GREECE

FABLE CONSORTIUM

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Pathway Narratives

	A) CURRENT TRENDS	B) NATIONAL COMMITMENTS	C) GLOBAL SUSTAINABILITY	JUSTIFICATION
General description	We do not act differently than in the past decade/today	National actions/policies are aligned with national commitments	National actions/policies are aligned with global sustainability targets	
Country Narrative –main elements that have guided the selection of the assumptions under each pathway	The Current Trends Pathway projects key elements of the food, land-use, energy, and biodiversity systems conditional on no significant policy and behavioral changes in Greece for the 2020-2030 period. The continuation of business as usual implies high urbanization and an uptick in economic activity, no change in dietary consumption for the general population, a 50% surge in key exports, and increased reliance on food imports. Moreover, we assume no substantial shift in biofuel demand, no afforestation target, and no change in post-harvest losses. This Pathway is embedded in a global GHG concentration trajectory that would lead to a radiative forcing level of 6 W/m2 (RCP 6.0), or global mean warming increase likely 2-3°C above pre-industrial levels.	Under the National Commitments Pathway, we underscore specific numerical and qualitative targets based on Greece's NECP, the Pissardies Committee Plan for the Greek Economy, and the commitments accruing from EU participation. The pathway entails a medium to high speed of economic growth, a shift to a healthy diet (as described by the Lancet Committee), and reduced imports. Nonetheless, exports are expected to double by 2050 reflecting the country's aspiration for outward-oriented economic growth, and productivity is expected to surge both for crops and livestock production. This Pathway is embedded in a global GHG concentration trajectory that would lead to a lower radiative forcing level (RCP 4.5) and assumes the expansion of protected areas and an increase in	We referenced global sustainability targets from international agreements such as the Sustainable Development Goals, Paris Agreement, United Nations Forest Goals, and Global Biodiversity Targets. Aligning national targets to global goals includes assuming a lower speed of economic growth compared to national commitments, albeit with the assumptions for higher crop and livestock productivity remaining stable. In addition, afforestation is aligned with the Bonn challenge, and ruminant density does not grow as assumed in the national commitments pathway. The global sustainability pathway is underpinned by a global GHG concentration trajectory leading to a lower radiative forcing level of 2.6 W/m2 by 2100 (RCP 2.6), in line with limiting warming to 2°C.	

	agricultural land under organic practices.		

Pathway Assumptions

		A) CURRENT TRENDS	B) NATIONAL COMMITMENTS	C) GLOBAL SUSTAINABILITY	JUSTIFICATION
1. Macroeconomics	1.1) GDP per capita	2% y-o-y Growth	3.5% y-o-y Growth until 2030	2 - 3.5% y-o-y growth until 2030	Recovery Plan for the Greek Economy - Pissarides Report.
	1.2) Population	1.5 - 2.5 million reduction by 2050	Maintain a population of no less than 10 million	Maintain current trend	Essay on Greek Population

	1.3) Inflation	4.2% in 2023 and 2.4% in 2024	2% y-o-y	Maintain current trend	Economic forecasts by the European Commission European Central Bank
	1.4) Inequalities	Gini Index 33.5 in 2020 - moving away from Target according to SDG 10	Gini Index drop below 30 by 2030	Decrease by 20% by 2030	OECD- Distance from SDG Targets
2. Land	**2.1)** Constraints on agricultural expansion/deforestation	Promotion of no deforestation and expansion of agricultural land tied to agroforestry targets	Increase legislation stringency regarding deforestation for agricultural expansion and enhance monitoring and implementation.	Halt deforestation by 2030; agricultural expansion limited to unforested areas	Greece RDP
	2.2) Afforestation, and forest plantations targets	3.5 - 4 Mha of Forest Area in 2030.	4.2 - 4.5 Mha of Forest Area in 2030.	4.2 - 4.5 Mha of Forest Area in 2030.	Inclusion of Project "SUB1: National Recovery Plan" (Code OPAP TA 5201358) in the Recovery and Resilience Fund - Decision by the Deputy Minister of Finance Global Forest Watch FAOSTAT Land-Use
	2.3) Urban and settlements area	128,900 sq. km. as of 2015 urban land area	0.2% growth	0.2% growth	The World Bank
	2.4) Protected areas	1249 protected areas, 30.2% of land, 19.4% of sea	By 2030, protected areas cover at least 30% of the land area and sea of the country	By 2030, protected areas cover at least 30% of the land area and sea of the country	Replies on Questionnaire on "Human Rights, Transformative Actions and UN Sustainable Development Goals

3. Productivity and management	**3.1)** Crop productivity for the key crops	As of 2022, agricultural productivity: Sugar beet (excluding seed): 42.91 tonne/ha; Potatoes (including seed potatoes): 26.45 tonne/ha; Grain maize and corn-cob-mix: 19.75 tonne/ha; Rice: 5.74 tonne/ha; Wheat and spelt: 2.72 tonne/ha; Barley: 2.44 tonne/ha Rye and winter cereal mixtures (maslin): 1.76 tonne/ha; Tobacco: 1.43 tonne/ha; Cotton fiber: 1.29 tonne/ha; Oats: 1.18 tonne/ha	Converge to EU average in crop yields for main crops: Cereals, Rice, Olives, Citrus fruits, Nuts. Green maize: 3.5 tn/ha, Wheat & Spelt: 4 tn/ha; Barley: 4 tn/ha, Cotton Fibre 1.5 tn/ha, Oats 3.5 tn/ha, Rye: 3.5 tn/ha	Converge to EU average in crop yields for main crops: Cereals, Rice, Olives, Citrus fruits, Nuts. Green maize: 3.5 tn/ha, Wheat & Spelt: 4 tn/ha; Barley: 4 tn/ha, Cotton Fibre 1.5 tn/ha, Oats 3.5 tn/ha, Rye: 3.5 tn/ha	EUROSTAT
	3.2) Cropland under agroecological practices	Area under organic farming as of 2020, 10.2% of utilized agricultural area	20% or above by 2050	Above 20% by 2050	EUROSTAT
	3.3) Livestock productivity for the key livestock products	As of 2019, livestock production : Bovine: 231.8 Kg/ head Sheep and goat: 11.3 Kg/ head Pig: 67.7 Kg/ head Chicken Meat: 1.7 Kg/head Cattle Milk: 7.6 Kg/head Goat Milk: 1.4 Kg/head Hen Eggs: 180 Eggs/head	>200 Hen Eggs and double the yield for Cattle Milk, Goat Milk, Pig Meat and Goat & Sheep Meat	2x the yield in Hen Eggs, Cattle Milk, Goat Milk, Pig Meat and Goat & Sheep Meat	EUROSTAT - APRO_MT_PANN
	3.4) Pasture stocking rate	Minimum stocking density levels for pastureland (which are set at 0.2 LU/ha for all categories of animal)	Maintain stocking rate around current levels	Maintain stocking rate around current levels	Convention on Biological Diversity 5th National Report by Greece

	3.5) Forest management	Permanent deforestation halted. Forests are in continual deterioration due to poor management, competitive agricultural and settlement use, intense pasture, and summer fires. High slopes make harvesting extremely difficult, occurring only during May – Sept. when climatic conditions are favorable, but this is an inappropriate period.	By 2030, promote the implementation of sustainable management of all types of forests, halt all deforestation, increase thinning and pruning as preventive measures, and increase forest sector contribution to GDP from 0.05% to the EU average of 0.2%	By 2030, promote the implementation of sustainable management of all types of forests, halt all deforestation, increase thinning and pruning as preventive measures, and increase forest sector contribution to GDP from 0.05% to the EU average of 0.2%	EU Forest Strategy
4. Trade	**4.1)** Share of consumption which is imported for key imported products (%)	8.5 - 10 billion yearly imports of agricultural products	Reduction to achieve a neutral agricultural trade balance	Reduction to achieve a neutral agricultural trade balance	Atlas of Economic Complexity
	4.2) Evolution of exports for key exported products (1000 tons)	6 - 7 billion yearly agricultural exports 2010 - 2020 - 9~10% of total exports (goods and services)	Increase to achieve a neutral agricultural trade balance	Increase to achieve a neutral agricultural trade balance	Atlas of Economic Complexity
5. Food	**5.1)** Average dietary composition	Average dietary energy supply, 2019-2021: 3412 kcal / capita/ day, of which, as of 2019: cereals: 811 kcal/capita/ day; fats and oils: 842 kcal / capita/ day; meat: 290 kcal / capita/ day; sugar: 332 kcal / capita/ day; roots, tubers, and pulses: 118 kcal / capita/ day; fruit and vegetables: 287 kcal / capita/	Diet shifts to the Lancet diet by 2050 (EAT, Planetary Health diet)	Diet shifts to the Lancet diet by 2050 (EAT, Planetary Health diet)	FAO. 2022. World Food and Agriculture – Statistical Yearbook 2022. Rome.

		day; dairy and eggs (exl. butter) 430 kcal / capita/ day; beverages and other: 189 kcal / capita/ day; fish and seafood: 38 kcal / capita/ day.			
	5.2) Share of food consumption which is wasted at household level	As of 2019, the total per capita food waste generation in Greece is estimated to be 76.1 kg/inh-y.	Reduce food waste by 30% by 2035 and to relative EU median levels by 2050	Reduce food waste by 30% by 2035 and to relative EU median levels by 2050	[Sustainable development in the European Union – Monitoring report on progress towards the SDGs in an EU context – 2023 edition](#) [Food waste volume and composition in households in Greece](#)
6. Biofuels	**6.1)** Targets on biofuel and/or other bioenergy use	The projection of 2030 predicts that the bioethanol share will fall to 71%, the biodiesel will also fall to 12%, but BTL (biomass to liquids) will emerge and stand at 12% market share, especially due to second and third-generation biofuels.	Greece plans to increase the RES-T to 19% in 2030 (10% without multipliers) with biofuels accounting for 80% of the RES-T or about 371 ktoe (vs. 157 ktoe in 2018). Contribution from biofuels from Annex IX-A feedstocks is expected to reach 197 ktoe in 2030 (vs. 0 ktoe in 2018). Greece has introduced a target for advanced biofuels of 0.2% in volume.	Greece plans to increase the RES-T to 19% in 2030 (10% without multipliers) with biofuels accounting for 80% of the RES-T or about 371 ktoe (vs. 157 ktoe in 2018). Contribution from biofuels from Annex IX-A feedstocks is expected to reach 197 ktoe in 2030 (vs. 0 ktoe in 2018). Greece has introduced a target for advanced biofuels of 0.2% in volume.	[Overview of biofuels policies and markets across the EU-27 and the UK](#) [The Greek Biofuel market: Trends, prospects and challenges](#)
	6.2) Targets on other non-food use	-	The contribution made by biofuels produced from wastes, residues, non-food cellulosic material, and lignocellulosic material shall be	The contribution made by biofuels produced from wastes, residues, non-food cellulosic material, and lignocellulosic material shall be	[Directive 2009/28/EC of the European Parliament and of the Council of 23 April 2009](#)

			considered to be twice that made by other biofuels	considered to be twice that made by other biofuels	The Greek Biofuel Market: Trends, Prospects and challenges
7. Water	**7.1)** Irrigated crop area	Over the period 2011 - 2018, 36% of the agricultural area was irrigated.	Greece's target is to improve water management on 17.5% of agricultural land and water efficiency for 5% of irrigated land through irrigation infrastructure	Greece's target is to improve water management on 17.5% of agricultural land and water efficiency for 5% of irrigated land through irrigation infrastructure	Agriculture and rural development – European Commission