equivalent (ktoe)	Oil products	Biofuels and waste	Hydro	Solar	Electricity	Total of All energy sources
Production		1537.79	12.67	0.12		1550.58
Imports (+)	219.02				18.38	237.39
Exports (-)						
International Marine Bunkers (-)						
International Aviation Bunkers (-)	-2.24					-2.24
Stock Changes (+ draw, - build)						
TOTAL PRIMARY ENERGY SUPPLY	216.77	1537.79	12.67	0.12	18.38	1785.73
<hr/>						
Transfers : Origin (-) and Destination (+)						
Statistical Difference	1.84	0.11			3.42	5.38
<hr/>						
TRANSFORMATION Inputs (-) and Outputs (+)	-59.22	-710.58	-12.67	-0.12	27.03	-755.57
Electricity plants						
CHP Plants	-59.22		-12.67	-0.12	27.03	-44.98
Heat Plants						
Coke ovens						
Blast furnaces						
Oil Refineries						
Coal-to-liquids plants						
Gas-to-liquids plants						
Charcoal production plants		-710.58				-710.58
Transformation not elsewhere specified						
<hr/>						
Energy Sector Own Use					1.49	1.49
Losses					5.85	5.85
<hr/>						
FINAL CONSUMPTION	155.71	827.09			34.65	1017.45
Industry	40.03	64.40			8.60	113.03
Transport	98.33					98.33
Households	2.97	726.68			16.86	746.51
Commercial and public services	5.83	36.01			9.18	51.02
Agriculture, Forestry and Fishing	6.72				0.01	6.73
Non-specified (HH, Com. & PS., Agri.)						
Non-Energy Use	1.82					1.82

Figure 3.1. - Total Primary Energy Supply (ktoe)

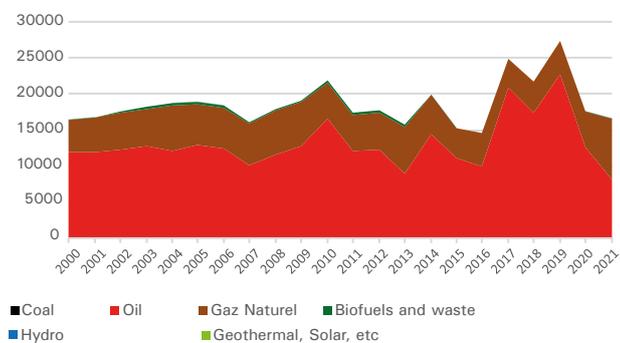


Figure 3.2. - Total Final Consumption (ktoe)

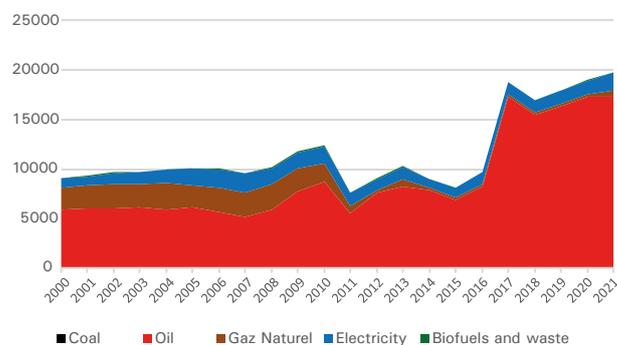


Figure 3.3. - Electricity Generation by Source (GWh)

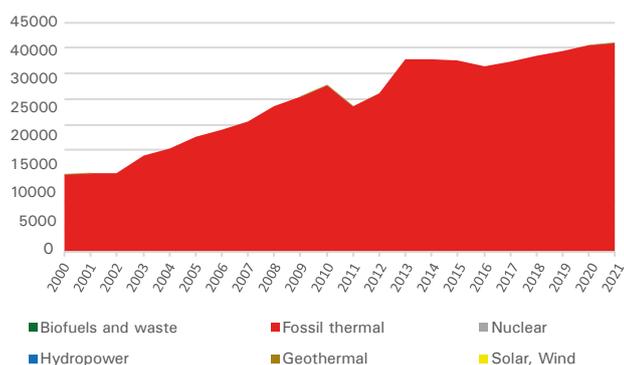


Figure 3.4. - Fuel Shares of Total Final Consumption

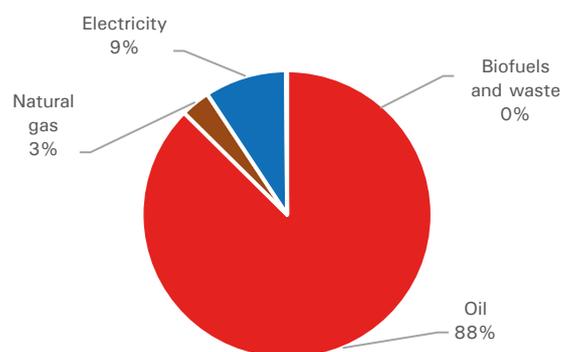


Figure 3.5. - Electricity Consumption by Sector

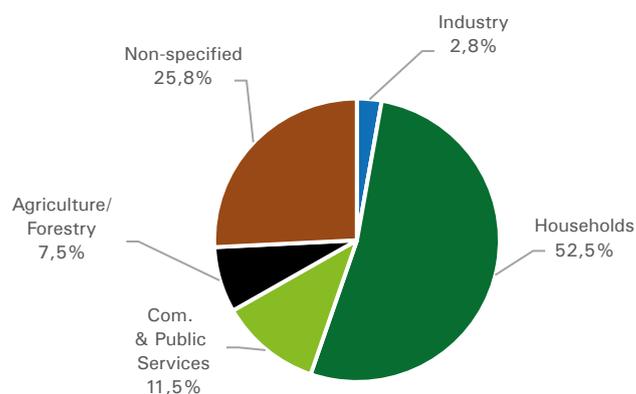
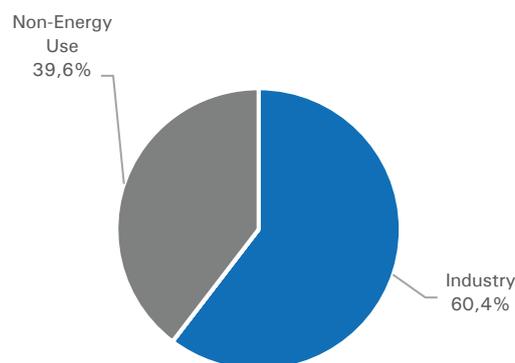


Figure 3.6. - Natural Gas Consumption by Sector



Thousand Tonnes of Oil Equivalent (ktoe)	Crude oil	Oil products	Natural Gas	Solar	Electricity	Total of All energy sources
Production	22393.28		11681.00	0.69		34074.97
Imports (+)		7324.74			119.08	7443.82
Exports (-)	-19769.58	-1669.86	-4043.42			-25482.86
International Marine Bunkers (-)						
International Aviation Bunkers (-)		-18.79				-18.79
Stock Changes (+ draw, - build)	-291.17	-3298.44				-3589.61
TOTAL PRIMARY ENERGY SUPPLY	2332.53	2337.66	7637.58	0.69	119.08	12427.53
Transfers : Origin (-) and Destination (+)	-453.62	453.52				-0.10
Statistical Difference	-56.20	-2702.06	264.91		4248.22	1754.87
TRANSFORMATION Inputs (-) and Outputs (+)	-1935.12	1894.55	-5967.88	-0.69	6573.35	564.22
Electricity plants			-5967.88	-0.69	6573.35	604.79
CHP Plants						
Heat Plants						
Coke ovens						
Blast furnaces						
Oil Refineries	-1935.12	1894.55				-40.57
Coal-to-liquids plants						
Gas-to-liquids plants						
Charcoal production plants						
Transformation not elsewhere specified						
Usage propre du secteur énergétique		141.61	370.34		71.80	583.75
Losses			451.42		562.77	1014.19
FINAL CONSUMPTION		7246.18	583.03		1809.65	9638.85
Industry		377.46	351.92		50.41	779.80
Transport		6334.91				6334.91
Households		387.66			949.58	1337.24
Commercial and public services		125.51			207.77	333.28
Agriculture, Forestry and Fishing					135.46	135.46
Non-specified (HH, Com. & PS., Agri.)					466.42	466.42
Non-Energy Use		20.62	231.11			251.74

Figure 3.1. - Total Primary Energy Supply (ktoe)

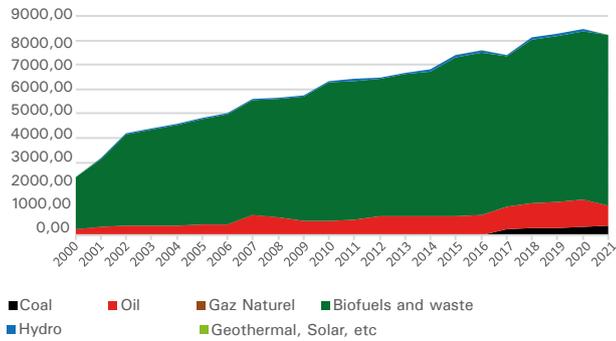


Figure 3.2. - Total Final Consumption (ktoe)

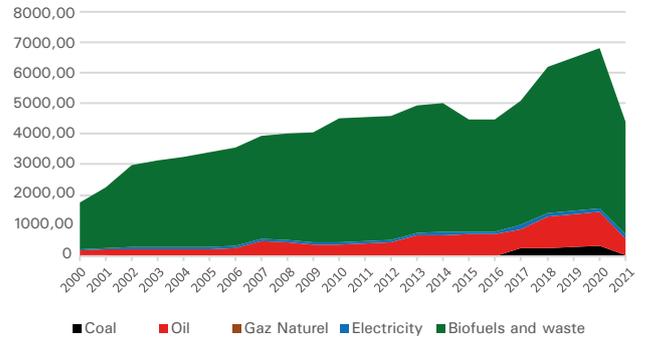


Figure 3.3. - Electricity Generation by Source (GWh)

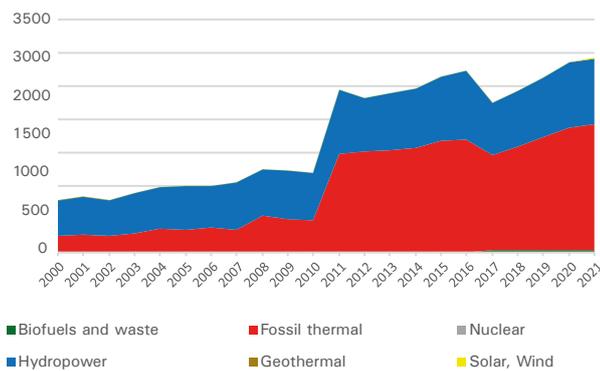


Figure 3.4. - Fuel Shares of Total Final Consumption

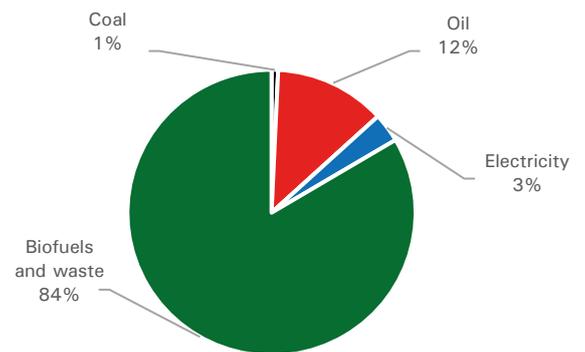


Figure 3.5. - Electricity Consumption by Sector

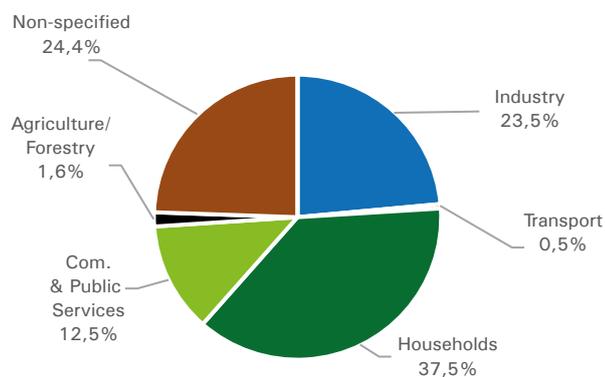
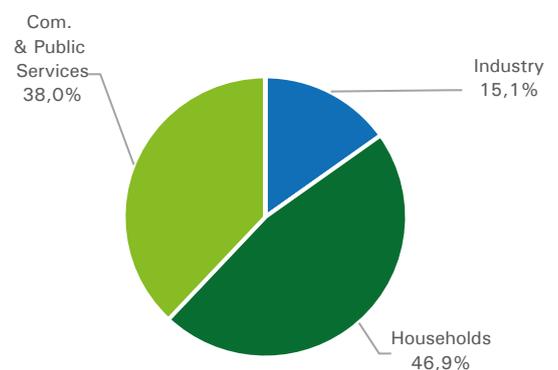


Figure 3.6. - Biofuels and Waste Consumption by Sector



Thousand Tonnes of Oil Equivalent (ktoe)	Coal and Coal Products	Oil products	Biofuels and waste	Hydro	Solar	Electricity	Total of All energy sources
Production	99.21		6489.82	58.81	2.04		6649.86
Imports (+)		807.78					807.78
Exports (-)							
International Marine Bunkers (-)		-6.69					-6.69
International Aviation Bunkers (-)		-15.67					-15.67
Stock Changes (+ draw, - build)		-11.61					-11.61
TOTAL PRIMARY ENERGY SUPPLY	99.21	773.80	6489.82	58.81	2.04		7423.67
Transfers : Origin (-) and Destination (+)							
Statistical Difference		-1.35	128.56			-6.03	121.18
TRANSFORMATION Inputs (-) and Outputs (+)	-60.28	-224.98	-2437.17	-58.81	-2.04	148.96	-2634.31
Electricity plants	-60.28	-224.98	-8.48	-58.81	-2.04	148.96	-205.62
CHP Plants							
Heat Plants							
Coke ovens							
Blast furnaces							
Oil Refineries							
Coal-to-liquids plants							
Gas-to-liquids plants							
Charcoal production plants			-2428.68				-2428.68
Transformation not elsewhere specified							
Energy Sector Own Use						0.71	0.71
Losses						10.10	10.10
FINAL CONSUMPTION	38.92	550.18	3924.09			144.19	4657.38
Industry	38.92	38.45	594.18			33.92	705.48
Transport		389.19				0.71	389.90
Households		21.82	1838.63			54.02	1914.48
Commercial and public services			1491.28			17.98	1509.26
Agriculture, Forestry and Fishing						2.30	2.30
Non-specified (HH, Com. & PS., Agri.)		78.23				35.25	113.49
Non-Energy Use		22.49					22.49

Figure 3.1. - Total Primary Energy Supply (ktoe)

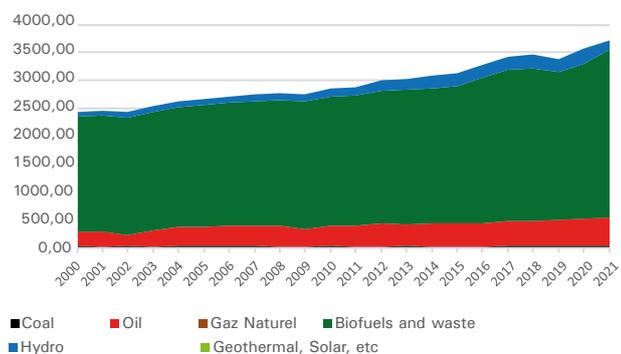


Figure 3.2. - Total Final Consumption (ktoe)

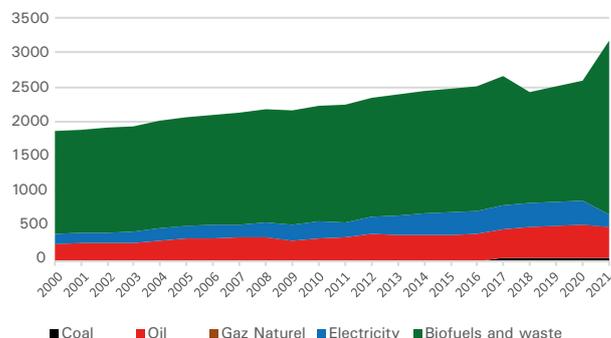


Figure 3.3. - Electricity Generation by Source (GWh)

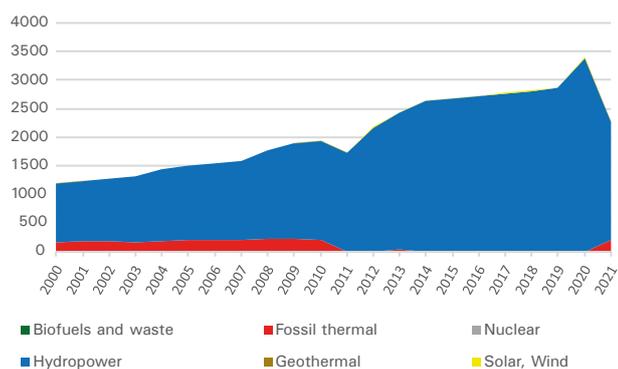


Figure 3.4. - Fuel Shares of Total Final Consumption

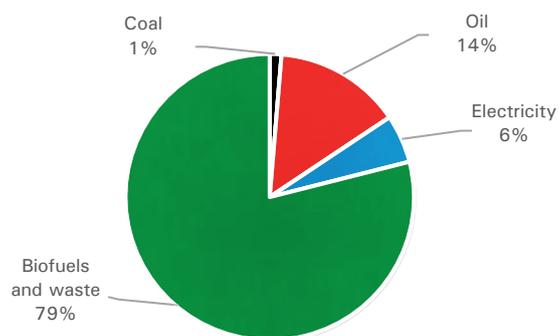


Figure 3.5. - Electricity Consumption by Sector

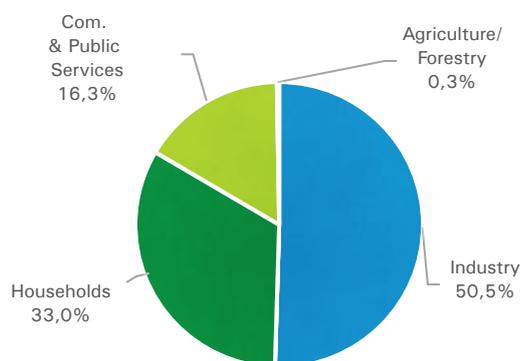
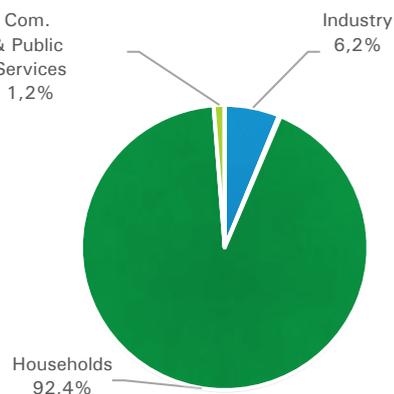


Figure 3.6. - Biofuels and Waste Consumption by Sector



Thousand Tonnes of Oil Equivalent (ktoe)	Coal and Coal Products	Oil products	Biofuels and waste	Hydro	Solar	Electricity	Total of All energy sources
Production	37.20		4627.44	176.43	0.02		4841.09
Imports (+)	18.98	512.68				0.94	532.60
Exports (-)						-1.89	-1.89
International Marine Bunkers (-)							
International Aviation Bunkers (-)		-1.57					-1.57
Stock Changes (+ draw, - build)							
TOTAL PRIMARY ENERGY SUPPLY	56.18	511.11	4627.44	176.43	0.02	-0.95	5370.23
Transfers : Origin (-) and Destination (+)							
Statistical Difference	0.00	8.05	0.04			-2.45	5.63
TRANSFORMATION Inputs (-) and Outputs (+)		-42.86	-534.90	-176.43	-0.02	206.80	-547.42
Electricity plants		-42.86	-0.01	-176.43	-0.02	196.50	-22.82
CHP Plants			-44.18			10.30	-33.88
Heat Plants							
Coke ovens							
Blast furnaces							
Oil Refineries							
Coal-to-liquids plants							
Gas-to-liquids plants							
Charcoal production plants			-490.72				-490.72
Transformation not elsewhere specified							
Energy Sector Own Use	6.29					0.38	6.67
Losses						36.03	36.03
FINAL CONSUMPTION	49.89	460.20	4092.50			171.89	4774.48
Industry	49.89	33.98	252.73			86.75	423.35
Transport		379.10	7.88				386.97
Households		0.86	3781.25			56.75	3838.86
Commercial and public services		39.48	50.63			27.95	118.06
Agriculture, Forestry and Fishing		6.80				0.44	7.24
Non-specified (HH, Com. & PS., Agri.)							
Non-Energy Use							

Figure 3.1. - Total Primary Energy Supply (ktoe)

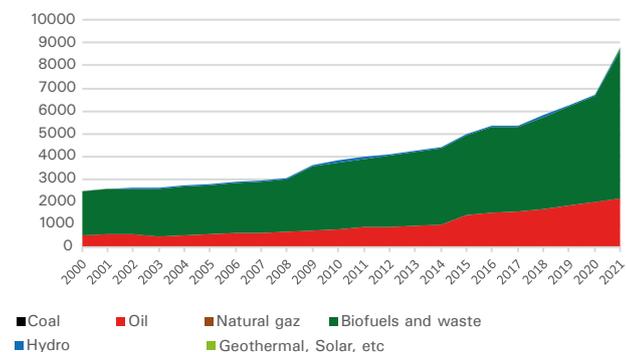


Figure 3.2. - Total Final Consumption (ktoe)

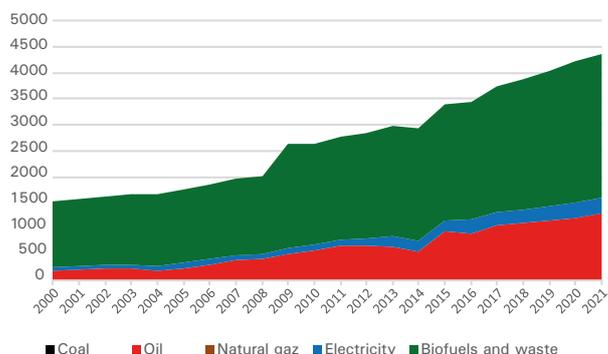


Figure 3.3. - Electricity Generation by Source (GWh)

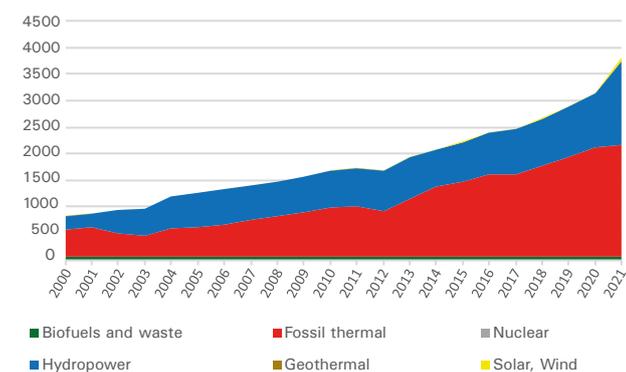


Figure 3.4. - Fuel Shares of Total Final Consumption

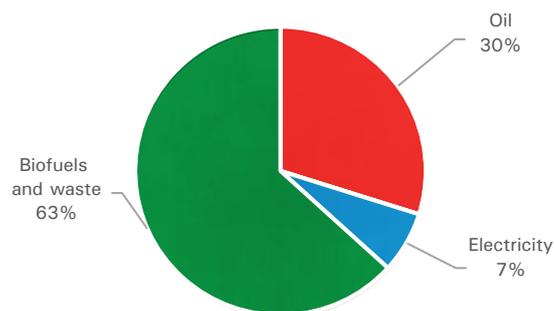


Figure 3.5. - Electricity Consumption by Sector

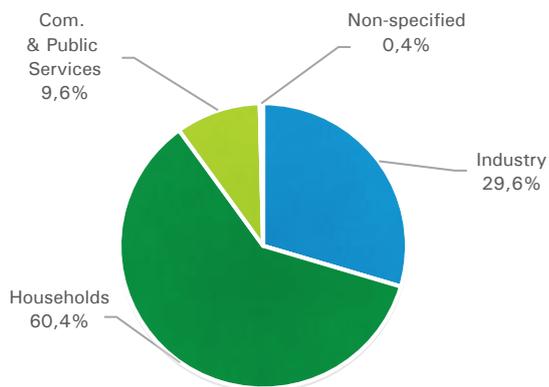
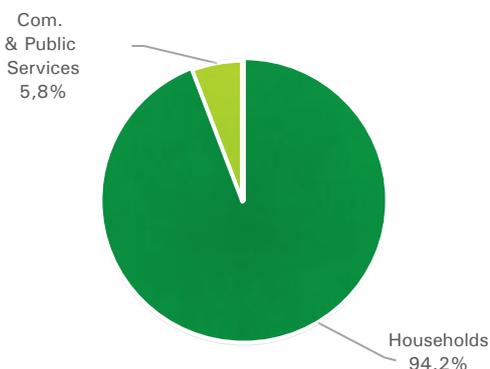


Figure 3.6. - Biofuels and Waste Consumption by Sector



Thousand Tonnes of Oil Equivalent (ktoe)	Oil products	Biofuels and waste	Hydro	Solar	Electricity	Total of All energy sources
Production		6720.86	136.59	5.85		6863.30
Imports (+)	2176.64				72.49	2249.13
Exports (-)					-58.12	-58.12
International Marine Bunkers (-)						
International Aviation Bunkers (-)						
Stock Changes (+ draw, - build)						
TOTAL PRIMARY ENERGY SUPPLY	2176.64	6720.86	136.59	5.85	14.36	9054.31
Transfers : Origin (-) and Destination (+)						
Statistical Difference	1.41	0.07			6.07	7.56
TRANSFORMATION Inputs (-) and Outputs (+)	-576.74	-1304.76	-136.59	-5.85	695.06	-1328.88
Electricity plants	-576.74	-23.53	-136.59	-5.85	695.06	-47.65
CHP Plants						
Heat Plants						
Coke ovens						
Blast furnaces						
Oil Refineries						
Coal-to-liquids plants						
Gas-to-liquids plants						
Charcoal production plants		-1281.23				-1281.23
Transformation not elsewhere specified						
Energy Sector Own Use					8.51	8.51
Losses					25.96	25.96
FINAL CONSUMPTION	1598.49	5416.03			668.88	7683.40
Industry	4.27				198.05	202.32
Transport	1492.70					1492.70
Households	4.25	5103.64			404.21	720.86
Commercial and public services	17.01	312.39			64.08	5184.73
Agriculture, Forestry and Fishing	80.17					80.17
Non-specified (HH, Com. & PS., Agri.)					2.53	2.53
Non-Energy Use	0.09					0.09

Figure 3.1. - Total Primary Energy Supply (ktoe)

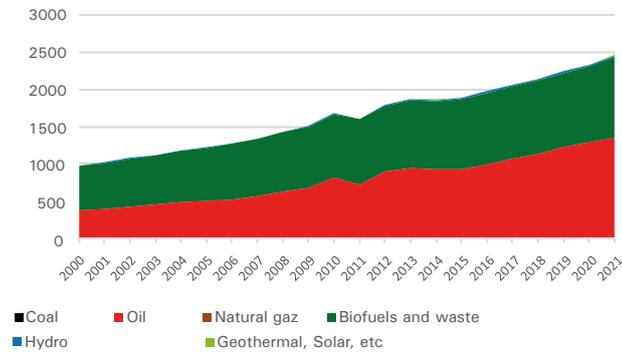


Figure 3.2. - Total Final Consumption (ktoe)

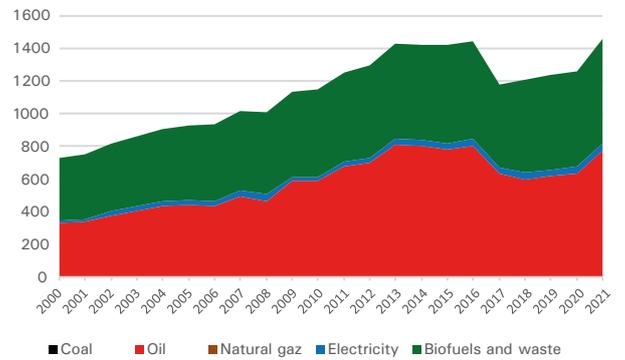


Figure 3.3. - Electricity Generation by Source (GWh)

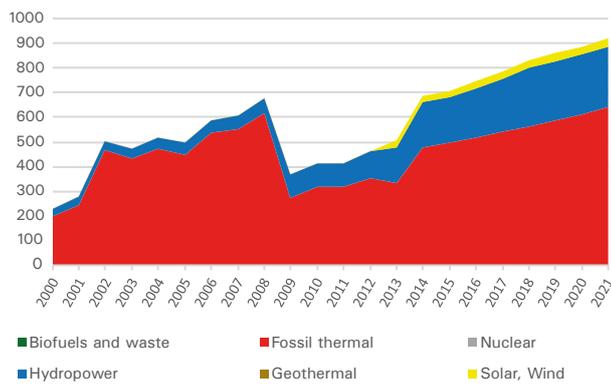


Figure 3.4. - Fuel Shares of Total Final Consumption

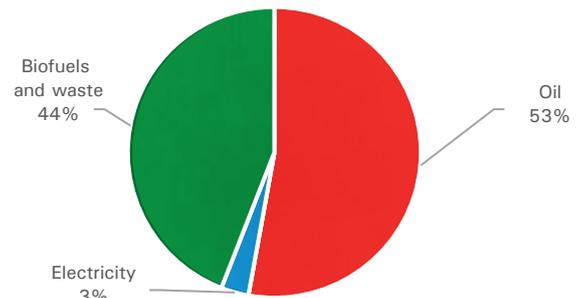


Figure 3.5. - Electricity Consumption by Sector

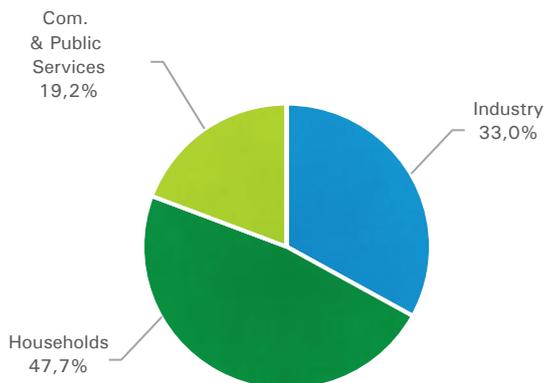
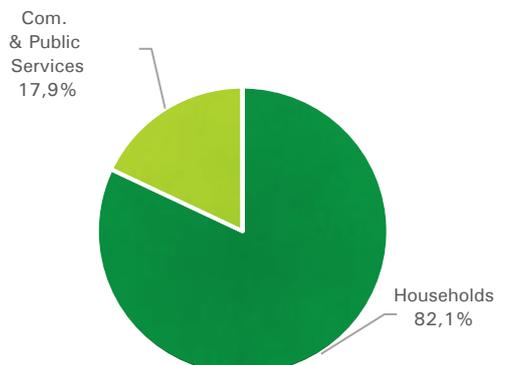


Figure 3.6. - Biofuels and Waste Consumption by Sector



Thousand Tonnes of Oil Equivalent (ktoe)	Crude oil	Oil products	Biofuels and waste	Hydro	Solar	Electricity	Total of All energy sources
Production	329.60		1015.45	21.11	3.03		1369.19
Imports (+)		1192.21					1192.21
Exports (-)	-172.43						-172.43
International Marine Bunkers (-)							
International Aviation Bunkers (-)		-89.43					-89.43
Stock Changes (+ draw, - build)	-155.85	43.71					-112.14
TOTAL PRIMARY ENERGY SUPPLY	1.32	1146.48	1015.45	21.11	3.03		2187.39
Transfers : Origin (-) and Destination (+)							
Statistical Difference	1.32	-3.32	-45.63			0.26	-47.38
TRANSFORMATION Inputs (-) and Outputs (+)		-368.15	-370.72	-21.11	-3.03	79.21	-683.80
Electricity plants		-368.15		-21.11	-3.03	79.21	-313.08
CHP Plants							
Heat Plants							
Coke ovens							
Blast furnaces							
Oil Refineries							
Coal-to-liquids plants							
Gas-to-liquids plants							
Charcoal production plants			-370.72				-370.72
Transformation not elsewhere specified							
Energy Sector Own Use						11.14	11.14
Losses						23.22	23.22
FINAL CONSUMPTION		781.65	690.37			44.60	1516.62
Industry		250.43				14.74	265.17
Transport		432.17					432.17
Households		29.96	566.45			21.28	617.70
Commercial and public services		16.18	123.91			8.58	148.67
Agriculture, Forestry and Fishing							
Non-specified (HH, Com. & PS., Agri.)		52.91					52.91
Non-Energy Use							

Figure 3.1. - Total Primary Energy Supply (ktoe)

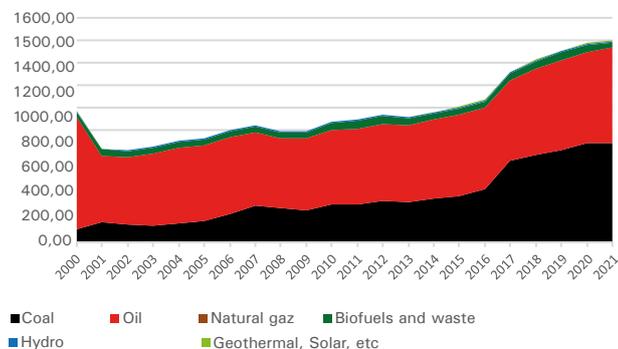


Figure 3.2. - Total Final Consumption (ktoe)

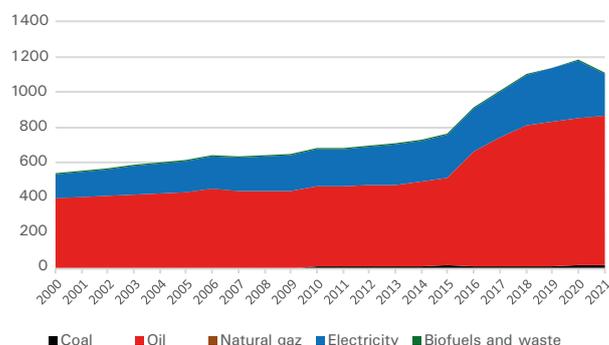


Figure 3.3. - Electricity Generation by Source (GWh)

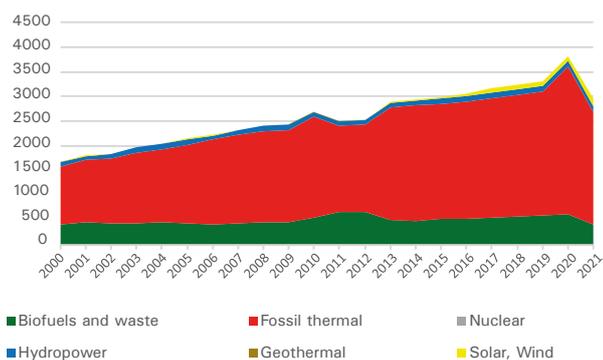


Figure 3.4. - Fuel Shares of Total Final Consumption

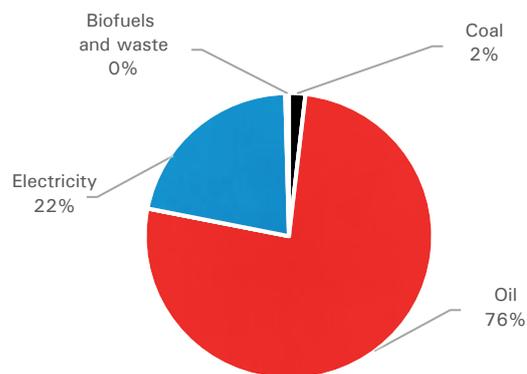


Figure 3.5. - Electricity Consumption by Sector

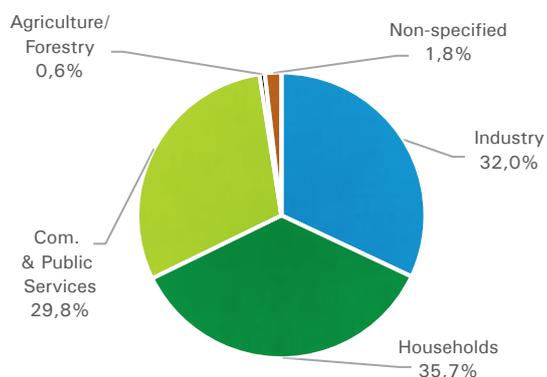
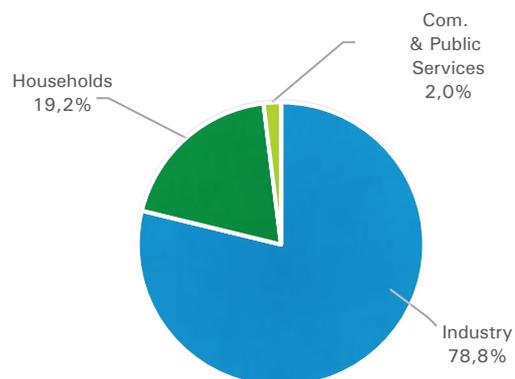


Figure 3.6. - Biofuels and Waste Consumption by Sector



Thousand Tonnes of Oil Equivalent (ktoe)	Coal and Coal Products	Oil products	Biofuels and waste	Hydro	Solar	Wind	Electricity	Total of All energy sources
Production			178.72	10.26	12.91	1.60		203.49
Imports (+)	754.73	1292.03	0.14					2046.90
Exports (-)								
International Marine Bunkers (-)		-644.65						-644.65
International Aviation Bunkers (-)		-60.54						-60.54
Stock Changes (+ draw, - build)	-335.51	187.83						-147.68
TOTAL PRIMARY ENERGY SUPPLY	419.23	774.67	178.86	10.26	12.91	1.60		1397.53
Transfers : Origin (-) and Destination (+)								
Statistical Difference	0.00	0.03	0.01				0.02	0.06
TRANSFORMATION Inputs (-) and Outputs (+)	-394.60	-214.10	-160.49	-10.26	-12.91	-1.60	255.28	-538.68
Electricity plants								
CHP Plants	-394.60	-214.10	-160.22	-10.26	-12.91	-1.60	255.28	-538.41
Heat Plants								
Coke ovens								
Blast furnaces								
Oil Refineries								
Coal-to-liquids plants								
Gas-to-liquids plants								
Charcoal production plants			-0.27					-0.27
Transformation not elsewhere specified								
Energy Sector Own Use							4.07	4.07
Losses							12.63	12.63
FINAL CONSUMPTION	24.63	560.54	18.37				238.56	842.09
Industry	24.63	73.44	14.48				76.44	188.98
Transport		407.04						407.04
Households		60.63	3.53				85.15	149.31
Commercial and public services		19.08	0.36				71.13	90.57
Agriculture, Forestry and Fishing							1.44	1.44
Non-specified (HH, Com. & PS., Agri.)		0.35					4.39	4.74
Non-Energy Use								

Figure 3.1. - Total Primary Energy Supply (ktoe)

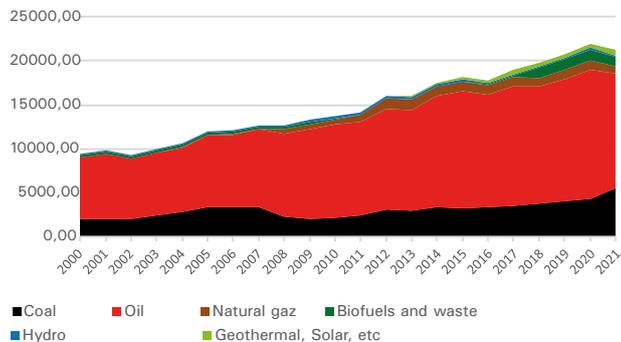


Figure 3.2. - Total Final Consumption (ktoe)

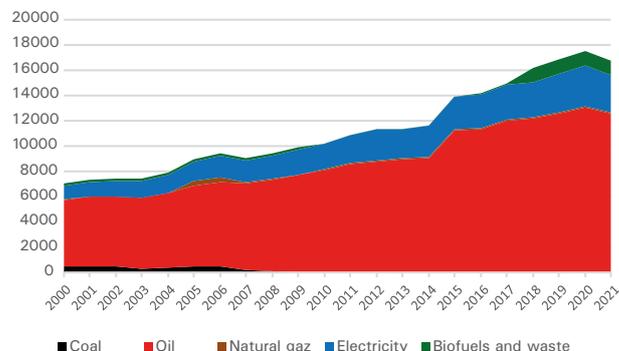


Figure 3.3. - Electricity Generation by Source (GWh)

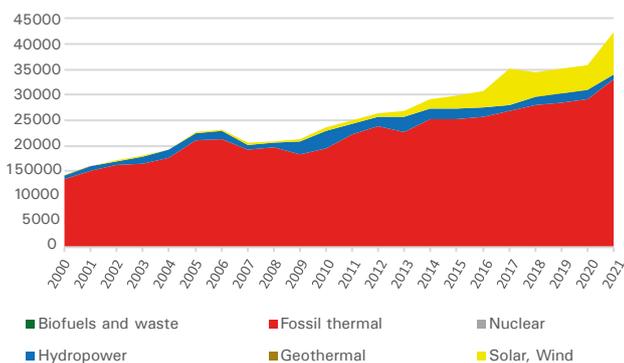


Figure 3.4. - Fuel Shares of Total Final Consumption

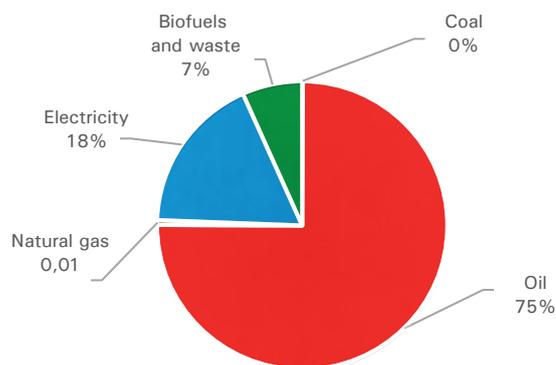


Figure 3.5. - Electricity Consumption by Sector

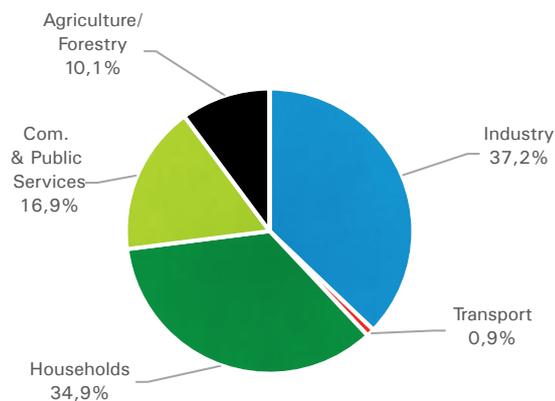
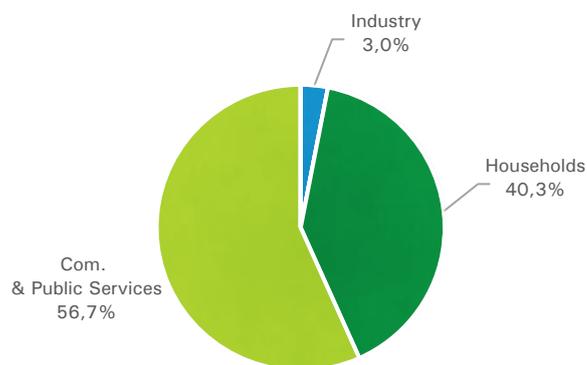


Figure 3.6. - Biofuels and Waste Consumption by Sector



Thousand Tonnes of Oil Equivalent (ktoe)	Coal and Coal Products	Crude oil	Oil products	Natural Gas	Biofuels and waste	Hydro	Solar	Wind	Other sources	Electricity	Total of All energy sources
Production		3.28		83.53	1250.18	70.36	380.98	439.09	111.96		2339.39
Imports (+)	6741.98		13014.00	596.40						59.16	20411.55
Exports (-)										-73.19	-73.19
International Marine Bunkers (-)											-134.40
International Aviation Bunkers (-)			-134.40								-395.32
Stock Changes (+ draw, - build)	-191.33		-395.32								188.13
			379.45								
TOTAL PRIMARY ENERGY SUPPLY	6550.66	3.28	12863.73	679.94	1250.18	70.36	380.98	439.09	111.96	-14.03	22336.15
Transfers : Origin (-) and Destination (+)											
Statistical Difference			-18.95	1.87				0.00		0.00	-17.08
TRANSFORMATION Inputs (-) and Outputs (+)											
	-6534.63		-350.31	-595.66	-37.64	-70.36	-380.98	-439.09	-111.96	3625.76	-4894.88
	-6534.63										
Electricity plants			-350.31	-595.66		-70.36	-380.98	-439.09		3513.80	-4857.24
CHP Plants									-111.96	111.96	
Heat Plants											
Coke ovens											
Blast furnaces											
Oil Refineries											
Coal-to-liquids plants											
Gas-to-liquids plants											
Charcoal production plants					-37.64						-37.64
Transformation not elsewhere specified											
Energy Sector Own Use		3.28								16.39	19.67
Losses										625.49	625.49
FINAL CONSUMPTION											
	16.03		12532.37	82.41	1212.54					2969.84	16813.19
Industry	16.03		2004.39	82.41	36.98					1103.84	3243.64
Transport			6007.91							26.85	6034.77
Households			2843.54		488.22					1036.76	4368.52
Commercial and public services			175.87		687.34					502.03	1365.24
Agriculture, Forestry and Fishing			956.81							300.36	1257.16
Non-specified (HH, Com. & PS., Agri.)											
Non-Energy Use			543.86								543.86

Figure 3.1. - Total Primary Energy Supply (ktoe)

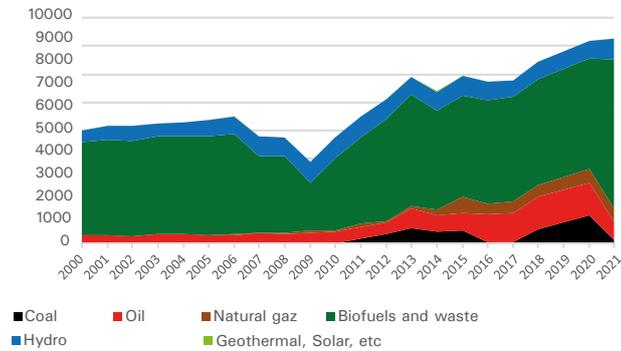


Figure 3.2. - Total Final Consumption (ktoe)

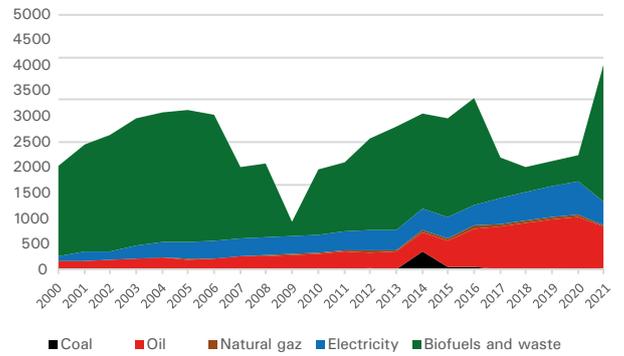


Figure 3.3. - Electricity Generation by Source (GWh)

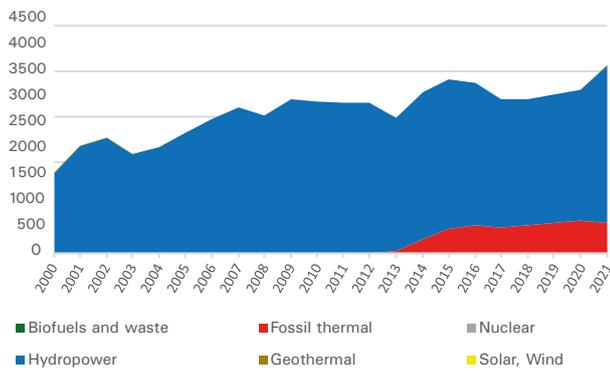


Figure 3.4. - Fuel Shares of Total Final Consumption

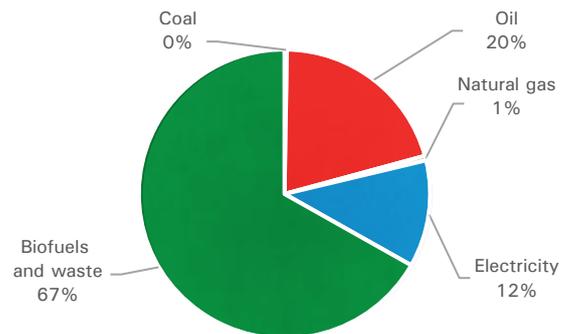


Figure 3.5. - Electricity Consumption by Sector

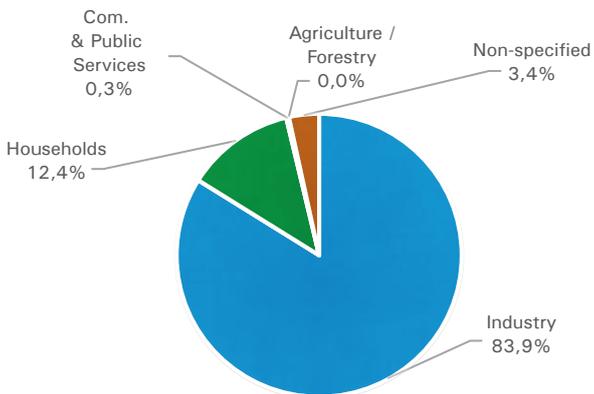
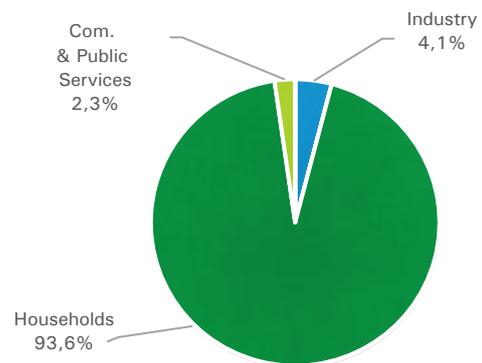


Figure 3.6. - Biofuels and Waste Consumption by Sector



Thousand Tonnes of Oil Equivalent (ktoe)	Coal and Coal Products	Crude oil	Oil products	Natural Gas	Biofuels and waste	Hydro	Solar	Electricity	Total of All energy sources
Production	-5057.13	7.26		4382.44	10367.23	1485.27	6.48		21567.20
Imports (+)			1434.31					767.09	2201.40
Exports (-)	-5057.13	-7.20	-28.06	-3584.23				-1162.41	-9839.03
International Marine Bunkers (-)			-5.86						-5.86
International Aviation Bunkers (-)			-53.37						-53.37
Stock Changes (+ draw, - build)	-238.87		107.36						-131.51
TOTAL PRIMARY ENERGY SUPPLY	22.52	0.05	1454.37	798.21	10367.23	1485.27	6.48	-395.31	13738.83
Transfers : Origin (-) and Destination (+)									
Statistical Difference	0.00	0.05	8.87	-27.33	0.00			-71.05	-89.45
TRANSFORMATION Inputs (-) and Outputs (+)									
Electricity plants			-32.10	-651.57	-3322.86	-1485.27	-6.48	1799.41	-3698.87
CHP Plants			-32.10	-651.57	-63.38	-1485.27	-6.48	1799.41	-439.40
Heat Plants									
Coke ovens									
Blast furnaces									
Oil Refineries									
Coal-to-liquids plants									
Gas-to-liquids plants									
Charcoal production plants					-3259.48				-3259.48
Transformation not elsewhere specified									
Energy Sector Own Use			0.21	114.72				34.32	149.25
Losses								287.77	287.77
FINAL CONSUMPTION	22.52		1413.20	59.25	7044.37			1153.06	9692.40
Industry	22.52		185.85	41.89	287.69			967.34	1505.29
Transport			1191.31	0.67					1191.98
Households			27.21		6595.24			142.85	6765.29
Commercial and public services			8.83	1.11	161.45			3.52	174.91
Agriculture, Forestry and Fishing								0.03	0.03
Non-specified (HH, Com. & PS., Agri.)				15.58				39.32	54.90
Non-Energy Use									

Figure 3.1. - Total Primary Energy Supply (ktoe)

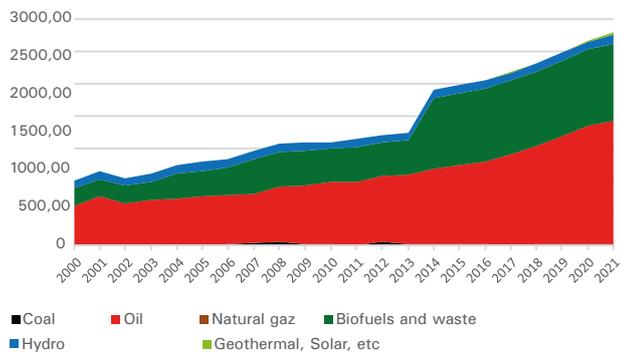


Figure 3.2. - Total Final Consumption (ktoe)

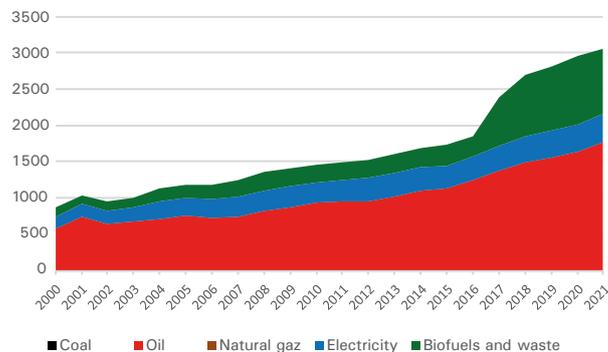


Figure 3.3. - Electricity Generation by Source (GWh)

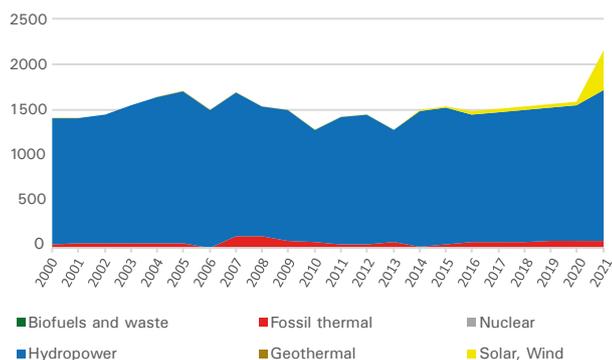


Figure 3.4. - Fuel Shares of Total Final Consumption

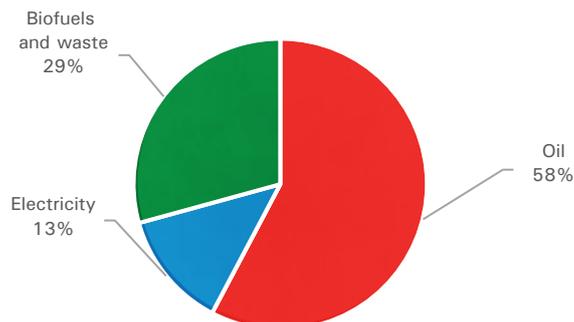


Figure 3.5. - Electricity Consumption by Sector

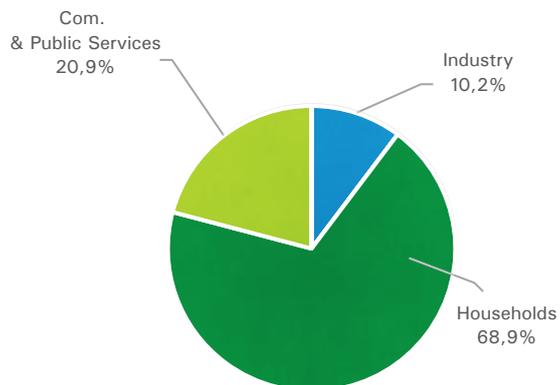
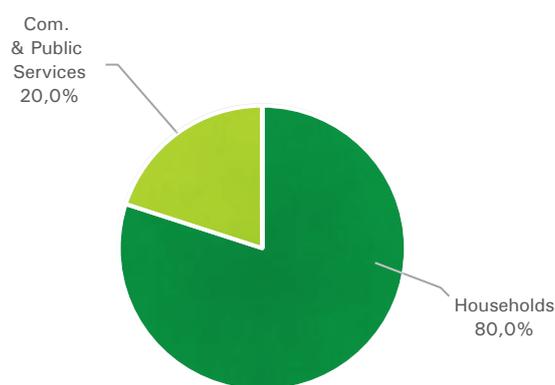


Figure 3.6. - Biofuels and Waste Consumption by Sector



Thousand Tonnes of Oil Equivalent (ktoe)	Coal and Coal Products	Crude oil	Oil products	Biofuels and waste	Hydro	Solar	Wind	Electricity	Total of all energy sources
Production				1190.98	142.35	34.90	1.70		1369.93
Imports (+)	21.18		1166.13					263.41	1450.72
Exports (-)			-3.99					-56.09	-60.08
International Marine Bunkers (-)									
International Aviation Bunkers (-)			-12.43						-12.43
Stock Changes (+ draw, - build)			66.63						66.63
TOTAL PRIMARY ENERGY SUPPLY	21.18		1216.34	1190.98	142.35	34.90	1.70	207.33	2814.77
Transfers : Origin (-) and Destination (+)									
Statistical Difference			0.98	-45.26				-12.91	-57.19
TRANSFORMATION Inputs (-) and Outputs (+)	-21.18		-3.13	-258.94	-142.35	-34.90	-1.70	185.10	-277.09
Electricity plants	-21.18		-3.13		-142.35	-34.90	-1.70	185.10	-18.15
CHP Plants									
Heat Plants									
Coke ovens									
Blast furnaces									
Oil Refineries									
Coal-to-liquids plants									
Gas-to-liquids plants									
Charcoal production plants				-258.94					-258.94
Transformation not elsewhere specified									
Energy Sector Own Use								8.99	8.99
Losses								29.13	29.13
FINAL CONSUMPTION			1212.24	977.30				367.22	2556.76
Industry			88.62					37.55	126.17
Transport			623.46						623.46
Households			12.72	781.97				252.99	1047.67
Commercial and public services			4.57	195.33				76.68	276.59
Agriculture, Forestry and Fishing			379.86						379.86
Non-specified (HH, Com. & PS., Agri.)			79.00	-					79.00
Non-Energy Use			24.01						24.01

Figure 3.1. - Total Primary Energy Supply (ktoe)

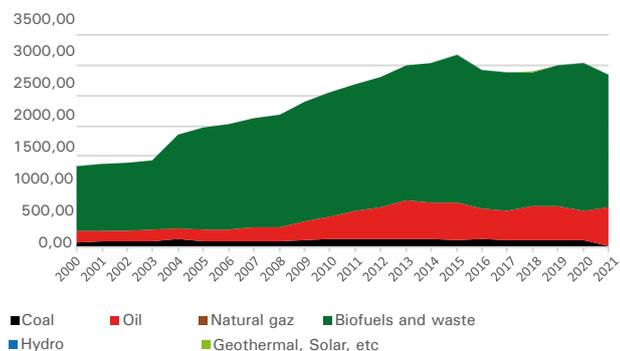


Figure 3.2. - Total Final Consumption (ktoe)

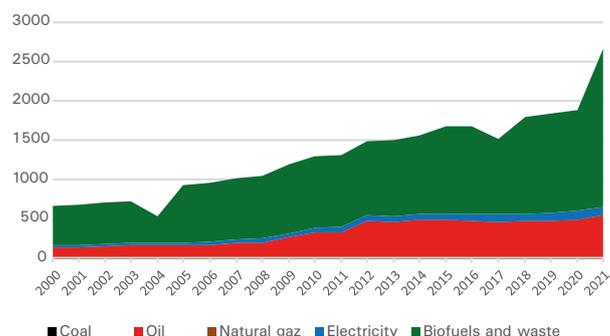


Figure 3.3. - Electricity Generation by Source (GWh)

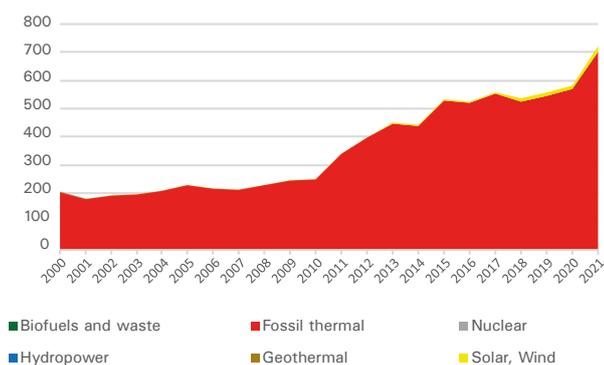


Figure 3.4. - Fuel Shares of Total Final Consumption

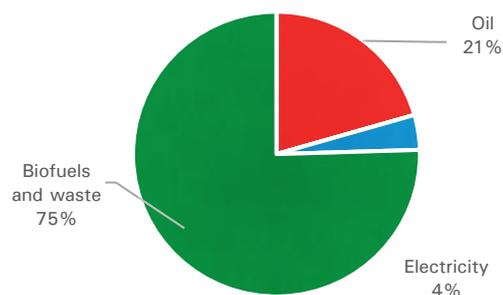


Figure 3.5. - Electricity Consumption by Sector

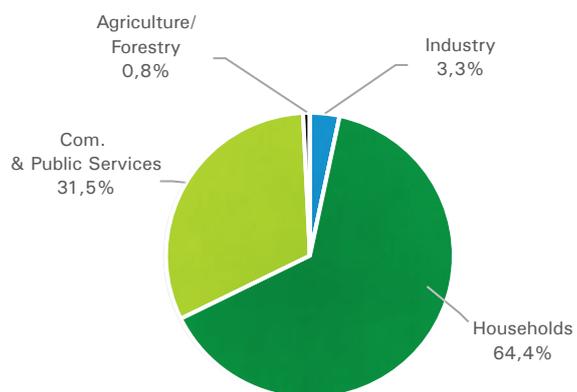
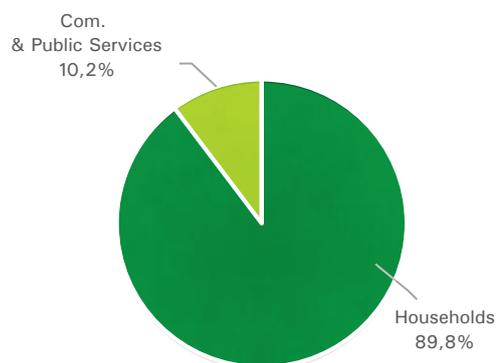


Figure 3.6. - Biofuels and Waste Consumption by Sector



Thousand Tonnes of Oil Equivalent (ktoe)	Coal and Coal Products	Crude oil	Oil products	Natural Gas	Biofuels and waste	Solar	Electricity	Total of All energy sources
Production	69.21	862.04		55.91	2379.73	2.07		3368.96
Imports (+)			231.66				96.47	328.12
Exports (-)			-397.01					-397.01
International Marine Bunkers (-)								
International Aviation Bunkers (-)			-58.25					-58.25
Stock Changes (+ draw, - build)	-0.14	6.60	-6.48					-0.02
TOTAL PRIMARY ENERGY SUPPLY	69.07	868.64	-230.08	55.91	2379.73	2.07	96.47	3241.80
<hr/>								
Transfers : Origin (-) and Destination (+)								
Statistical Difference	2.78	0.00	-17.77	0.00	0.01		5.05	-9.93
<hr/>								
TRANSFORMATION Inputs (-) and Outputs (+)	-66.29	-868.64	785.35	-55.91	-100.59	-2.07	62.12	-246.02
Electricity plants								
CHP Plants	-64.78		-54.18	-22.74		-2.07	62.12	-81.65
Heat Plants								
Coke ovens								
Blast furnaces								
Oil Refineries		-868.64	839.53					-29.11
Coal-to-liquids plants	-1.51							-1.51
Gas-to-liquids plants								
Charcoal production plants					-100.59			-100.59
Transformation not elsewhere specified				-33.17				-33.17
<hr/>								
Energy Sector Own Use			16.37				18.73	35.10
Losses			0.26				29.34	29.60
<hr/>								
FINAL CONSUMPTION			556.40		2279.13		105.47	2941.01
Industry			131.30				3.51	134.82
Transport			355.64					355.64
Households			42.34		2045.59		67.93	2155.86
Commercial and public services			27.11		233.54		33.24	293.89
Agriculture, Forestry and Fishing							0.80	0.80
Non-specified (HH, Com. & PS., Agri.)								
Non-Energy Use								

Figure 3.1. - Total Primary Energy Supply (ktoe)

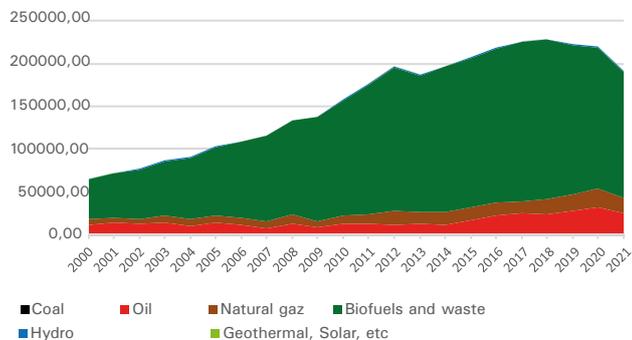


Figure 3.2. - Total Final Consumption (ktoe)

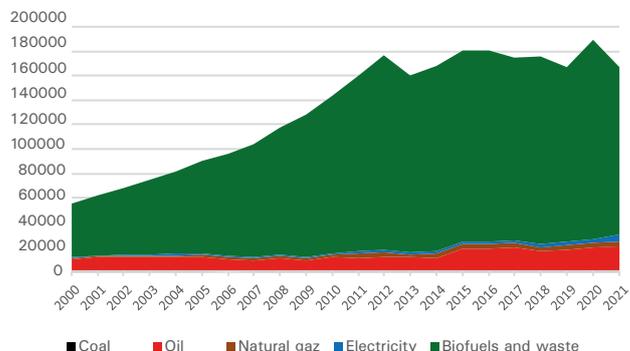


Figure 3.3. - Electricity Generation by Source (GWh)

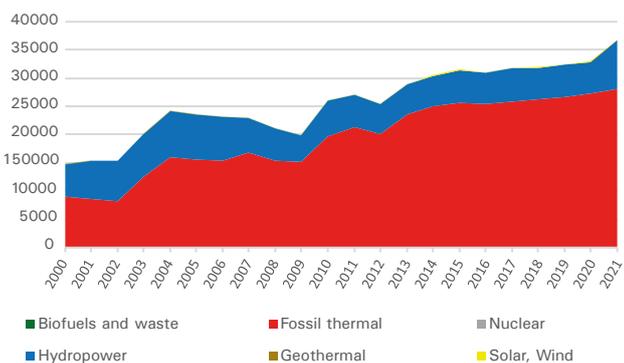


Figure 3.4. - Fuel Shares of Total Final Consumption

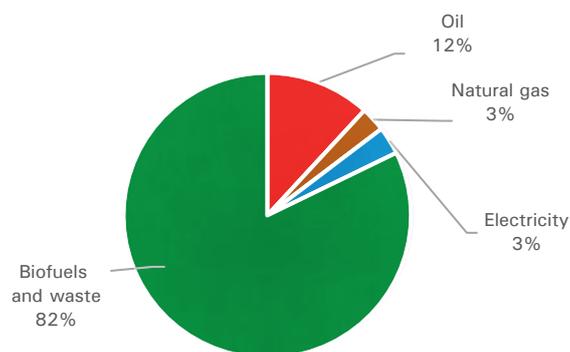


Figure 3.5. - Electricity Consumption by Sector

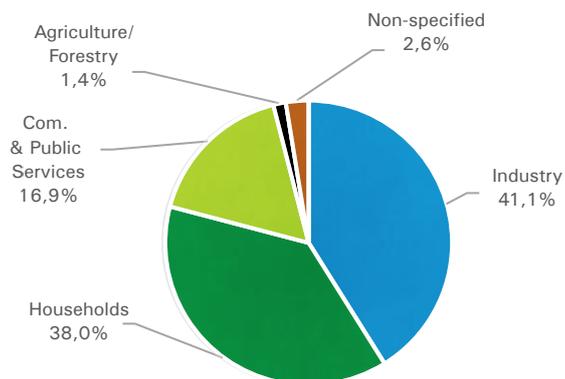
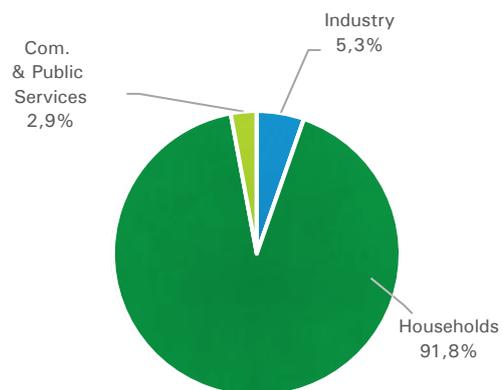


Figure 3.6. - Biofuels and Waste Consumption by Sector



Thousand Tonnes of Oil Equivalent (ktoe)	Coal and Coal Products	Crude oil	Oil products	Natural Gas	Biofuels and waste	Hydro	Solar	Electricity	Total of All energy sources
Production	26.92	111828.71		52099.71	159741.47	747.20	3.70		324447.71
Imports (+)			23397.53						23397.53
Exports (-)		109344.25	-256.13	-35573.40				-201.94	-145375.72
International Marine Bunkers (-)			-289.64						-289.64
International Aviation Bunkers (-)			-631.99						-631.99
Stock Changes (+ draw, - build)		231.98	2980.11						3212.08
TOTAL PRIMARY ENERGY SUPPLY	26.92	2716.43	25199.88	16526.30	159741.47	747.20	3.70	-201.94	204759.98
Transfers : Origin (-) and Destination (+)		-253.41							-253.41
Statistical Difference		0.88	188.23	10.17	-0.24	0.00		-18.50	180.55
TRANSFORMATION Inputs (-) and Outputs (+)		-2462.14	-4433.31	-11949.62	-6892.48	-747.20	-3.70	6293.71	-20194.74
Electricity plants			-7522.71	-9559.32		-747.20	-3.70	6293.71	-11539.23
CHP Plants									
Heat Plants				-383.01					-383.01
Coke ovens									
Blast furnaces									
Oil Refineries		-2462.14	2072.63						-389.51
Coal-to-liquids plants									
Gas-to-liquids plants				-2007.28					-2007.28
Charcoal production plants					-6892.48				-6892.48
Transformation not elsewhere specified			1016.77						1016.77
Energy Sector Own Use			165.82	367.75				100.92	634.49
Losses								753.41	753.41
FINAL CONSUMPTION	26.92		20412.52	4198.77	152849.22			5255.95	182743.38
Industry	26.92		53.87	2950.27	8136.31			2161.54	13328.91
Transport			16322.43						16322.43
Households			3320.83		140254.81			1996.52	145572.15
Commercial and public services			155.20		4458.10			889.50	5502.79
Agriculture, Forestry and Fishing								74.09	74.09
Non-specified (HH, Com. & PS., Agri.)								134.31	134.31
Non-Energy Use			560.20	1248.50					1808.70

Figure 3.1. - Total Primary Energy Supply (ktoe)

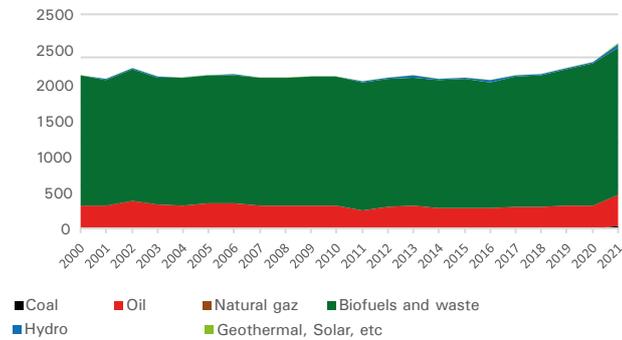


Figure 3.2. - Total Final Consumption (ktoe)

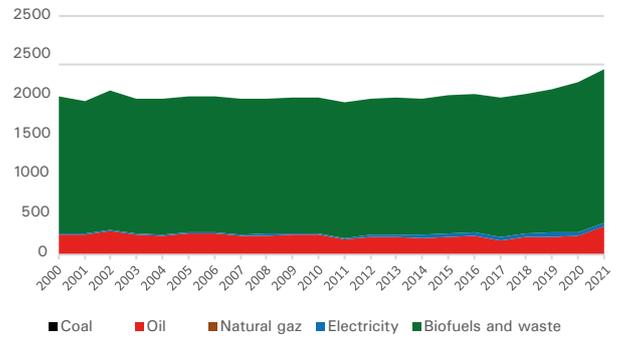


Figure 3.3. - Electricity Generation by Source (GWh)

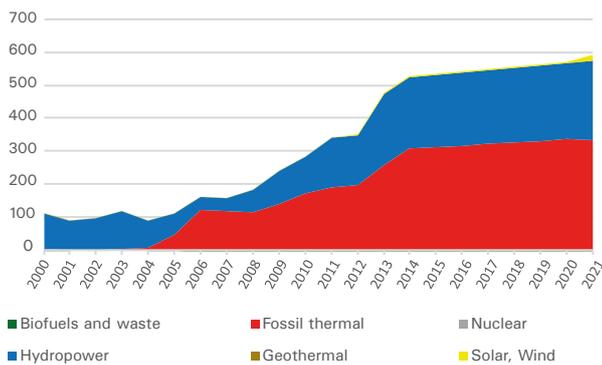


Figure 3.4. - Fuel Shares of Total Final Consumption

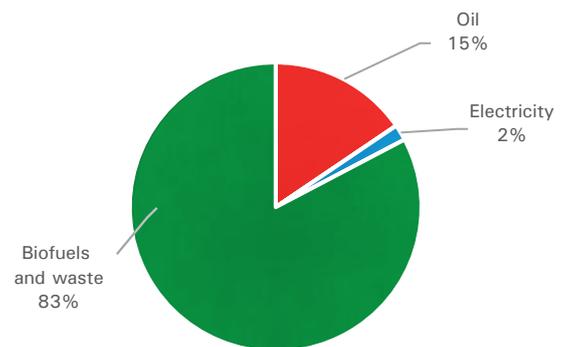


Figure 3.5. - Electricity Consumption by Sector

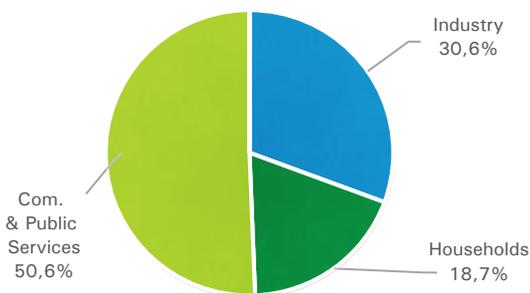
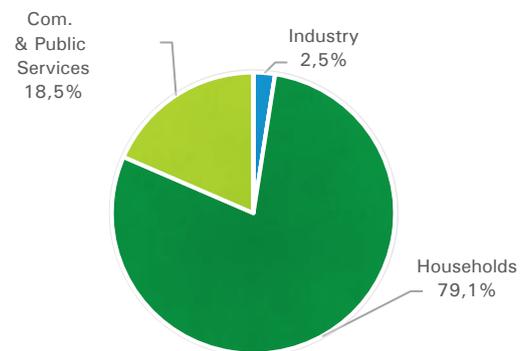


Figure 3.6. - Biofuels and Waste Consumption by Sector



Thousand Tonnes of Oil Equivalent (ktoe)	Coal and Coal Products	Oil products	Natural Gas	Biofuels and waste	Hydro	Solar	Electricity	Total of All energy sources
Production	24.85		47.71	1888.25	46.67	1.55		2009.04
Imports (+)		474.43		42.28			3.13	519.84
Exports (-)		-104.36					-0.44	-104.80
International Marine Bunkers (-)								
International Aviation Bunkers (-)		-29.57						-29.57
Stock Changes (+ draw, - build)	-1.85	4.90						3.06
TOTAL PRIMARY ENERGY SUPPLY	23.01	345.41	47.71	1930.53	46.67	1.55	2.69	2397.56
Transfers : Origin (-) and Destination (+)								
Statistical Difference	0.10	0.55		19.96			5.47	26.08
TRANSFORMATION Inputs (-) and Outputs (+)	-22.91	-19.07	-47.71	-78.13	-46.67	-1.55	76.91	-139.13
Electricity plants	-22.91	-19.07	-47.71	-0.38	-46.67	-1.55	76.91	-61.38
CHP Plants								
Heat Plants								
Coke ovens								
Blast furnaces								
Oil Refineries								
Coal-to-liquids plants								
Gas-to-liquids plants								
Charcoal production plants				-77.75				-77.75
Transformation not elsewhere specified								
Energy Sector Own Use							0.71	0.71
Losses							10.10	10.10
FINAL CONSUMPTION		325.79		1832.43			63.32	2221.55
Industry		61.68		44.95			19.40	126.02
Transport		195.19						195.19
Households		19.24		1449.24			11.87	1480.35
Commercial and public services		25.88		338.23			32.06	396.18
Agriculture, Forestry and Fishing								
Non-specified (HH, Com. & PS., Agri.)		3.44						3.44
Non-Energy Use		20.37						20.37

Figure 3.1. - Total Primary Energy Supply (ktoe)

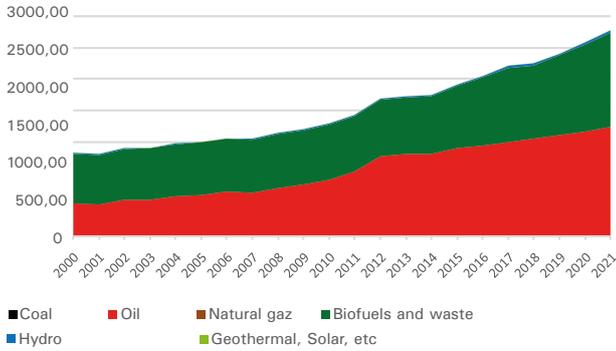


Figure 3.2. - Total Final Consumption (ktoe)

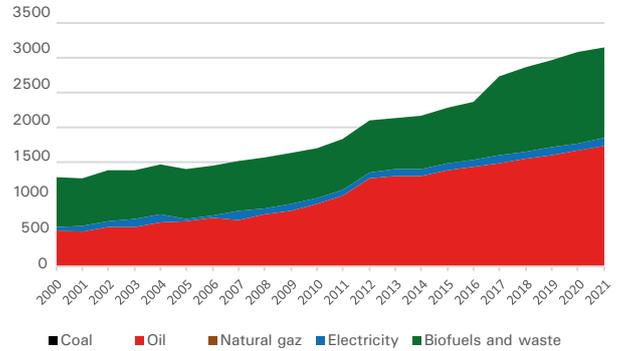


Figure 3.3. - Electricity Generation by Source (GWh)

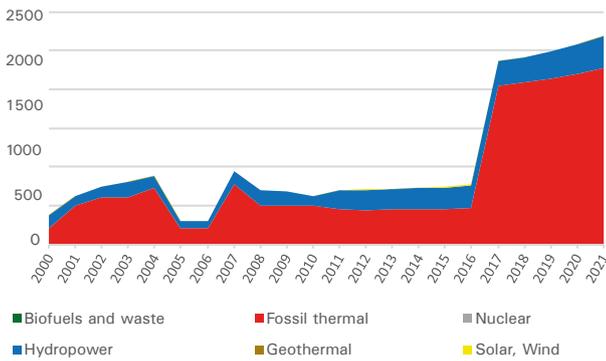


Figure 3.4. - Fuel Shares of Total Final Consumption

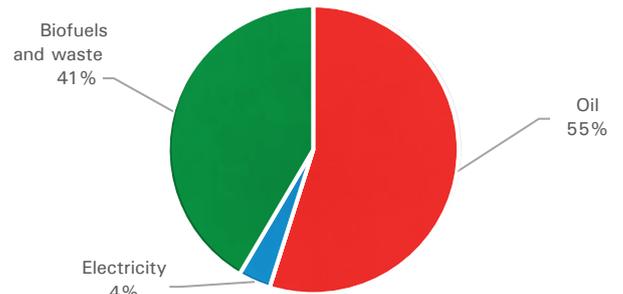


Figure 3.5. - Electricity Consumption by Sector

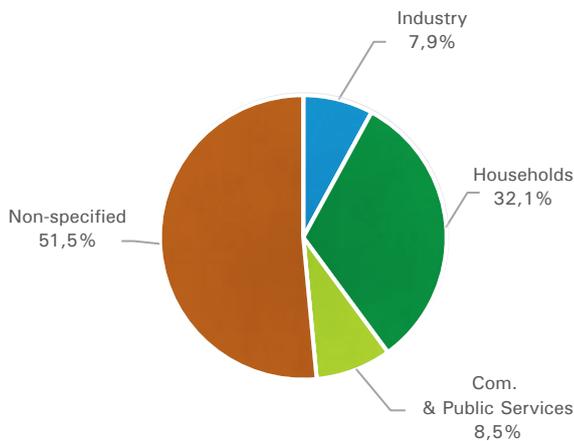
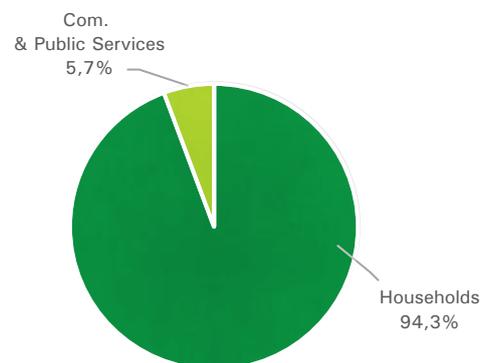


Figure 3.6. - Biofuels and Waste Consumption by Sector



Sao Tome and Principe

Energy Balance 2021

Thousand Tonnes of Oil Equivalent (ktoe)	Oil products	Biofuels and waste	Hydro	Solar	Electricity	Total of All energy sources
Production		119.67	1.41	0.01		121.10
Imports (+)	70.03					70.03
Exports (-)						
International Marine Bunkers (-)						
International Aviation Bunkers (-)	-4.47					-4.47
Stock Changes (+ draw, - build)	-1.75					-1.75
TOTAL PRIMARY ENERGY SUPPLY	63.80	119.67	1.41	0.01		184.90
Transfers : Origin (-) and Destination (+)						
Statistical Difference	-1.62	3.83			0.27	2.47
TRANSFORMATION Inputs (-) and Outputs (+)	-25.25	-22.78	-1.41	-0.01	9.26	-40.20
Electricity plants	-25.25		-1.41	-0.01	9.26	-17.42
CHP Plants						
Heat Plants						
Coke ovens						
Blast furnaces						
Oil Refineries						
Coal-to-liquids plants						
Gas-to-liquids plants						
Charcoal production plants		-22.78				-22.78
Transformation not elsewhere specified						-
Energy Sector Own Use					0.82	0.82
Losses					3.48	3.48
FINAL CONSUMPTION	40.17	93.07			4.69	137.92
Industry					0.37	0.37
Transport	21.53					21.53
Households	5.99	87.81			1.50	95.30
Commercial and public services	0.25	5.26			0.40	5.91
Agriculture, Forestry and Fishing	0.04					0.04
Non-specified (HH, Com. & PS., Agri.)	3.56				2.41	5.96
Non-Energy Use	8.81					8.81

Figure 3.1. - Total Primary Energy Supply (ktoe)

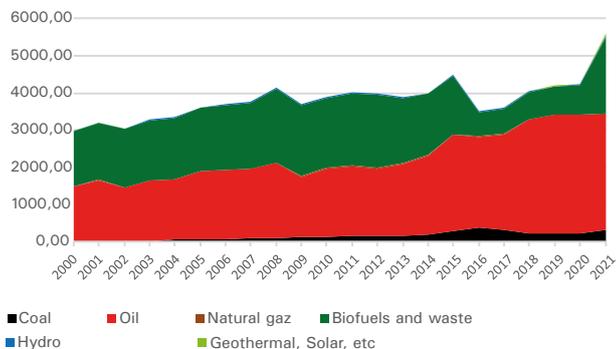


Figure 3.2. - Total Final Consumption (ktoe)

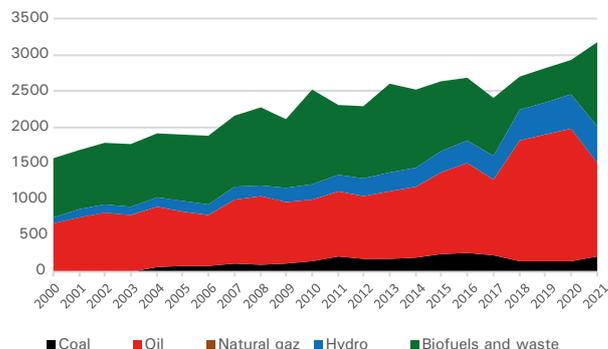


Figure 3.3. - Electricity Generation by Source (GWh)

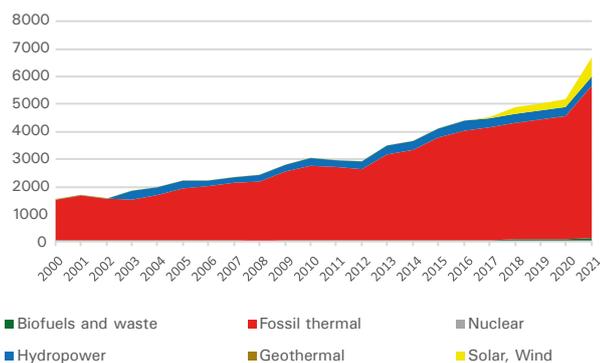


Figure 3.4. - Fuel Shares of Total Final Consumption

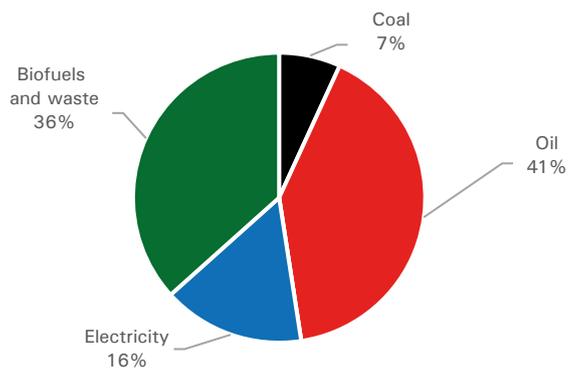


Figure 3.5. - Electricity Consumption by Sector

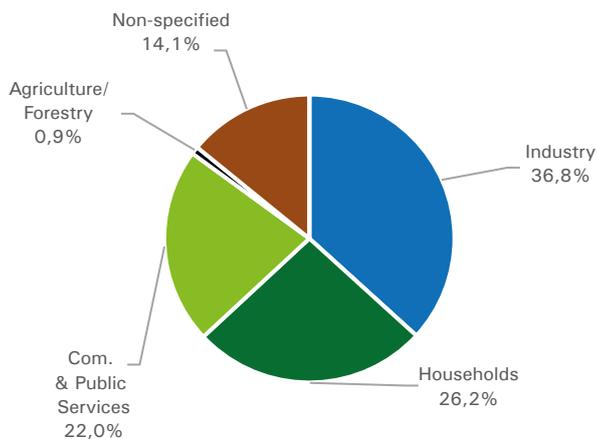
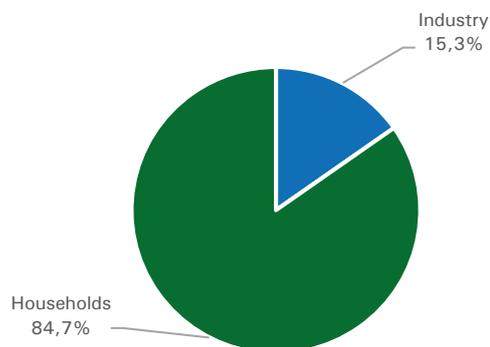


Figure 3.6. - Biofuels and Waste Consumption by Sector



Thousand Tonnes of Oil Equivalent (ktoe)	Coal and Coal Products	Crude oil	Oil products	Natural Gas	Biofuels and waste	Solar	Wind	Electricity	Heat	Total of All energy sources
Production				13.37	1895.87	36.45	20.56			1966.25
Imports (+)	403.59	1128.87	2082.73							3648.80
Exports (-)			-100.61					33.63		-100.61
International Marine Bunkers (-)			-263.35							-263.35
International Aviation Bunkers (-)			-159.89							-159.89
Stock Changes (+ draw, - build)		-216.21	-195.16							-411.37
TOTAL PRIMARY ENERGY SUPPLY	403.59	912.66	1363.72	13.37	1895.87	36.45	20.56	33.63		4679.84
Transfers : Origin (-) and Destination (+)			-0.03	-						-0.03
Statistical Difference		0.14	-1.71	0.00	0.23	0.00		0.03		-1.31
TRANSFORMATION Inputs (-) and Outputs (+)	-133.15	-912.52	-38.30	-13.37	-530.32	-36.45	-20.56	544.93	20.53	-1119.20
Electricity plants										
CHP Plants	-133.15		-873.87	-13.37	-36.99	-36.45	-20.56	544.93		-569.45
Heat Plants										
Coke ovens									20.53	20.53
Blast furnaces										
Oil Refineries		-912.52	835.57							-76.95
Coal-to-liquids plants										
Gas-to-liquids plants										
Charcoal production plants					-493.33					-493.33
Transformation not elsewhere specified										
Energy Sector Own Use			2.82					5.53	20.53	28.88
Losses								72.09		72.09
FINAL CONSUMPTION	270.44		1324.29		1365.32			500.90		3460.95
Industry	270.44		21.50		208.26			184.32		684.50
Transport			1023.85							1023.85
Households			213.63		1157.07			131.47		1502.16
Commercial and public services								110.31		110.31
Agriculture, Forestry and Fishing								4.31		4.31
Non-specified (HH, Com. & PS., Agri.)			9.98					70.51		80.49
Non-Energy Use			55.34							55.34

Figure 3.1. - Total Primary Energy Supply (ktoe)

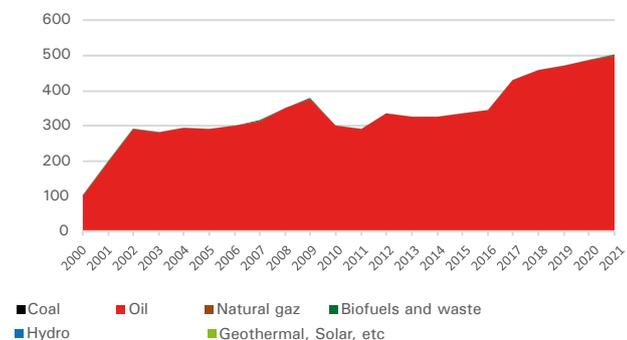


Figure 3.2. - Total Final Consumption (ktoe)

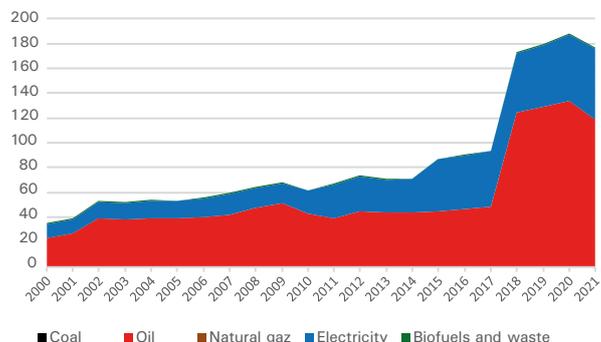


Figure 3.3. - Electricity Generation by Source (GWh)

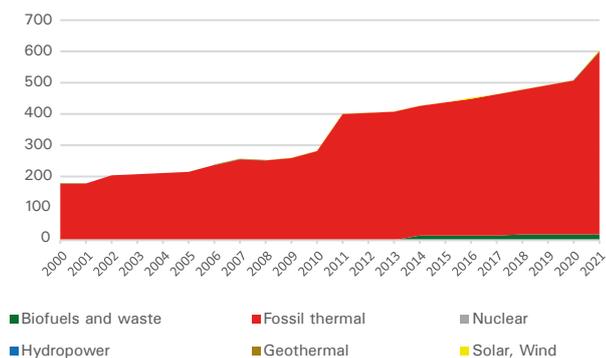


Figure 3.4. - Fuel Shares of Total Final Consumption

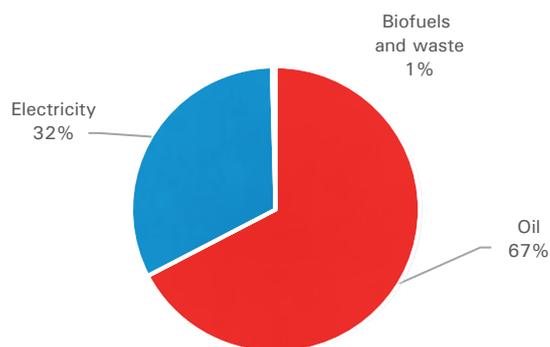


Figure 3.5. - Electricity Consumption by Sector

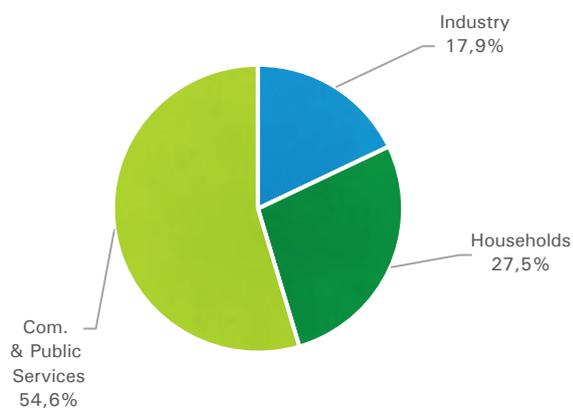
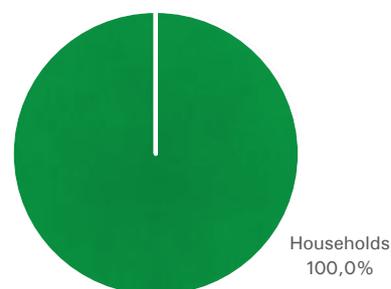


Figure 3.6. - Biofuels and Waste Consumption by Sector



Thousand Tonnes of Oil Equivalent (ktoe)	Oil products	Biofuels and waste	Solar	Electricity	Total of All energy sources
Production		6.35	0.09		6.44
Imports (+)	504.23				504.23
Exports (-)					
International Marine Bunkers (-)	-208.07				-208.07
International Aviation Bunkers (-)	-67.51				-67.51
Stock Changes (+ draw, - build)	-6.60				-6.60
TOTAL PRIMARY ENERGY SUPPLY	222.05	6.35	0.09		228.49
<hr/>					
Transfers : Origin (-) and Destination (+)					
Statistical Difference	0.30	-1.37		-9.22	-10.30
<hr/>					
TRANSFORMATION Entrées (-) et Sorties (+)	-101.37	-6.35	-0.09	51.72	-56.09
Electricity plants	-101.37	-5.53	-0.09	51.72	-55.27
CHP Plants					
Heat Plants					
Coke ovens					
Blast furnaces					
Oil Refineries					
Coal-to-liquids plants					
Gas-to-liquids plants					
Charcoal production plants					
Transformation not elsewhere specified		-0.82			-0.82
<hr/>					
Energy Sector Own Use				1.04	1.04
Losses				2.78	2.78
<hr/>					
FINAL CONSUMPTION	120.39	1.37		57.12	178.88
Industry	7.42			10.22	17.64
Transport	67.62				67.62
Households	7.82	1.37		15.71	24.90
Commercial and public services				31.19	31.19
Agriculture, Forestry and Fishing					
Non-specified (HH, Com. & PS., Agri.)	37.42				37.42
Non-Energy Use	0.10				0.10

Figure 3.1. - Total Primary Energy Supply (ktoe)

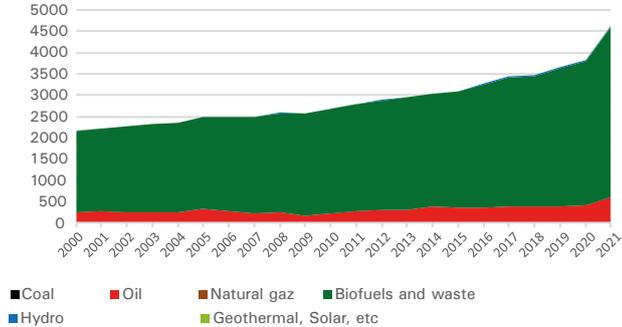


Figure 3.2. - Total Final Consumption (ktoe)

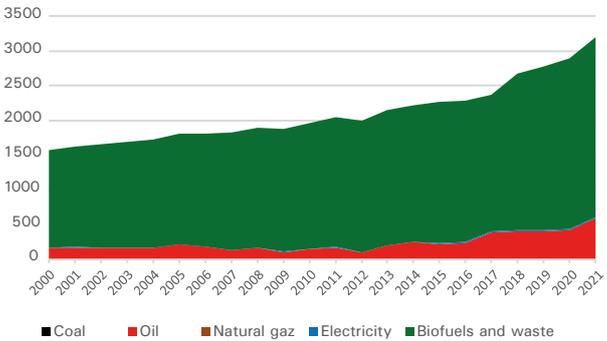


Figure 3.3. - Electricity Generation by Source (GWh)

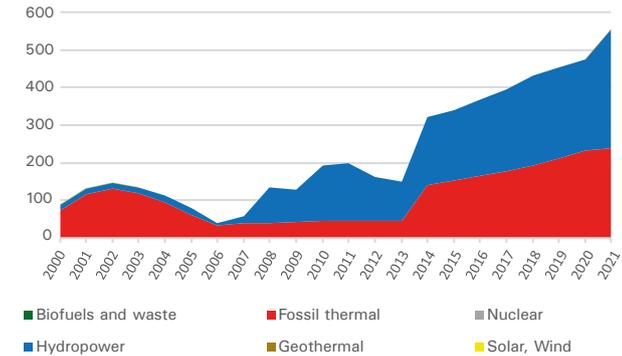


Figure 3.4. - Fuel Shares of Total Final Consumption

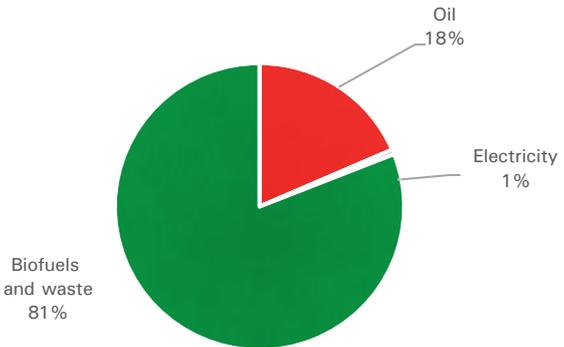


Figure 3.5. - Electricity Consumption by Sector

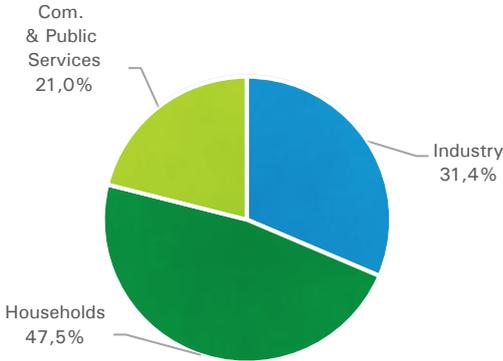
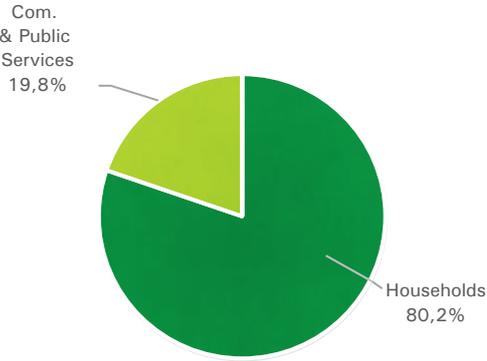


Figure 3.6. - Biofuels and Waste Consumption by Sector



Thousand Tonnes of Oil Equivalent (ktoe)	Oil products	Biofuels and waste	Hydro	Other sources	Electricity	Total of All energy sources
Production		3574.95	27.04	3.06		3605.04
Imports (+)	631.35					631.35
Exports (-)						
International Marine Bunkers (-)						
International Aviation Bunkers (-)	-3.82					-3.82
Stock Changes (+ draw, - build)	-24.93					-24.93
TOTAL PRIMARY ENERGY SUPPLY	602.60	3574.95	27.04	3.06		4207.64
Transfers : Origin (-) and Destination (+)						
Statistical Difference	-1.07	155.69			-0.46	154.16
TRANSFORMATION Inputs (-) and Outputs (+)	-11.55	-825.97	-27.04	-3.06	35.67	-831.95
Electricity plants	-11.55		-27.04	-3.06	35.67	-5.98
CHP Plants						
Heat Plants						
Coke ovens						
Blast furnaces						
Oil Refineries						
Coal-to-liquids plants						
Gas-to-liquids plants						
Charcoal production plants		-825.97				-825.97
Transformation not elsewhere specified						
Energy Sector Own Use						
Losses					19.20	19.20
FINAL CONSUMPTION	592.11	2593.28			16.93	3202.33
Industry	293.44				5.32	298.76
Transport	290.32					290.32
Households	3.44	2081.01			8.04	2092.49
Commercial and public services	0.01	512.27			3.56	515.84
Agriculture, Forestry and Fishing						
Non-specified (HH, Com. & PS., Agri.)	4.91					4.91
Non-Energy Use						

Figure 3.1. - Total Primary Energy Supply (ktoe)

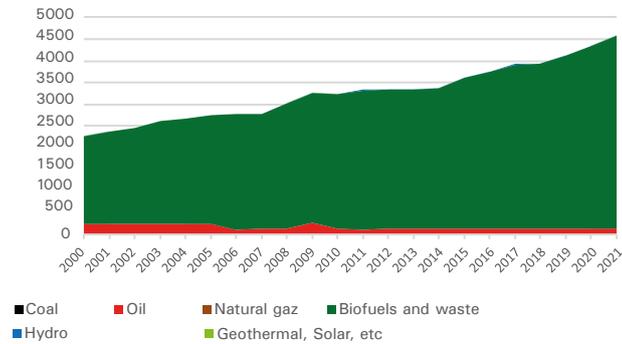


Figure 3.2. - Total Final Consumption (ktoe)

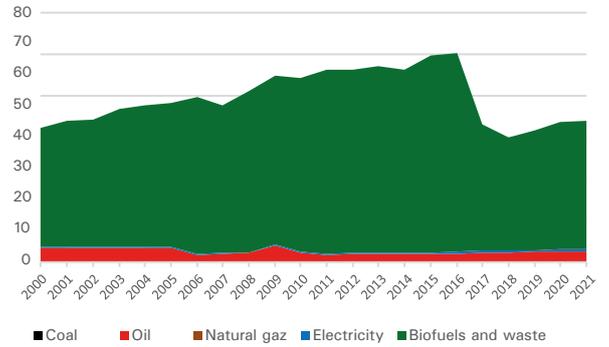


Figure 3.3. - Electricity Generation by Source (GWh)

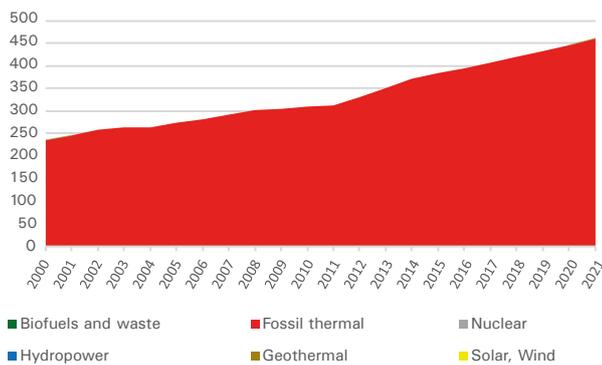


Figure 3.4. - Fuel Shares of Total Final Consumption

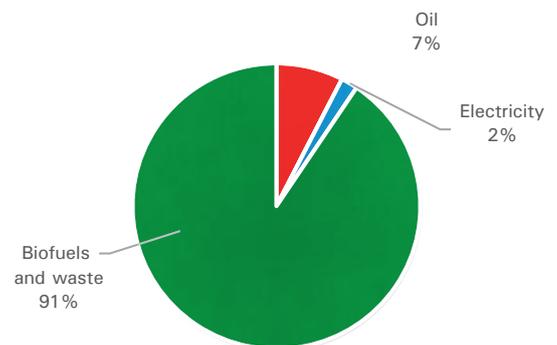


Figure 3.5. - Electricity Consumption by Sector

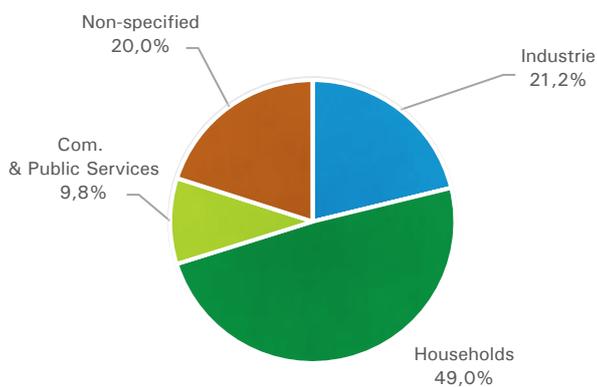
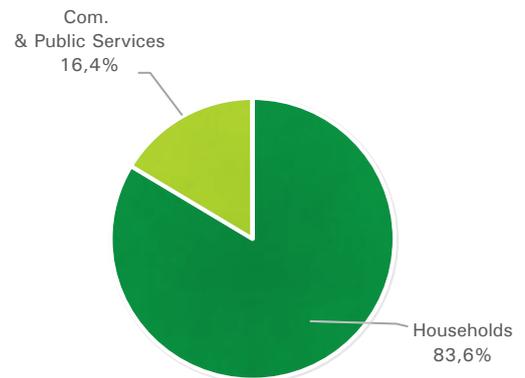


Figure 3.6. - Biofuels and Waste Consumption by Sector



Thousand Tonnes of Oil Equivalent (ktoe)	Oil products	Biofuels and waste	Electricity	Total of All energy sources
Production		3894.52		3894.52
Imports (+)	152.71			152.71
Exports (-)				
International Marine Bunkers (-)				
International Aviation Bunkers (-)	-24.40			-24.40
Stock Changes (+ draw, - build)	18.08			18.08
TOTAL PRIMARY ENERGY SUPPLY	146.39	3894.52		4040.91
<hr/>				
Transfers : Origin (-) and Destination (+)				
Statistical Difference	0.29	20.91	-2.26	18.94
<hr/>				
TRANSFORMATION Inputs (-) and Outputs (+)	-21.46	-2427.66	39.61	-2409.51
Electricity plants	-21.46		39.61	18.15
CHP Plants				
Heat Plants				
Coke ovens				
Blast furnaces				
Oil Refineries				
Coal-to-liquids plants				
Gas-to-liquids plants				
Charcoal production plants		-2427.66		-2427.66
Transformation not elsewhere specified				
<hr/>				
Energy Sector Own Use			2.15	2.15
Losses			7.92	7.92
<hr/>				
FINAL CONSUMPTION	124.64	1445.95	31.79	1602.38
Industry	56.28		6.73	63.01
Transport	30.35			30.35
Households	24.52	1209.40	15.57	1249.49
Commercial and public services	5.29	236.55	3.12	244.96
Agriculture, Forestry and Fishing				
Non-specified (HH, Com. & PS., Agri.)			6.37	6.37
Non-Energy Use	8.20			8.20

Figure 3.1. - Total Primary Energy Supply (ktoe)

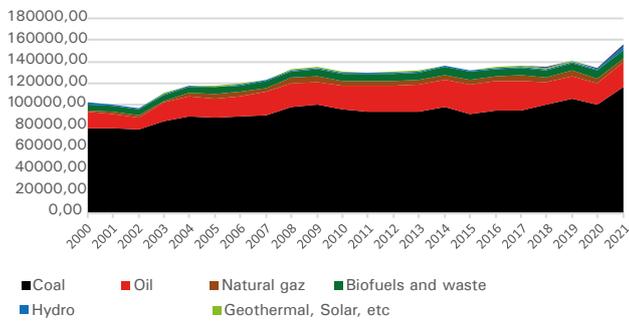


Figure 3.2. - Total Final Consumption (ktoe)

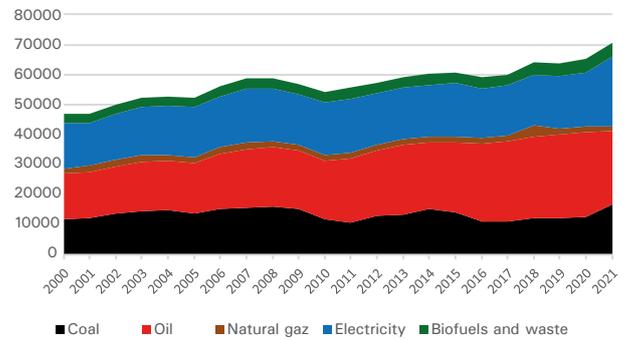


Figure 3.3. - Electricity Generation by Source (GWh)

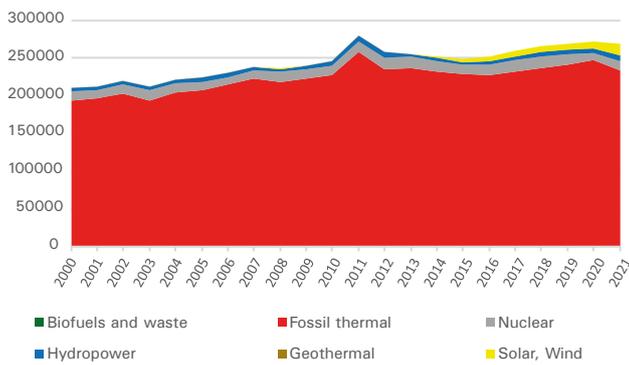


Figure 3.4. - Fuel Shares of Total Final Consumption

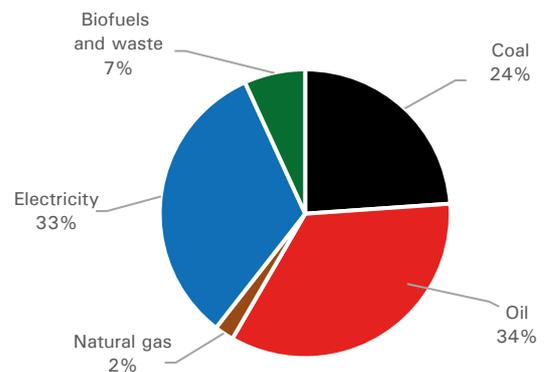


Figure 3.5. - Electricity Consumption by Sector

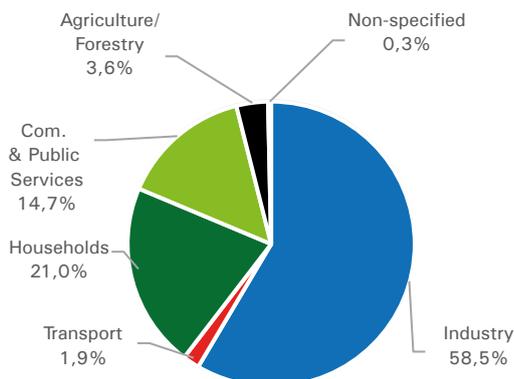
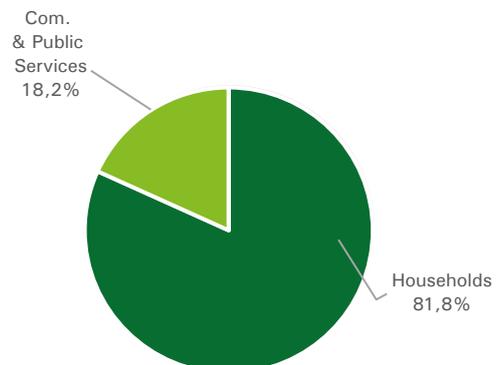


Figure 3.6. - Biofuels and Waste Consumption by Sector



Thousand Tonnes of Oil Equivalent (ktoe)	Coal and Coal Products	Crude oil	Oil products	Natural Gas	Biomasse déchets	Nuclear	Hydro	Solar	Wind	Electricity	Total of All energy sources
Production	145292,14	4088,96		417,26	7230,93	3319,01	584,59	973,93	714,37		162621,19
Imports (+)	1332,10	7735,47	12573,05	3281,17						871,63	25793,41
Exports (-)	-29671,70		-2947,55							-1178,42	-33797,66
International Marine Bunkers (-)			-3066,70								-3066,70
International Aviation Bunkers (-)			-1169,02								-1169,02
Stock Changes (+ draw, - build)		4282,06	1012,35								5294,41
TOTAL PRIMARY ENERGY SUPPLY	116952,54	16106,49	6402,13	3698,43	7230,93	3319,01	584,59	973,93	714,37	-306,79	155675,64
Transfers : Origin (-) and Destination (+)		-4073,30	5376,33								1303,03
Statistical Difference	1135,50	-2384,26	-0,38	448,01	-342,70	0,00				-120,89	-1264,72
TRANSFORMATION Inputs (-) and Outputs (+)	-98907,60	-14417,46	13395,16	-1520,76	-2764,88	-3319,01	-584,59	-973,93	-714,37	23145,65	-86661,78
Electricity plants	-72986,75		-84,41	-264,35	-424,09	-3319,01	-584,59	-973,93	-714,37	23145,65	-56205,86
CHP Plants	-4,30										-4,30
Heat Plants											
Coke ovens	-643,98										-643,98
Blast furnaces											
Oil Refineries	-25272,56	-14417,46	13479,57								-26210,44
Coal-to-liquids plants											
Gas-to-liquids plants											
Charcoal production plants					-2340,78						-2340,78
Transformation not elsewhere specified				-1256,41							-1256,41
Energy Sector Own Use			790,08	96,73						2764,83	3651,64
Losses				105,33						2148,58	2253,91
FINAL CONSUMPTION	16909,45		24383,93	1527,60	4808,75					18046,32	65676,06
Industry	12412,56		2046,49	1494,82						10554,98	26508,84
Transport			15102,93							339,06	15441,99
Households	509,41		459,78	4,85	3932,70					3787,98	8694,73
Commercial and public services	490,08		169,15	27,94	876,05					2659,38	4222,59
Agriculture, Forestry and Fishing	4,62		1121,73							642,76	1769,10
Non-specified (HH, Com. & PS., Agri.)	2518,04		1516,87							62,17	4097,08
Non-Energy Use	974,74		3966,99								4941,74

Figure 3.1. - Total Primary Energy Supply (ktoe)

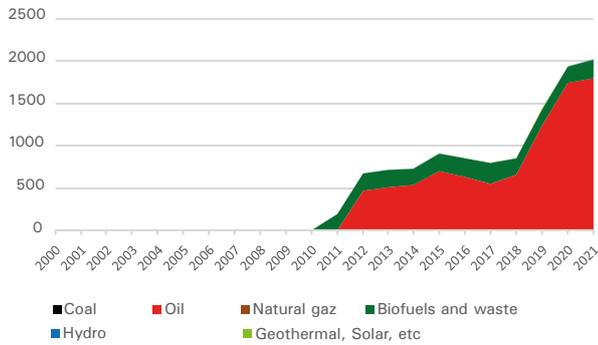


Figure 3.2. - Total Final Consumption (ktoe)

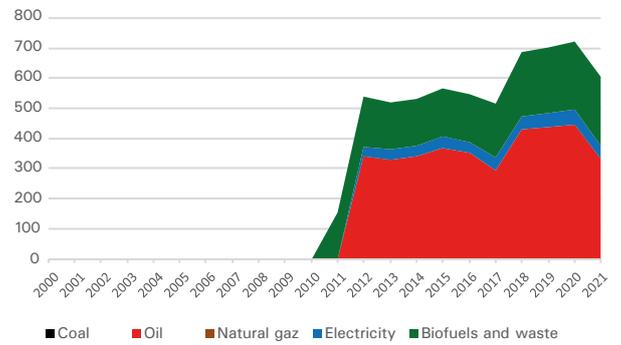


Figure 3.3. - Electricity Generation by Source (GWh)

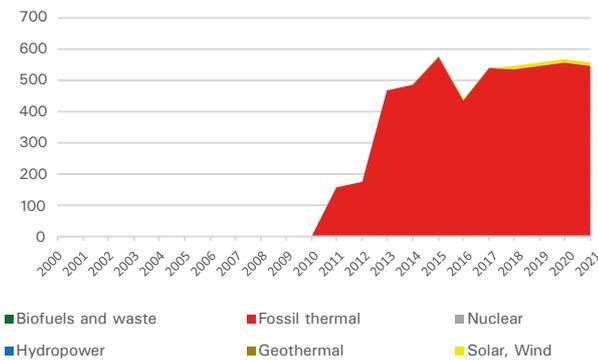


Figure 3.4. - Fuel Shares of Total Final Consumption

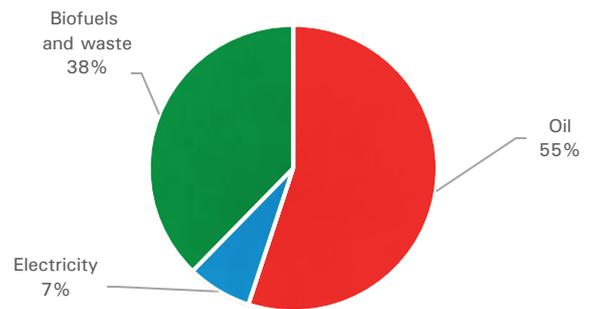


Figure 3.5. - Electricity Consumption by Sector

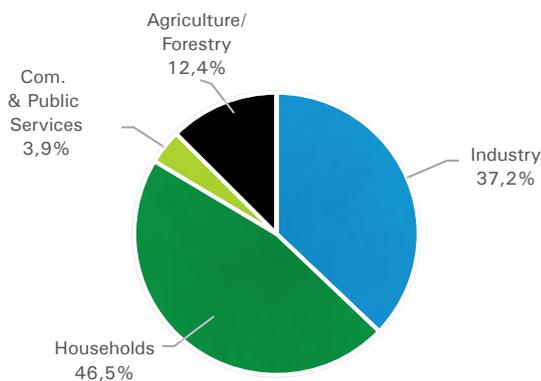
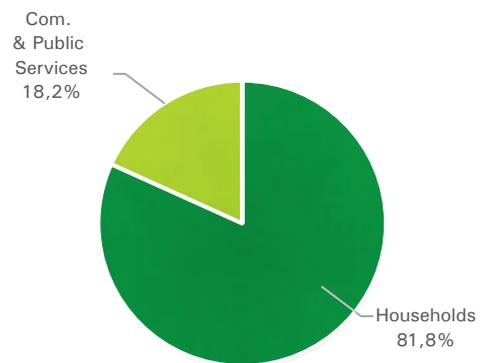


Figure 3.6. - Biofuels and Waste Consumption by Sector



Thousand Tonnes of Oil Equivalent (ktoe)	Crude oil	Oil products	Biofuels and waste	Solar	Electricity	Total of All energy sources
Production	8520.77		226.75	0.95		8748.47
Imports (+)		544.45				544.45
Exports (-)	-8442.15					-8442.15
International Marine Bunkers (-)						
International Aviation Bunkers (-)		-55.87				-55.87
Stock Changes (+ draw, - build)						
TOTAL PRIMARY ENERGY SUPPLY	78.63	488.58	226.75	0.95		794.90
Transfers : Origin (-) and Destination (+)						
Statistical Difference	78.16	0.02	-5.93		1.29	73.55
TRANSFORMATION Inputs (-) and Outputs (+)		-150.88	-19.08	-0.95	48.12	-122.79
Electricity plants		-150.88		-0.95	48.12	-103.70
CHP Plants						
Heat Plants						
Coke ovens						
Blast furnaces						
Oil Refineries						
Coal-to-liquids plants						
Gas-to-liquids plants						
Charcoal production plants			-19.08			-19.08
Transformation not elsewhere specified						
Energy Sector Own Use					1.29	1.29
Losses	0.47	3.37			1.90	5.74
FINAL CONSUMPTION		334.30	213.59		43.64	591.54
Industry		9.42			16.21	25.64
Transport		290.32				290.32
Households		5.09	174.72		20.27	200.08
Commercial and public services		3.37	38.87		1.72	43.97
Agriculture, Forestry and Fishing		26.10			5.43	31.54
Non-specified (HH, Com. & PS., Agri.)						
Non-Energy Use						

Figure 3.1. - Total Primary Energy Supply (ktoe)

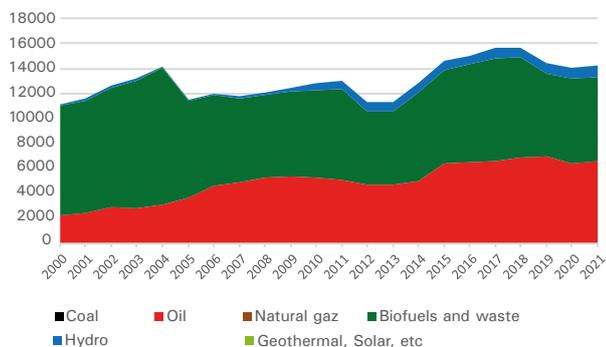


Figure 3.2. - Total Final Consumption (ktoe)

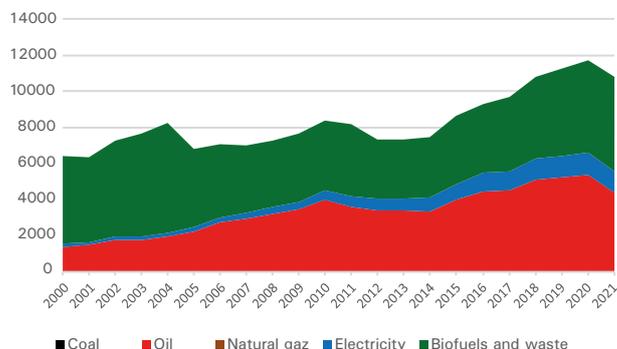


Figure 3.3. - Electricity Generation by Source (GWh)

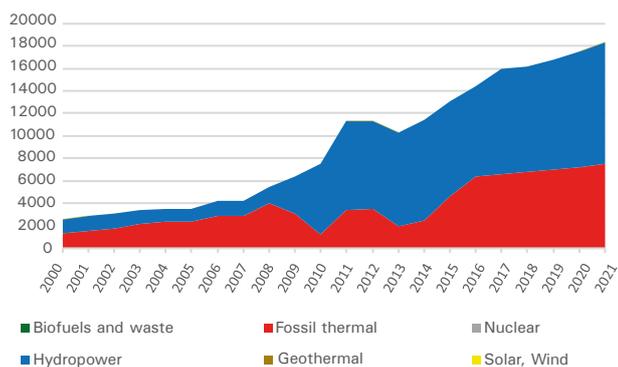


Figure 3.4. - Fuel Shares of Total Final Consumption

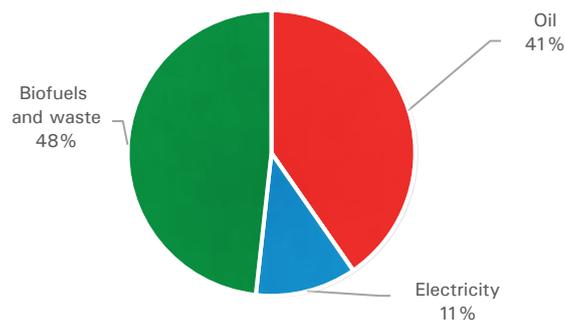


Figure 3.5. - Electricity Consumption by Sector

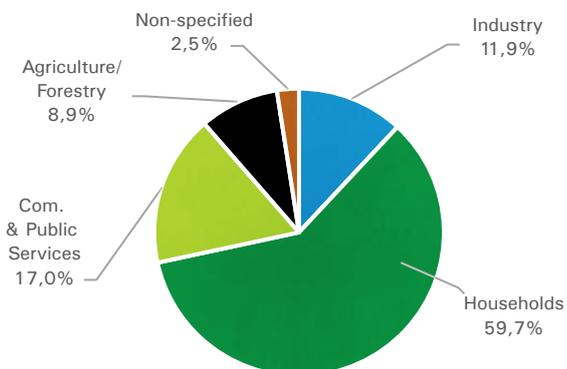
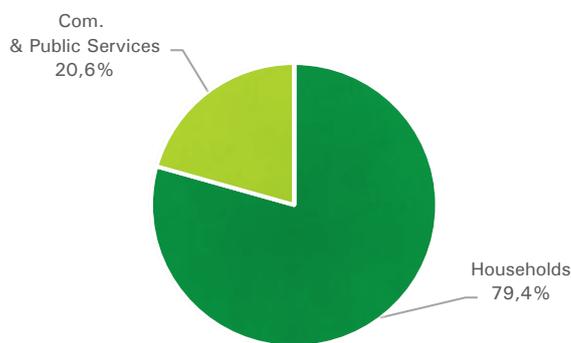


Figure 3.6. - Biofuels and Waste Consumption by Sector



Thousand Tonnes of Oil Equivalent (ktoe)	Crude oil	Oil products	Biofuels and waste	Hydro	Solar	Electricity	Total of All energy sources
Production	4443.49		1887.33	914.06	0.45		7245.33
Imports (+)	676.95	1658.60				64.70	2400.25
Exports (-)	-170.05	-35.38					-205.43
International Marine Bunkers (-)		-16.27					-16.27
International Aviation Bunkers (-)		-125.36					-125.36
Stock Changes (+ draw, - build)	-44.44	-35.18					-79.62
TOTAL PRIMARY ENERGY SUPPLY	4905.95	1446.43	1887.33	914.06	0.45	64.70	9218.91
<hr/>							
Transfers : Origin (-) and Destination (+)							
Statistical Difference	0.95	-0.93	19.39			3.10	22.51
<hr/>							
TRANSFORMATION Inputs (-) and Outputs (+)	-4905.00	3009.03	-77.75	-914.06	-0.45	1540.23	-1348.00
Electricity plants	-876.07	-864.92		-914.06	-0.45	1540.23	-1115.28
CHP Plants							
Heat Plants							
Coke ovens							
Blast furnaces							
Oil Refineries	-4028.93	3873.96					-154.97
Coal-to-liquids plants							
Gas-to-liquids plants							
Charcoal production plants			-77.75				-77.75
Transformation not elsewhere specified							
<hr/>							
Energy Sector Own Use		47.39				59.80	107.19
Losses						317.51	317.51
<hr/>							
FINAL CONSUMPTION		4409.00	1790.19			1224.50	7423.69
Industry		409.93				145.67	555.60
Transport		3388.30					3388.30
Households		230.37	1421.23			731.23	2382.83
Commercial and public services		136.38	368.96			208.60	713.95
Agriculture, Forestry and Fishing		75.50				108.90	184.40
Non-specified (HH, Com. & PS., Agri.)		21.19				30.09	51.28
Non-Energy Use		147.34					147.34

Figure 3.1. - Total Primary Energy Supply (ktoe)

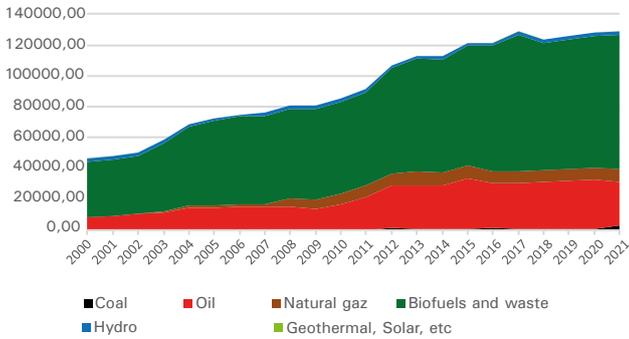


Figure 3.2. - Total Final Consumption (ktoe)

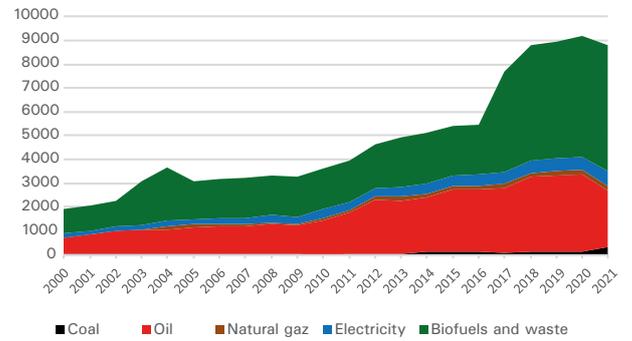


Figure 3.3. - Electricity Generation by Source (GWh)

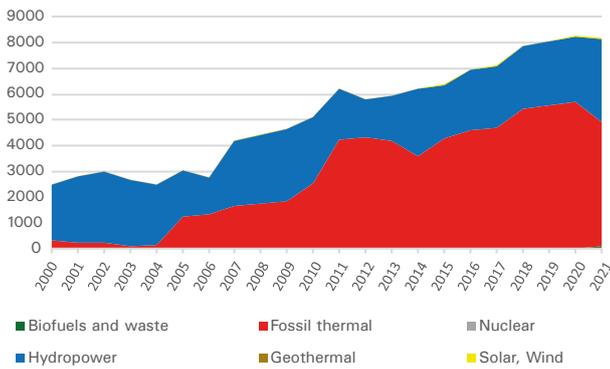


Figure 3.4. - Fuel Shares of Total Final Consumption

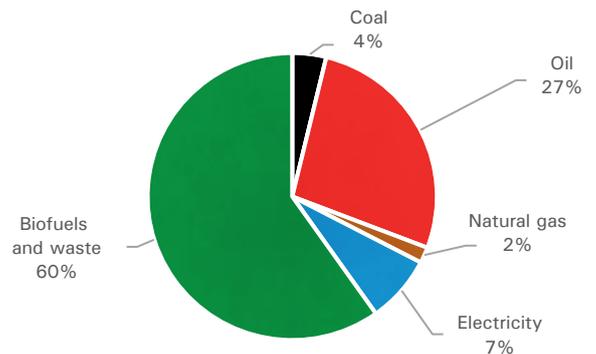


Figure 3.5. - Electricity Consumption by Sector

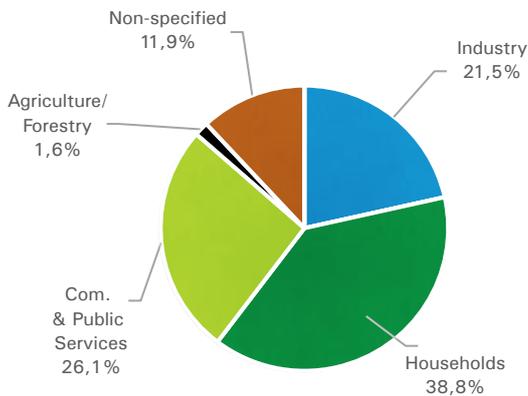
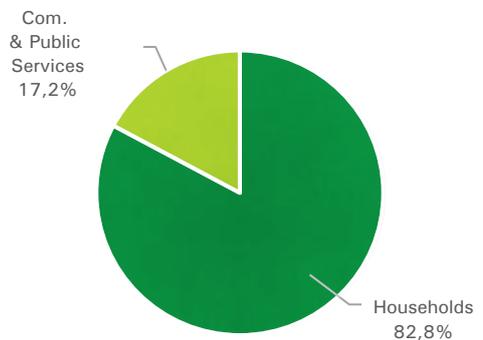


Figure 3.6. - Biofuels and Waste Consumption by Sector



Thousand Tonnes of Oil Equivalent (ktoe)	Coal and Coal Products	Oil products	Natural Gas	Biofuels and waste	Hydro	Solar	Electricity	Total of All energy sources
Production	401.86		748.52	7936.50	278.00	4.52		9369.40
Imports (+)		2883.13					10.10	2893.23
Exports (-)								
International Marine Bunkers (-)		-6.74						-6.74
International Aviation Bunkers (-)		-68.74						-68.74
Stock Changes (+ draw, - build)		17.37	24.47					41.83
TOTAL PRIMARY ENERGY SUPPLY	401.86	2825.02	772.99	7936.50	278.00	4.52	10.10	12228.98
<hr/>								
Transfers : Origin (-) and Destination (+)								
Statistical Difference		-0.76	6.40	-161.38			8.59	-147.15
<hr/>								
TRANSFORMATION Inputs (-) and Outputs (+)		-388.82	-625.00	-2479.77	-278.00	-4.52	704.35	-3071.76
Electricity plants								
CHP Plants		-388.82	-625.00	-31.68	-278.00	-4.52	704.35	-623.67
Heat Plants								
Coke ovens								
Blast furnaces								
Oil Refineries								
Coal-to-liquids plants								
Gas-to-liquids plants								
Charcoal production plants				-2448.09				-2448.09
Transformation not elsewhere specified								
<hr/>								
Energy Sector Own Use							19.40	19.40
Losses							19.40	19.40
<hr/>								
FINAL CONSUMPTION	401.86	2436.96	141.59	5618.11			667.06	9265.58
Industry	401.86	26.05	141.59				143.47	712.97
Transport		2154.42						2154.42
Households		163.72		4653.41			258.96	5076.09
Commercial and public services				964.70			174.29	1138.99
Agriculture, Forestry and Fishing		25.51					10.63	36.14
Non-specified (HH, Com. & PS., Agri.)							79.71	79.71
Non-Energy Use		67.26						67.26

Figure 3.1. - Total Primary Energy Supply (ktoe)

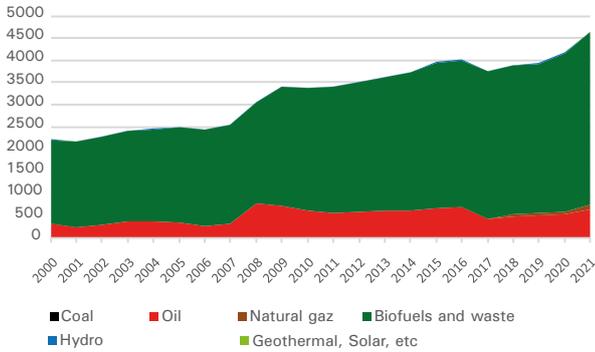


Figure 3.2. - Total Final Consumption (ktoe)

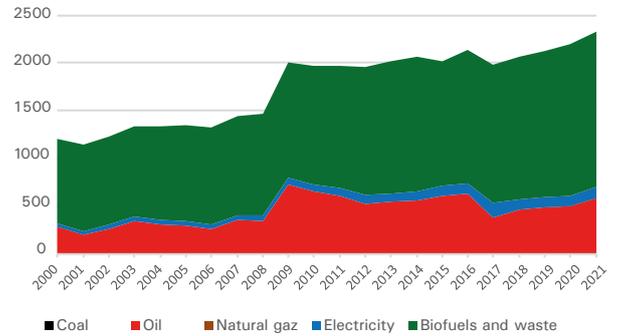


Figure 3.3. - Electricity Generation by Source (GWh)

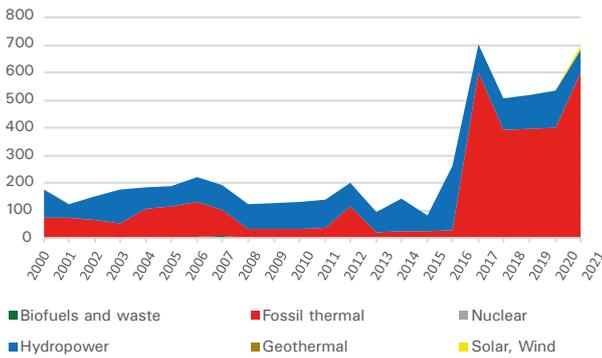


Figure 3.4. - Fuel Shares of Total Final Consumption

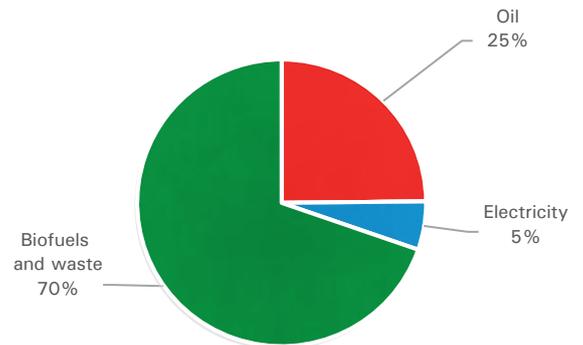


Figure 3.5. - Electricity Consumption by Sector

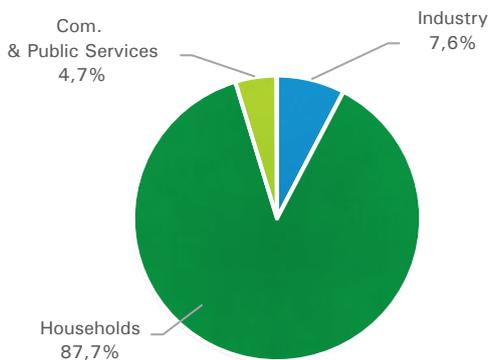
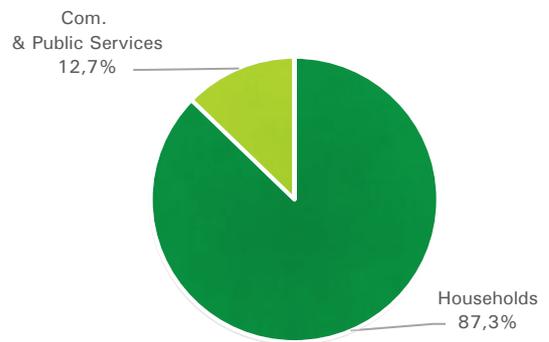


Figure 3.6. - Biofuels and Waste Consumption by Sector



Thousand Tonnes of Oil Equivalent (ktoe)	Oil products	Natural Gas	Biofuels and waste	Hydro	Solar	Electricity	Total of All energy sources
Production			3225.87	7.09	1.40		3234.36
Imports (+)	662.03	90.47				77.09	829.58
Exports (-)							
International Marine Bunkers (-)							
International Aviation Bunkers (-)	-62.57						-62.57
Stock Changes (+ draw, - build)	0.61						0.61
TOTAL PRIMARY ENERGY SUPPLY	600.07	90.47	3225.87	7.09	1.40	77.09	4001.98
<hr/>							
Transfers : Origin (-) and Destination (+)							
Statistical Difference	-0.09					0.58	0.49
<hr/>							
TRANSFORMATION Inputs (-) and Outputs (+)	-14.19	-90.47	-1380.34	-7.09	-1.40	60.25	-1433.25
Electricity plants	-14.19	-90.47	-8.37	-7.09	-1.40	60.25	-61.27
CHP Plants							
Heat Plants							
Coke ovens							
Blast furnaces							
Oil Refineries							
Coal-to-liquids plants							
Gas-to-liquids plants							
Charcoal production plants			-1371.98				-1371.98
Transformation not elsewhere specified							
<hr/>							
Energy Sector Own Use						0.95	0.95
Losses						8.99	8.99
<hr/>							
FINAL CONSUMPTION	585.97		1845.52			126.82	2558.31
Industry	54.36					9.69	64.05
Transport	504.47						504.47
Households	23.57		1610.92			111.18	1745.66
Commercial and public services	2.61		234.61			5.90	243.12
Agriculture, Forestry and Fishing							
Non-specified (HH, Com. & PS., Agri.)						0.05	0.05
Non-Energy Use	0.96						0.96

Figure 3.1. - Total Primary Energy Supply (ktoe)

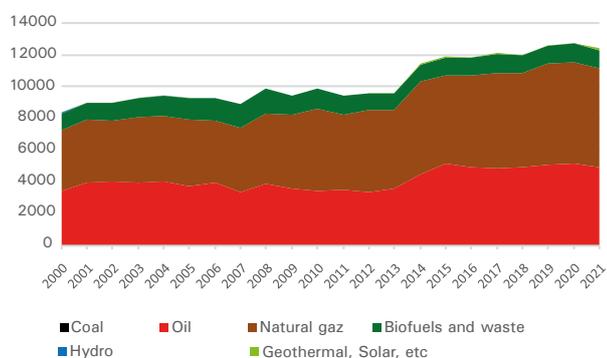


Figure 3.2. - Total Final Consumption (ktoe)

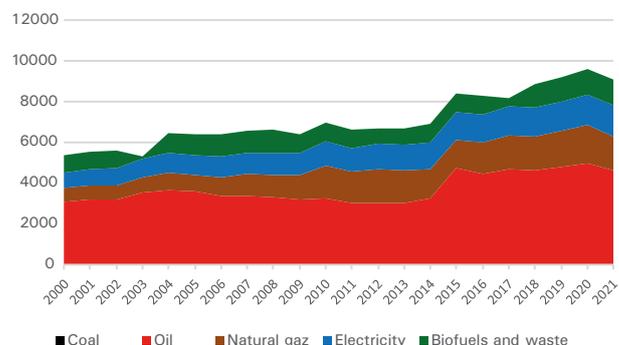


Figure 3.3. - Electricity Generation by Source (GWh)

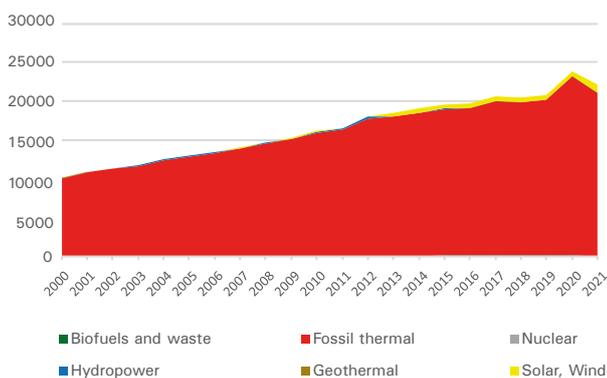


Figure 3.4. - Fuel Shares of Total Final Consumption

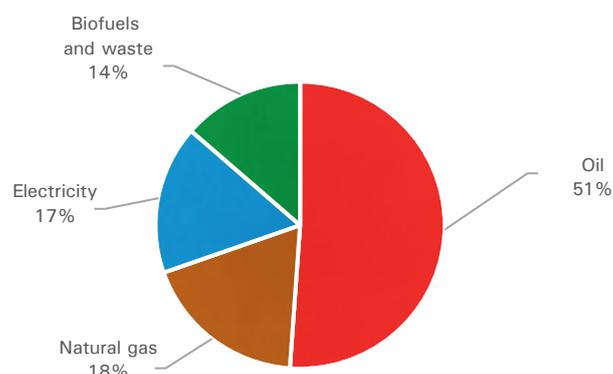


Figure 3.5. - Electricity Consumption by Sector

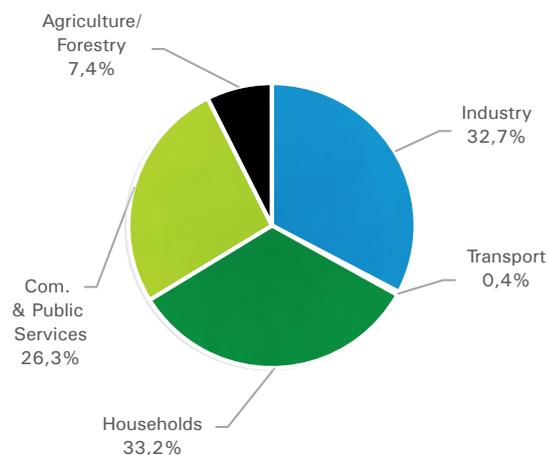
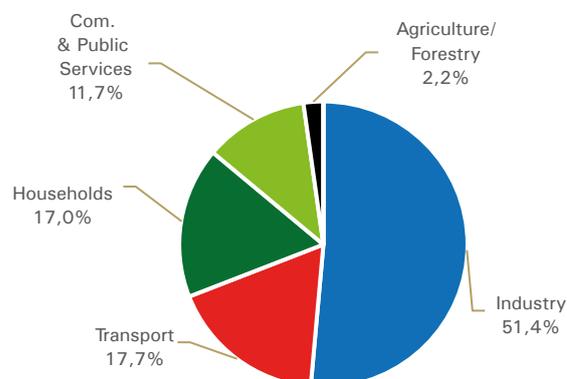


Figure 3.6. - Natural Gas Consumption by Sector



Thousand Tonnes of Oil Equivalent (ktoe)	Crude oil	Oil products	Natural Gas	Biofuels and waste	Hydro	Solar	Wind	Other sources	Electricity	Heat	Total of All energy sources
Production	2111.47		2221.69	1186.59	2.41	106.08	36.55	19.16		77.84	5761.79
Imports (+)	1266.52	3659.36	3426.54						114.43		8466.85
Exports (-)	-1465.64	-747.71							-25.94		-2239.28
International Marine Bunkers (-)		-10.90									-10.90
International Aviation Bunkers (-)		-134.51									-134.51
Stock Changes (+ draw, - build)	-113.70	12.56									-101.14
TOTAL PRIMARY ENERGY SUPPLY	1798.65	2778.80	5648.23	1186.59	2.41	106.08	36.55	19.16	88.49	77.84	11742.80
Transfers : Origin (-) and Destination (+)											
Statistical Difference	165.86	-205.55	36.50			0.08			5.28	155.68	157.84
TRANSFORMATION Inputs (-) and Outputs (+)	-1627.07	1605.00	-3953.26	-280.33	-2.41	-40.19	-36.55	-19.16	1903.91	77.84	-2372.22
Electricity plants		-13.63	-3762.35		-2.41	-40.19	-36.55	-19.16	1841.96		-2032.33
CHP Plants			-190.91						61.95		-128.96
Heat Plants										77.84	77.84
Coke ovens											
Blast furnaces											
Oil Refineries	-1627.07	1618.63									-8.44
Coal-to-liquids plants											
Gas-to-liquids plants											
Charcoal production plants				-280.33							-280.33
Transformation not elsewhere specified											
Energy Sector Own Use	3.82	58.78	147.71						69.00		279.31
Losses	1.91								396.39		398.30
FINAL CONSUMPTION		4530.56	1510.76	906.26		65.81			1521.75	16.03	8535.14
Industry		805.78	776.73						497.98		2080.49
Transport		2428.30	266.78						5.74		2700.82
Households		638.34	257.43	891.26		62.83			504.48		2354.34
Commercial and public services		96.13	176.23	15.00		2.98			400.87		691.21
Agriculture, Forestry and Fishing		377.10	33.59						112.68		523.37
Non-specified (HH, Com. & PS., Agri.)											
Non-Energy Use		184.92									184.92

Figure 3.1. - Total Primary Energy Supply (ktoe)

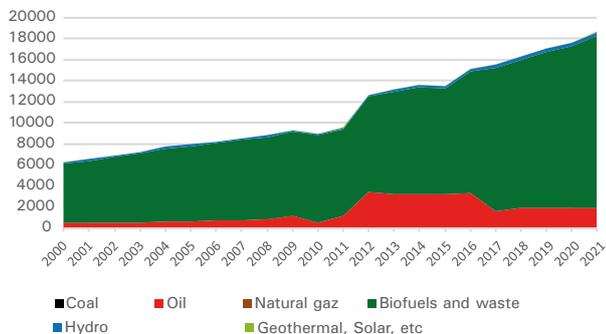


Figure 3.2. - Total Final Consumption (ktoe)

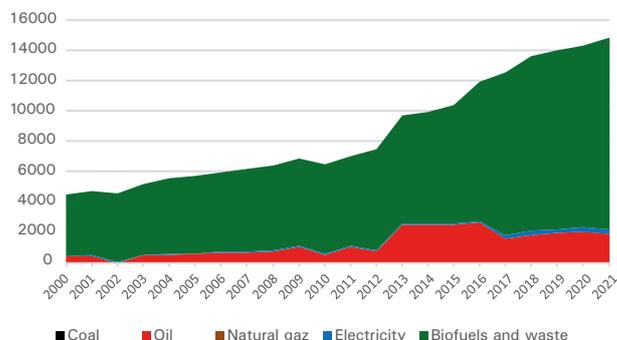


Figure 3.3. - Electricity Generation by Source (GWh)

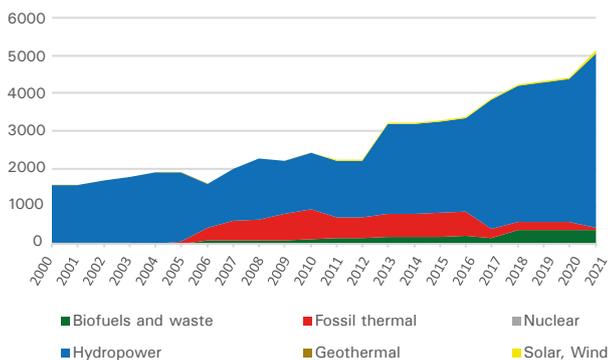


Figure 3.6. - Biofuels and Waste Consumption by Sector

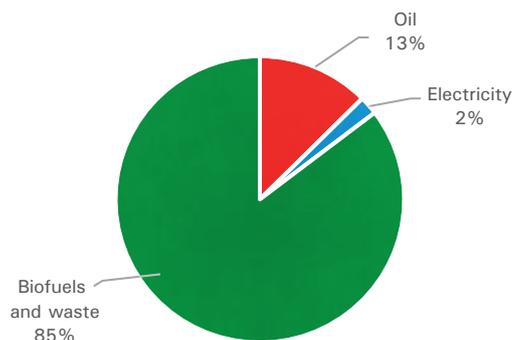


Figure 3.5. - Electricity Consumption by Sector

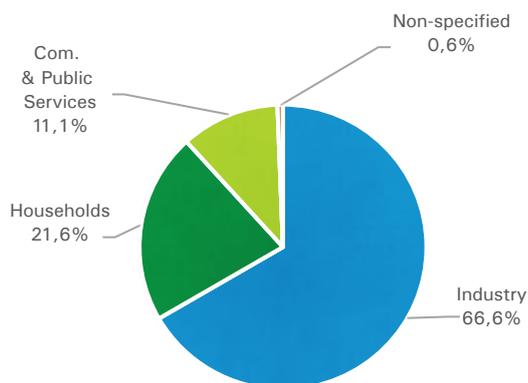
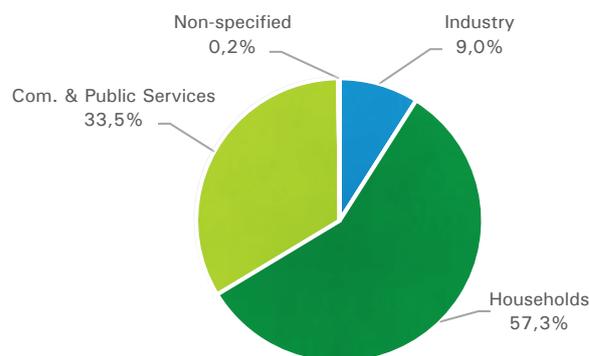


Figure 3.6. - Natural Gas Consumption by Sector



Thousand Tonnes of Oil Equivalent (ktoe)	Oil products	Biofuels and waste	Hydro	Solar	Electricity	Total of All energy sources
Production		19261.70	398.78	9.04		19669.52
Imports (+)	1988.87	2608.20			2.05	4599.12
Exports (-)					-33.76	-33.76
International Marine Bunkers (-)						
International Aviation Bunkers (-)	-78.37					-78.37
Stock Changes (+ draw, - build)	2.29					2.29
TOTAL PRIMARY ENERGY SUPPLY	1912.79	21869.90	398.78	9.04	-31.70	24158.81
<hr/>						
Transfers : Origin (-) and Destination (+)						
Statistical Difference	-0.01	0.05			0.05	0.10
<hr/>						
TRANSFORMATION Inputs (-) and Outputs (+)	-14.07	-5999.00	-398.78	-9.04	435.24	-5985.65
Electricity plants	-14.07		-398.78	-9.04	412.32	-9.57
CHP Plants		-126.47			22.92	-103.55
Heat Plants						
Coke ovens						
Blast furnaces						
Oil Refineries						
Coal-to-liquids plants						
Gas-to-liquids plants						
Charcoal production plants		-5070.41				-5070.41
Transformation not elsewhere specified		-802.12				-802.12
<hr/>						
Energy Sector Own Use					4.71	4.71
Losses					88.91	88.91
<hr/>						
FINAL CONSUMPTION	1898.72	15870.85			309.86	18079.43
Industry	413.24	1424.15			206.45	2043.83
Transport	1264.71					1264.71
Households	26.30	9100.37			67.05	9193.72
Commercial and public services	10.85	5319.83			34.47	5365.15
Agriculture, Forestry and Fishing	181.33					181.33
Non-specified (HH, Com. & PS., Agri.)	2.30	26.49			1.89	30.68
Non-Energy Use						

Figure 3.1. - Total Primary Energy Supply (ktoe)

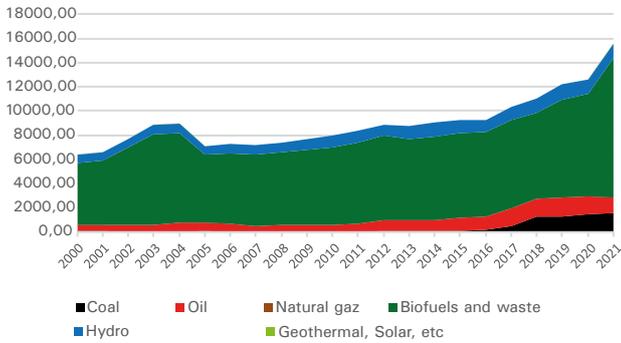


Figure 3.2. - Total Final Consumption (ktoe)

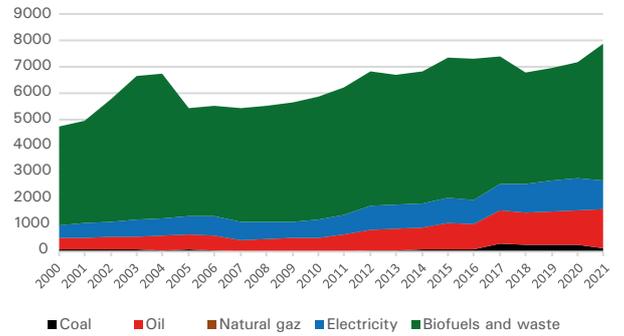


Figure 3.3. - Electricity Generation by Source (GWh)

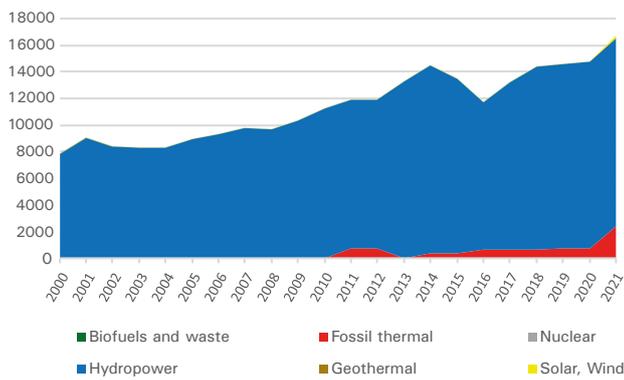


Figure 3.4. - Fuel Shares of Total Final Consumption

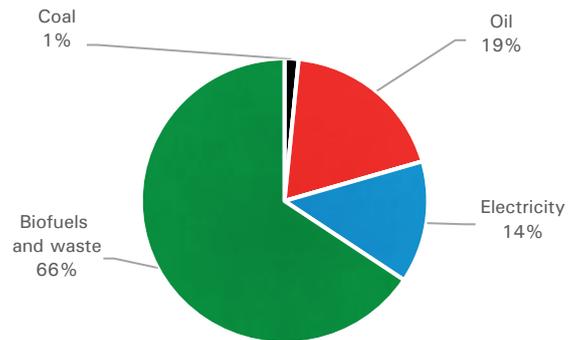


Figure 3.5. - Electricity Consumption by Sector

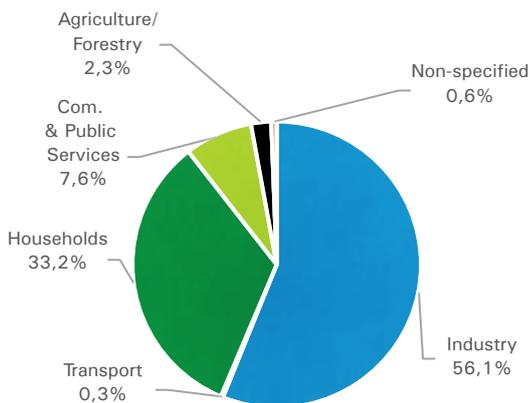
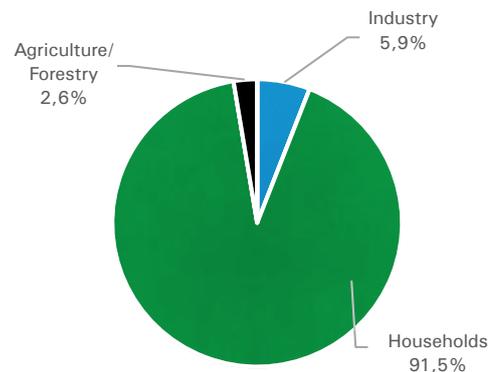


Figure 3.6. - Biofuels and Waste Consumption by Sector



Thousand Tonnes of Oil Equivalent (ktoe)	Coal and Coal Products	Crude oil	Oil products	Biofuels and waste	Hydro	Solar	Electricity	Total of All energy sources
Production	714.50			10754.63	1210.00	14.19		12693.31
Imports (+)		325.50	1164.68				12.30	1502.48
Exports (-)			-2.50				-126.74	-129.24
International Marine Bunkers (-)								
International Aviation Bunkers (-)			-5.75					-5.75
Stock Changes (+ draw, - build)		77.32	53.73					131.05
TOTAL PRIMARY ENERGY SUPPLY	714.50	402.82	1210.16	10754.63	1210.00	14.19	-114.45	14191.84
<hr/>								
Transfers : Origin (-) and Destination (+)								
Statistical Difference		-0.03	7.22				0.09	7.29
<hr/>								
TRANSFORMATION Inputs (-) and Outputs (+)	-597.32	-402.84	291.84	-3316.16	-1210.00	-14.19	1433.78	-3814.89
Electricity plants	-597.32		-86.57	-132.53	-1210.00	-14.19	1433.78	-606.82
CHP Plants								
Heat Plants								
Coke ovens								
Blast furnaces								
Oil Refineries		-402.84	378.41					-24.43
Coal-to-liquids plants								
Gas-to-liquids plants								
Charcoal production plants				-3183.63				-3183.63
Transformation not elsewhere specified								
<hr/>								
Energy Sector Own Use							32.73	32.73
Losses							198.53	198.53
<hr/>								
FINAL CONSUMPTION	117.18		1494.78	7438.47			1087.99	10138.41
Industry	117.18		311.36	439.01			610.25	1477.80
Transport			886.03				2.74	888.78
Households			4.86	6804.71			360.83	7170.40
Commercial and public services			25.38				82.95	108.33
Agriculture, Forestry and Fishing			102.46	194.75			24.69	321.90
Non-specified (HH, Com. & PS., Agri.)			85.26				6.53	91.78
Non-Energy Use			79.42					79.42

Figure 3.1. - Total Primary Energy Supply (ktoe)

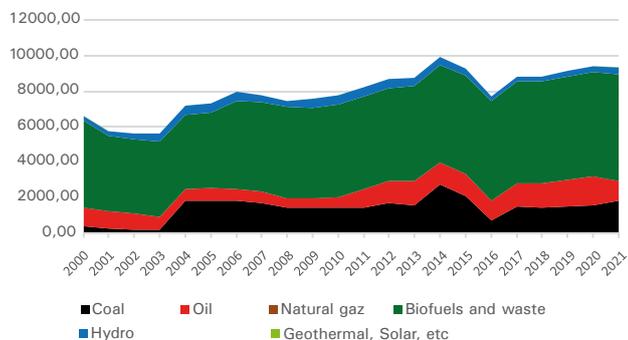


Figure 3.2. - Total Final Consumption (ktoe)

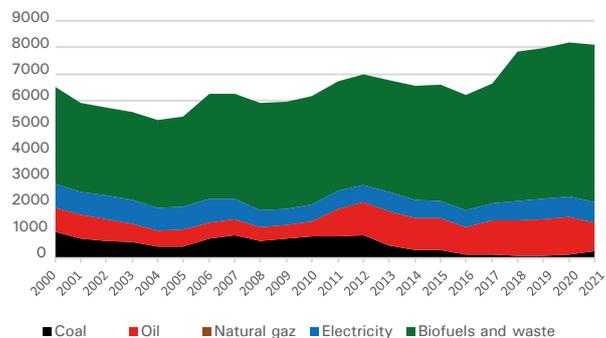


Figure 3.3. - Electricity Generation by Source (GWh)

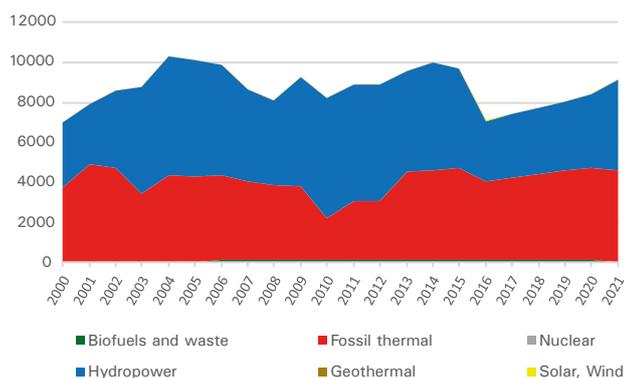


Figure 3.4. - Fuel Shares of Total Final Consumption

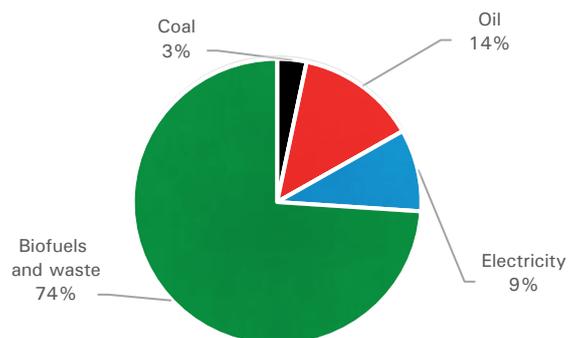


Figure 3.5. - Electricity Consumption by Sector

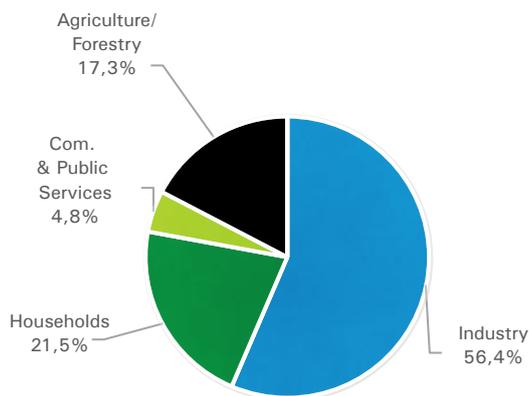
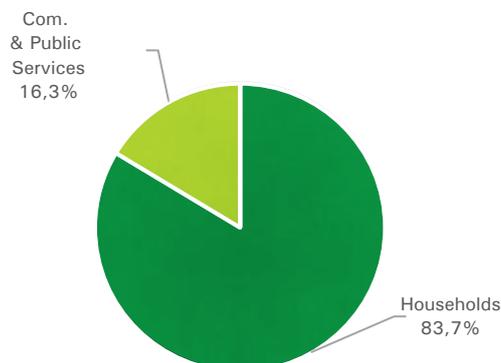
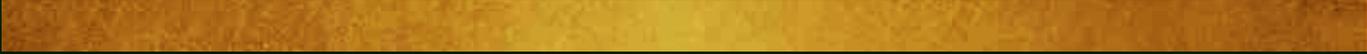


Figure 3.6. - Biofuels and Waste Consumption by Sector



Thousand Tonnes of Oil Equivalent (ktoe)	Coal and Coal Products	Oil products	Biofuels and waste	Hydro	Solar	Electricity	Total of all energy sources
Production	2263.32		6638.45	387.98	0.83		9290.58
Imports (+)	0.16	1120.27				224.51	1344.94
Exports (-)	-129.47					-33.53	-163.00
International Marine Bunkers (-)							
International Aviation Bunkers (-)		-24.33					-24.33
Stock Changes (+ draw, - build)	-218.94	12.79					-206.15
TOTAL PRIMARY ENERGY SUPPLY	1915.07	1108.73	6638.45	387.98	0.83	190.98	10242.04
Transfers : Origin (-) and Destination (+)							
Statistical Difference	0.84	0.00	-59.20			-22.10	-80.46
TRANSFORMATION Inputs (-) and Outputs (+)	-1663.32		-21.68	-387.98	-0.83	642.92	-1430.90
Electricity plants	-1306.21			-387.98	-0.83	642.92	-1052.10
CHP Plants							
Heat Plants							
Coke ovens	-357.11						-357.11
Blast furnaces							
Oil Refineries							
Coal-to-liquids plants							
Gas-to-liquids plants							
Charcoal production plants			-21.68				-21.68
Transformation not elsewhere specified							
Energy Sector Own Use						10.88	10.88
Losses						93.64	93.64
FINAL CONSUMPTION	250.90	1108.72	6675.96			751.49	8787.08
Industry	233.96	193.76				424.06	851.79
Transport	6.78	121.72					128.50
Households	2.71		5585.26			161.47	5749.44
Commercial and public services	3.39	162.41	1090.70			35.84	1292.33
Agriculture, Forestry and Fishing	4.07					130.13	134.19
Non-specified (HH, Com. & PS., Agri.)		630.83					630.83
Non-Energy Use							



APPENDICES



Coal/Peat

Coal/peat includes all coal primary (including hard coal and lignite) and derived fuels (including patent fuel, coke oven coke, gas coke, BKB, gas works gas, coke oven gas, blast furnace gas and other recovered gases). Peat is also included in this category.

Hard coal

Hard coal comprises anthracite coking coal and other bituminous coal.

Steam coal

Steam coal comprises anthracite, other bituminous coal and sub-bituminous coal.

Crude oil

Crude oil comprises crude oil, natural gas liquids, refinery feedstock and additives as well as other hydrocarbons.

Oil products

Oil products comprises refinery gas, ethane, LPG, aviation gasoline, motor gasoline, jet fuels, kerosene, gas/diesel oil, fuel oil, naphtha, white spirit, lubricants, bitumen, paraffin waxes, petroleum coke and other oil products.

Produits pétroliers

Les produits pétroliers comprennent les gaz de raffinage, l'éthane, le GPL, l'essence d'aviation, l'essence automobile, les carburéacteurs, le kérosène, le gazole, le mazout, le naphtha, le white spirit, les lubrifiants, le bitume, les cires de paraffine, le coke de pétrole et autres produits pétroliers.

Natural gas

Natural gas includes both "associated" and "non-associated" gas.

Nuclear

Nuclear shows the primary heat equivalent of the electricity produced by a nuclear power plant with an average thermal efficiency of 33%.

Hydro

Hydro shows the energy content of the electricity produced in hydro power plants hydro output excludes output from pumped storage plants.

Biofuels and waste

Biofuels and waste comprises solid biofuels liquid biofuels, biogases, industrial waste and municipal waste. Biofuels are defined as any plant matter used directly as fuel or converted into fuels (e.g., charcoal) or electricity and/or heat. Included here are wood, vegetal waste (including wood waste and crops used for energy production), ethanol, animal materials/ wastes and sulphite lyes. Municipal waste comprises wastes produced by residential, commercial and public services that are collected by local authorities for disposal in a central location for the production of heat and/or power.

Other

Other includes geothermal, solar, wind, tide/wave/ocean energy, electricity and heat. Unless the actual efficiency of the geothermal process is known, the quantity of geothermal energy entering electricity generation is inferred from the electricity production at geothermal plants assuming an average thermal efficiency of 10% For solar, wind and tide/Wave/ocean energy, the quantities entering electricity generation are equal to the electrical energy generated. Direct use of geothermal and solar heat is also included here. Electricity is accounted for at the same heat value as electricity in final consumption (i.e., 1GWh = 0.000086 Mtoe). Heat includes heat that is produced for sale and is accounted for in the transformation sector.

Production

Production is the production of primary energy, i.e., hard coal, lignite, peat, crude oil, NGLs, natural gas, biofuels and waste, nuclear, hydro, geothermal, solar and the heat from heat pumps that is extracted from the ambient environment production is calculated after removal of impurities (e.g., sulphur from natural gas).

Imports and exports

Imports and exports comprise amounts having crossed the national territorial boundaries of the country, whether or not customs clearance has taken place.

Oil and natural gas

Quantities of crude oil and oil products imported or exported under processing agreements (i.e., refining on account) are included. Quantities of oil in transit are excluded. Crude oil, NGL and natural gas are reported as coming from the country of origin; refinery feedstock and oil products are reported as coming from the country of last consignment. Re-exports of oil imported for processing within bonded areas are shown as exports of product from the processing country to the final destination.

Coal/peat

Imports and exports comprise the amount of fuels obtained from or supplied to other countries, whether or not there is an economic or customs union between the relevant countries. Coal in transit is not included.

Electricity

Amounts are considered as imported or exported when they have crossed the national territorial boundaries of the country.

International marine bunkers

International marine bunkers cover those quantities delivered to ships of all flags that are engaged in international navigation. The international navigation may take place at sea, on inland lakes and waterways, and in coastal waters. Consumption by ships engaged in domestic navigation is excluded. The domestic/International split is determined on the basis of port of departure and port of arrival, and not by the flag or nationality of the ship. Consumption by fishing vessels and by military forces is also excluded.

International aviation bunkers

International aviation bunkers covers deliveries of aviation fuels to aircraft for international aviation. Fuels used by airlines for their road vehicles are excluded. The domestic/International split should be determined ON THE BASIS OF DEPARTURE AND LANDING LOCATIONS AND NOT BY THE NATIONALITY OF THE AIRLINE; For many countries this incorrectly excludes fuel used by domestically owned carriers for their international departures.

Stock changes

Stock changes reflects the difference between opening stock levels on the first day of the year and closing levels on the last day of the year of stocks on national territory held by producers, importers, energy transformation industries and large consumers. A stock build is shown as a negative number, and a stock draw as a positive number.

Total primary energy supply (TPES)

Total primary energy supply (TPES) is made up of production + imports – exports – international marine bunkers – international aviation bunkers ± stock changes. For the world total, international marine bunkers and international aviation bunkers are not subtracted from TPES.

Transfers

Transfers includes both inter-product transfers, products transferred and recycled products.

Statistical differences

Statistical differences include the sum of the unexplained statistical differences for individual fuels, as they appear in the basic energy statistics. It also includes the statistical differences that arise because of the variety of conversion factors in the coal/peat and oil columns.

Electricity plants

Electricity plants refer to plants which are designed to produce electricity only. If one or more units of the plant is a CHP unit (and the inputs and outputs cannot be distinguished on a unit basis) then the whole plant is designated as a CHP plant. Both main activity producers and auto producer plants are included here.

Combined heat and power plants

Combined heat and power plants refers to plants which are designed to produce both heat and electricity. Sometimes referred to as cogeneration power stations. If possible, fuel inputs and electricity/heat outputs are on a unit basis rather than on a plant basis. However, if data are not available on a unit basis, the convention for defining a CHP plant noted above is adopted. Both main activity producers and auto producer plants are included here.

Blast furnaces

Blast furnaces contain inputs to and outputs of fuels from blast furnaces.

Gas works

Gas works is treated similarly to electricity generation, with the quantity produced appearing as a positive figure in the coal/peat column or the natural gas column after blending with natural gas, inputs as negative entries in the coal/peat and oil products columns, and conversion losses appearing in the total column.

Coke ovens

Coke ovens contain losses in transformation of coal from primary to secondary fuel and from secondary to tertiary fuels (hard coal to coke and patent fuel, lignite to BKB, etc.).

Oil refineries

Oil refineries show the use of primary energy for the manufacture of finished oil products and the corresponding output. Thus, the total reflects transformation losses. In certain cases the data in the total column are positive numbers. This can be due to either problem in the primary refinery balance or to the fact that the IEA uses regional net calorific values for oil products.

Petrochemical plants

Petrochemical plants covers backflows returned from the petrochemical industry. Note that backflows from oil products that are used for non-energy purposes (i.e white spirit and lubricants) are not included here, but in non-energy use.

Liquefaction plants

Liquefaction plants include diverse liquefaction processes, such as coal liquefaction plants and gas-to-liquid plants.

Other transformation

Other transformation covers non-specified transformation not shown elsewhere, such as the transformation of primary solid biofuels into charcoal.

Energy industry own use

Energy industry own use contains the primary and secondary energy consumed by transformation industries for heating, pumping, traction and lighting purposes (ISIC 05, 06, 19 and 35, Group 091 and Classes 0892 and 0721).

Losses

Losses include losses in energy distribution, transmission and transport.

Total final consumption (TFC)

Total final consumption (TFC) is the sum of consumption by the different end-use sectors; Backflows from the petrochemical industry are not included in final consumption.

Industry

Industry consumption is specified in the following subsectors (energy used for transport by industry is not included here but reported under transport):

- Iron and steel industry [ISIC Group 241 and Class 2431];
- Chemical and petrochemical industry [ISIC Divisions 20 and 21] excluding petrochemical feedstock;
- Non-ferrous metals basic industries [ISIC Group 242 and class 2432];
- Non-metallic minerals such as glass, ceramic, cement, etc. [ISIC Division 23];
- Transport equipment [ISIC Divisions 29 and 30];
- Machinery comprises fabricated metal product, machinery and equipment other than transport equipment [ISIC Divisions 25 to 28]
- Mining (excluding fuels) and quarrying [ISIC Divisions 07 and 08 and Group 099];

- Food and tobacco [ISIC Divisions 10 and 12];
- Paper, pulp and printing [ISIC Divisions 17 and 18];
- Wood and wood products (other than pulp and paper) [ISIC Division 16];
- Construction [ISIC Divisions 41 and 43];
- Textile and leather [ISIC Divisions 13 to 15];
- Non-specified (any manufacturing industry not included above) [ISIC Divisions 22, 31 and 32].

Transport

Transport includes all fuels used for transport [ISIC Divisions 39 to 51]. It includes transport in industry and covers domestic aviation, road, rail, pipeline transport, domestic navigation and non-specified transport. Fuel used for ocean, coastal and inland fishing (included under fishing and military consumption (included in other non-specified) are excluded from transport.

Please note that international marine and international aviation bunkers are also included here for world total.

Other

Other covers residential, commercial and public services [ISIC Divisions 33, 36-39, 45-47, 52, 53, 56, 58-66, 68-75, 77-82, 84 (excluding Class 8422) 85-88, 90-99], agriculture/forestry [ISIC Divisions 01 and 02], fishing [ISIC Division 03] and non-specified consumption.

Non-energy use

Non-energy use covers those fuels that are used as raw materials in the different sectors and are not consumed as a fuel or transformed into another fuel. Non-energy use also includes petrochemical feedstock. Non-energy use is shown separately in final consumption under the heading non-energy use.

CONVERSION FACTORS

Conversion Factors for Energy

	TJ	Gcal	Mtpe	MBtu	GWh
TJ	1	238.8	2.388×10^{-5}	947.8	0.2778
Gcal	4.1868×10^{-3}	1	10^{-7}	3.968	1.163×10^{-3}
Mtoe	4.1868×10^4	10^7	1	3.968×10^7	11630
MBtu	1.0551×10^{-3}	0.252	2.52×10^{-8}	1	2.931×10^{-4}
GWh	3.6	860	8.6×10^{-5}	3412	1

Conversion Factors for Mass

	kg	t	lt	st	lb
kilogram (kg)	1	0.001	9.84×10^{-4}	1.102×10^{-3}	2.2046
ton (t)	1 000	1	0.984	1.1023	2 204.6
long ton (lt)	1 060	1.016	1	1.120	2 240.0
short ton (st)	907.2	0.9072	0.893	1	2 000.0 ⁴
pound (lb)	0454	4.54×10^{-4}	4.46×10^{-4}	5.0×10^{-4}	1

Conversion Factors for Volume

	gal U.S.	gal U.K.	bbbl	Ft ³	l	m ³
U.S. gallon (gal)	1	0.8327	0.02381	0.1337	3.785	0.0038
U.K. gallon (gal)	1.201	1	0.02859	0.1605	4.5466	0.0045
barrel (bbbl)	42.0	34.97	1	5.615	159.0	0.159
cubic foot (ft3)	7.48	6.229	0.1781	1	28.3	0.0283
litre(l)	0.2642	0.220	0.0063	0.0353	1	0.001
cubic metre (m3)	264.2	220.0	6.289	35.3147	1 000	1

Notes



A series of horizontal dotted lines for writing notes.



AFRICAN UNION



ENERGY

**An intergrated, Prosperous
and peaceful Africa**

**African Energy Commission
Commission Africaine de l'Energie**



AFRICA ENERGY BALANCES 2023

2023



AFRICAN UNION



ENERGY

**African Energy Commission
Commission Africaine de l'Energie**



Africa Energy Balances 2023
AFRICAN ENERGY COMMISSION - AFREC