DIGITAL & TRENDS

Bioenergy in Europe



Table of Contents

01 Overview

Global capacity of bioenergy power 2009-2022
Global bioenergy production 2009-2021
Global bioenergy capacity 2022, by country
Global biomass and waste energy investments 2004-2019

02 Bioenergy

Bioenergy capacity in Europe 2010-2022

Renewable energy mix in the European Union 2013-2021

Renewable energy generation source shares in the European Union 2013-2021

Bioenergy use for heating in the EU 2015-2020

Share of bioenergy use for heating in the EU 2015-2020

03 Biomass

Solid biomass primary energy production in the European Union 2000-2021

Solid biomass primary energy production in the European Union 2021, by country

Inland consumption of solid biomass energy in the European Union 2000-2021

Inland consumption of solid biomass energy in the European Union 2021, by country

Solid biomass consumption per inhabitant in the European Union 2021, by country

04 Biogas

	Energy production from biogas in the European Union (EU) 2013-2021	20
03 04 05 06	Gross heat production from biogas in the European Union (EU) 2013-2020	21
	Energy production from landfill gas in the European Union (EU) 2013-2020	22
	Energy production from anaerobic fermentation biogas in the European Union 2013-2021	23
	Energy production from sewage sludge gas in the European Union 2013-2021	24
	05 Biofuel	
08 09 10 11 12	Biofuel production in the EU 2000-2022	26
	Biofuel production in Europe 2022, by country	27
	Share of biofuel consumption in the EU-27 for transportation 2021, by fuel type	28
	Biofuels consumption for transportation in the European Union 2015-2021	29
	06 Economic data	
	Turnover of the biomass industry in the European Union 2013-2021	<u>31</u>
14 15 16 17	Turnover of the biogas industry in the European Union 2013-2021	32
	Turnover of the biofuels industry in the European Union 2013-2021	<u>33</u>
	Employment in the solid biofuels industry in the European Union 2013-2021	<u>34</u>
	Employment in the biogas industry in the European Union 2013-2021	35
	Employment in the biofuels industry in the European Union 2013-2021	36

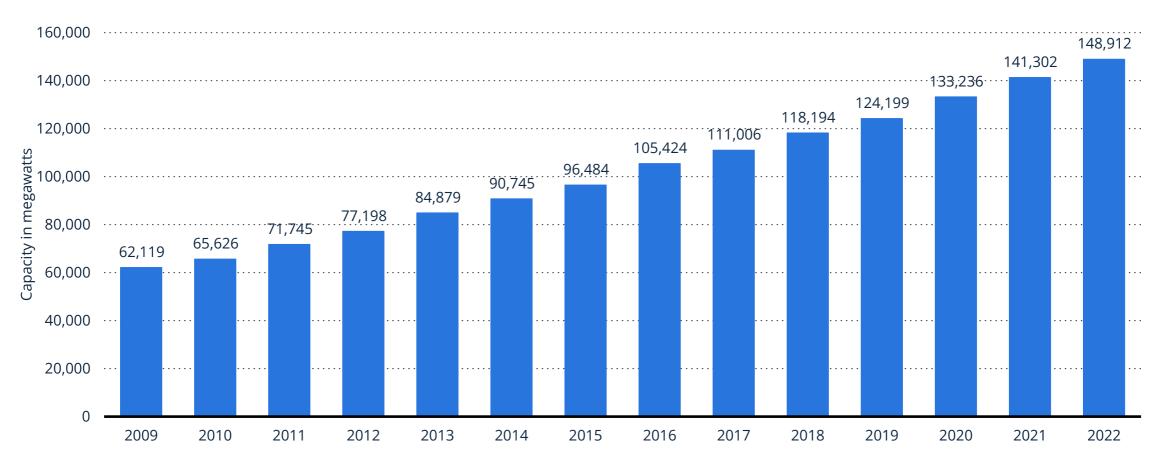


CHAPTER 01

Overview

Bioenergy capacity worldwide from 2009 to 2022 (in megawatts)

Global capacity of bioenergy power 2009-2022





Production of bioenergy worldwide from 2009 to 2021 (in terawatt hours)

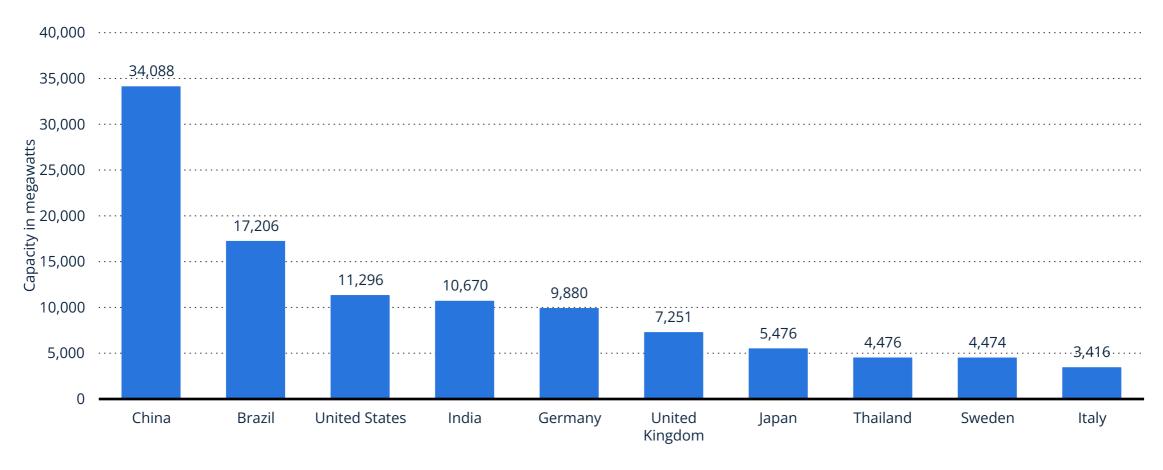
Global bioenergy production 2009-2021





Leading countries in bioenergy capacity worldwide in 2022

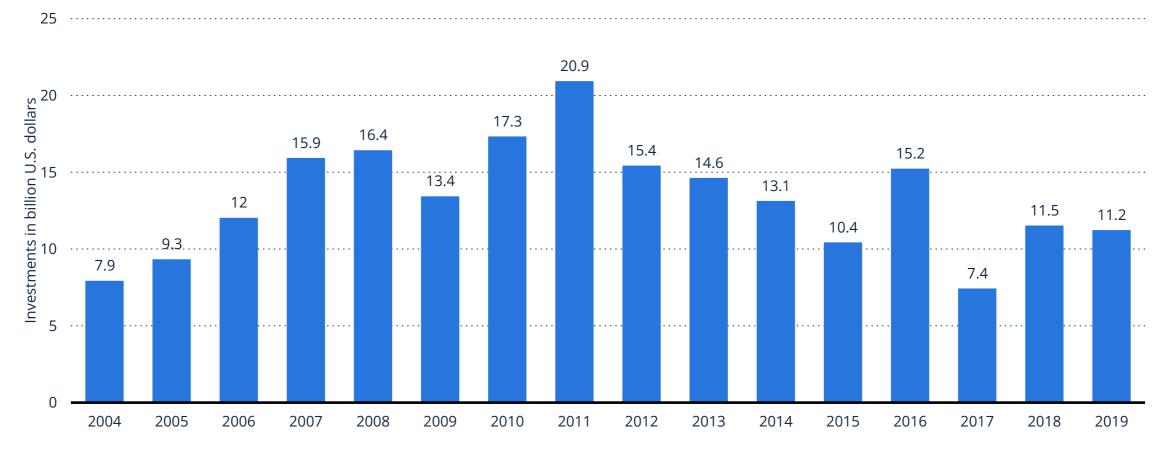
Global bioenergy capacity 2022, by country





Investments in biomass and waste energy technologies worldwide from 2004 to 2019 (in billion U.S. dollars)

Global biomass and waste energy investments 2004-2019



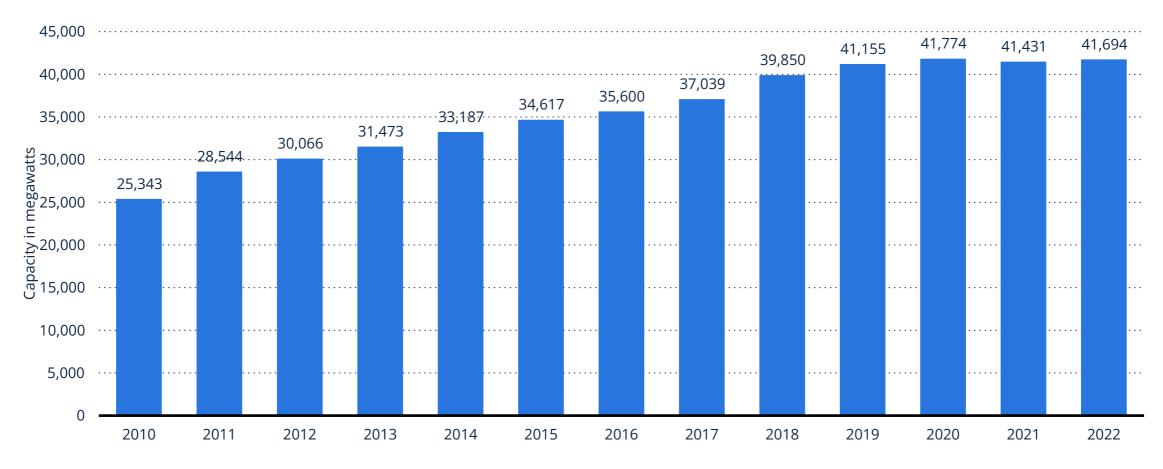


CHAPTER 02

Bioenergy

Bioenergy capacity in Europe from 2010 to 2022 (in megawatts)

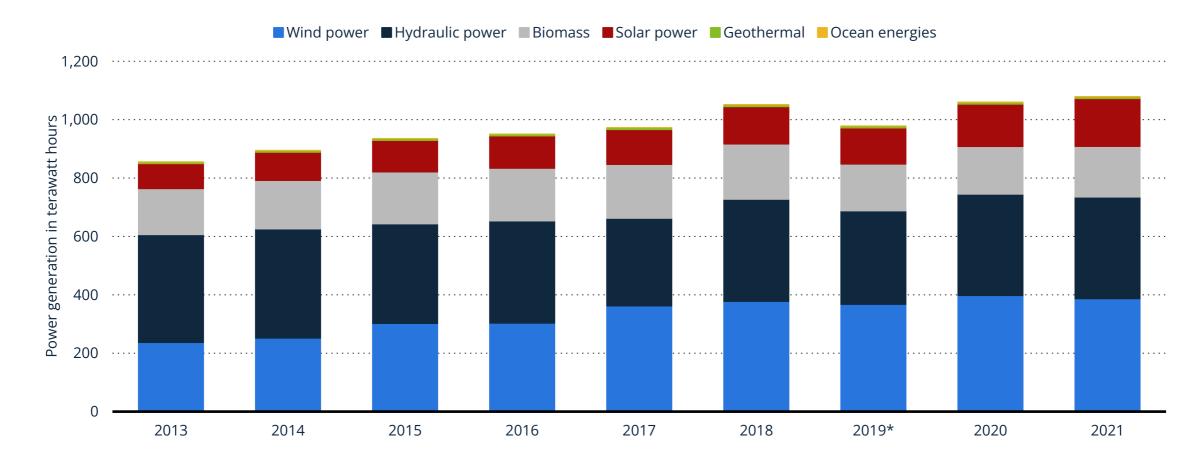
Bioenergy capacity in Europe 2010-2022





Renewable electricity mix in the European Union from 2013 to 2021, by energy source (in terawatt hours)

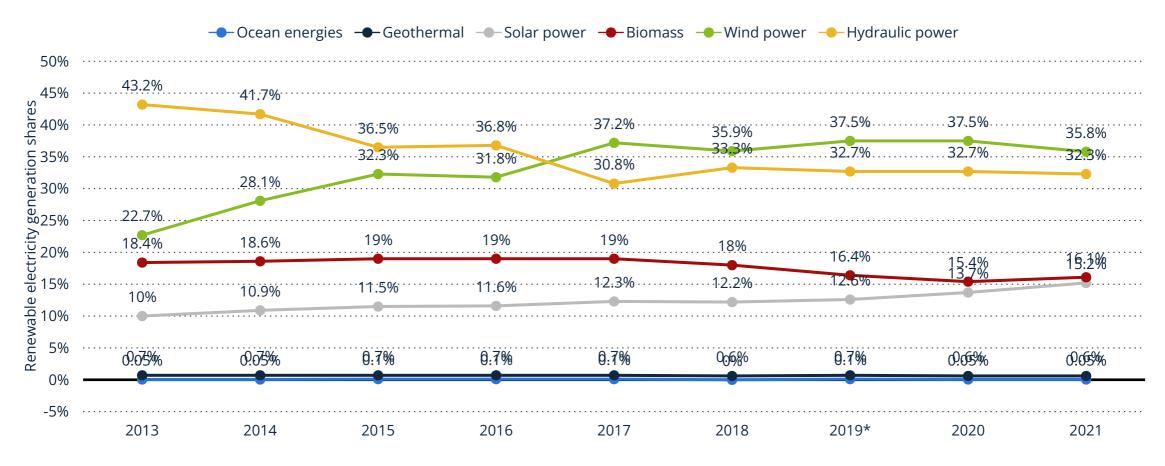
Renewable energy mix in the European Union 2013-2021





Share of renewable electricity generation sources in the European Union from 2013 to 2021*

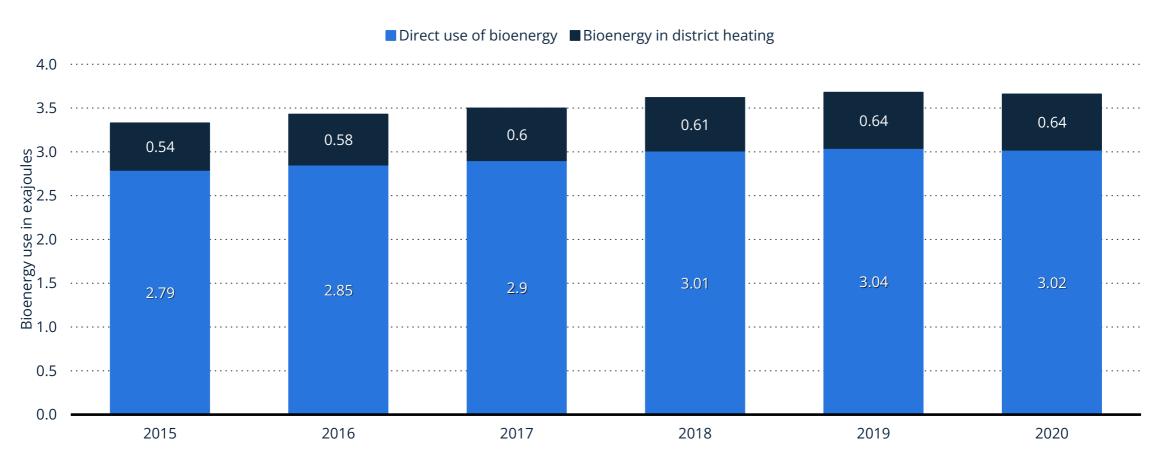
Renewable energy generation source shares in the European Union 2013-2021





Bioenergy in total heat supply in the European Union from 2015 to 2020 (in exajoules)

Bioenergy use for heating in the EU 2015-2020

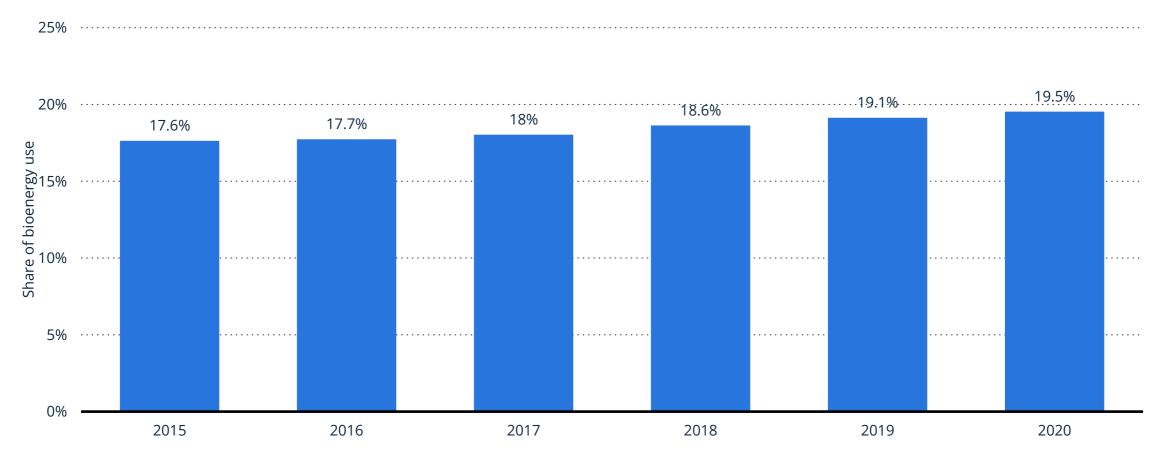




Source(s): Eurostat: REN21

Share of bioenergy in total heat supply in the European Union from 2015 to 2020

Share of bioenergy use for heating in the EU 2015-2020



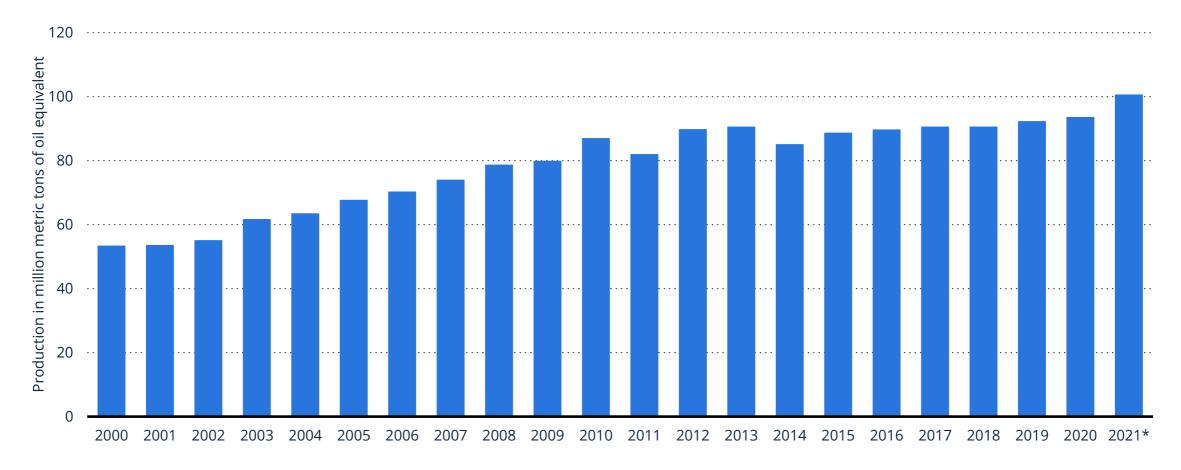


CHAPTER 03

Biomass

Annual primary energy production from solid biomass in the European Union (EU-27) from 2000 to 2021 (in million metric tons of oil equivalent)

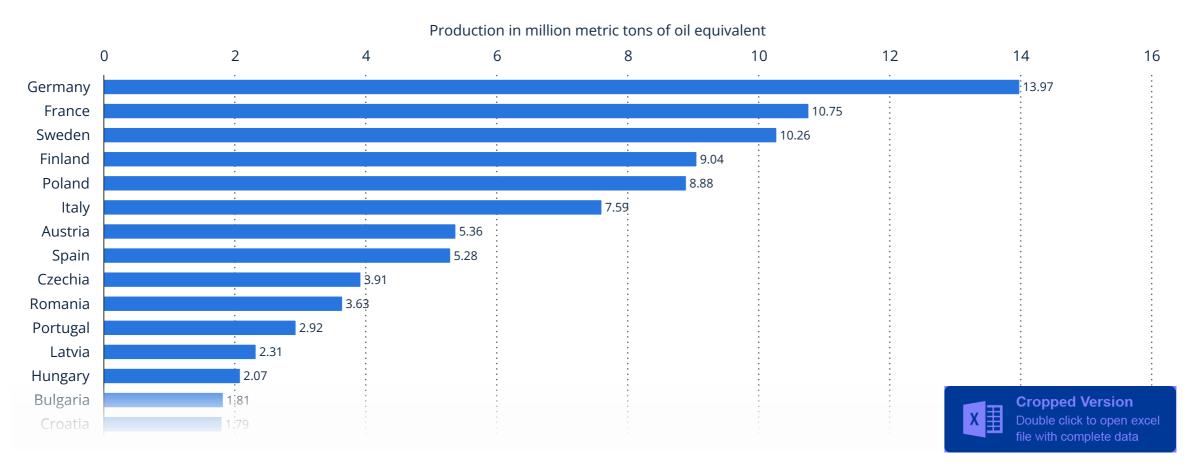
Solid biomass primary energy production in the European Union 2000-2021





Leading producers of primary energy from solid biomass in the European Union (EU-27) in 2021 (in million metric tons of oil equivalent)

Solid biomass primary energy production in the European Union 2021, by country

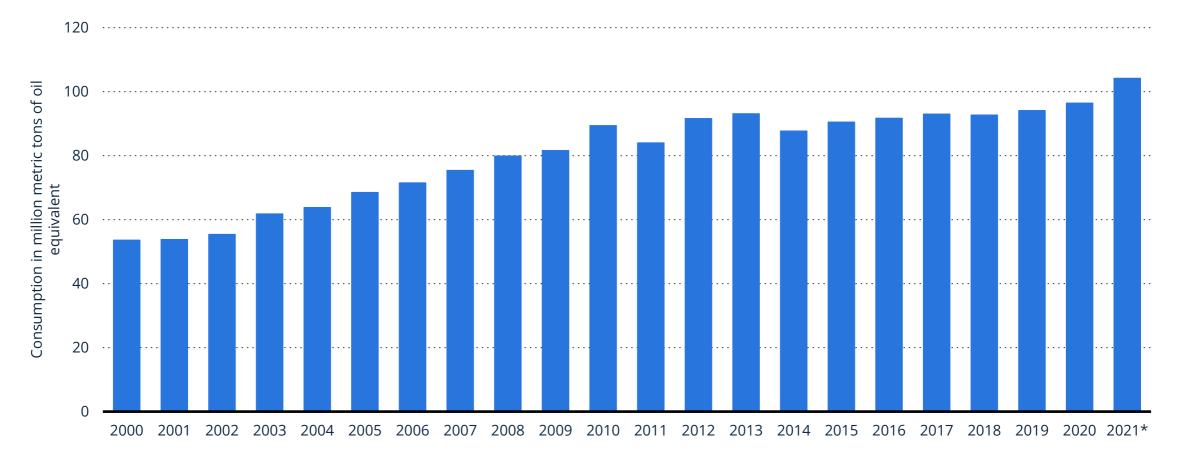




Source(s): EurObserv'ER

Annual inland consumption of energy from solid biomass in the European Union (EU-27) from 2000 to 2021 (in million metric tons of oil equivalent)

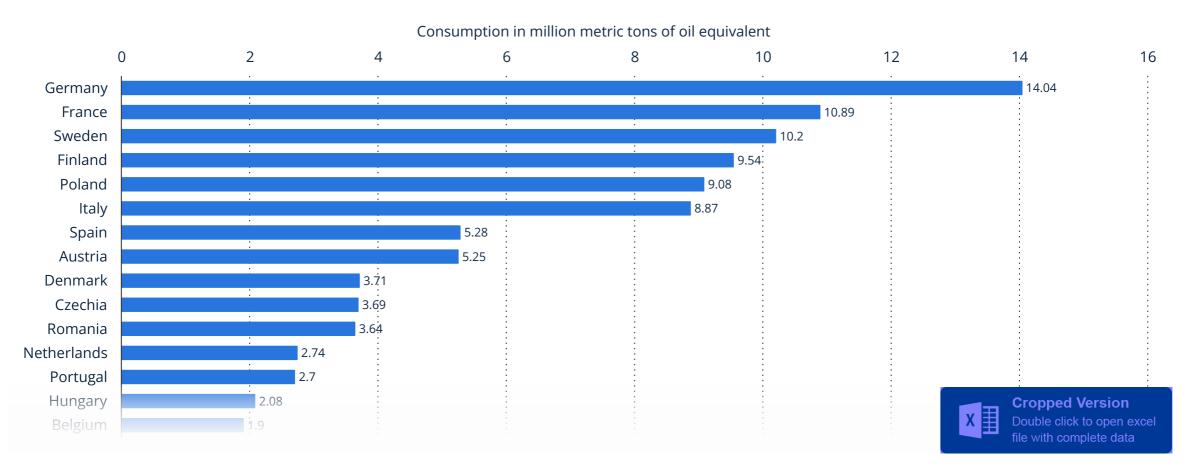
Inland consumption of solid biomass energy in the European Union 2000-2021





Leading consumers of energy from solid biomass in the European Union (EU-27) in 2021 (in million metric tons of oil equivalent)

Inland consumption of solid biomass energy in the European Union 2021, by country

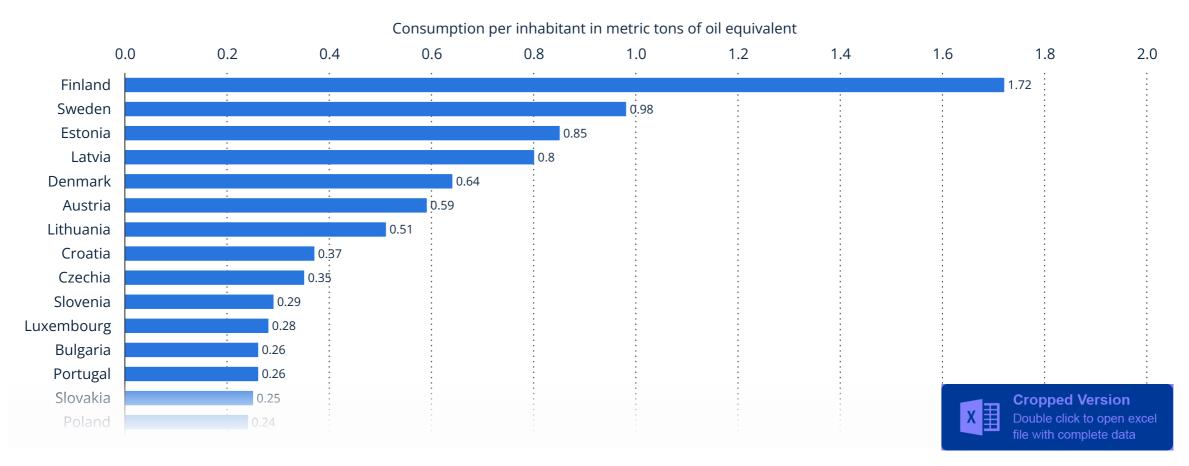




Source(s): EurObserv'ER

Gross inland consumption of solid biomass per inhabitant in the European Union (EU-27) in 2021, by country (in metric tons of oil equivalent)

Solid biomass consumption per inhabitant in the European Union 2021, by country





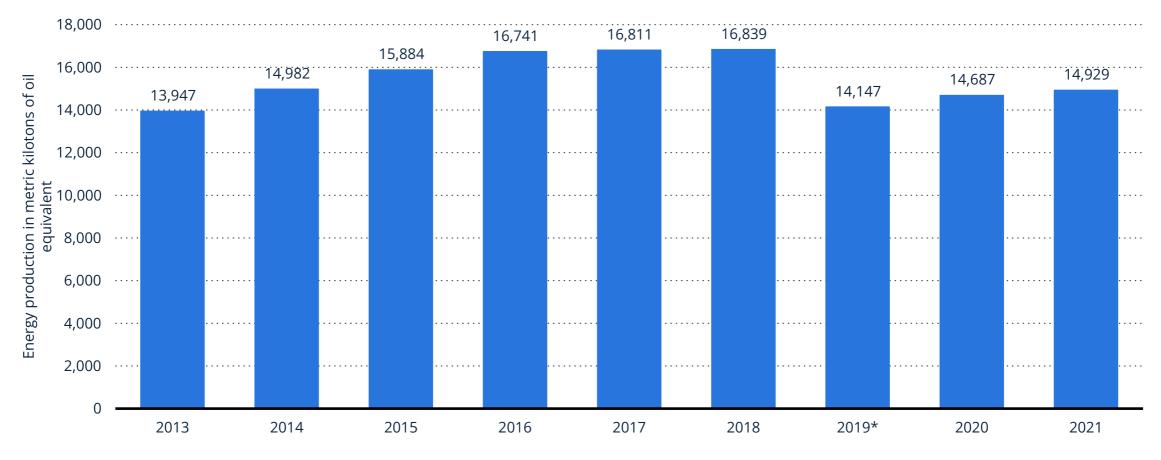
Source(s): EurObserv'ER

CHAPTER 04

Biogas

Primary energy production from biogas in the European Union (EU) from 2013 to 2021 (in metric kilotons of oil equivalent)

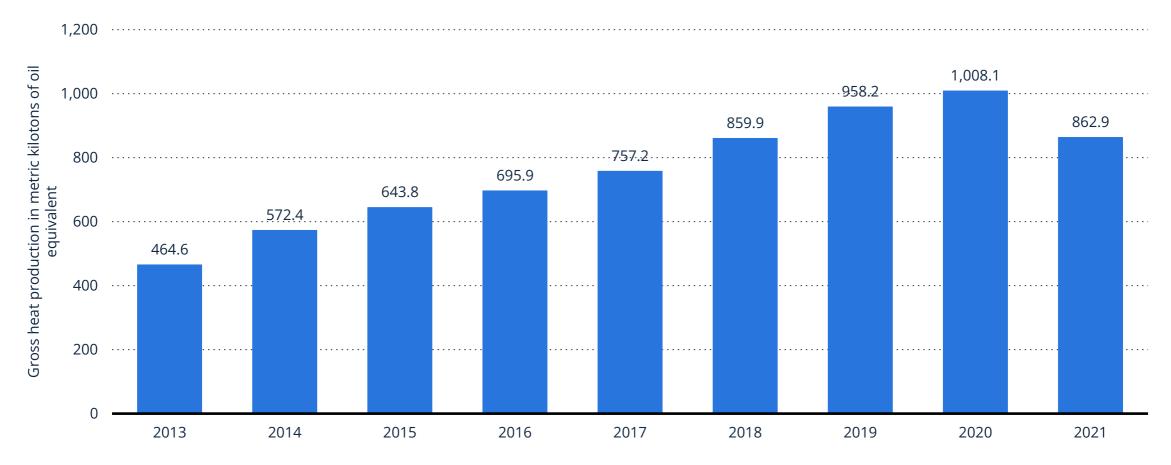
Energy production from biogas in the European Union (EU) 2013-2021





Gross heat production from biogas in the European Union (EU) from 2013 to 2020 (in metric kilotons of oil equivalent)

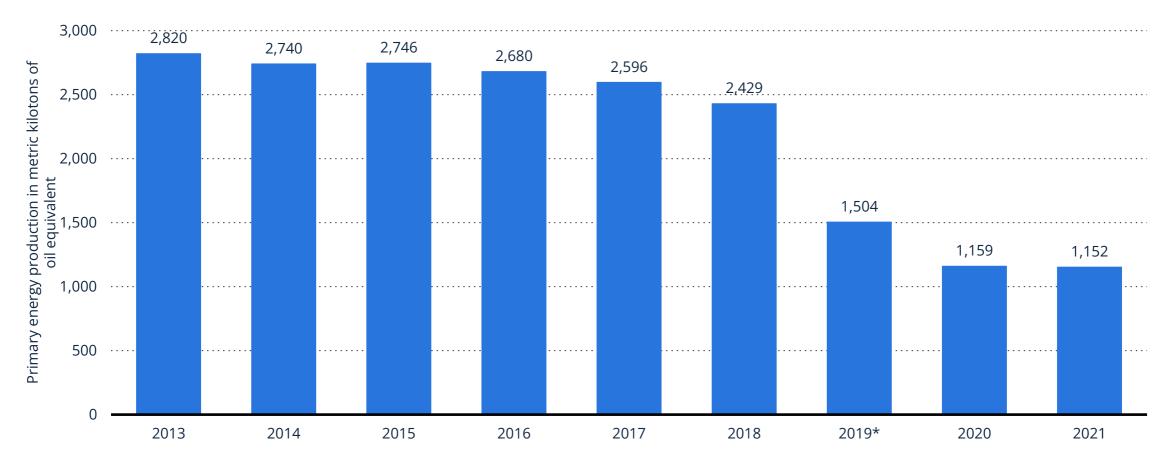
Gross heat production from biogas in the European Union (EU) 2013-2020





Primary energy production from landfill gas in the European Union (EU) from 2013 to 2020 (in metric kilotons of oil equivalent)

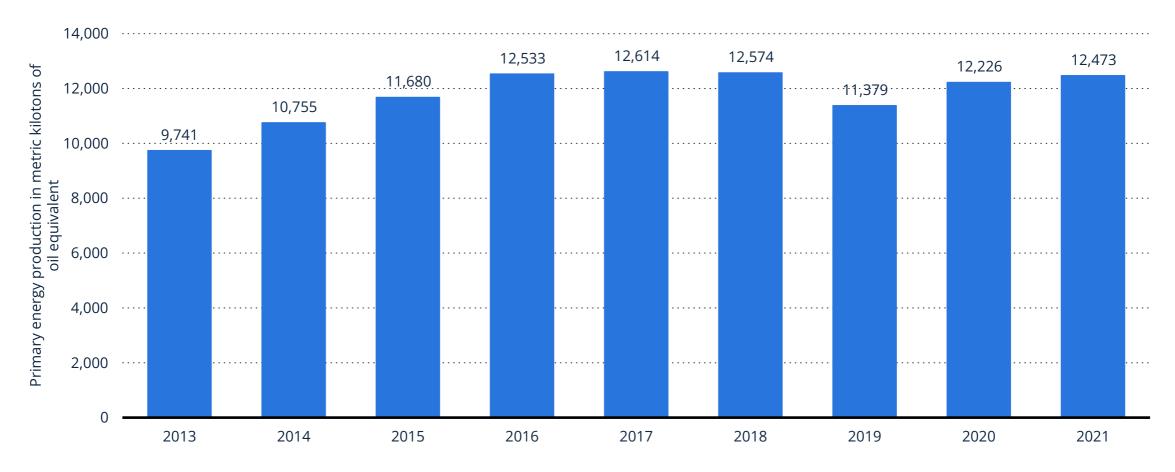
Energy production from landfill gas in the European Union (EU) 2013-2020





Primary energy production from anaerobic fermentation biogas in the European Union (EU) from 2013 to 2021 (in metric kilotons of oil equivalent)

Energy production from anaerobic fermentation biogas in the European Union 2013-2021

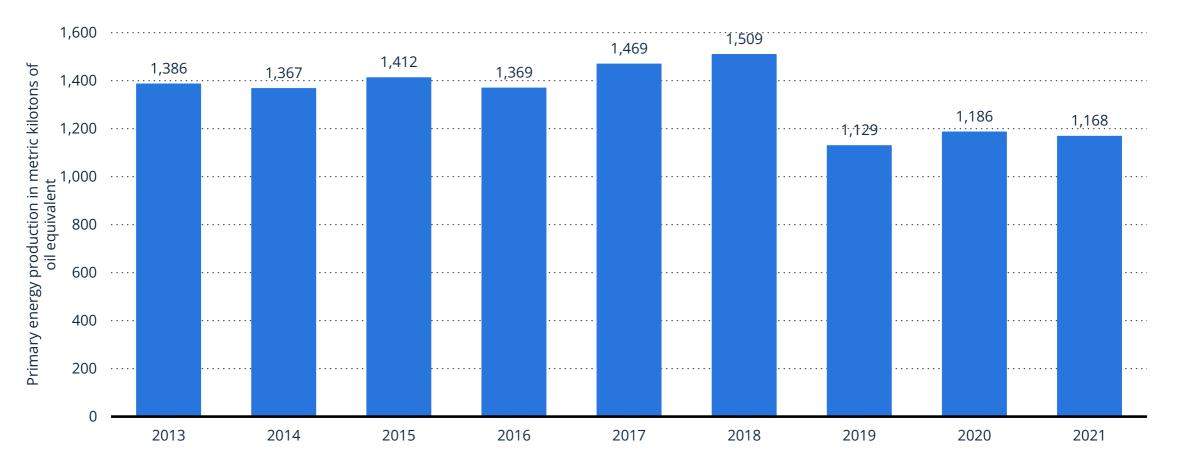




Source(s): EurObserv'ER

Primary energy production from sewage sludge gas in the European Union (EU) from 2013 to 2021 (in metric kilotons of oil equivalent)

Energy production from sewage sludge gas in the European Union 2013-2021



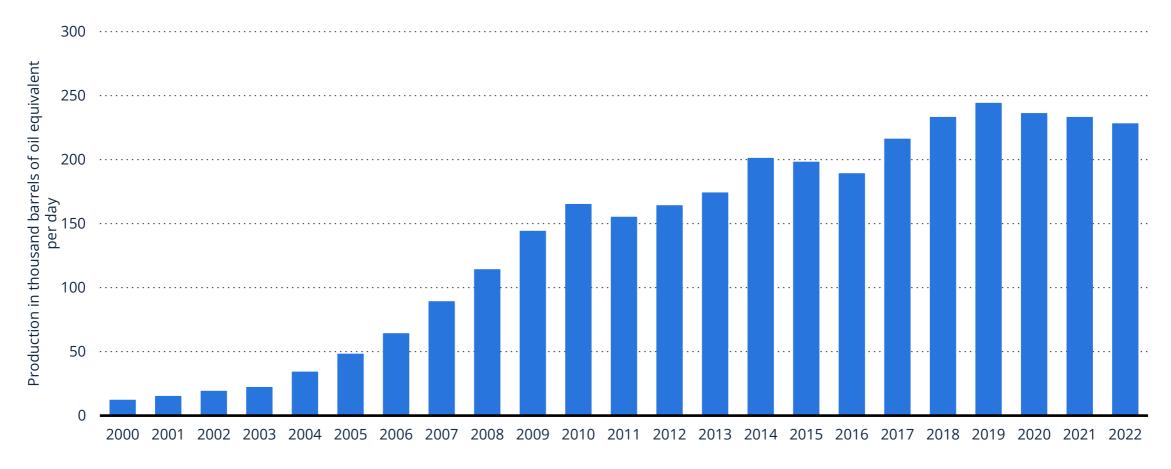


CHAPTER 05

Biofuel

Biofuel production in the European Union from 2000 to 2022 (in 1,000 barrels of oil equivalent per day)

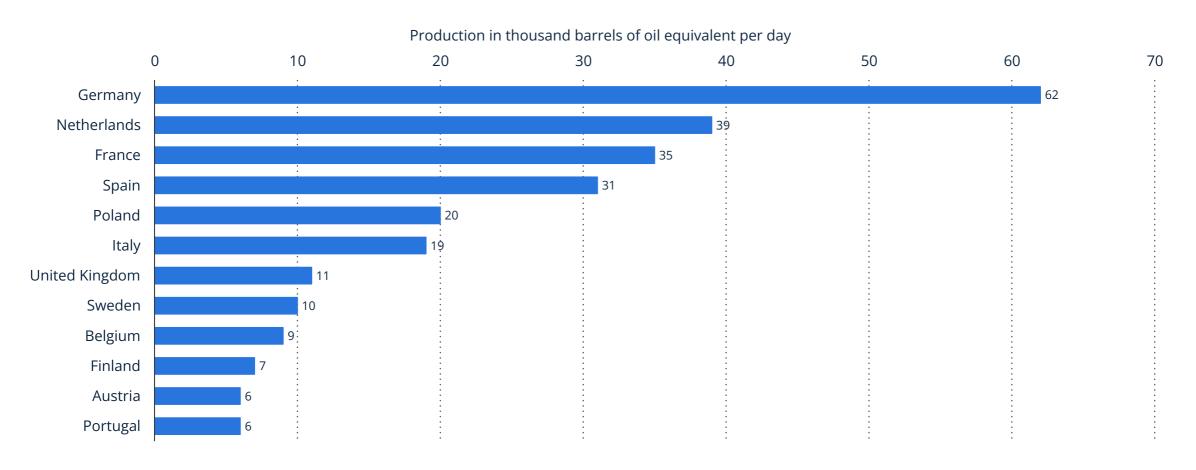
Biofuel production in the EU 2000-2022





Biofuel production in Europe in 2022, by country (in 1,000 barrels of oil equivalent per day)

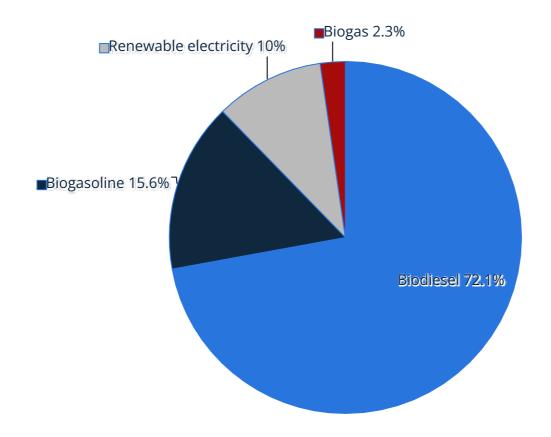
Biofuel production in Europe 2022, by country





Distribution of renewable energy used for transportation in the European Union (EU-27) in 2021, by fuel type

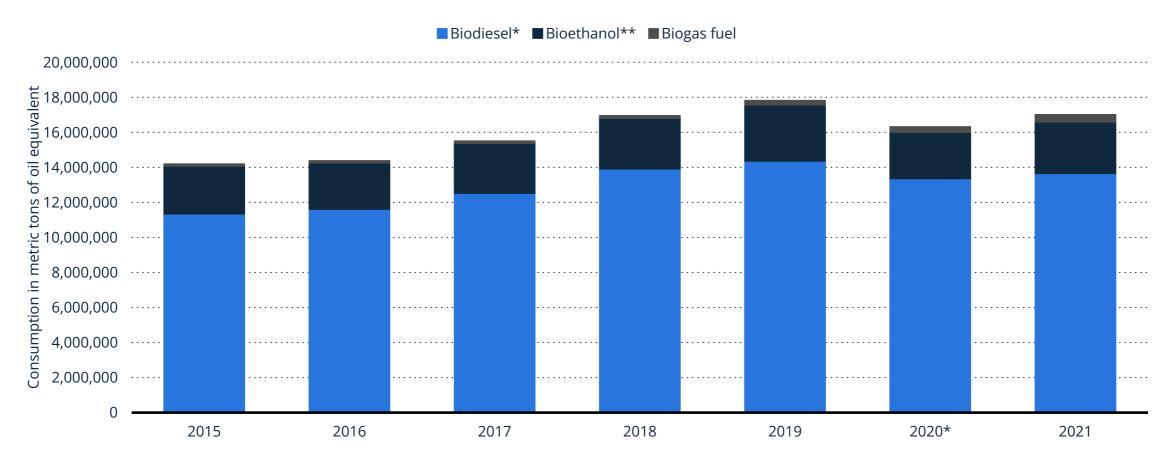
Share of biofuel consumption in the EU-27 for transportation 2021, by fuel type





Consumption of biofuels for transportation in the European Union from 2015 to 2021, by fuel type (in metric tons of oil equivalent)

Biofuels consumption for transportation in the European Union 2015-2021



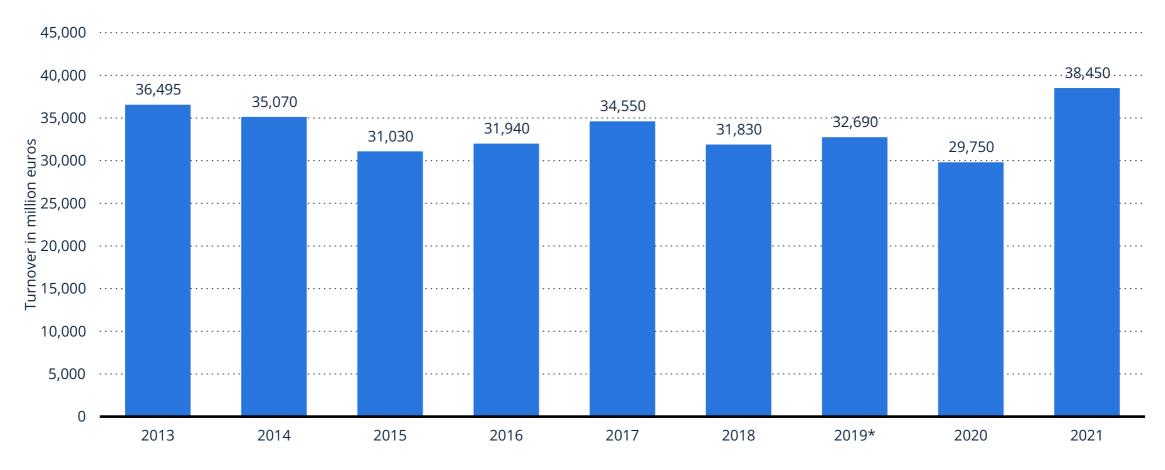


CHAPTER 06

Economic data

Turnover of the solid biomass industry in the European Union from 2013 to 2021 (in million euros)

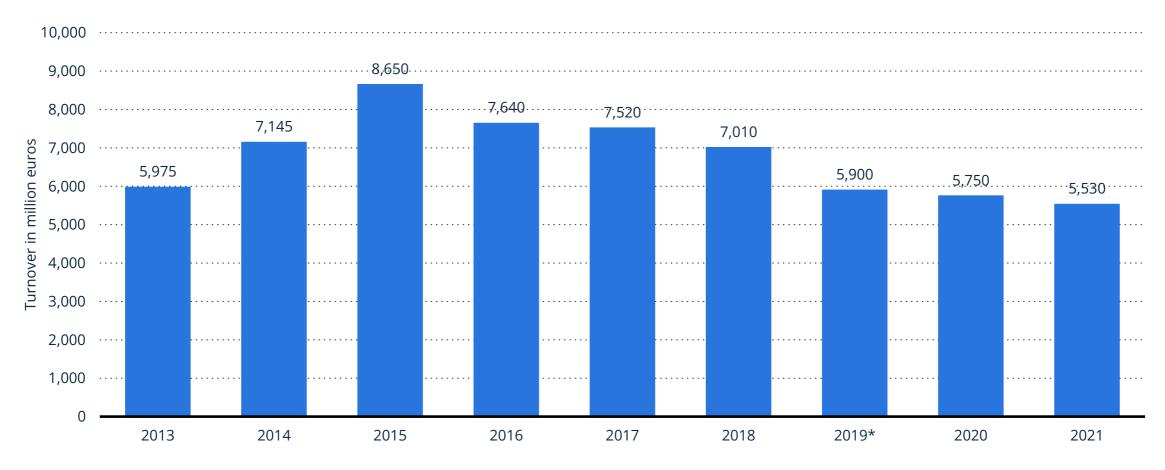
Turnover of the biomass industry in the European Union 2013-2021





Turnover of the biogas industry in the European Union from 2013 to 2021 (in million euros)

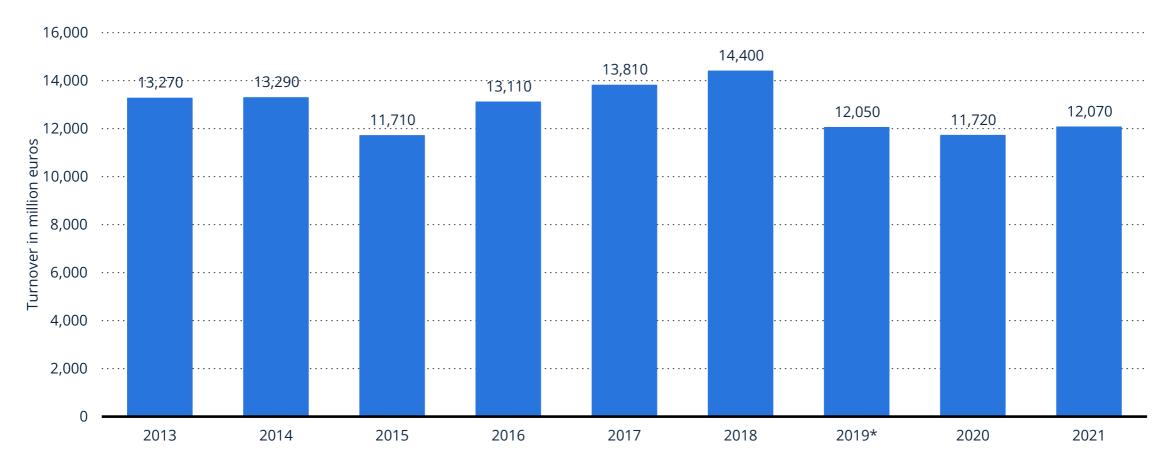
Turnover of the biogas industry in the European Union 2013-2021





Turnover of the biofuels industry in the European Union from 2013 to 2021 (in million euros)

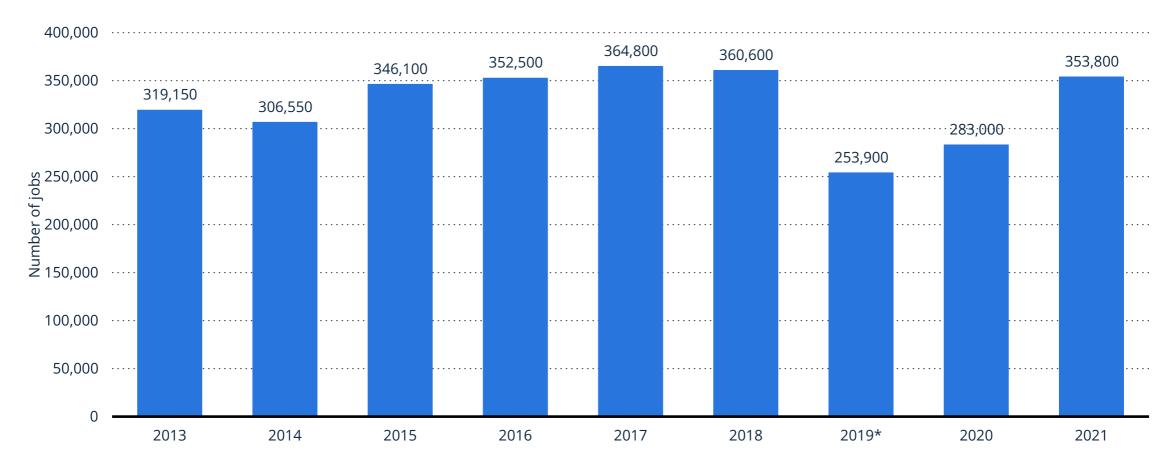
Turnover of the biofuels industry in the European Union 2013-2021





Number of direct and indirect jobs generated in the biomass industry in the European Union from 2013 to 2021

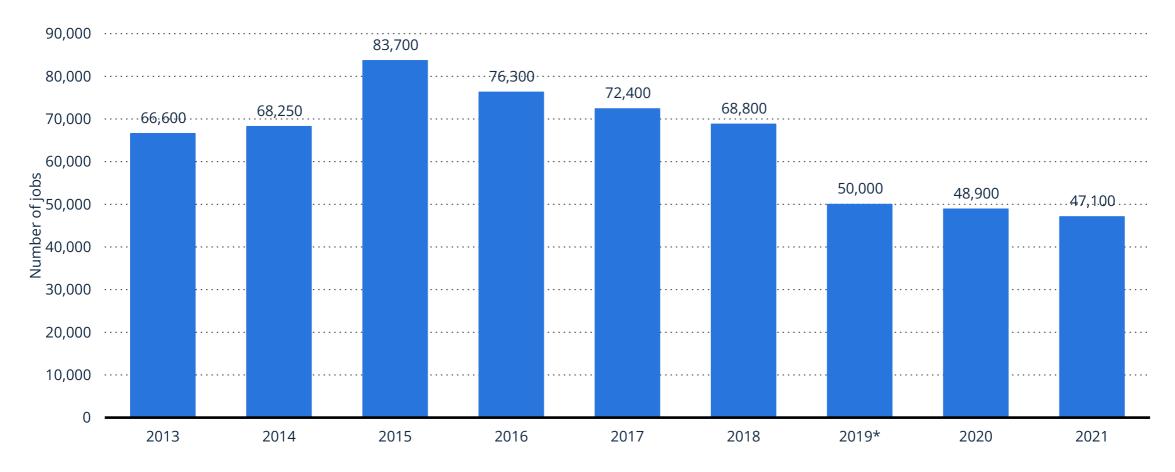
Employment in the solid biofuels industry in the European Union 2013-2021





Number of direct and indirect jobs generated in the biogas industry in the European Union from 2013 to 2021

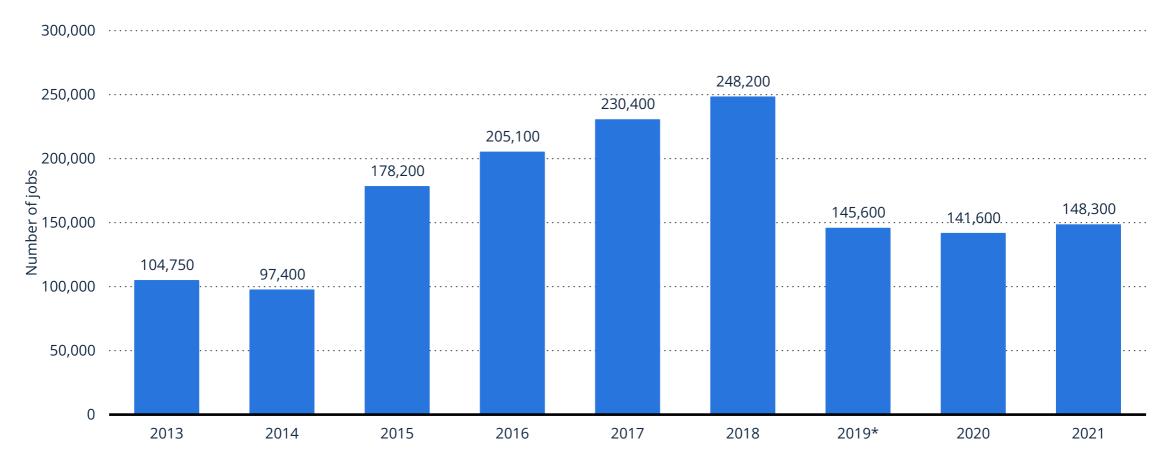
Employment in the biogas industry in the European Union 2013-2021





Number of direct and indirect jobs generated in the biofuels industry in the European Union from 2013 to 2021*

Employment in the biofuels industry in the European Union 2013-2021





Sources

Bloomberg

BloombergNEF

Energy Institute

EurObserv'ER

Eurostat

FS-UNEP Collaborating Centre

IRENA

Kearney

KPMG

REN21

UNEP

