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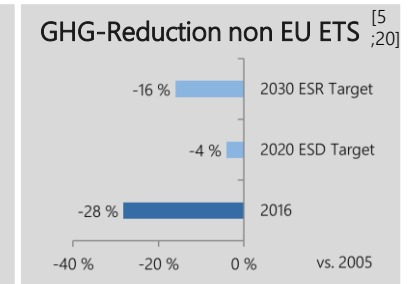
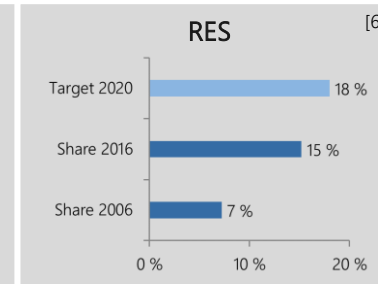
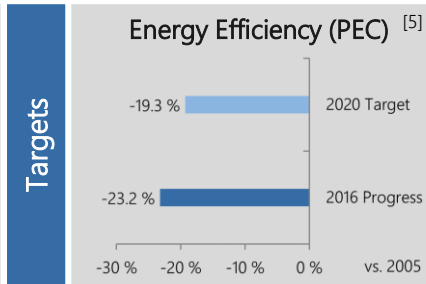
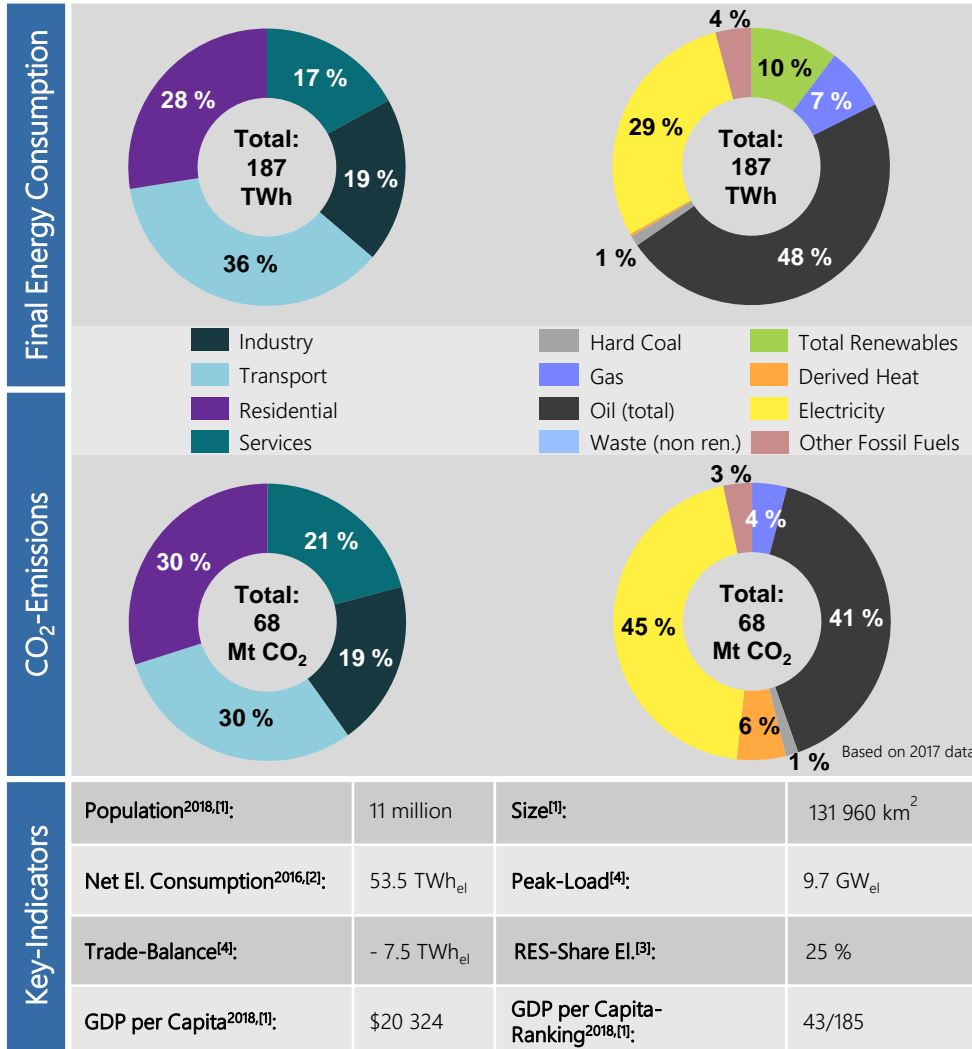


Energy Country Profile Greece



2019

Greece at a Glance



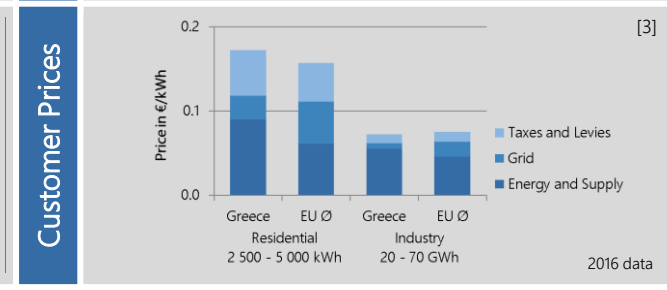
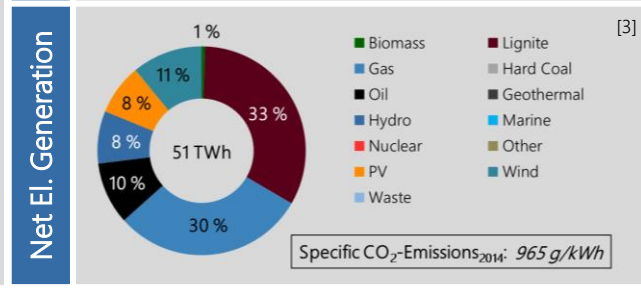
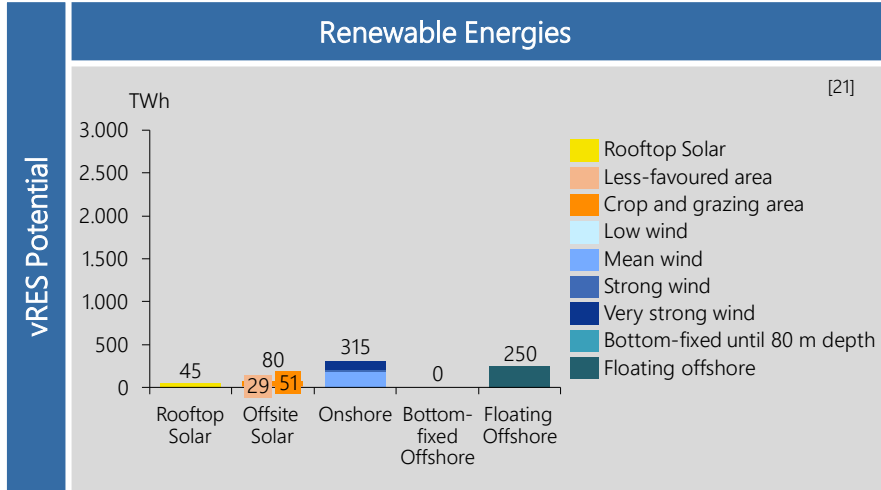
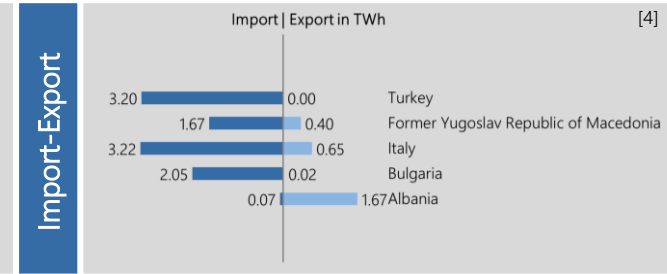
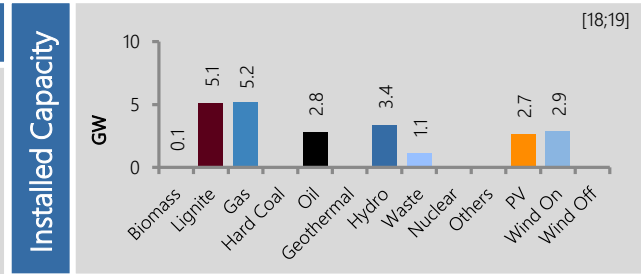
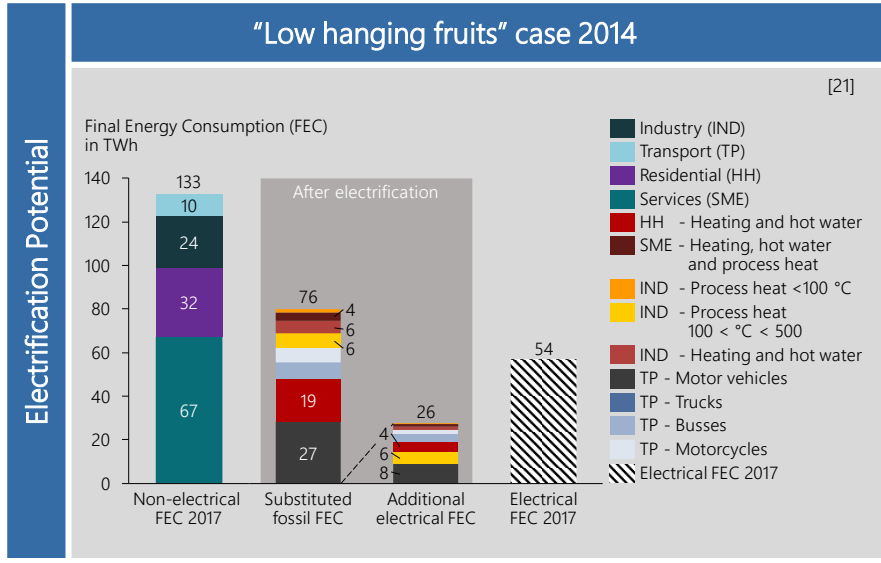
- ### Current Topics
- Electricity generated from coal fell from 31 TWh in 2012 to 15 TWh in 2016. Due to the growth of renewables and lower electricity consumption. ^[11;15;16]
 - Public Power Corporation S.A. (PPC), 51 % owned by the Greek state, had to decommission 913 MW of lignite capacity between 2010-2016 and plans to decommission another 2 112 MW by 2025.
 - PPC accounts for 75 % of the electricity generation. The EU obliged PPC to reduce the share to under 50 % till 2020.
 - The technology-specific auction for wind and PV in 2019 were undersubscribed.

- ### Key Facts
- Greece is a net exporter of oil products thanks to its strong refinery capacity, despite its low crude oil production. ^[11;12;13;14]
 - Greece could transform into a regional gas hub for South-Eastern Europe. Greece had a gas demand of 4.4 bcm/a in 2016. Current Projects:
 - Trans-Adriatic Pipeline: Potential of 10 bcm/a from Caspian region to Europe via Turkey, Greece and Albania (commercial operation in 2020)
 - EastMed Pipeline: an offshore/onshore pipeline that would directly be connecting Eastern Mediterranean gas reserves to Greece. Potential of 10 bcm/a (commercial operation in 2025)
 - A second LNG terminal – Alexandroupolis FSRU – which has a planned capacity of 5.5 bcm/a and will start up in 2021

Location

All evaluations based on the year 2017 if not mentioned otherwise.

Greece's Electricity Sector



Wholesale Market

[7;8]

- Main Exchange:** Hellenic Energy Exchange S.A. (HEnEx), Part of EnEx Group
- Capacity Market:** Greece has been in talks with the European Commission for a capacity mechanism (June 2019)
- Additional CO₂-Pricing:** No

Day-Ahead-Market (HEnEx):

2018	HEnEx
Volume	51 TWh
Avg. Price	60.39 €/MWh

Support Schemes

[10]

Costs

- PV 2019: 6.3 €/kWh
- Wind 2019: 6.7 €/kWh

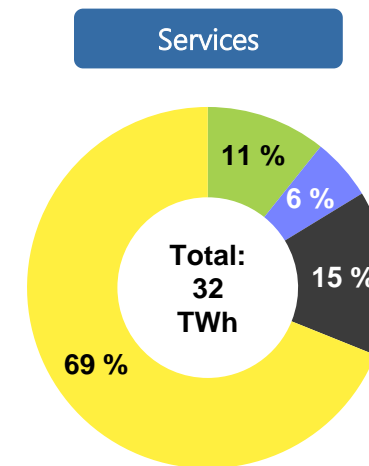
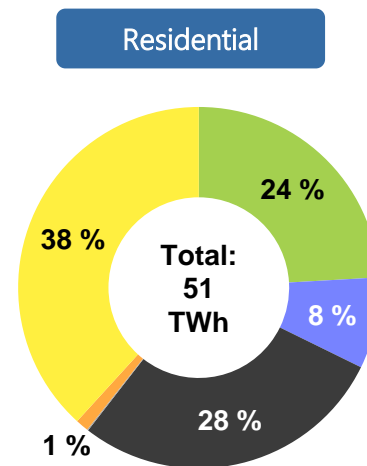
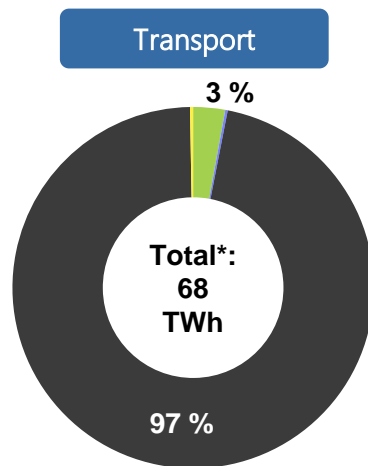
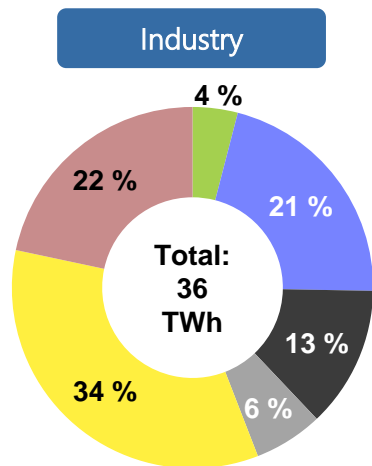
Policies [9]

- Certification programmes for RES installations
- Exemplary role of public authorities

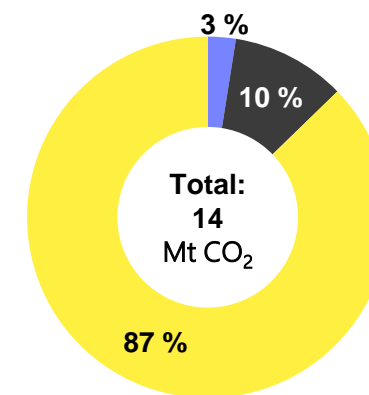
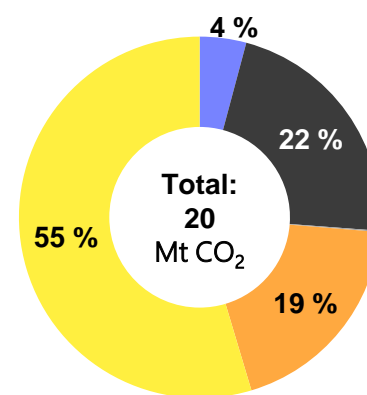
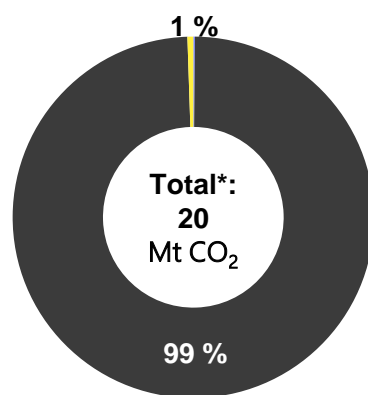
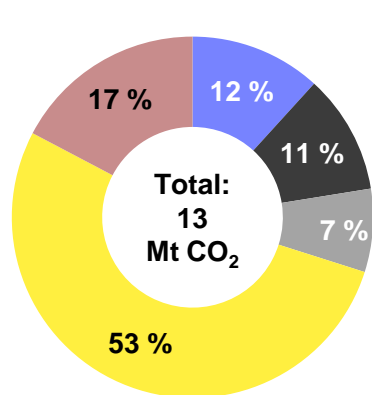
All evaluations based on the year 2017 if not mentioned otherwise.

Greece's Energy Consumption & Emissions by Sectors and Energy Carriers - 2017

Final Energy Consumption



CO₂ - Emissions



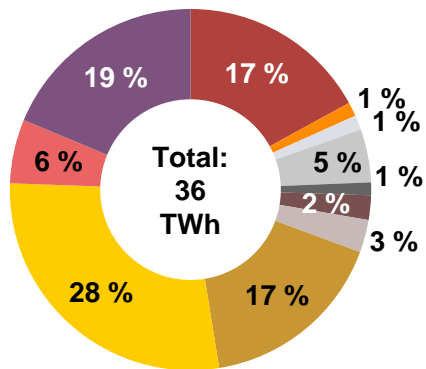
Hard Coal
 Oil (total)
 Gas
 Total Renewables
 Waste (non. ren.)
 Derived Heat
 Electricity
 Other Fossil Fuels

*excluding international aviation

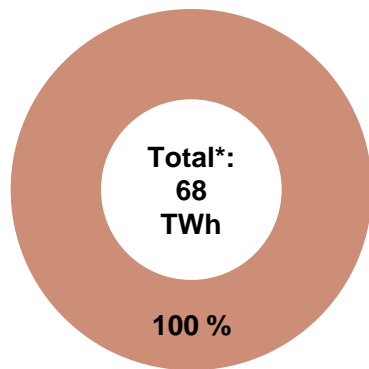
Greece's Energy Consumption & Emissions by Application & Sector - 2017

Final Energy Consumption

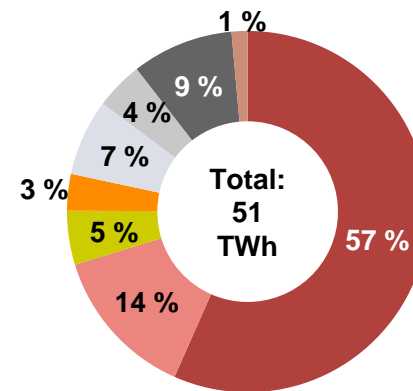
Industry



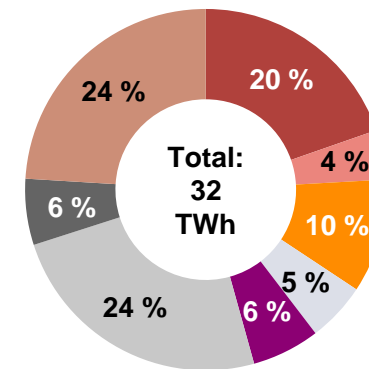
Transport



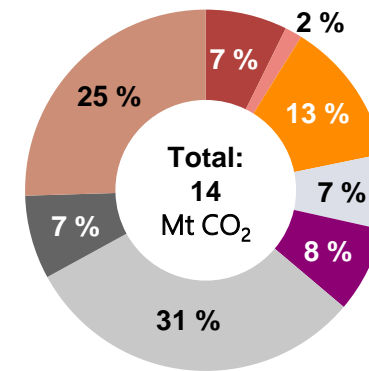
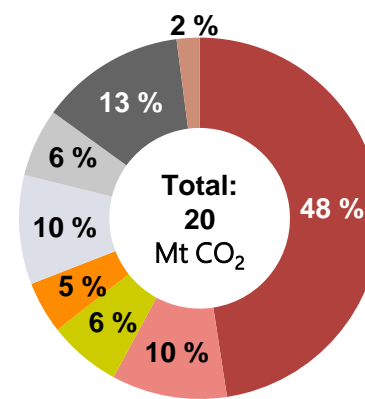
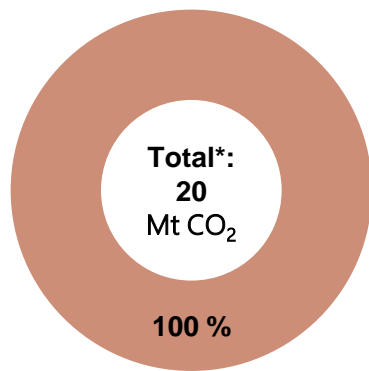
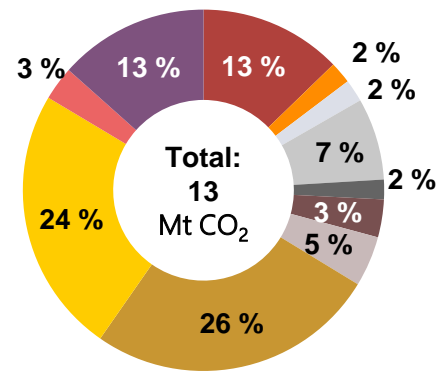
Residential



Services



CO₂ - Emissions



- Space Heating
- Process Heat 100 - 500 °C
- Process Heating < 100 °C
- Other Process Cold
- ICT
- Process Heating
- Cooking
- Pumps
- Warm Water
- Process Heat > 500 °C
- Other Mechanical Energy
- Mechanical Energy
- Lighting
- Compressed Air
- Climate Cold

*excluding international aviation

Greece: Sources



Institutions		
Ministry of Environment & Energy		http://ypeka.gr/Default.aspx?tabid=37&language=en-US
TSO	Independent Power Transmission Operator - ADMIE	http://www.admie.gr/nc/en/home/
Regulator	Regulatory Authority for Energy (RAE)	http://www.rae.gr/old/en/

Sources	Main Studies
<p>[1] World Development Indicators, The World Bank https://data.worldbank.org/</p> <p>[2] Eurostat Database, http://ec.europa.eu/eurostat/de/data/database</p> <p>[3] Eurostat, https://ec.europa.eu/eurostat/de/web/energy/data/shares</p> <p>[4] ENTSO-E Transparency Platform, https://transparency.entsoe.eu/</p> <p>[5] European Environment Agency https://www.eea.europa.eu/publications/trends-and-projections-in-europe-2018-climate-and-energy</p> <p>[6] Eurostat, http://ec.europa.eu/eurostat/statistics-explained/images/b/b7/Table_2-Share_of_energy_from_renewable_sources_in_gross_final_consumption_of_energy_2004-2016.png</p> <p>[7] Hellenic Energy Exchange S.A., http://www.enxgroup.gr/fileadmin/groups/EDRETH/DAS_Yearly_Reports/2018_DAS_Yearly_Report_en.pdf</p> <p>[8] Thomson Reuters, https://www.reuters.com/article/us-ppc-eu-capacity/ppc-seeks-capacity-mechanism-from-eu-for-greek-coal-unit-idUSKCNITK24K</p> <p>[9] RES Legal, http://www.res-legal.eu</p> <p>[10] PV Magazine, https://www.pv-magazine.com/2019/07/04/greek-tender-awards-143-mw-of-pv-at-e0-06195-kwh/</p> <p>[11] International Energy Agency, https://www.iea.org/publications/freepublications/publication/EnergyPoliciesofEACountriesGreeceReview2017.pdf</p> <p>[12] Handelsblatt GmbH, https://www.handelsblatt.com/politik/international/energieversorgung-das-pipeline-projekt-eastmed-festigt-allianz-von-israel-griechenland-und-zypern/24128978.html?ticket=ST-6991106-ZEXhKoVv0KdW1A6uY2Y-ap3</p> <p>[13] Greek Energy News Portal, https://energypress.eu/tag/alexandroupoli-fsr/</p> <p>[14] National Law Forum, LLC, https://www.natlawreview.com/article/ing-europe-current-trends-european-ling-landscape-and-country-focus</p> <p>[15] Germany Trade and Invest, https://www.gtai.de/GTAI/Navigation/DE/Trade/Maerkte/suche,t=griechenland-will-anteil-an-konventioneller-stromerzeugung-um-60-prozent-reduzieren.did=2307386.html</p> <p>[16] PV-Tech, https://www.pv-tech.org/news/greeces-pv-only-tender-met-with-undersubscription</p> <p>[17] National Flag, https://www.nationalflaggen.de</p> <p>[18] S&P Global, https://www.spglobal.com/platts/en/products-services/electric-power/world-electric-power-plants-database</p> <p>[19] International Renewable Energy Agency, https://www.irena.org/statistics</p> <p>[20] European Union, https://eur-lex.europa.eu/legal-content/DE/TXT/PDF/?uri=CELEX:32018R0842</p> <p>[21] Own Calculation,</p>	<ul style="list-style-type: none"> • Greece Review 2017 (International Energy Agency), https://webstore.iea.org/energy-policies-of-iea-countries-greece-2017-review

Abbreviations	
ESR	Effort Sharing Regulation
RES	Renewable Energy Source
PEC	Primary Energy Consumption
GHG	Greenhouse Gases
ESD	Effort Sharing Decision
EU ETS	European Union Emissions Trading System
EL	Electricity
EU	European Union
TSO	Transmission System Operator
LNG	Liquefied Natural Gas
FSRU	Floating Storage Regasification Unit
bcm/a	Billion Cubic Meters per Year