European Environment Agency

Country profile – Cyprus

The section 'Key climate- and energy-related data' was prepared by the EEA. It includes the latest data available as of 31 July 2014

The section 'Climate and energy policy framework' was prepared by eclareon and Ecologic Institute, Germany. It includes the latest information on national policies and measures available as of 31 May 2014.

For methodological details and other country profiles, see www.eea.europa.eu/themes/climate/country-profiles.

Key climate- and energy-related data — Cyprus

Key data on GHG emissions	2005	2011	2012	2013	EU 2012
Total GHG emissions (UNFCCC, Kyoto Protocol) (Mt CO_2-eq.)	9.9	9.7	9.3	8.7	4 544.2
GHG per capita (t CO_2-eq./cap.)	13.5	11.5	10.7	10.1	9.0
GHG per GDP (g CO_2-eq./PPS in EUR)	642	484	459	455	350
Share of GHG emissions in total EU-28 emissions (%)	0.2 %	0.2 %	0.2 %	0.2 %	100.0 %
EU ETS verified emissions (Mt CO2-eq.)	5.1	4.6	4.4	4.0	1 848.6
Share of EU ETS emissions in total emissions (%)	51.4 %	47.5 %	47.3 %	46.0 %	40.7 %
ETS emissions vs allowances (free, auctioned, sold) (%)	– 7.2 %	– 21.2 %	– 29.7 %	+ 234.7 %	– 14.1 %
Share of CERs & ERUs in surrendered allowances (%)	#DIV/0!	0.6 %	37.5 %	n.a.	26.4 %
Non-ETS (ESD) emissions, adjusted to 2013–2020 scope (Mt CO2-eq.)	4.8	5.0	4.8	4.7	2 566.6
Key data on renewable energy	**2005**	**2010**	**2011**	**2012**	**EU 2012**
Share of renewable energy in gross FEC (%) () = including all biofuels consumed in transport	(3.1 %)	(6.0 %)	6.0 %	6.8 %	14.1 %
Share of renewable energy for electricity (%)	0.0 %	1.4 %	3.4 %	4.9 %	23.5 %
Share of renewable energy for heating and cooling (%)	10.0 %	18.3 %	19.3 %	21.2 %	15.6 %
Share of renewable energy for transport (%) () = including all biofuels consumed (%)	(0.0 %)	(2.0 %)	0.0 %	0.0 %	5.1 %
Key data on energy consumption	**2005**	**2010**	**2011**	**2012**	**EU 2012**
Primary energy consumption (Mtoe)	2.5	2.6	2.6	2.5	1 584.8
Primary energy consumption per capita (Mtoe/cap.)	3.4	3.2	3.1	2.9	3.1
Final energy consumption (Mtoe)	1.8	1.9	1.9	1.8	1 104.5
Final energy consumption per capita (Mtoe/cap.)	2.5	2.3	2.3	2.0	2.2
Efficiency of conventional thermal electricity and heat production (%)	34.9 %	38.5 %	36.4 %	35.8 %	50.0 %
Energy consumption per dwelling by end use	**2005**	**2009**	**2010**	**2011**	**EU 2011**
Total energy consumption per dwelling (toe/dwelling)	1.18	1.12	0.97	#VALUE!	1.42
Space heating and cooling (toe/dwelling)	0.49	0.43	0.32	#VALUE!	0.96
Water heating (toe/dwelling)	0.19	0.21	0.20	#VALUE!	0.18
Cooking (toe/dwelling)	0.19	0.18	0.16	#VALUE!	0.08
Electricity (lighting, appliances) (toe/dwelling)	0.31	0.30	0.29	#VALUE!	0.20

Progress towards GHG targets (under the Effort Sharing Decision, i.e. non-ETS emissions)

2013 ESD target (% vs base year)	– 5.4 %	2020 ESD target (% vs base year)	– 5.0 %
2013 ESD emissions (% vs base year)	– 20.8 %	2020 ESD projections WEM (% vs base year)	– 51.3 %
		2020 ESD projections WAM (% vs base year)	– 53.1 %

Based on approximated emission estimates for 2013, emissions covered by the Effort Sharing Decision (ESD) (i.e. in the sectors which are not covered by the EU ETS) are expected to be below the annual ESD target in 2013. Projections also indicate that 2020 ESD emissions are expected to be below the 2020 ESD target, with the current existing measures.

Progress towards renewable energy targets

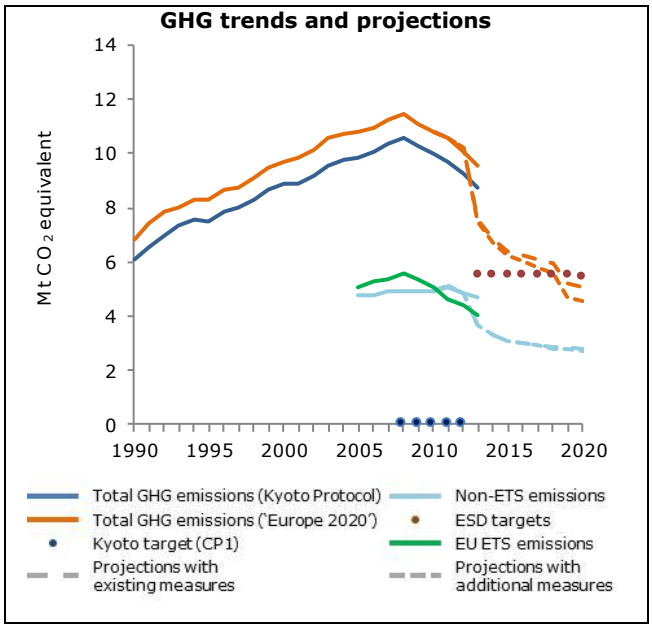
2012 RES share in gross final energy consumption (%)	6.8 %	2011–2012 indicative share from RES Directive (%)	4.9 %
2020 RES target	13.0 %	2012 expected share from NREAP (%)	7.1 %

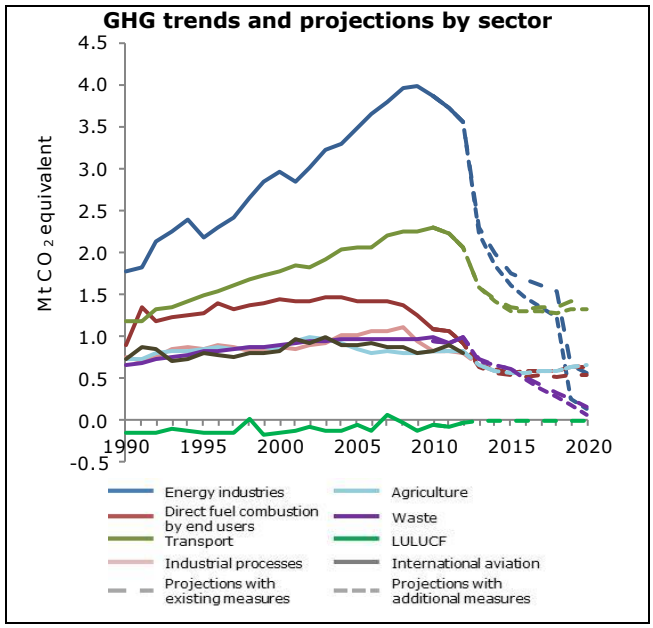
The average share of renewable sources in gross final energy consumption for 2011–2012 was 7.3% (96 ktoe), which is higher than the indicative RED target for 2011–2012 (4.9%). At the same time, the share of renewables in 2012 (7.8 %) is higher than the expected 2012 NREAP target (7.1 %). Over the period 2005–2012 the observed average annual growth rate in renewable energy consumption amounted to 12.3%. In order to reach its 2020 NREAP target, Cyprus needs an average annual growth rate of 13.1% in the run-up to 2020. In absolute terms, this is equivalent to 3.0 times its cumulative effort so far.

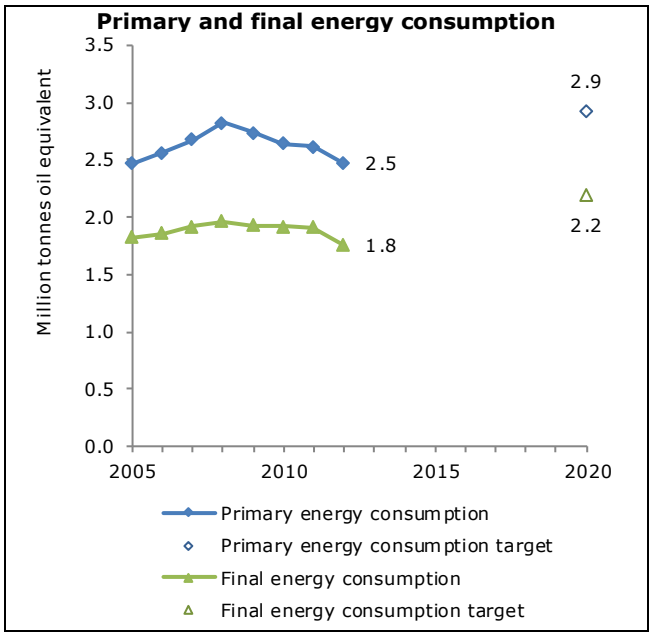
Progress towards energy efficiency targets

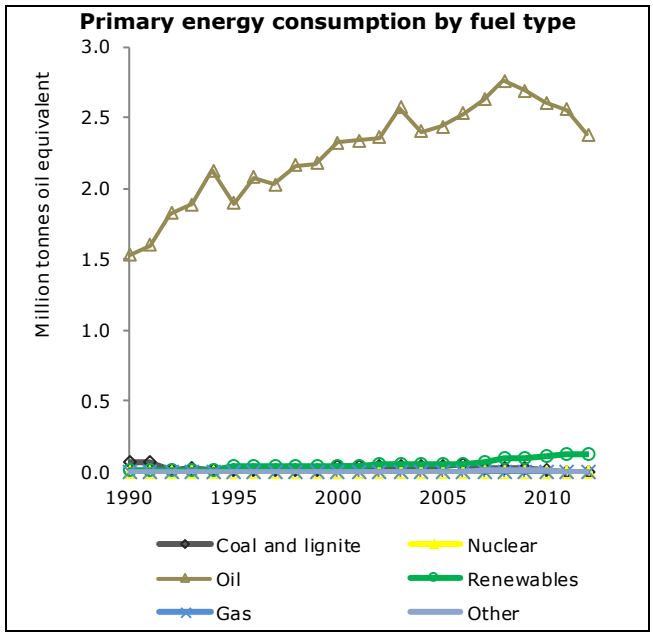
Primary energy consumption:		Final energy consumption:	
2005–2012 average annual change	+ 0.0 %	2005–2012 average annual change	– 0.5 %
2012–2020 average annual change to target	+ 2.1 %	2012–2020 average annual change to target	+ 2.8 %

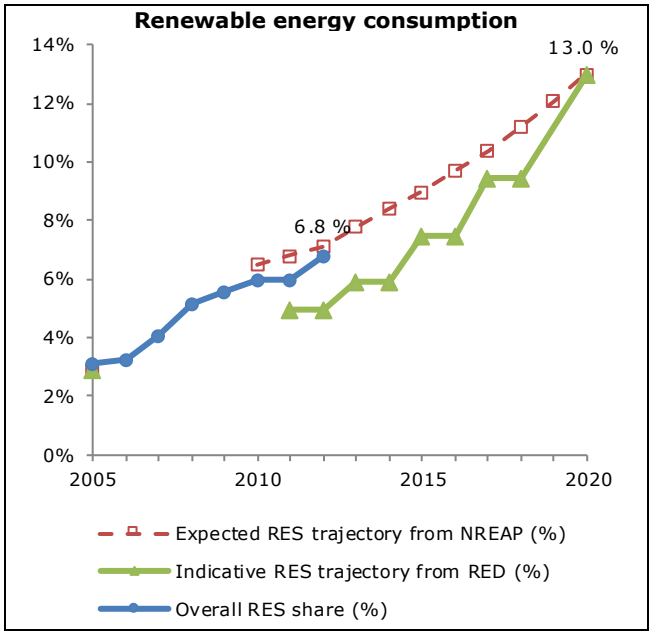
Cyprus has positive 2020 targets in both primary and final energy consumption, compared to 2005. It can therefore focus on stabilising its energy consumption. Particular attention should be paid to improving efficiency in transformation.

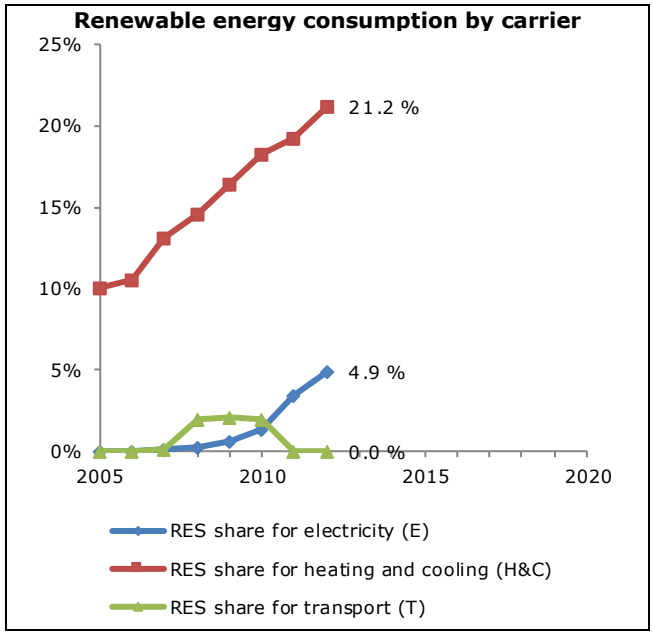

GHG trends and projections
Mt CO2 equivalent
Total GHG emissions (Kyoto Protocol)
Total GHG emissions ('Europe 2020')
Kyoto target (CP1)
Projections with existing measures
Non-ETS emissions
ESD targets
EU ETS emissions
Projections with additional measures


GHG trends and projections by sector
Mt CO2 equivalent
Energy industries
Direct fuel combustion by end users
Transport
Industrial processes
Projections with existing measures
Agriculture
Waste
LULUCF
International aviation
Projections with additional measures


Primary and final energy consumption
Million tonnes oil equivalent
2.9
2.5
2.2
1.8
Primary energy consumption
Primary energy consumption target
Final energy consumption
Final energy consumption target


Primary energy consumption by fuel type
Million tonnes oil equivalent
Coal and lignite
Oil
Gas
Nuclear
Renewables
Other


Renewable energy consumption
13.0 %
6.8 %
Expected RES trajectory from NREAP (%)
Indicative RES trajectory from RED (%)
Overall RES share (%)


Renewable energy consumption by carrier
21.2 %
4.9 %
0.0 %
RES share for electricity (E)
RES share for heating and cooling (H&C)
RES share for transport (T)

Climate and energy policy framework

Challenges and opportunities
As an island, Cyprus faces high costs resulting from oil imports for the country's energy generation and the only oil refinery in Cyprus closed in 2004 (EIA, 2014). Furthermore, the emissions associated with the oil imports are high. The development of domestic renewable energy sources such as offshore natural gas for which there is considerable potential would help Cyprus to reduce fuel imports and become more energy independent. Also, interconnections with other electricity grids reduce import dependency. Cyprus has already undertaken important steps to increase the share of renewable energies by introducing new renewable energy support schemes. In addition, implemented measures encouraging energy efficiency improvements further reduce oil imports. Also, the introduction of new net-metering schemes provides a great opportunity to increase the share of renewables. Furthermore, it is expected that Cyprus could create up to 2 780 new jobs by 2020 through the deployment of renewable energy sources (Ενεργειακό Γραφείο Κυπρίων Πολιτών, 2011).

Climate and energy strategies
Cyprus' emissions have increased by 1.5 % in 2012 compared to 2005 levels and reaching the annual goal has been considered a great challenge. To that end, Cyprus has already set up an ad hoc committee for the synthesis of a detailed low-carbon economy development roadmap (Republic of Cyprus, 2014). Cyprus focuses on expanding domestic energy sources and the exploitation of natural gas in particular to reduce its dependence on oil imports. This approach will make the energy system more efficient and less carbon intensive. Should Cyprus' efforts be materialised, natural gas delivery to its domestic market is expected in 2017/2018. Cyprus has followed a consistent policy concerning hydrocarbon exploration. Since 2008, several licences for hydrocarbon exploration have been granted. Additionally, Cyprus plans to construct an onshore liquefied natural gas plant, estimated to be completed between 2020 and 2022.

Renewable energy
Cyprus shows good progress with respect to renewable energies by overachieving the intermediate targets set in the National Renewable Action Plan. Renewable electricity was promoted through grant schemes, a premium tariff, net-metering schemes, including a self-generation scheme for photovoltaics (PVs), and a tender for PV installations during the period 2009–2013. Currently, a net-metering system is available upon successful application for households, public administration and industrial/commercial units for PV installations and grants for net-metering PV systems for vulnerable consumers. Under the net-metering system consumers get credit for the electricity they feed into the grid by substituting that amount from their electricity consumption within a billing period of 1 year. Any excess of electricity within the billing cycle is fed free to the grid.
Most recently, the Council of Ministers granted political support for the construction of two solar thermal parks with a capacity of 50 MW each. Both projects were successful submissions of the NER-300 programme and will receive financing from the EU and private investments. However, the licensing procedure of the above two projects is still under process.
Renewables in heating and cooling were supported through a scheme that offers grants of a certain percentage (between 15 and 55 %) of the investment in the installation of heating and cooling systems. The scheme was part of the Grant Schemes implemented by the Fund for Renewable Energy and Energy Efficiency.

Energy networks
Cyprus wants to be connected to other electricity grids to increase security of supply and reduce oil imports for electricity generation. The EuroAsia Interconnector Project should realise the electricity interconnection of Cyprus with Greece and Israel. It consists of two phases: 1) interconnection of the Greek mainland grid with Crete and the interconnection of Cyprus and Israel, and 2) interconnection of Crete and Cyprus. A feasibility study is underway.

Energy efficiency
Cyprus aims to increase energy savings of primary energy consumption by 14.5 % by 2020 (3rd National Energy Efficiency Action Plan of Cyprus, 2014). The Fund for Renewable Energies and Energy Efficiency, operating under the Ministry of Energy Commerce, Industry and Tourism (Κυπριακή Δημοκρατία, 2013), offers financial support for efficiency measures administering the EU Structural Funds for energy efficiency. Under the new Operational Programme 'Competiveness and Sustainable Development 2014–2020' financial support will be provided for the promotion of energy efficiency in the industrial/tertiary sector and for energy efficiency in public buildings and in households.
Energy **taxation** is slightly below the EU average. Excise duty exemptions exists for energy products used for the production of electricity and cement or in agriculture.
There is currently no specific support scheme for **combined heat and power** as two support schemes, one for investments in high-efficiency cogeneration and one for the promotion of cogeneration using biomass, were operated only up to 2013.
In the **building sector,** Cyprus has implemented minimum energy performance requirements in 2007 for new buildings and buildings that undergo major renovation and are above 1 000 m^2. In December 2013, the requirements were tightened and are now mandatory for all buildings that undergo major renovation and building elements that are installed in existing buildings. Energy performance certificates became mandatory in 2010 for all new buildings and all buildings that are sold or rented. The Ministry of Energy, Commerce, Industry and Tourism has published in September 2012 a National Action Plan for promoting nearly-zero–energy buildings (NZEBs). An official definition of the NZEB became available in August 2014 with the issue of a Ministerial Order that defines the technical requirements of an NZEB while a report on 'Nearly Zero Energy Residential Buildings' provides recommendations on how to implement the building standard (Υπουργείο Εμπορίου, Βιομηχανίας και Τουρισμού, 2012). Financial support was and will be provided through EU Structural Funds. The new Operational Programme 'Competiveness and Sustainable Development 2014–2020' forsees grant schemes for the promotion of energy efficiency in public and residential buildings (Γενική Διεύθυνση Ευρωπαϊκών Προγραμμάτων Συντονισμού και Ανάπτυξης, 2014).
In addition, Cyprus has implemented **public procurement** procedures with an Action Plan on Green Public

Procurement for the period 2012–2014 (RES Legal).

Transport
Cyprus incentivises the purchasing of efficient cars through a carbon dioxide (CO_2)-based bonus-malus system that applies to the registration tax, and vehicles that emit less than 150 g CO_2/km get a tax reduction bonus of 15 % on the ownership tax (ACEA, 2012). Cyprus levies a tax on petrol that is well below EU average; however, the diesel tax is among the highest in the EU (European Commission, 2013). No road-use charge applies (CE Delft, 2012). An excise duty is imposed on biofuels.
Regarding **renewables** in the transport sectors, fuel suppliers are obliged to meet a mandatory quota of biofuels (Κυπριακή Δημοκρατία, 2013). Suppliers are obliged to mix biofuels with conventional fuels to ensure that the average energy content of fossil fuels mixed with biofuels accounts for at least 2.4 % of the total energy content of fossil fuels available on the market. Renewables in the transport sector are also supported through grants for investments in the production of biofuels. The amount of the grant is a certain percentage of the investment (Επιτροπή Διαχείρισης Ειδικού Ταμείου ΑΠΕ και ΕΞΕ, 2014; RES Legal). In 2013, the government amended Law 148(I)2003 on petroleum products and fuels to define sustainability criteria for biofuels as well as their assessment and the establishment of a national system for monitoring the sustainability criteria.
Cyprus does not operate a **rail transport** system. A Public Transport Programme was announced in 2010 to promote public transport. Currently, a feasibility study on the construction of a tram line in Nicosia is being carried out. The construction will be co-financed by the EU Structural Funds (Γραφείο Τύπου και Πληροφοριών, 2013).

Agriculture
Cyprus has adopted the Rural Development Programme 2007–2013 including measures aiming at the expansion and improvement of production, the creation of sustainable farms, and the protection of the environment and landscape (Ministry of Agriculture, Natural Resources and Environment, 2014). Furthermore, voluntary measures are in place to promote the anaerobic digestion for treatment of livestock breeding waste (EEA, 2013). Relevant national legislation that encourages the promotion of anaerobic digestion is 1) the Control of Water Pollution (Waste Water Disposal) Regulations 2003, Κ.Δ.Π. 772/2003; and 2) the Control of Water Pollution (Sensitive Areas for urban waste water discharges) Κ.Δ.Π. 111/2004. The voluntary measure is expected to increase by 1 % annually, starting from an additional 1 % in 2012, until 2015; after 2015, the increase in the reduction will reduce to 0.5 % annually (UNFCCC, 2013).

Waste
The Ministry of Agriculture, Natural Resources and Environment, responsible for the transposition of the Waste Management Directive, announced that, as of June 2013, a draft version of the waste management plan for the domestic sector has been prepared. The plan includes provisions that promote precaution, reduction, separation, recycling and alternative management of waste. Cyprus has already established two successful waste management pilot programmes, one concerning the implementation of Integrated Management of Organic Waste in different municipalities in Cyprus and the introduction of a 'pay-as-you-throw' scheme in the Municipality of Aglantzia.

References

3rd National Energy Efficiency Action Plan of Cyprus, 2014 (http://ec.europa.eu/energy/efficiency/eed/doc/neep/2014_neeap_en_cyprus.pdf) accessed 15 October 2014.

ACEA, 2012, 'Taxation Guide 2012', European Automobile Manufacturer's Association (http://www.acea.be/publications/article/acea-tax-guide) accessed 7 October 2014.

CE Delft, 2012, 'An inventory of measures for internalising external costs in transport', Final report, European Commission, Directorate-General for Mobility and Transport.

EEA, 2013, 'EEA Database on climate change mitigation policies and measures in Europe', European Environment Agency (http://www.eea.europa.eu/data-and-maps/pam) accessed 7 October 2014.

EIA, 2014, 'Country Analysis Note Cyprus' US Energy Information Administration (http://www.eia.gov/countries/country-data.cfm?fips=cy) accessed 7 October 2014.

European Commission, 2013, 'Excise duty tables, Part II – Energy products and Electricity', RED 1036, January 2013, Directorate-General for Taxation.

Ministry of Agriculture, Natural Resources and Environment, 2014, 'Agriculture — Fisheries — Department of Agriculture' (http://www.moa.gov.cy/moa/agriculture.nsf/All/2E1ADB26A6839778C2257A28003202B1?OpenDocument) accessed 7 October 2014.

Ministry of Energy, Commerce, Industry and Tourism, Republic of Cyprus, '2nd Progress Report under Article 22 of Directive 2009/28/EC' (http://ec.europa.eu/energy/renewables/reports/doc/2013_article_22_progress_reports_inenglish_language.zip) accessed 15 October 2014.

Odyssee, 2012, 'Country Profiles — Energy efficiency trends and policies profiles' and 'National Reports — Energy efficiency trends and policies' (http://www.odyssee-indicators.org/publications/country_profiles.php) and (http://www.odyssee-indicators.org/publications/national_reports.php) accessed 7 October 2014.

Republic of Cyprus, 2014, *Cyprus National Reform Programme, Europe 2020 Strategy for Smart, Sustainable and Inclusive Growth* (http://ec.europa.eu/europe2020/pdf/csr2014/nrp2014_cyprus_en.pdf) accessed 7 October 2014.

RES Legal, 2013, 'Electricity grid issues in Cyprus' (http://www.res-legal.eu/search-by-country/cyprus/tools-list/c/cyprus/s/res-e/t/gridaccess/sum/116/lpid/115/page.pdf?out=pdf) accessed 7 October 2014.

UNFCCC, 2013, 'Cyprus Sixth National Communication accompanied by the Biennial Report under the UNFCCC', Department of Environment, Ministry of Agriculture, Natural Resources and Environment.

Γενική Διεύθυνση Ευρωπαϊκών Προγραμμάτων Συντονισμού και Ανάπτυξης, 2014, 'Στρατηγική Μελέτη Περιβαλλοντικών Επιπτώσεων του ΕΠ «Ανταγωνιστικότητα και Αειφόρος Ανάπτυξης 2014-2020»' (Directorate General for European Programmes, Coordination and Development, 2014, 'Strategic Environmental Impact Assessment of the Operational Programme "Competiveness and Sustainable Development 2014–2020"') (http://www.moa.gov.cy/moa/environment/environment.nsf/All/99718328735F206BC2257CEF003314C9/$file/2014-6.pdf) accessed 7 October 2014.

Γραφείο Τύπου και Πληροφοριών, 2013, 'Χαιρετισμός του Υπουργού Συγκοινωνιών και Εργων και Τάσου Μητσόπουλου στο 2ο Συνέδριο Βιώσιμης Κινητικότητας' (Press and Information Office, 2013, 'Address by the Minister of Communications and Works Mr Tassos Mitsopoulos at the 2nd Conference on Sustainable Mobility') (http://www.moi.gov.cy/moi/pio/pio.nsf/0/F3577A914D690C4AC2257C3600293DC4?OpenDocument) accessed 7 October 2014.

Ενεργειακό Γραφείο Κυπρίων Πολιτών, 2011, *Πράσινες Θέσεις Εργασίας* (ΑΠΕ Cyprus Energy Institute, 2011, Green jobs — RES)(http://www.cea.org.cy/publications/green-jobs-RES.pdf) accessed 7 October 2014.

Επιτροπή Διαχείρισης Ειδικού Ταμείου ΑΠΕ και ΕΞΕ, 2014, '«Ηλιακή Ενέργια για Όλους» Σχέδιο προώθησης εγκαταστάσεων φωτοβολταϊκών συστημάτων' (Administrative Committee of the Special Fund for RES and Energy Efficiency, 2014, 'Solar energy for all" Support Scheme for the Installation of PV Systems' (http://www.cie.org.cy/menuGr/pdf/sxedia-xorigiwn/Sxedia_Xorhgiwn_2014.pdf) accessed 7 October 2014.

Κυπριακή Δημοκρατία, 2013, Ο Περί Προώθησης και Ενθάρρυνσης της Χρήσης των Ανανεώσιμων Πηγών Ενέργειας Νόμος του 2013 Ν. 112(I)/2013 (Republic of Cyprus, 2013, Law for the Support of Renewable Energy Sources of 2013, Law No. 122(I) 2013) (http://www.cylaw.org/nomoi/arith/2013_1_112.pdf) accessed 7 October 2014.

Υπουργείο Εμπορίου, Βιομηχανίας και Τουρισμού, 2012, 'Μελέτη για κτίρια με σχεδόν μηδενική κατανάλωση ενεργείας — Τελική έκθεση' (Ministry of Energy Commerce, Industry and Tourism, 2012, 'Provision of consulting services for the definition of the NearlyZero Energy Residential Buildings in Cyprus').