5.1 Cyprus (CY)

5.1.1 *Main messages from the Commission assessment of the NPF*

In its original assessment of the Cypriot NPF the Commission concluded:

From the Cyprus NPF, it is transparent that alternative fuels are at an early deployment stage in Cyprus. The Cyprus NPF addresses only a small part of the requirements of Article 3 of the Directive, mainly electro-mobility. For the future development and further penetration of alternative fuels in transport, a study entitled 'Technical Assistance in order to assess and formulate recommendations for the promotion and penetration of alternative fuels in the transport sector' has been commissioned. The purpose of the ongoing study is to present a comprehensive proposal regarding future penetration scenarios for various alternative fuels in the transport sector in Cyprus, as well as promotion policies and measures, taking account of the specific characteristics of Cyprus, to achieve the climate and energy targets related to the transport sector.

In the case of electricity for road transport, which constitutes the focus of the Cyprus NPF, the requirements of the Directive were fulfilled and details were given about the targeted recharging infrastructure for 2020 in terms of number and placement. Even though the future estimates of electric vehicle stock are rather modest, being situated in the range of 0.02% to 0.32% of the future vehicle stock, the proposed set of measures can support reaching the declared objectives since it was evaluated as being comprehensive and having a medium assessment score. In the case of electricity supply at airports and shore-side supply in its maritime ports, the Cypriot authorities are currently examining the situation and studies are carried out. The decision of setting targets and support measures is foreseen for the future.

Besides electro-mobility, the national strategy for the other alternative fuels is briefly or inadequately treated in the Cyprus NPF, being dependent on the results of currently ongoing studies. For CNG and LNG fuels, the NPF contains neither future estimates for vehicles nor targets for refuelling infrastructure. The lack of ambition for natural gas can be partially explained by the small market size in Cyprus and the lack of interconnections with other natural gas networks. However, the Cypriot NPF declares intentions to foster LNG use in maritime transport, also in cooperation with Greece and Italy

The Cyprus NPF does not contain any targets for hydrogen in transport.

The Cyprus NPF contains a medium size portfolio of support measures, many being currently discussed and planned and receiving in consequence the status 'under consideration'. The majority of the proposed measures necessary to ensure national targets concern electricity for road transport, this cluster that contains 7 assessable measures received a medium overall assessment score. The use of alternative fuels for public transport activity is too vaguely addressed and additional concrete details would have been desirable.

Regarding the cooperation with other Member States, the NPF states that Cyprus cooperates with Greece and Italy in the frame of the EU funded POSEIDON-MED II LNG project. A study

regarding the future deployment and placement of LNG refuelling infrastructure at Cypriot ports will be carried out within this project.

5.1.2 *Overview of requirements' fulfilment from Annex I of the Directive*

Table 5.1.2-1 Checklist Table

Part of the Directive 2014/94/EU	Requirement	Mode of transport / Alternative Fuel (provided in the NIR)		Yes / No
ANNEX I: 1. Legal measures	Information on legal measures, which may consist of legislative, regulatory or administrative measures to support the build-up of alternative fuels infrastructure, such as building permits, parking lot permits, certification of the environmental performance of businesses and fuel stations concessions.	Road / electricity, LPG, biofuels		Y
ANNEX I: 2. Policy measures supporting the implementation of the national policy framework	Information on those measures shall include the following elements: • direct incentives for the purchase of means of transport using alternative fuels or for building the infrastructure, • availability of tax incentives to promote means of transport using alternative fuels and the relevant infrastructure, • use of public procurement in support of alternative fuels, including joint procurement, • demand-side non-financial incentives, for example preferential access to restricted areas, parking policy and dedicated lanes, • technical and administrative procedures and legislation with regard to the authorisation of alternative fuels supply, in order to facilitate the authorisation process.	Road / Electricity, hydrogen, AF combination		Y
	• consideration of the need for renewable jet fuel refuelling points in airports within the TEN-T Core Network	Air	Biofuels	N
ANNEX I: 3. Deployment and manufacturing support	• Annual public budget allocated for alternative fuels infrastructure deployment, broken down by alternative fuel and by transport mode (road, rail, water and air).	Road / Electricity		Y
	• Annual public budget allocated to support manufacturing plants for alternative fuels technologies, broken down by alternative fuel and by transport mode.			N
	• Consideration of any particular needs during the initial phase of the deployment of alternative fuels infrastructures.			N
ANNEX I: 4. Research, technological development and demonstration	• Annual public budget allocated to support alternative fuels RTD&D, broken down by fuel and by transport mode.	Road, water-maritime / electricity, LNG, AF combination		N
ANNEX I: 5. Targets and objectives	• Estimation of the number of alternative fuel vehicles expected by 2020, 2025 and 2030	Road / Electricity		Y
	• Level of achievement of the national objectives for the deployment of alternative fuels in the different transport modes (road, rail, water and air)	Road / electricity, LPG		Y
	• Level of achievement of the national targets, year by year, for the deployment of alternative fuels infrastructure in the different transport modes	Road / electricity, LPG		Y
	• Information on the methodology applied to take account of the charging efficiency of high power recharging points	All	Electricity	N
ANNEX I:6 Alternative fuels infrastructure developments	Changes in supply (additional infrastructure capacity) and demand (capacity actually used)	Road, water-maritime / All		Y

The checklist shows that only a limited part of the requirements of Annex I from the Directive are covered in the Cypriot NIR.

Regarding the combination of AF/AFV/AFI with transport mode, electricity is well documented for road transport; CNG, LNG and LPG are covered for road transport only in terms of AFI; shore-side electricity supply is covered for maritime water transport, and also LNG but only in terms of AFI; all the other combinations are either absent or not applicable.

The CY NIR reports around 25 measures. Under the Policy and Deployment & Manufacturing sections it was possible to identify four AF/transport mode clusters of measures, of which only two were assessable.

5.1.3 *Quantitative assessment: Vehicles and infrastructure*

Table 5.1.3-1 National AFV estimates and AFI targets established in the NIR at the horizon 2020, 2025 and 2030 and their comparison with the NPF situation

Alternative fuel / Transport mode		2018		2020		2025		2030	
		AFV	AFI public	AFV	AFI public	AFV	AFI public	AFV	AFI public
Electricity / road	NIR	28	36	71	42	140	81	700	100
	Change NIR vs NPF [%]			-29.00%	-58.00%	0.00%	-19.00%	0.00%	0.00%
	Attainment [%]			39.44%	85.71%	20.00%	44.44%	4.00%	36.00%
CNG / road	NIR	0	0	NA	0	NA	7	NA	40
	Change NIR vs NPF [%]								
	Attainment [%]								
LNG / road	NIR	0	0	NA	0	NA	3	NA	3
	Change NIR vs NPF [%]								
	Attainment [%]								
LNG / water (maritime)	NIR	NA	0	NA	0	NA	1	NA	1
	Change NIR vs NPF [%]								
	Attainment [%]								
LPG / road	NIR	205	2	NA	8	NA	NA	NA	NA
	Change NIR vs NPF [%]				-60.00%				
	Attainment [%]				25.00%				
Shore-side electricity supply / water (maritime)	NIR		0		0		1		1
	Change NIR vs NPF [%]								
	Attainment [%]								

Legend:		
		not applicable
		the value could not be computed
	NA	no value/information provided/available in the NIR

5.1.3.1 Road transport

5.1.3.1.1 Electricity

Vehicles

Cyprus recorded 28 battery-electric and plug-in hybrid electric vehicles in use in 2018 (all of which are passenger cars) (see Table 5.1.3-1) and 73 electric powered two wheelers. The CY NIR provides revised estimates for the EVs expected to be registered in 2020, and new estimates for 2025 and 2030 (71, 140 and 700, respectively). Concerning the EV estimates for 2020, the NIR values are 29% lower than the most pessimistic NPF value, where a wide interval of 100-2000 was provided. It is worth mentioning that the NIR also shows estimates for electric powered two-wheelers (100, 200 and 300 respectively for 2020, 2025 and 2030), which were not reported in the NPF.

The 2018 ***attainment*** of future EV estimates is 39.44% for 2020 and 4.00% for 2030. According to the assessment methodology described in Section 2.1, the 2018 situation corresponds to a ***slow progress*** towards reaching the envisaged EV estimates. The calculated ***average annual growth rate*** corresponding to the period 2016-2030 for EV fleet evolution planned by Cyprus is equal to 27%.

Infrastructure

Cyprus recorded 36 publicly accessible recharging points in 2018, all of which are normal power (≤22kW) ones. As for the next decade, Table 5.1.3-1 shows that the recharging points targets for 2020, 2025 and 2030 have been reduced by the CY NIR to 42, 81 and 100 respectively. In the NPF, the initial targets were 100 publicly accessible recharging points by 2020, and more than 100 by 2025 and 2030. DC fast recharging points are only targeted to be introduced by 2025 when they are foreseen to represent 32% of the total points, but no further details about their status in 2030 is provided.

The 2018 ***attainment*** of future publicly accessible recharging infrastructure targets is 85.71% for 2020 and 36.00% for 2030. According to the assessment methodology described in Section 2.1, the 2018 situation corresponds to a ***slow progress*** towards reaching these envisaged targets. The calculated ***average annual growth rate*** corresponding to the period 2016-2020 for publicly accessible recharging infrastructure evolution planned by Cyprus is equal to 9%.

Ratio

Based on the CY NIR, the following table shows the ratio between vehicles and publicly accessible recharging points (i.e. sufficiency index) for the pair electricity/road. The foreseen sufficiency index is inferior to the value of 10 and thus can be regarded as adequate for the next decade.

Sufficiency Index		2016	2017	2018	2020	2025	2030
Road	**Electricity**	0.63	1.38	0.78	1.69	1.73	7.00

Information on charging efficiency

Information is unavailable in the Cypriot NIR.

5.1.3.1.2 CNG

Vehicles

The CY NIR does not provide any past or future quantitative information concerning CNG vehicles. The report states that the technology is currently not in use in the transport sector.

Infrastructure

Due to the geographical isolation of Cyprus, there is currently no natural gas market and interconnections with international gas networks are lacking. According to both the NIR and EAFO's reported numbers, no CNG refuelling points were installed in Cyprus in 2018. The Cypriot NPF did not mention any CNG refuelling points targets. The Cypriot NIR, on the other hand, sets targets of 7 and 40 CNG refuelling points by 2025 and 2030, respectively. Introducing natural gas to meet the needs of the domestic market is an energy strategy priority for the Cypriot decision-makers.

Since at the end of 2018, there were no CNG refuelling points deployed, the 2018 ***attainment*** and ***average annual growth rate*** could not be computed. According to the assessment methodology described in Section 2.1, the 2018 situation corresponds to a ***slow progress*** towards reaching the CNG refuelling infrastructure envisaged targets.

Ratio

Since there are no CNG vehicle estimates in the Cypriot NIR, it is not possible to compute the sufficiency index.

5.1.3.1.3 LNG

Vehicles

The Cypriot NIR provides no LNG vehicle estimates for the future. At the end of 2018, there were no LNG vehicles in use.

Infrastructure

The Cypriot NIR introduced a new target of three publicly accessible LNG refuelling points for road vehicles by 2025/2030, up from no LNG refuelling infrastructure at the end of 2018. Additionally, a tender for medium/long-term LNG supply in Cyprus is expected to be announced in 2020. Consequently, the necessary LNG infrastructure is expected to be completed and natural gas supply to the Cypriot domestic market to be launched in early 2022.

Since at the end of 2018 there were no LNG refuelling points deployed, the 2018 ***attainment*** and ***progress*** could not be computed.

Ratio

Since there are no LNG vehicle estimates in the Cypriot NIR, it is not possible to compute the sufficiency index.

5.1.3.1.4 Hydrogen

Vehicles

The Cypriot NIR does not offer any estimates for hydrogen vehicles. At the end of 2018, there were no hydrogen vehicles in use.

Infrastructure

The Cypriot NIR does not commit to any targets for hydrogen refuelling points. At the end of 2018, there was no hydrogen refuelling infrastructure deployed.

Ratio

Since there is no quantitative information on hydrogen vehicles and infrastructure in the Cypriot NIR, it is not possible to compute the sufficiency index.

5.1.3.1.5 Biofuels

Vehicles

Information is unavailable in the Cypriot NIR.

Infrastructure

Although the Cypriot NIR does not commit to biofuels infrastructure targets, it mentions blending mandates for biofuels in diesel and petrol fuels in place (see Section 5.13.4.1.2).

Ratio

Since there is no quantitative information on biofuels vehicles and infrastructure in the Cypriot NIR, it is not possible to compute the sufficiency index.

5.1.3.1.6 LPG

Vehicles

The Cypriot NIR reports that motor LPG consumption remains at very low levels. There are no future estimates for LPG vehicles. In 2018, there were 205 LPG vehicles on Cypriot roads; more than double the amount of LPG vehicles (87) in 2016.

Infrastructure

The Cypriot NIR has a reduced target for LPG refuelling points compared to the NPF. The target was re-defined to 8 refuelling points in 2020, down from more than 20. The member state reports two existing LPG refuelling points in 2018. Although the target has been reduced,

Cyprus reported in its NIR that 20 applications have been submitted seeking planning permission to install LPG refuelling points.

Since only a target corresponding to 2020 was provided, only the 2018 ***attainment*** of future LPG refuelling infrastructure target for 2020 could be calculated and is equal to 25%.

Ratio

Since there are no LPG vehicle estimates in the Cypriot NIR, it is not possible to compute the sufficiency index.

5.1.3.2 Rail transport

5.1.3.2.1 Electricity

Vehicles

Information is unavailable in the CY NIR.

Infrastructure

Information is unavailable in the CY NIR.

5.1.3.3 Waterborne transport (maritime)

5.1.3.3.1 Electricity

Vessels

Information is unavailable in the CY NIR.

Infrastructure

As an update to the 2016 NPF that did not contain any target, the Cypriot NIR introduced a target for shore-side electricity supply for seagoing ships in one maritime port in 2025 and 2030 (see Table 5.1.3-1).

5.1.3.3.2 LNG

Vessels

Information is unavailable in the CY NIR.

Infrastructure

As an update to the 2016 NPF that did not contain any target, the Cypriot NIR reports a target of one maritime port to be equipped with LNG refuelling infrastructure by 2025. The studies anticipated in the NPF seem to have been conducted and used to determine the NIR committed targets.

5.1.3.4 Waterborne transport (inland)

Not applicable since Cyprus has no inland ports in the TEN-T Core Network.

(NOTE: The Cypriot NIR reports a target of one inland port to be equipped with LNG refuelling infrastructure by 2025 but, as Cyprus has no inland ports in the TEN-T Network, this information has not been treated).

5.1.3.5 Air transport

5.1.3.5.1 Electricity

Airplanes

Information is unavailable in the CY NIR.

Infrastructure (for stationary airplanes)

The target number of two airports offering electricity supply for stationary airplanes by 2020 from the NPF seems to have been revised due to the absence of any target information in the Cypriot NIR.

5.1.3.5.2 Biofuels

Airplanes

Information on flights / airplanes powered by biofuels is not available in the Cypriot NIR.

Infrastructure

Information is unavailable in the CY NIR.

5.1.4 ***Measures assessment***

As in the NPF, the Cypriot NIR mentions a limited number of measures. However, the situation has evolved in the NIR in the sense that measures that were already in place have been continued/improved, those under discussion have become more concrete and others were newly introduced.

5.1.4.1 Legal measures

The Cypriot NIR contains 11 legal measures to promote AF. Of those, four measures were mentioned in both the NIR and the NPF, while seven measures are exclusively reported in the NIR. The Cypriot NPF contained other four legal measures no longer in the NIR. Overall, the level of ambition of the legal measures is considered to have increased in the NIR, in comparison with the NPF.

5.1.4.1.1 Legislative & Regulatory

The legislative & regulatory category of the Cypriot NIR contains eight legal measures, five of which are exclusively reported in the NIR, while the other three are reported in both NIR and NPF. Except for one legal measure concerning LPG/road, all legal measures are part of the electricity/road cluster. Legal measures supporting the promotion of electric recharging infrastructure are mainly focusing on proper signage for recharging points and mandates for new buildings concerning the introduction of dedicated parking spots equipped with recharging points.

5.1.4.1.2 Administrative

The Cypriot NIR offers three administrative measures, two of which were only reported in the NIR and not in the NPF. Cyprus implemented Directives 2009/28/EC and 2009/30/EC with regards to increasing blending mandates for biofuels in diesel and petrol fuels. Cyprus also implemented an EU Support Programme for fuel price comparison for consumers and accepted Decision No 87.649 of the Council of Ministers. The Council decided to exercise its right to apply specific derogations with reference to Cyprus being an emergent natural gas market due to its geographical isolation. Further, Cyprus appointed the public natural gas company, DEFA, as the distribution system, transmission system and LNG facility operator.

5.1.4.2 Policy measures

The Cypriot NIR reports nine policy measures of which four have already been reported in the NPF and five are new. All the policy measures concern the road as transport mode and focus mainly on electricity as alternative fuel.

5.1.4.2.1 Measures to ensure national targets and objectives

Road transport

Of the nine policy measures reported, seven were categorised as measures to ensure national targets and objectives. The most impactful measures reported are financial incentives. The registration tax and annual road tax are based on CO_2 emissions, thus favouring electric vehicles. Additionally, EVs receive a waiver for the vehicle registration fee of €150 and various municipalities and communities in Cyprus allow free EVs parking in public parking areas. The most promising plan, which became more concrete compared to the NPF, was in the process of adoption and represented a vehicle subsidy scheme worth 3 million €. However, only €500,000 were allocated to subsidising the purchase of fully electric vehicles with a €5,000 grant per vehicle. The remaining 2.5 million € are invested to subsidise the purchase of new low carbon vehicles when withdrawing old and polluting vehicles. This policy measure would be applicable to cars older than 15 years to be scrapped and to newly registered cars with less than 160 gCO_2/km.

5.1.4.2.2 Measures that can promote AFI in public transport services

The Cypriot NIR lists one policy measure for the promotion of alternative fuel usage in public transport services.

Buses

The Cypriot NIR reports one measure for the integration of innovating green technologies in the existing public transport service. The plan foresees the introduction of hydrogen vehicles in the fleet of public diesel buses. The measure is projected to account for 5 to 30% fuel savings. The total estimated budget is €82.266 million between 2019 and 2022.

5.1.4.2.3 Measures that can promote the deployment of private electro-mobility infrastructure

The Cypriot NIR provides one policy measure that is under consideration concerning the provision of grants for installing/extending photovoltaic systems and for domestic installation of smart meters for recharging electric vehicles.

5.1.4.3 Deployment and manufacturing support

5.1.4.3.1 AFI deployment

The Cypriot NIR lists only one deployment and manufacturing support measure, which is already a small improvement compared to the NPF. The Electrical and Mechanical Services Department has launched a call for tenders for the installation of 20 public recharging points worth 1 million € in the period 2019-2020.

5.1.4.3.2 Support of manufacturing plants for AF technologies

The Cypriot NIR does not provide measures regarding the support of manufacturing plants for AF technologies.

5.1.4.3.3 Consideration of any particular needs during the initial phase of the deployment of alternative fuels infrastructure

The Cypriot NIR provides no information on this subject.

5.1.4.4 Quantitative assessment of Policy and Deployment & Manufacturing measures

Table 5.1.4-1 presents an analysis of all the Policy and Deployment & Manufacturing measures, carried out according to the assessment methodology described in Section 2.2. As it can be seen, only clusters of measures on road transport could be identified in the Cypriot NIR, of which only the ones related to electricity and hydrogen contained dedicated measures to the respective fuels. Most of the assessable measures are targeting the pair electricity/road, which is the main focus of the CY NIR set of measures and resulted to have a medium score and to be comprehensive. In terms of expected impact of these measures to support the realisation of the AFV/AFI objectives as presented in the NPF and revised in the NIR, the measures for the pairs electricity/road result to have a medium impact, while those for the pair hydrogen/road have a low impact. Compared to the NPF, the level of ambition of the Policy and Deployment & Manufacturing support measures has increased for all identified clusters (electricity/road, CNG/road, LNG/road and hydrogen/road).

Table 5.1.4-1 Quantitative assessment of Policy and Deployment & Manufacturing support measures

AF	Transport mode	Score	Comprehensiveness	Impact	Ambition (NIR vs NPF)
Electricity	Road	M	C	**M**	+
CNG	Road	X	N		+
LNG	Road	X	N		+
	Water - maritime				
H2	Road	L	N	**L**	+

Legend: Score: H = high; M = medium; L = low; X = not assessable. Comprehensiveness: C = comprehensive; N = Not comprehensive. Ambition level: '+' means 'higher'; '=' means 'comparable'; '-' means 'lower'.

5.1.4.5 Research, Technological Development & Demonstration

The Cypriot NIR lists five RTD&D measures, four of which are new and only reported in the NIR. All measures mentioned can be categorised as studies conducting research on implementation scenarios for different alternative fuels and the respective expected demands. Three studies were performed in the frame of the EU project "CYnergy" co-financed by CEF and are dedicated to the adoption of natural gas in Cyprus (two studies specifically target the LNG use for maritime transport).

5.1.5 *Additional information on alternative fuels infrastructure developments*

The Cypriot NIR provides information on the changes in fuel use, see Table 5.1.5-1. Diesel and gasoline are expected to play a dominating role, with a combined share of 91% in 2030. The share of electricity as an alternative fuel in the transport sector is expected to be 3% in 2030, whereas biofuels are estimated to have an almost constant share of 4 to 5% between 2020 and 2030. Increases in CNG and LNG shares in the transport fuel mix are not expected to be significant until 2030.

Table 5.1.5-1 Changes in fuel use in transport sector (2016-2030)

MODE OF TRANSPORT	FUEL	Fuels use [%]			Estimated fuels use [%]		
		2016	2017	2018	2020	2025	2030
Road	Gasoline	55.20%	53.20%	51.30%	50.30%	55.70%	49.00%
	Diesel	43.20%	45.30%	47.15%	44.80%	40.00%	42.40%
	Electricity	0.00%	0.00%	0.00%	0.00%	0.10%	3.20%
	Biofuels	1.60%	1.50%	1.50%	4.80%	4.10%	5.20%
	LPG	0.00%	0.00%	0.05%	0.10%	0.10%	0.20%
	Other AF	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	Total Road	**100.00%**	**100.00%**	**100.00%**	**100.00%**	**100.00%**	**100.00%**
Maritime	Marine diesel oil	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

5.1.6 *Summary of the assessment*

Tabular overview

Table 5.1.6-1 Overview of the NIR assessment

		Indicators	Alternative fuel / transport mode			
			Electricity / road	CNG / road	LNG / road	LNG / water (maritime)
AF Vehicles / Vessels		Past situation (2016)	20	0	0	NA
		Situation (2018)	28	0	0	NA
		Estimate (2030)	700	NA	NA	NA
		Future share (2030) [%]	0.11%			
		Estimate attainment (2018 vs 2030) [%]	4.00%			
		Progress (2018)	slow			
Publicly accessible AF Infrastructure		Past situation (2016)	32	0	0	0
		Situation (2018)	36	0	0	0
		Target (2030)	100	40	3	1
		Target attainment (2018 vs 2030) [%]	36.00%			
		Progress (2018)	slow	slow		
Sufficiency Index		2016	0.63			
		2018	0.78			
		2020	1.69			
		2025	1.73			
		2030	7.00			
Measures	Legal measures	Ambition (NIR vs NPF)	+		+	+
	Policy measures + Deployment & manufacturing support	Score	M	X	X	
		Comprehensiveness	C	N	N	
		Impact	M			
		Ambition (NIR vs NPF)	+	+	+	
	RTD&D	Ambition (NIR vs NPF)		+	+	+

Legend:

	not applicable
	the value could not be computed
NA	no value/information provided/available in the NIR

Not all the requirements of Annex I of the Directive are covered by the Cypriot NIR as outlined in the checklist of Table 5.1.2-1.

With regards to the combination of AF/AFV/AFI with transport mode, electricity is well covered for road transport; CNG, LNG and LPG are also covered for road transport in terms of AFI; maritime water transport is covered for shore-side electricity supply and LNG in terms of AFI; all the other combinations are either absent or not applicable. The NIR has improved in terms of AFI target definition since it contains, contrary to the NPF, future targets for the pair CNG/road, LNG/road and LNG/water (maritime).

The main outcomes of the technical assessment of the Cypriot NIR on vehicles/vessels estimates and infrastructure targets can be summarised as follows:

Road transport

- **Electricity** – Concerning EVs, Cyprus recorded a total of 28 electric passenger cars and 73 electric powered two-wheelers in 2018. In contrast with the NPF where only a wide interval of 100-2000 was mentioned for 2020, the Cypriot NIR reports concrete quantitative vehicle estimates of 71, 140 and 700 for 2020, 2025 and 2030, respectively (all the values refer to passenger cars). Compared with the NPF, the recharging infrastructure targets in the CY NIR also became more concrete but have been reduced to 42, 81 and 100 respectively for 2020, 2025 and 2030. According to our methodology, the 2018 progress to achieve their objectives in 2030 is considered slow both for EVs and recharging infrastructure, while the sufficiency index is regarded as adequate for the next decade.
- **CNG** – The CY NIR states that CNG is currently not in use in the transport sector but introduces targets for CNG refuelling points in the future that were absent in the NPF (7 in 2025 and 40 in 2030). According to our methodology, the 2018 progress to achieve their objectives in 2030 is considered slow for CNG refuelling infrastructure.
- **LNG** – Cyprus does not record any LNG vehicles or refuelling infrastructure at the end of 2018. However, the CY NIR provides new LNG refuelling points targets that were absent in the NPF (3 in 2025 and 2030).
- **Hydrogen** – Similarly to the NPF, the CY NIR does not provide any quantitative future objective related to hydrogen vehicles or infrastructure. The intention of introducing hydrogen buses in the fleet of public transport is mentioned.
- **Biofuels** – The NIR only mentions that Cyprus implemented the EU Directives regarding increasing blending mandates for biofuels in diesel and petrol fuels.
- **LPG** – The Cypriot NIR shows only the situation in 2018 (205 passenger cars fuelled by LPG and gasoline), but does not report any LPG vehicle estimate for the future. The LPG infrastructure target for 2020 in the CY NIR has been reduced compared to the NPF by 60%, from 20 to 8 refuelling points.

Rail transport

Information is unavailable in the Cypriot NIR.

Waterborne transport (maritime)

- **Electricity** – As an update to the NPF that did not contain any target, the CY NIR introduced targets for shore-side electricity supply for seagoing ships in one maritime port in 2025 and 2030.
- **LNG** – The CY NIR presents the intention to have one maritime port equipped with LNG refuelling infrastructure by 2025, which was absent in the NPF.

Air transport

- **Electricity –** The NIR does not confirm the NPF target of two airports offering electricity supply for stationary airplanes by 2020.

As for the **measures**, the Cypriot NIR shows more focus on the development of electro-mobility. To a lower extent, also measures related to CNG, LNG, and hydrogen are present. The situation has evolved in the NIR compared with the NPF in the sense that there are measures that have been either continued/improved, became more concrete, or were newly introduced.

The Legal measures are mainly dedicated to allowing the development of electro-mobility. Overall, they appear, if fully implemented, to be fit to support the realisation of the AFV/AFI objectives as presented in the NPF and revised in the NIR. Based on the available information,

their level of ambition can be considered to have increased between the NPF and the implementation report.

The Policy and Deployment & Manufacturing measures target only road as transport mode, in particular electro-mobility. Taken singularly, all these measures score low or medium and appear to show the same or higher level of ambition compared to the NPF. The most complete and numerous cluster of measures is for the pair electricity/road, followed by the pair hydrogen/road. The other pairs of alternative fuel and transport mode did not contain dedicated measures, thus their score could not be computed. In terms of expected impact of the measures to support the realisation of the AFV/AFI objectives as presented in the NPF and revised in the NIR, those for the pair electricity/road result to have a medium impact, those for the pair hydrogen/road have a low impact, while all the others were not assessable.

Concerning the RTD&D measures, the CY NIR shows a larger set of activities that translates in a higher ambition compared with the NPF. The measures presented relate to studies on implementation scenarios for different alternative fuels and the respective expected demands, with three studies dedicated to the introduction of natural gas (CNG and LNG) in the Cypriot transport.

The CY NIR states that the natural gas market is the subject of the Cypriot AF strategy. The Council of Ministers decision to treat the Cypriot natural gas market as emerging and geographically isolated market sets the base for further measures.

5.1.7 *Final remarks*

The Cypriot NIR presents a relatively comprehensive report on the efforts to implement the Directive. The NIR partially meets the requirements of Annex I to the Directive, but shows a quite limited level of ambition. The NIR provides the targets for electric recharging points and the estimates of electric vehicles for 2020, 2025 and 2030, whereas for CNG and LNG only the targets for road refuelling points but no estimates are given for vehicles. The NIR includes measures to support the electrification of road transport. To a lower extent, measures related to CNG, LNG, and hydrogen are also included. In general, in view of the overall objective of achieving climate-neutrality in the EU by 2050, Cyprus should continue to increase its efforts to develop a comprehensive approach on promoting zero-emission vehicles. In this perspective, a higher level of ambition is required beyond road transport, where all transport modes are further considered, including air transport, towards the 2030 milestone.

Regarding electricity, the NIR estimates that 700 electric vehicles could be on the road by 2030, representing about 0.11% of the future fleet. Taking into account the current situation and expected trends, this level of ambition appears too low compared to the pace of deployment of electric vehicles considered necessary for a full transition to carbon neutrality by 2050. No information on charging efficiency is provided. The Cyprus maritime port in the TEN-T Core Network will be equipped with shore-side electricity supply for seagoing ships. Furthermore, the NIR does not address electricity supply in the Larnaca airport. Future reporting should provide further information on electricity supply for stationary airplanes.

Regarding hydrogen for road transport, the NIR, similarly to the NPF, does not provide any quantitative objective related to hydrogen vehicles or infrastructure. The NIR notes one measure devoted to introducing hydrogen buses in public bus fleets.

With regard to natural gas for transport, the NIR plans for seven CNG refuelling stations in 2025 and 40 in 2030. Three LNG refuelling points are foreseen from 2025 onwards. This appears to be sufficient taking into account the length of the TEN-T Core Network in Cyprus, provided that the refuelling stations are widely distributed along the network. In 2025, the port of Limassol will be equipped with one LNG refuelling point.

As regards LPG in road transport, the NIR only reports 205 LPG vehicles and two refuelling stations in 2018 and the revised infrastructure target for 2020. The LPG infrastructure target has been reduced compared to the NPF by 60%, from 20 to eight refuelling points.

As far as biofuels are concerned, further information should be provided on the consumption of biofuels. Cyprus should provide more information in future reporting on efforts to promote the use of renewable fuels in transport, and particularly in aviation.

5.1.8 *ANNEX - Description of the Member State*

On a surface area of 9,300 km², Cyprus has a population of 864,000 people in 2018, which makes up for a population density of 93 inhabitants/km².

Number of main urban agglomerations

- 2 urban agglomerations > 50,000 inhabitants

In 2018, Cyprus achieves a per capita gross domestic product at market prices of €24,290, which represents a per capita gross domestic product in purchasing power standards of 89 if expressed in relation to the EU-28 average set to equal 100.

Length of the road networks

The length of the road TEN-T Core Network in Cyprus is 156 km. The total road network length is 4,789 km, of which 257 km are motorways.

The following lengths of the TEN-T Road Corridors are present in Cyprus: 3% (138 km) of the Orient - East Mediterranean Corridor.

Number of registered road vehicles

At the end of 2018, Cyprus accounts for 704,221 registered road vehicles of which 550,695 are categorized as passenger cars, 98,533 as light goods vehicles, 12,509 as heavy goods vehicles and 3,084 as buses and coaches. The motorisation rate is 638 passenger cars per 1,000 inhabitants.

Number of ports in the TEN-T Core Network

- 1 maritime port in TEN-T Core Network (Limassol)
- 1 maritime port in the TEN-T Comprehensive Network (Larnaca)
- No inland ports

Number of airports in the TEN-T Core Network

- 1 airport in the TEN-T Core Network (Larnaca)

1 airport in the TEN-T Comprehensive Network (Paphos)