Project
funded by the
EUROPEAN UNION

EBSOMED
ENHANCING BUSINESS SUPPORT ORGANISATIONS

INDUSTRY OUTLOOK

EBSOMED Employers thematic committees

The Green Deal

Project funded by the
EUROPEAN UNION

The EBSOMED project is led by BUSINESSMED within a consortium of six partners.

BUSINESSMED
Union of Mediterranean Confederations of Enterprises

CAWTAR · ANIMA INVESTMENT NETWORK · EUROCHAMBRES · ASCAME · AHK Deutsch-Arabische Industrie- und Handelskammer German-Arab Chamber of Industry and Commerce الغرفة الألمانية العربية للصناعة والتجارة

EU Green Deal implications on the South Mediterranean countries

BUSINESSMED

Union of Mediterranean Confederations of Enterprises

About BUSINESSMED:

BUSINESSMED is the main regional representative of the Private Sector
that reflects the interest of 25 Confederations of Enterprises from States members of the Union for the Mediterranean - UfM.

Since its creation in 2002, BUSINESSMED (Union of Mediterranean Confederations of Enterprises) is a privileged platform for multilateral cooperation for the benefit of 23 the employers' confederations and more than 1'200'000 public and private affiliated companies by promoting foreign direct investments and socio-economic integration in the region.

As one of the main Business support organizations dedicated to multilateral cooperation in the Mediterranean, BUSINESSMED'S mission is to enhance exchanges and strengthen the Mediterranean business ecosystem by reinforcing regional cooperation, social dialogue, and policymaking.

In collaboration with our Members and Partners, our vision of the Mediterranean is one where

- The business ecosystem across the two shores flourish via strong partnerships, and establishment of regional value chains
- Economic development is accompanied by a strong and inclusive social dialogue where different social partners collectively shape the business ecosystem of the Mediterranean Countries
- Mediterranean Partners collectively and comprehensively address upcoming challenges of the region, building on each other strength to establish a balanced and flourishing business ecosystem

About the expert

Dr. Mohammed Abdelraouf

Dr. Mohammed Abdelraouf leads GRC's research program on Sustainability and Environmental Issues. He was the lead author for the West Asia chapters on environmental governance in the United Nations Environment Programme (UNEP) GEO 5 and GEO 6 reports. He has published various policy papers on environmental issues in the MENA region and authored five books. Dr. Abdelraouf is a part-time lecturer on environmental economics at universities in the MENA region. Since 2010, he has represented the Science and Technology Major Group at UNEP and is currently co-chair of the Major Groups Facilitating Committee (MGFC) at UN Environment.

Dr. Mohamed Abdelraouf (Chapter 1 and Chapter2)

About the expert :

Samia Dhahri

Dr. Samia DHAHRI obtained a PhD (CNRS- Center National de Recherche Scientifique, University Montpellier 2, France) in 2013, after a Master's degree (INPL -Institut National Polytechnique de Lorraine, France) and an engineering degree (INSAT-National Institute of Applied Sciences and Technology-, Tunisia /- Claude Bernad Lyon 1 University, France) obtained in 2009.

She also has a certificate in patent drafting from the WIPO (World Intellectual Property Organization) and trained in entrepreneurship and skills development in India, management of incubators in Egypt, etc. Since 2018, she is responsible of a Technology Transfer Office and is a founding executive member of a network of African Union incubators and participates in various international projects.

Table of Contents

Acknowledgment
Although the authors makes every effort to ensure accuracy, objectivity, and balance, conclusions that are reached and recommendations should be understood to be of the authors and not attributed to BUSINESSMED, its member associations or to their staff members, officers, directors, funders, etc.

Introduction

This research paper is part of the work of BUSINESSMED employer's thematic committee (the Green Deal). The European Union (EU) Green Deal (GD) goes well beyond being a "climate change" policy. It is a growth strategy that aims to transform the EU into a fair and prosperous society, with a modern, resource-efficient and competitive economy where there are no net emissions of greenhouse gases in 2050 and where economic growth is decoupled from resource use.

Undoubtedly, the European Union EU 'Fit for 55-package' and EU GD strategies and policies will have impacts on EU trade partners globally. Their implications for Mediterranean counties are multifaceted. Thus, it is very important to understand and study such potential impacts in order to provide south Mediterranean countries trade partners insights about potential challenges and opportunities as a result of EU GD.

In general, below are the main areas/sectors to be discussed briefly in the coming sections of this paper :

1. Agriculture (EU Farm to Fork policy standards, accessing the European market).

2. Energy (Shifting demand from fossil fuels to cleaner energy sources, Green hydrogen, Europe's plans to use decarbonized gas as a transition fuel would present some short-term opportunities for Natural gas producers, impacts of Ukraine- Russia war on energy).

3. Critical Raw Materials (CRMs), clean industries and energy strategies envisioned in the EU GD will depend on the CRM inputs for clean energy andtechnologies.

4. Circular Economy, it is important to align the EU's circular economy plan with existing Circular/Green Economy in South Mediterranean countries and circularity many sectors like textiles, construction, and electronics.

5. New technologies promote green technology innovations in water, agriculture, industry, construction and transportation.

Study Objectives

The seven Euro-Mediterranean countries under investigation in this paper (Egypt, Jordan, Lebanon, Malta, Syria, Tunisia and Türkiye) have embarked upon ambitious national development plans that aim to bring about far-reaching changes in both economic and social spheres. These countries recognition of the urgency of tackling the issue of climate change is also reflected in other actions such as the launch of sector specific strategies, the submission of the updated NDCs ahead of COP27 and Egypt's initiative to host the COP27 on November 2022.

In fact, the increasing local awareness, international pressure and high exposure to the effects of climate change, have placed green transition and a gradual decarbonization at the heart of these national transformation strategies.

Furthermore, this opportunity comes at the right political moment when both the EU and these countries are looking at ways of boosting their relationship both at the regional as well as bilateral levels especially that the world is still recovering from COVID-19 and suffering the impacts of Russia-Ukraine war which is affecting all these countries' especially on energy and supply food chain. In short EU Green Deal can be an opportunity to speed up economic development and recovery plans.

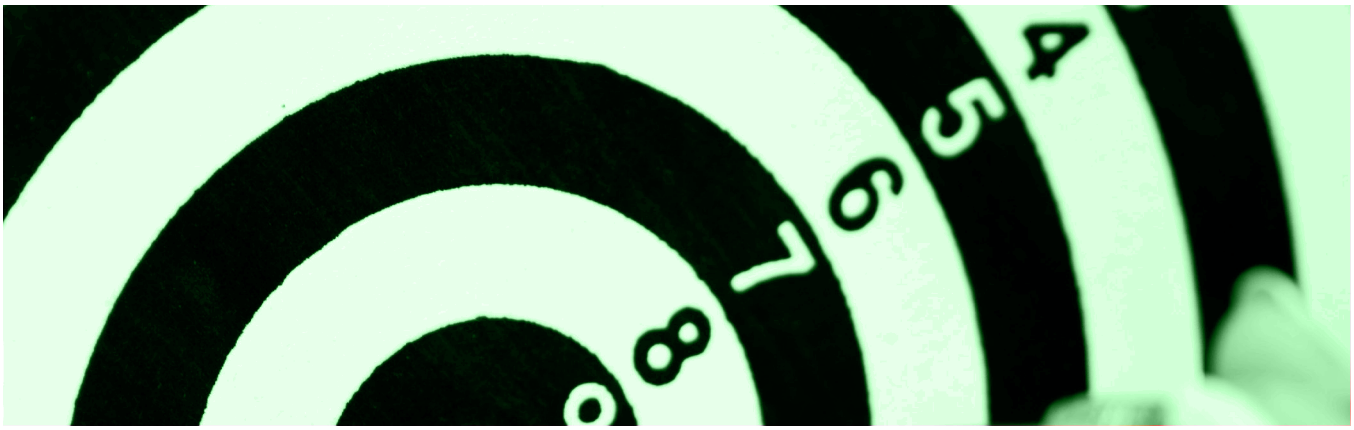
Thus, this research study aiming to:

- Provide insights on how member countries can understand the impacts of the EU GD strategies and policies.

- Overcome challenges posed by EU GD implementation as of 1st of January 2023 and benefit from the opportunities that it may provide according to each country's conditions and comparative advantages.

- Deepen engagement between EU and South Mediterranean countries stakeholders in the area of climate change and decarbonization, as well to promote the uptake of green transition policies and technologies.

Since, the EU GD is expected to transform production and trade patterns not only within the EU but also globally through the newly introduced mechanisms and regulations. It is very important to develop a set of recommendations and policy advice for the Mediterranean Employers Federations in the above seven countries under investigation.



Methodology/Key Activities

The study is structured into the following components:

a). A desk study (web search & secondary data analysis).

b). A survey targeting business associations, its members, governmental authorities, think tanks and experts in each of the seven countries under investigation in this study.

c). Based on the desk study and survey results, a number of targeted interviews will be conducted with key stakeholders in each of the seven countries under investigation in this study in order to fill the gaps, dig deeper and collect further info, etc.

Structure of this report

Thus, the proposed study structure is as follows:

Chapter 1:

A brief about focus areas of the EU Green Deal and its implications on South Mediterranean countries

Chapter 2:

South Mediterranean countries under investigation in this study (Egypt, Jordan, Lebanon, Malta, Syria, Tunisia and Türkiye): Current Status and main challenges and opportunities of EU Green Deal.

- Current climate strategies, Circular/ Green Economy in the selected countries
- Main challenges/obstacles/knowledge gaps facing each country
- Matching the EU's Green Deal to promote sustainability and trade with EU (focus on two or three top exporting sectors to EU in each country)
- Specific country recommendations

Chapter 3:

Recommendations

Conclusion

References

Potential Challenges and Risks

1. Tight schedule of the project:

All the empirical work (surveys and interviews) is to be conducted in about 1.5 month which leaves only 15 days for analyzing the results, drawing recommendations, and writing the final report and Factsheet.

2. There is a risk of delaying as a result of late or no responses to the survey.

3. The large scope of the study might dilute its results given the fact that EU Green Deal affecting all economic sectors which is very difficult to cover in one study in such a short time. Maybe a focused study on specific sector can be conducted later based on the outcomes of this study.

4. Political situation in some countries is a potential obstacle as this might affect the data collection due to lack of information and no interest at this stage.

Background

The field of fight against climate change, the 2015 Paris Agreement on Climate Change marked a landmark that steers the world towards a global transition to a low emissions and climate resilient economy. In December 2019, EU launched the European Green Deal for the transition to a fairer, healthier and more prosperous society, whilst guaranteeing a healthy planet for future generations. Furthermore, the EU adopted a number of various policies that support the realization of the GD on ground such as 2020 New EU circular economy Action plan and the new Energy Engagement Strategy.

The European Green Deal is a roadmap for making the EU's economy sustainable by turning climate and environmental challenges into opportunities across all policy areas and making the transition just and inclusive for all. The EU GD covers all sectors of the economy, notably transport, energy, agriculture, buildings, and industries etc.

The EU is already playing a proactive role to fight climate change and to decarbonize the energy system both domestically as well as internationally. The European Green Deal and the new Energy Engagement Strategy provides the EU with a solid basis for sharing its own experience of green transition and decarbonization with its partners globally.

Following the Russia-Ukraine war, the EU has issued its REPowerEU plan that foresees a gradual reduction from Russian fossil fuel imports by 2027. The Plan will accelerate the EU GD objectives through energy savings, diversification of energy supplies, and accelerated roll out of renewable energy to replace fossil fuels in homes, industry and power generation. Hopefully this will help deepen the engagement between EU and South Mediterranean countries in the area of clean energy, climate change and decarbonization as well as promote the uptake of green transition policies and technologies.

This provides an excellent opportunity for the EU and its southern partners countries to further step up their joint engagement, share its own experience in driving green transition, and to work together on the common interests such as short-term LNG imports, methane emission reductions and the development of a renewable hydrogen market and of preventing negative impacts of climate change.

In the food sector, for instance, joint work on transitioning towards climate neutrality could build on existing cooperation initiatives such as the Agricultural Innovation Mission for Climate (AIM4C) which was launched by the UAE and the US at UNFCCC COP26 and of which Türkiye, Egypt and the European Commission has become a Partners.

Concretely, the EU and South Mediterranean countries could both benefit from a stepped-up dialogue and cooperation on climate action and clean energy transition including exchanges and partnerships on clean energy (including renewable energy and Green hydrogen), energy efficiency, Carbon Capture Utilization and Storage, carbon markets, climate adaptation and resilience as well as clean technology options, innovation, regulatory frameworks and standards, market reforms.

One third of the 1.8 trillion-euro investments from the Next Generation EU Recovery Plan, and the EU's seven-year budget will finance the European Green Deal. Aligning finance flows with a pathway towards low Greenhouse Gases (GHG) emissions and climate-resilient development is key to driving the shift to a climate neutral and resilient global economy and society.

In the following sections, a brief about focus areas of the EU GD and its implications on countries under investigation in this report from South Mediterranean in relation to a number of policy areas/ sectors.

Chapter 1: 14

Green Deal Policies/Sectors and its implications on South Mediterranean countries

Chapter 1:

Green Deal Policies/Sectors and its implications on South Mediterranean countries

1. Climate Change Law and Carbon Border Adjustment Mechanism

The European Climate Law entered into force on 29 July 2021, it aims for Europe's economy and society to become climate neutral by 2050. The law also sets the intermediate target of reducing net greenhouse gas emissions by at least 55% by 2030, compared to 1990 levels.

The European Climate Law sets a legally binding target of net zero greenhouse gas emissions by 2050. The EU Institutions and the Member States are bound to take the necessary measures at EU and national level to meet the target. The law aims to ensure that all EU policies contribute to this goal[1].

The European Climate Law is setting a process for a 2040 climate target and stronger provisions on adaptation to climate change as well as a commitment to engage with sectors to prepare sector-specific roadmaps charting the path to climate neutrality in different areas of the economy.

The existing EU emissions trading system (ETS) is revised to maintain economic growth in the face of possible losses in competitiveness, leading to 'carbon leakage' as industries relocate to countries with no carbon taxes. The Carbon Border Adjustment Mechanism (CBAM) is one of the measures proposed to tackle the carbon leakage problem [2].

The EU has introduced a CBAM, among its "Fit for 55" package, intended to deliver the EU's intermediate target of reducing greenhouse gas (GHG) emissions by 55% from 1990 levels by 2030.

Given that climate action is a transboundary challenge, national or local action cannot solve it alone. Through the Carbon Border Adjustment Mechanism (CBAM), the EU aims to level the fields on the fight against climate change by incentivizing developing countries to reduce their GHG emissions and providing fair competitive conditions for local firms that develop low-carbon products.

The CBAM aims to introduce a carbon price to imported products inside the EU equivalent to the carbon price applied to products manufactured by EU producers under the EU Emissions Trading Scheme (ETS). In other words, it will require importers to purchase carbon emissions certificates for imports that the EU determines are not produced under emissions standards similar to those of the EU. The EU aims, through the CBAM, to reduce the risk of carbon leakage and thus equalizing the price of carbon between domestic products and imports [3].

According to the official CBAM proposition, this mechanism will apply to all non-EU partners without exemptions. The only exception is for partners who participate in the ETS or have an emission trading system linked to the EU, as for example the European Economic Area and Switzerland.

The introduction of CBAM has triggered a lively debate on its potential impacts, especially among developing countries 4, it will have considerable effects on non-EU countries' bilateral trade with the EU. Undoubtedly this will disrupt trade relations between the EU and its main partners if a transparent, fair, and methodological approach is not defined. As CBAM will have considerable

effects on bilateral trade relations with the EU, non-EU countries will consider establishing national emission trading systems, linked to the EU's existing scheme, which would minimize the possible costs. With the price of the EU ETS recently exceeding €60 per metric ton of CO2 equivalent emissions, the additional costs potentially generated by the CBAM are not insignificant. However, currently there are no clear compatibility criteria for EU ETS and other non-EU systems. EU ruling bodies should consider initiating negotiations especially with the strategic trade partners.

It is worth mentioning that none of the countries under investigation in this study have an emissions trading system in place. Turkey is currently working on the formulation of a national ETS. Thus, it is advisable to accelerate the preparatory process of instituting an emission trading system in these countries preferably linked to the EU's ETS. In general, a shift to an active climate policy will help to access climate finance opportunities that will ease the climate-friendly transformation.

The CBAM will have an initial transition period of three years, beginning in 2023, is foreseen to allow companies and trading partners some time to adjust. During this transitional period, the CBAM will initially apply only to selected products from heavy industries deemed as high risk of carbon leakage and highly GHG emissions intensive.

The list of products/sectors covered by the CBAM is for now a shortlist of high emitting sectors exposed to carbon leakage. The following products as those impacted by the CBAM:

1. Cement: Portland cement, aluminous cement, slag cement, supersulphate cement and similar hydraulic cements, whether or not colored or in the form of clinkers

2. Electricity: Electrical energy

3. Fertilizers: Fertilizers, mineral or chemical, nitrogenous

4. Iron and steel: Iron and steel

5. Aluminum: Aluminum and articles thereof

By the end of the transition period, importers to the EU will start paying a financial adjustment, and the scope of the CBAM may be extended to a broader list of products and services, including down the value chain. It may also consider indirect emissions, such as those from the electricity used to produce the goods.

The CBAM proposal has faced severe criticism from many countries. The first concern relates to the substantial costs that non-EU partners are likely to face

due to increased tariffs on CBAM goods imported into the EU. Countries like Türkiye may be among the most impacted in terms of the value of EU imports in selected countries. In short, any country if it is dependent on exports to the EU and if the carbon intensity of their production is relatively high such as Egypt and Jordan exporting fertilizers to EU.

While the CBAM is a well-intentioned effort to encourage decarbonization outside its borders and create the necessary political space to adopt stricter carbon targets within them, it introduces enormous complexities. It could exacerbate global trade tensions and undermine the already fragile foundations of the world trading system 3

The value of the allowances to be surrendered depends in practice on three parameters: the price of carbon in the EU-ETS, the GHG emission control policies in the countries of origin of the goods, and the carbon content of the imported products.

2. Clean Energy including the Green Hydrogen

The production and use of energy accounts for more than 75% of the EU's greenhouse emissions, so the aim is to decarbonize this sector and prioritize the use of clean, renewable energy by modernizing infrastructure and promoting energy efficiency 5.

The European Green Deal focuses on the following key principles for the clean energy transition, which will help reduce greenhouse gas emissions and enhance the quality 6

1. Ensuring a secure and affordable EU energy supply

2. Developing a fully integrated, interconnected and digitalized EU energy market

3. prioritizing energy efficiency, improving the energy performance for buildings and developing a power sector based largely on renewable sources as well as develop the full potential of Europe's offshore wind energy

The EU proposes to increase the binding target of renewable sources in the EU's energy mix to 40%. The proposals promote the uptake of renewable fuels, such as hydrogen in industry and transport, with additional targets. The EU's hydrogen strategy explores the potential for renewable hydrogen to help decarbonize the EU in a cost-effective way.

Hydrogen accounts for less than 2% of Europe's present energy consumption and is primarily used to produce chemical products, such as plastics and fertilizers. 96% of this hydrogen production is through natural gas, resulting in significant amounts of CO_2 emissions.

The "hydrogen strategy for a climate-neutral Europe" was adopted in 2020 and put forward a vision for the creation of a European hydrogen ecosystem from research and innovation to scale
up production and infrastructure to an international dimension. Hydrogen is also an important part of the EU Strategy for energy system integration.

The strategy explored how producing and using renewable hydrogen can help decarbonize the EU economy in a

cost-effective way, in line with the EU GD, and contribute to the post-COVID-19 economic recovery. It listed 20 action points that were implemented by the first quarter of 2022. It includes actions on the international dimension calling for promotion and cooperation with Southern and Eastern Neighborhood partners and Energy Community countries on renewable electricity and hydrogen. However, Europe's plans to use decarbonized gas as a transition fuel would present some short-term opportunities for gas producers 7.

The focus of these actions is to accelerate the uptake of renewable hydrogen, ammonia, and other derivatives in hard-to-decarbonize sectors, such as transport, and in energy-intensive industrial processes. Scaling up the development of hydrogen infrastructure and supporting hydrogen investments are also identified as key areas to support hydrogen uptake in the EU [3]. With the publication of the REPowerEU Plan in May 2022, the European Commission completes the implementation of the European hydrogen strategy 8.

It is worth mentioning that Hydrogen is an energy carrier, not an energy source. Hydrogen is produced from an energy source through various processes such as electrolysis, steam methane reformation, or gasification using either fossil fuels directly or electricity produced from renewables, fossil fuels or nuclear. Not all methods of hydrogen production are equal when it comes to climate impacts. Several categorization systems exist to distinguish between hydrogens made from different fuel and electric sources. Hydrogen Categorization into different "colors" based on initial energy source and production process 9 (See Annex 1).

3. Sustainable Industry

In March 2020, the EU adopted an industrial strategy that will support the green transformation. Achieving the EU's climate and environmental goals requires a new industrial policy based on the circular economy. For instance, The EU support zero carbon steelmaking by 2030 and a 'sustainable products' policy, which will prioritize reducing and reusing materials before recycling them. Minimum requirements will be set to prevent environmentally harmful products from being placed on the EU market.
Only 12% of the materials used in industry come from recycling. The proposal is that companies should receive aid to modernize their processes and stimulate circular production that generates zero emissions. It will especially affect sectors such as textiles, electronics, and plastics 5.

Critical Raw Materials (CRMs)

The EU low-carbon economies will depend on the CRMs inputs for clean energy and technologies such as in Electric Vehicles (EV). Consumption of these CRMs is projected to increase by a factor of four for graphite, five for cobalt, and eighteen for lithium by 2030; and by a factor of thirteen for graphite, fourteen for cobalt, and nearly sixty for lithium by 2050 10.

Currently, the EU sources most of these CRM from other countries in Asia, Africa and MENA region [5]. However, the projected demand in CRMs creates opportunities for countries under investigation to replace some of current exporting countries to EU.

Green Technologies

The EU GD aims to scale commercial applications of breakthrough green technology innovations and create corresponding markets to secure an advantage over competitors in the United States and China.

Countries under investigation will struggle to adopt these emerging green technologies, some of which are still very costly. This is an opportunity that could enable countries under investigation to proactively negotiate funding, skills, knowledge, and technology transfer as well as the localization of jobs around these new technologies 10

Around 35 percent of Horizon Europe, a 95.5-billion-euro ($113.5 billion) research and innovation funding program from 2021 to 2027, is dedicated to climate research. There could be collaboration opportunities between stakeholders in industry and research communities in Europe and countries under investigation 10

4. Circular Economy Action Plan (CEAP)

In order to mitigate the possible environmental consequences, it is necessary to minimize the generation of waste and encourage the use of products, materials, and resources that will remain in the economy for as long as possible. These are the foundations of the so-called circular economy which seeks a new model of production and consumption of goods and services associated with sustainability.

The EU Action plan for the Circular Economy has been adopted with a view to boosting global competitiveness, fostering sustainable economic growth and generating new jobs. It consists of two EU Action Plans for the Circular Economy (2015 and 2020), with measures covering the full life cycle of products: from production and consumption to waste management and the market for secondary raw materials. Building on the work done on circular economy since 2015, the CEAP II focuses on resource intensive sectors where the potential for circularity is high 11

The EU GD's circular economy action plan aims to reduce material throughput by reusing and recycling materials. The plan is meant to provide a guideline for all sectors, with action focusing on resource-intensive sectors such as textiles, construction, electronics, and plastics.

For some sectors in countries under investigation, this could present new economic opportunities, as delocalizing part of the circular economy value chain that could strengthen manufacturing, allowing businesses to engage in high-

er-value activities. It is important to align the EU's circular economy plan with existing Circular Economy initiatives in countries under investigation 11

5. Green Buildings

The renovation of buildings, which currently account for 40% of energy consumption, will be key. Sustainable urban development is therefore proposed that invests in the energy efficiency of buildings 12, 13

Through EU "renovation wave", the EU will be providing incentives and investments, in addition to encouraging national governments, private investors, architects, designers and local communities to get involved. This will not only reduce emissions and improve the life for people using the buildings, but also create new jobs in the construction sector. Also, energy bills will likely get cheaper too.

This could present new economic opportunities, as delocalizing part of Green buildings value chain that could strengthen manufacturing, allowing businesses to engage in higher-value activities. It is important to align the EU's Sustainable buildings plan with existing Green Buildings' initiatives in countries under investigation.

6. Sustainable Mobility

In 2020, the EU introduced the Strategy for sustainable and smart mobility. This strategy aims to increase and better manage the capacity of railways and inland waterways as well as boosting the production and supply of sustainable alternative fuels for the different transport modes 14

The aim is to reduce emissions from cars, trains, shipping, and air transport (transport accounts for 25% of the EU's emissions). Sustainable Mobility is therefore proposed that promotes the use of cleaner and more efficient public and private transport 12.

European Union seeks, in fact, to ban on sales of all new vehicles with internal combustion engines, including hybrids, by 2035, under a sweeping plan to slash greenhouse gas emissions.

The package proposes a 100% reduction in carbon dioxide emissions from new vehicles from 2035 on, which would all but ban the sale of new vehicles fueled by gasoline or diesel. The plan would also mandate a 55% reduction in emissions from new passenger vehicles from 2021 levels by 2030 15. This will create difficulties for traditional fuel exporters while creating opportunities for renewable energy exporters as well as opportunities for raw materials and spare parts for EV to EU.

7. Eliminating Pollution

The Commission adopted the EU Action Plan: "Towards Zero Pollution for Air, Water and Soil" on 12 May 2021. The Plan provides a compass to mainstream pollution prevention in all relevant EU policies, to step up implementation of the relevant EU legislation and to identify possible gaps.
It includes targets on air, water, soil, and noise pollutions as well as waste generation and biodiversity 11

The plan sets out the overarching vision that by 2050, pollution is reduced to levels no longer considered harmful to health and natural ecosystems. To

achieve this, it defines a number of zero pollution targets for 2030, namely reducing:

- by more than 55 % the health impacts (premature deaths) of air pollution;
- by 30 % the share of people chronically disturbed by transport noise;
- by 25 % the EU ecosystems where air pollution threatens biodiversity;
- by 50 % nutrient losses, the use and risk of chemical pesticides, the use of the more hazardous ones, and the sale of antimicrobials for farmed animals and in aquaculture;
- by 50 % plastic litter at sea and by 30 % microplastics released into the environment;
- Significantly total waste generation and by 50 % residual municipal waste.16 .

8. Farm to Fork

The Farm to Fork Strategy asserts that research and innovation are key drivers in accelerating the transition to sustainable, healthy and inclusive food systems, from primary production to consumption. 17 . It aims is to reduce the use of pesticides and develop innovative techniques, such as foodtech, in agricultural processes, to ensure sustainable and quality feeding and to increase organic farming, among other things

The Farm to Fork Strategy lays down a new approach to ensure that agriculture, fisheries and aquaculture, and the food value chain contribute appropriately to the objective for a climate neutral Union in 2050. Food systems remain one of the key drivers of climate change and environmental degradation. The manufacturing, processing, retailing, packaging, and transportation of food make a major contribution to GHG emissions, air, soil and water pollution, and have a profound impact on biodiversity 11.

As part of "Farm to Fork" policy package, the EU aims to become a leader in setting sustainable global food standards. Compliance with these standards as a condition for accessing the European market could constitute additional non-tariff barriers for countries under investigation agriculture exports to the EU. Still, an EU-South Mediterranean partnership can help combat agroecological challenges 10.

9. Preserving Biodiversity

The new 2030 biodiversity Strategy is a comprehensive, systemic and ambitious long-term plan for protecting nature and reversing the degradation of ecosystems. It is a key pillar of the European Green Deal and of EU leadership on international action for global public goods and sustainable development goals. With an objective to put Europe's biodiversity to recovery by 2030, the Strategy sets out new ways to implement existing legislation more effectively, new commitments, measures, targets and governance mechanisms 11.

The European Green Deal also promotes measures to protect biodiversity and ecosystems, to improve the quality of the oceans and forests and to develop the concept of a green city that seeks to increase biodiversity in urban spaces.

Summary and Conclusions:

The European Green Deal's final aim is to fight climate change and achieve carbon neutrality by mid of this century. In practical terms, its aiming at making all businesses (public and private) and its supply chains sustainable. This will not impact business in Europe only but all business around the world especially those countries with high export to EU.

EU GD will impose higher norms and standards for social and environmental sustainability in production and processing of goods and services. More information about the products' impact on the climate change and environment is needed if they will be exported to Europe. Countries and regions need to invest more for green transition in terms of labor and systems in the short and long terms in order to sustain competitiveness in a sustainable global market. In addition, if right and timely actions are taken, there are windows of opportunities for critical raw materials, green technologies, recyclable, renewable hydrogen exports to EU.

It is worth mentioning that whether EU GD implemented fully as planned or partially due to recent economic-health-conflict conditions globally, there is no doubt the EU and the whole world will end up applying a tougher standards and norms especially in relation to carbon emissions that means for sure that the market is shifting towards products that are proven to be made in a sustainable way.

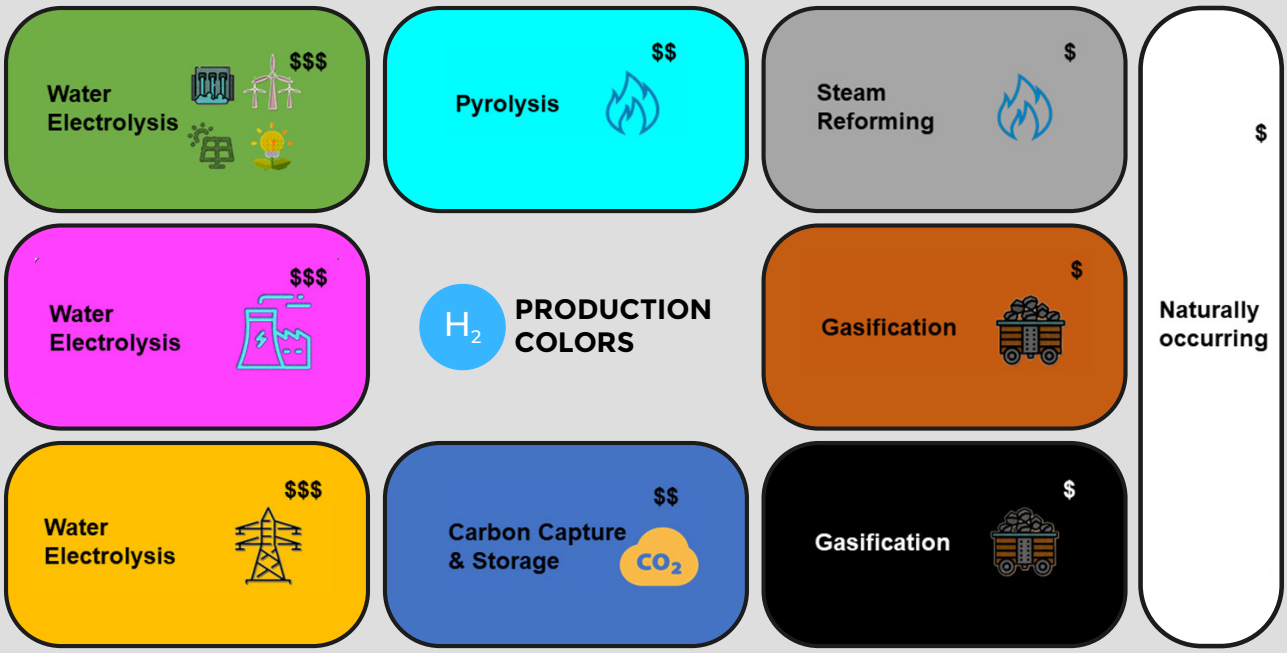
This tell us that CBAM will eventually be applied not only in EU region but globally. CBAM is one of the important new tools of the EU GD as it refers to taxation of carbon in products exported to EU. It is advisable for the countries under investigation in this study to start preparing themselves for such tool if they want to stay in EU market and increase their market share. In other words, this presents a huge opportunity for businesses which are already or in process of producing products in a sustainable way.

Countries under investigation should view EU GD as a vehicle to support their exports to EU. For the adaptation and capacity building of the related countries, financial and technical support tools shall be negotiated with the EU to enable these countries to comply with the GD rules and regulations.

From previous sections one can summarize the different policy areas of the EU GD, challenges and opportunities for the South Mediterranean countries in the following table:

Policy area/Sector	Challenges	Opportunities
CBAM	A trade barrier/Extra cost	-Establishing an emission trading system preferably linked to the EU's ETS meriting them comparative advantage over other exporting countries
Clean energy including the Green Hydrogen	Banning fossil fuels experts	- Increased Natural Gas exports as a transitional fuel. - Establishing Renewable Hydrogen industry/exports
Sustainable Industry	Trade barrier for polluting industries	- Opportunity to increase CRMs exports to EU
Circular Economy Action Plan	Promotes the reuse and repair of products and, finally, the reintroduction of high-quality recycled materials will reduce the EU imports from other countries	-Delocalizing part of the circular economy value chain that could strengthen manufacturing, allowing businesses to engage in higher-value activities by adopting similar standards in order to facilitate exports to the EU market.
Green Buildings	Trade barrier for unsustainable buildings material, designs, etc.	-Delocalizing part of Green buildings value chain that could strengthen manufacturing, allowing businesses to engage in higher-value activities.
Sustainable Mobility	Difficulties for traditional internal combustion engines fuel/spare parts exporters	-Opportunities for renewable energy exporters as well as opportunities for raw materials and spare parts for EV to EU.
Eliminating pollution	High pollution products ban/stricter ecolabels measures	-Opportunities for exporting Green/ low carbon' recyclable products
Farm to Fork	Unsustainable agriculture bans Sustainable food standards trade barriers	Opportunities for organic farming, sustainable food manufacturing, processing, retailing, packaging…etc.
Preserving biodiversity	measures to protect biodiversity and ecosystems/ ban of specific products and practices.	Opportunities for preserving biodiversity and green cities.

Annex 1



The Hydrogen Color Spectrum: classification code that reflect the hydrogen production method, the resources consumed to produce the required energy, and the number of emissions generated during the process 18.

References (Chapter 1)

1. ***European Commission, European Climate Law, https://climate.ec.europa.eu/eu-action/european-green-deal/european-climate-law_en, accessed on 15 August 2022.***

2. *European Commission, A European Green Deal,* https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal_en, accessed on 27 August 2022.

3. Rim Berahab, "Is the EU's Carbon Border Adjustment Mechanism a Threat for Developing Countries?", policy center for the new south, https://www.policycenter.ma/opinion/eus-carbon-border-adjustment-mechanism-threat-developing-countries, accessed on 1 September 2022.

4. Zhong, J. & Pei, J. Carbon border adjustment mechanism: a systematic literature review of the latest developments. *Clim. Policy* 1–15 (2023) doi:10.1080/14693062.2023.2190074.

5. Iberdrola, "European Green Deal: much more than a strategy to combat climate change", https://www.iberdrola.com/social-commitment/what-is-european-green-deal, Access on 20 July 2022.

6. European Commission, A Clean Energy Transition, https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal/energy-and-green-deal_en#:~:text=The%20European%20Green%20Deal%20focuses,and%20digitalised%20EU%20energy%20market

7. Zainab Usman and others, "What Does the European Green Deal Mean for Africa?" Carnegie Endowment for International Peace, https://carnegieendowment.org/2021/10/18/what-does-european-green-deal-mean-for-africa-pub-85570, Access on 1 July 2022.

8. European Commission, Hydrogen,https://energy.ec.europa.eu/topics/energy-systems-integration/hydrogen_en, Access on 23 September 2022.

9. Baranzelli, C., Blengini, G. A., Josa, S. O. & Lavalle, C. EU–Africa Strategic Corridors and critical raw materials: two-way approach to regional development and security of supply. *Int. J. Min. Reclam. Environ.* **36**, 607–623 (2022).

10. Zainab Usman and others, "What Does the European Green Deal Mean for Africa?" Carnegie Endowment for International Peace, https://carnegieendowment.org/2021/10/18/what-does-european-green-deal-mean-for-africa-pub-85570, Access on 1 July 2022.

11. **Switch to green, "The EU Green Deal – a roadmap to sustainable economies:, https://www.switchtogreen.eu/the-eu-green-deal-promoting-a-green-notable-circular-economy/, Access on 26 September, 2022.**

12. Iberdrola, "European Green Deal: much more than a strategy to combat climate change", https://www.iberdrola.com/social-commitment/what-is-european-green-deal, Access on 20 July 2022.

13. Alsuhaibani, A. M. *et al.* Green buildings model: Impact of rigid polyurethane foam on indoor environment and sustainable development in energy sector. *Heliyon* **9**, e14451 (2023)

14. Chatziioannou, I. *et al.* Ranking sustainable urban mobility indicators and their matching transport policies to support liveable city Futures: A MICMAC approach. *Transp. Res. Interdiscip. Perspect.* **18**, 100788 (2023).

15. **Yasuo Takeuchi and others, "EU Green Deal seeks to force shift to electric vehicles in 2035"** https://asia.nikkei.com/Spotlight/Environment/Climate-Change/EU-Green-Deal-seeks-to-force-shift-to-electric-vehicles-in-2035, Access on 28 September, 2022.

16. European Parliament, "Zero pollution action plan for water, air and soil", https://www.europarl.europa.eu/legislative-train/theme-a-european-green-deal/file-zero-pollution-action-plan, Access on 25 September 2022.

17. Riccaboni, A., Neri, E., Trovarelli, F. & Pulselli, R. M. Sustainability-oriented research and innovation in 'farm to fork' value chains. *Curr. Opin. Food Sci.* **42**, 102–112 (2021).

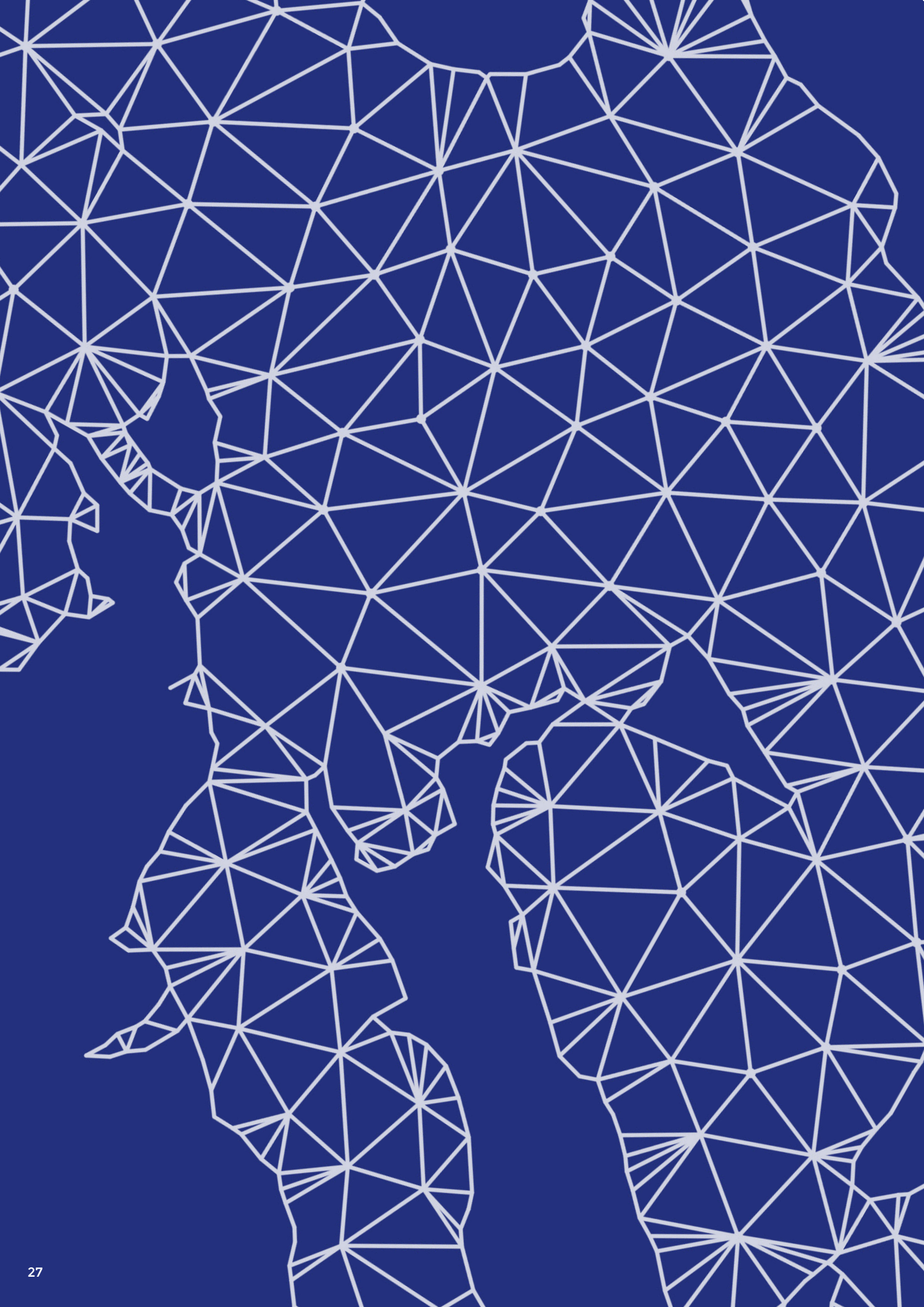
18. Arcos, J. M. M. & Santos, D. M. F. The Hydrogen Color Spectrum: Techno-Economic Analysis of the Available Technologies for Hydrogen Production. *Gases* **3**, 25–46 (2023).

Chapter 2: 26

Decarbonization and Green Deal Policies by country

Chapter 2:

Decarbonization and Green Deal Policies by country



Disclaimer

All responses that were given in the survey is utilized only for the purpose of the research study “Enhancing Business Support Organizations and Business Networks in the Southern Neighborhood EBSOMED in relation to the EU Green Deal” by the consultant of Union for Mediterranean Confederation of Enterprises (BUSINESSMED). All personal data gathered in this survey is completely anonymized and will not be sold to any third parties or shared with other actors or parties.

Introduction

This report briefly discusses the current situation and the potential for seven Mediterranean countries for each European Union Green Deal (EU GD) areas and policies. The data is based on the desk study, survey responses and interviews collected within the Green Deal Thematic Committee. This will provide an understanding of where each country stands and the strengths and weaknesses of each country when EU GD is to be applied.

In general, total GHG emissions are not high. The highest GHG emissions (in million tons) and the highest GHG per capita (tons) is Türkiye. Only three countries announced a net zero emissions target (Lebanon, Türkiye and Malta) as shown in the summary table below. It is worth mentioning that the north Mediterranean countries, Malta and Türkiye are more aligned with EU GD given that Malta is an EU country and Türkiye has already taken various steps to align its policies to EU rules and regulations like Emission Trading System (ETS), for example. Accordingly, the northern countries are more familiar with EU GDEU GD and relatively prepared to adopt EU GD requirements.

However, many South Mediterranean countries are better positioned to benefit most from EU EU GDGD, if necessary policies are to be adopted. Egypt's potential role in green hydrogen production and exports is a clear example.

Country	Total GHG (in million tons)	GHG per capita (tons)	Net zero commitment	Target by 2030
Egypt	213.46	2.09		-80.7 MT
Lebanon	25.97	3.8	2050	-31%
Jordan	25.49	2.5		-31%
Syria	30.53	1.74	None	
Turkey	392.79	4.66	2053	
Tunisia	28.13	2.38		-45%
Malta	1.59	3.61	2050	

Compiled by author from the following sources:

https://climatepromise.undp.org/what-we-do/where-we-work/egypt
Global Carbon Project. Supplemental data of Global Carbon Project 2021. (2021) doi:10.18160/GCP-2021.
https://energy.ec.europa.eu/system/files/2020-01/mt_final_necp_main_en_0.pdf

The following sections include a presentation of the survey's general findings and details for each of EU GD policies by country. A separate section will focus on Green Hydrogen Assessment in the seven countries under investigation.

Survey Purpose

The main purposes of this survey are to help to:

- Better understand the impacts of the EU GDGD on businesses in the South Mediterranean countries.
- Understand how to best benefit from the EU GDGD
- Better reinforce regional cooperation aimed between the EU and South Mediterranean countries.
- Identify concrete individual recommendations on country and regional levels, collective initiatives, and public policies to capture the diversity of responses to the EU GDGD.

Methodology

The detailed survey covers various aspects in relation to EU GD using different ways to reconfirm answers for each respondent. The survey is targeting Bussiness Associationss, their members, governmental authorities, think tanks, and experts in each of the seven countries under investigation in this study (Egypt, Lebanon, Jordan, Malta, Syria, Tunisia, and Türkiye).

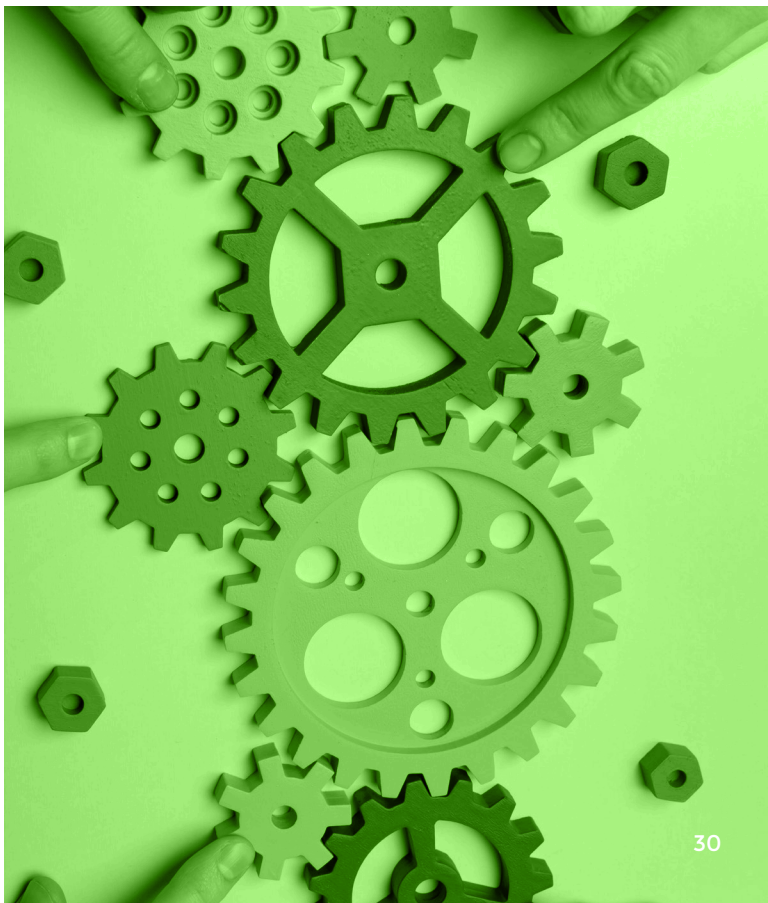
The answers received are well representing the targeted sample. Some answers submitted by Bussiness Associationss actually represented a collective answer by all relevant stakeholders in the respective country.

The survey included mixed questions of open and closed ones to collect as many information about perceptions of EU GD by the Bussiness Associationss in each of the seven countries under examination in this study, as well as to collect information about various actions, policies taken by each Bussiness Associations and relevant stakeholders in reaction to EU GD.

Through the survey hurdles facing Bussiness Associationss in relations to the EU GD have been identified, as well as Bussiness Associations key steps that needs to be taken in order to seize the opportunities coming from the EU GD. The survey results found to be very consistent with the outcomes of the desk study and the interviews conducted .

Survey Results

Given the fact that the EU GD is relatively new and the first phase has only been implemented as of the January 1st, 2023, there is a relatively little knowledge about it on a global level, as well as more specifically in the countries under investigation in this survey. There is a great need for more information, capacity building in relation to EU GD. The following table and annex graphs reflect the above described situation.



Percentage	Issue
50%	Of business sectors are familiar (strongly or relatively) with the EU GD
42%	Of Bussiness Associations/sectors are prepared for the EU GD
59%	Of Business Associations and its members are informed about the circular economy
36%	Of Respondent believe that the existing "business models" allow for a shift towards a "circular economy model"
55%	Of business sectors are aware of CBAM requirements
26%	Of Respondent said that their country is planning for an emissions trading scheme
41%	Of Respondent believed that CBAM will negatively affect their country's competitive trading advantage.
68%	Of analyzed countries have plans for EV.
35% **22%**	The two top policies that businesses in each country would need from the EU to mitigate the impacts of the EU GD are: • Capacity building and technical assistance on the EU GD and the green transition; • Communication and awareness raising campaigns.
30% **26%**	The main hurdles that Bussiness Associationss see in dealing with the EU GD are: • Lack of financial resources; • Difficulties in implementing behavioural changes.
44% **26%**	The two main perceived challenges by companies with reference to the EU GD are: • Lack of organizational skills and processes to understand all of the implications of the Green Deal; • Understanding which incentives are available and how to benefit from them.
38% **48%**	To raise their employee's capacities to better adapt and deal with the EU GD and Circular economy, Business Associations plan: • Facilitating employment opportunities in new sectors and those in transition; • Offering up-skilling and re-skilling opportunities.

The main of financing for Green projects in the countries under investigation are in the following order:

1. EU Funds
2. National budget
3. Private investment
4. Local budget

Business Associations in general are not legally entitled to provide financial support to their members. The primary role of Business Associations, in relation to the Green financing, is mostly facilitating their member's actions through advocating for the increase of financial supports that would ease the adaptation process of the business sector to the EU GD.

Other policies that businesses need to mitigate the impacts of the EU GD include: CBAM Assistance, direct funding, technical assistance, business matchmaking.
Measures and/or actions already taken by Business Associations/industry sectors in reaction to the EU GD include for instance:

- The strengthening of the Public-Private Partnership.
- Establishing different working groups within Business Associations (such as Environment and Climate Change Working Group, Energy Working Group, Green Deal Task Force and the Energy Efficiency Task Force) to study and adapt to EU GD.
- Awareness and communication activities such as conferences, webinars, training courses.
- Support young green entrepreneurs.

Action plans to achieve sustainability differ between Business Associations. The following actions have been identified through the survey:

- Awareness raising campaigns via trainings and workshops for companies and SMEs with the aim to identify challenges and coping mechanisms resulting from the implementation of the EU GD.
- Inclusion of EU GD requirements in National 2030 Sustainability and in the Climate Change National Strategies.
- Green Deal Action Plans prepared in coordination relevant national ministries.
- Definition of products carbon footprint calculation processes to achieve lower energy, water and resources consumption.
- Reduction of CO_2 emissions

For the Agriculture sector:

Within the Agriculture sectors, national action plans differ across the region, with some countries still having none or little activities to align national agricultural policy with the EU's "Farm to Fork Strategy" , and on a more wider perspective with the EU's long-term sustainability strategies. Actions taken so far vary from:

- Establishing a working Group on agriculture aiming to contribute to a more detailed alignment program.
- Enlarging organic agriculture via increasing support to small local communities .

Main obstacles of exporting fruits, veg-

etables to EU include production costs (fertilizers, seeds etc.), shipping cost, respects of red tape barriers to access EU market with possible compliance sanctions, limitation of available agricultural land, competing export countries, climate change effects, etc.

It should be encouraged for companies and SMEs to apply measures that lead them away from linear "business as usual" models and more towards circular economy, some examples of currently applied practices include:

- Commitment to CSR, Sustainable Development, energy saving, waste recovery programs.

- Business transformations reflecting the market's needs and/ or the potential to evolve (such as EU GD), especially taking into account the consumer or customer demands.

- Transformations triggered by the bottlenecks in the raw material supply chains, especially in the global economic conditions. For this reason, manufacturers are trying to plan their companies' production models by using less outsourcing and focusing on the principles of self-sufficiency.

- Recycling and digital transformation are considered as priorities.

In terms of industrial strategy, plans/ activities to mainstream circular economy include:

- Compiling success stories.

- Review the regulations and procedures modification.

- Incentives to reduce waste.

- Incentivize companies to transform their business models to become carbon neutral, support knowledge on the circular economy.

- Promoting competitiveness in the world market, especially in Europe, by switching to a circular economy model.

Regarding the EU GD and circular economy, possible entry points for entrepreneurs and start-ups are:

- Ensure that the product complies with the EU GD regulations and requirements to facilitate the market access;

- Feeding industries, localization process, and digitalization.

- Develop local micro-enterprise and start-ups and bring innovation to all sectors.

- Business Associations and Governmental authorities should foster in the establishment MSMES by young entrepreneurs.

Businesses do take steps to reduce the generation of waste and emissions and promote longer lifecycles and re-use of products:

- Reuse or recycle the waste, management, and recovery of waste.

- Energy management.

- The reduction of the carbon footprint.

- Longer lifecycles and reuse of products.

- Introduction of circular economy principle.

Here are some of the measures that businesses have taken to deal with CBAM in the countries under investigation:

- Initiatives for commitment to advanced green technology solutions.
- Initiatives to measure, decrease their emissions and plan for technological transformation of their business models by advocating an easy adaptation of the industry to CBAM requirements through Business Associations at the national and international level.
- Reduction of energy consumption.
- Establishment of research and development partnerships with universities, research centres and think tanks.

In terms of CBAM's benefits for businesses, few respondent believed CBAM will not be beneficial, while the majority believed it would lead to :

- Reduction of carbon emissions and promotion of fight against carbon leakage.
- Creation of new market opportunities.
- Promote innovation and the creation of alternatives and new start-ups.
- Enhanced global competitiveness of the countries economy, if the green transition is well prepared.
- Enhanced cooperation with EU and other concerned parties.

Respondents also highlighted the following in relation to the adaptation to the EU GD:

- The establishment of a legally sound and effective cooperation mechanism in early stages of CBAM legislative process would be crucial to guide the systematic alignment and adaptation efforts.
- CBAM generated revenue could be utilized to finance green investments in the countries that are closely connected to the EU via comprehensive trade and economic agreements.
- Awareness raising and communication activities such as conferences, webinars, training courses, information campaigns on the EU GD should be prioritized at governmental, company and citizen's level.
- The EU should continue to enhance its financial programs in favour of the green economy and for the reduction of CO_2 emissions.

Finally, when looking at exports, these will be affected in one sense or another based on how national policies align with the EU GD. In other words, if countries align their polices with the EU GD, they will be able to increase their exports under CBAM. Otherwise, they will face new difficulties preserving the current level of exports to EU. The current top exports per each country are presented in the following tables showcasing top importing EU countries:

country	Exports to EU (in billions) (in €) (2020)	Top Importer Countries (1)	Top Importer Countries (2)	Top Importer Countries (3)	Top Importer Countries (4)	Top Importer Countries (5)	Main Export 1	Main Export 2	Main Export 3	Main Export 4
Egypt	6.4	Italy	UK	Germany	Spain	Greece	Fuel and mining products	Chemicals	Agriculture and Raw Materials	Textiles and Clothing
Lebanon	0.45	Switzerland	Greece	UK	Germany	France	Fuel and mining products)	Agriculture and raw materials	Chemicals	
Jordan	3	Switzerland	Spain	Netherlands	Russia	UK	Chemicals	Fuel and mining products	Machinery and transport equipment	
Syria	0.061	Germany	Serbia	Netherlands	Ukraine	Spain	Agriculture and raw materials			
Turkey	62.6	Germany	UK	Italy	France	Spain	Machinery and transport equipment	Clothing	Agriculture and raw materials	
Tunisia	8.6	France	Italy	Germany	Spain	Poland	Machinery and transport equipment	Textiles	Agricultural products	

Top exports to EU countries

Source: https://oec.world/en/profile/country

Malta top exports to EU countries:

No	country	Total Value (2021) (in million USD)	Product name	Value (2021) (in million USD)
1	Germany	418.09		
		Top export 1	Toys, games, sports requisites	151.14
		Top export 2	Electrical, electronic equipment	56.55
		Top export 3	Rubbers	47.07
		Top export 4	Aircraft, spacecraft	45.92
		Top export 5	Pharmaceutical products	43.06
2	Italy	293.41		
		Top export 1	Mineral fuels, oils, distillation products	128.71
		Top export 2	Electrical, electronic equipment	24.18
		Top export 3	Optical, photo, technical, medical apparatus	22.48
		Top export 4	Machinery, nuclear reactors, boilers	22
		Top export 5	Pharmaceutical products	21.22
3	France	184.97		
		Top export 1	Electrical, electronic equipment	113.81
		Top export 2	Pharmaceutical products	47.01
		Top export 3	Plastics	9.7
		Top export 4	Rubbers	4.23
		Top export 5	Articles of leather, animal gut, harness, travel good	2.49
4	UK	125.89		
		Top export 1	Pharmaceutical products	33.37
		Top export 2	Aircraft, spacecraft	24.35
		Top export 3	Printed books, newspapers, pictures	19.81
		Top export 4	Electrical, electric equipment	9.8
		Top export 5	Machinery, nuclear reactors, boilers	5.45
5	Greece	83.99		
		Top export 1	Mineral fuels, oils, distillation products	60.94
		Top export 2	Organic chemicals	10.76
		Top export 3	Pharmaceutical products	7.26
		Top export 4	Beverages, spirits and vinegar	2.61
		Top export 5	Knitted or crocheted fabric	1.4
	TOTAL	1106.35		
		Top export 1	Mineral fuels, oils, distillation products	189.65
		Top export 2	Toys, games, sports requisites	151.14
		Top export 3	Electrical, electric equipment	147.79
		Top export 4	Pharmaceutical products	144.66
		Top export 5	Rubbers	56.77

Country-Level Assessments on Green Deal

Egypt

From the survey analysis, it was clear that the Business Associations/sectors in Egypt are "relatively familiar" and "relatively prepared" in relation to the EU GD. Business Associations/sectors need "capacity building and technical assistance on Green Deal topics" in order to mitigate the impacts of the EU GD. Lack of skills and knowledge are the main hurdle Business Associations in Egypt see in dealing with the EU GD.

Business Associations in Egypt are "informed" about the circular economy and believe that the existing "business models" allow for a shift towards a "circular economy model". Regarding the EU GD and circular economy, the possible entry points for entrepreneurs and start-ups are the feeding industries, localization process, and digitalization, while the technology transfers and funding are the main barriers. Circular economy and green hydrogen are the top priority policy area of the EU GD in Egypt.

However, business sectors like cement, electricity, fertilizers, iron and steel, and aluminum are not aware of CBAM requirements and still measures in preparations by businesses and government are taken to deal with CBAM.

Egypt Vision 2030

In a nutshell, the 2030 vision is as follows: By 2030, the new Egypt will achieve a competitive, balanced, diversified, and knowledge-based economy, characterized by justice, social integration, and participation, with a balanced and diversified ecosystem, benefiting from its strategic location and human capital to achieve sustainable development for a better life to all Egyptians. Its indicators include (1) economy (GDP), (2) market competitiveness, (3) human development, (4) quality of life, and (5) anti-corruption.

While the vision takes a holistic approach to development, targets, and indicators rarely mention the environmental dimension. Of the ten key pillars, only two mention environmental sustainability, the 2nd focusing energy (efficiently using traditional and renewable sources contributing to economic growth and preserving the environment) and the 9th being environment.

Specific targets include the following:

Emissions reductions	From the energy sector: 5% decrease by 2020, 10% decrease by 2030 Monitoring sites: 250 by 2020, 500 by 2030 (from 164 sites)
Sustainable agriculture	Establishment of "Agriculture Modernizing Center"

Cairo Vision 2050

The Cairo vision 2050 utilizes good governance to achieve sustainable development with consideration to social, cultural, and economic fields. It includes 7 'global' goals, 5 'green' goals, and 3 'connected' goals. The green goals are as follows:

1. Good living conditions for its citizens (to be among the 30 best cities in the world).

2. Cairo as one of the pioneer cities in promotion of environment

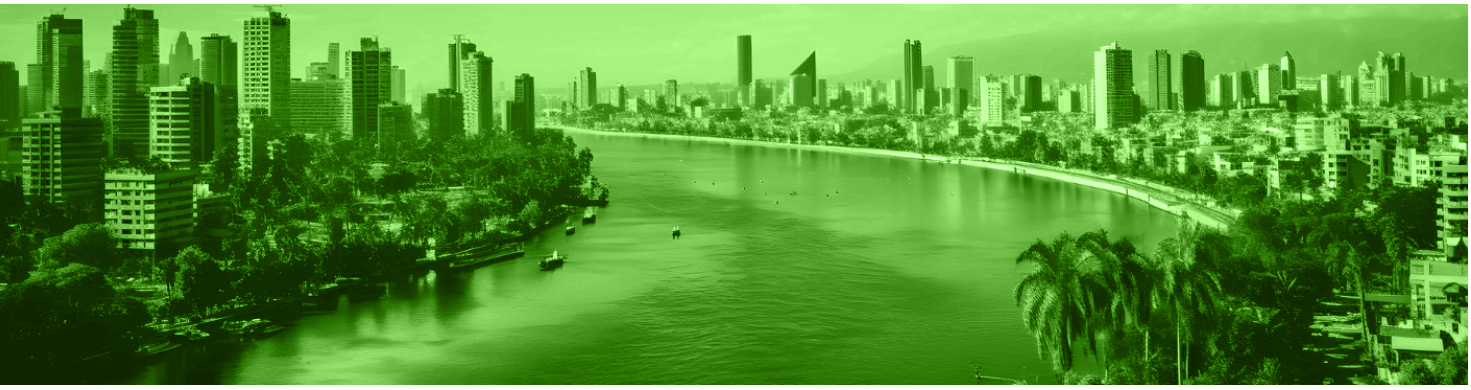
3. Restoration of the urban and architectural heritage of the city and elimination of slums.

4. Reach the international standard for green areas/per capita.

5. Containing routes for pedestrians, open and green areas and public squares

Note:

Cairo's vision does not have concrete targets regarding environmental sustainability.



Egypt's First Updated NDCs

The updated NDCs includes clear mitigation targets for electricity, oil and gas, and transport. While targets are less clear, there are action steps and measures within the industry, buildings, tourism, and waste management. Adaptation measures are set in water resources & irrigation, agriculture, coastal zones, urban development and tourism, and emergency evacuation systems.

Key emission reduction targets are as follows:

Sector	GHG emissions (ggCO2e) in 2015	Share in total GHG emissions in 2015 (%)	GHG emissions (ggCO2e) in 2030
Electricity	87694	27%	214740
Oil and gas	2137	0.65%	2575
Transport	48235	15%	124360
Total		43%	

Key targets and achievements include the following:

Energy efficiency	Achievements: • plans in electricity (demand and supply side), oil and gas, buildings, aviation, tourism • 31 companies applied no/low-cost energy efficiency measures in petroleum sector • audits in 2 refineries, 1 petrochemical plant, and 2 upstream oil and gas facilities • reduction in electricity consumption in FY2019/20 in comparison to FY2018/19 despite a growing population and large development initiatives • 40% reduction in energy consumption in some buildings • passing the Energy Law 87/201
Green Hydrogen	Achievement: invest 140m USD to green hydrogen for green ammonia
Renewable energy	Target: • 42% of electric power by 2035 (according to Integrated Sustainable Energy Strategy 2035) • installation of rooftop PV panels for electricity generation, 5,300 solar water heaters, and expand the use of LED lighting in residential sector by 2030 Achievement: • passing Renewable Energy Law (Decree No 203/2014) and other supporting legislations • 3016 installed wind and solar power plants in FY2019/20 (340% increase from FY2015/16 (887 MW)). • 5848 renewable energy (including hydropower) in FY2019/20 • Launch of Benban Solar Park (total of 1,465 MW), Assuit hydropower plant (32 MW), Kom Ombo Solar PV Plant (26 MW), and Gabal El-Zeit Wind Power Plant (580 MW). • 16% of green projects (budget of green projects 1.9b USD) invested in renewables
Sustainable agriculture	Target: • Adaptation of crop production in the Nile Valley and Delta (Beneficiary: 10 million people) • On-farm irrigation in old lands (Beneficiary: 6 million people) • Modernizing on-farm practices for climate resilience (Beneficiary: 1.75 million people) • Crop yield increases from 10-15% • increasing the efficiency of current agricultural water use by 20% NOTE • agriculture (and land use) have not been included under mitigation actions
Green buildings	Achievement: • Energy Efficiency Building Codes for residential buildings and for commercial and government buildings • Investing 250m USD in energy efficient cooling in buildings
Green mobility	Achievement: • National Active Mobility Strategy to encourage citizens to use bicycles and walking in designated paths, and shift gradually to EVs • Planned projects to upgrade Cairo metro network, Electric high-speed rails, bus rapid transit system, electric light rail network, and alexandria Raml Tram rehabilitation project • 19% of green projects (budget of green projects 1.9b USD) invested in renewables
Sustainable food consumption and production	Achievement: • Building Resilient Food Security Systems to Benefit the Southern Egypt Region (2013-2018)

Egypt National Climate Strategy

The strategy contains 5 main goals and 22 objectives. The following highlights the relevant goals and objectives.

1. First Goal is "Achieving Sustainable Economic Growth and Low-Emission Development in various Sectors". Objective 1.a is about increasing the share of renewable and alternative energy sources. Of such, green (and blue) hydrogen are to be included as a new alternative energy source, and as agriculture contributes to about 9% of the total emissions and is vulnerable to climate change, it seeks to increase productivity while maintaining emissions levels. Objective 1.b includes developing the freight train network and increasing its capacity to be an alternative to transportation vehicles and encouraging non-motorized transportation. Objective 1.c is about maximizing energy efficiency, especially in buildings. The National Green Building Code is a key accomplishment to achieve the target. The objective also highlights the importance of energy efficiency within transportation.

2. Within the second goal "Enhancing Adaptive Capacity and Resilience to Climate Change and Alleviating the Associated Negative Impacts", objective 2.c states that natural resources are the source of food and therefore economic development, and must be preserved. Reducing food waste is a key action. Objective 2.f includes the spread of urban agriculture and rooftop farming.

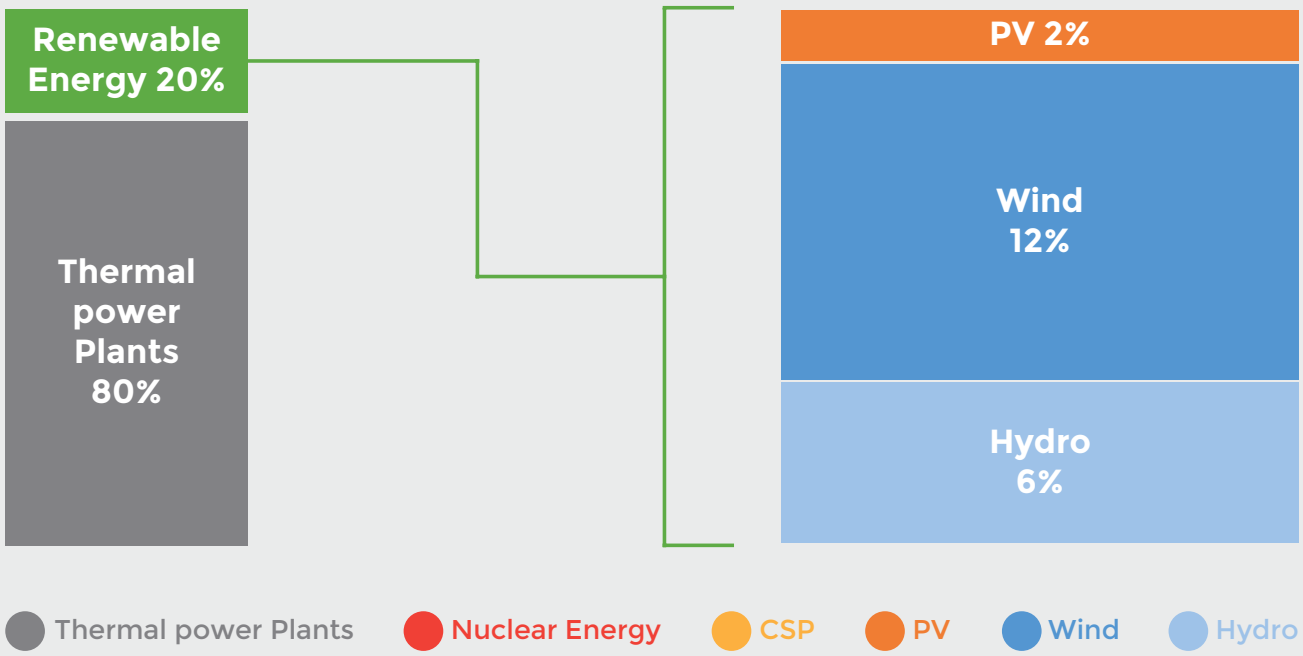
Egypt expects to spend the largest portion of its mitigation efforts to transport, with a 57477.47 million USD budget (out of 211 billion total in mitigation efforts).

Emissions reductions	Mentions emission reduction but has no concrete targets or measures
Energy efficiency	Mentions energy efficiency but has no concrete targets or measures
Green hydrogen	Is included in renewables
Renewable Energy	Mentions renewables but has no concrete target or measure
Sustainable Agriculture	Mentions urban agriculture and rooftop farming as a sustainable source of agriculture
Green buildings	Mentions the National Green Building Code for energy efficiency within building
Green mobility	Encourages public transport and non-motorized transportation
Sustainable food production and consumption	Mentions the preservation of food and reducing food waste

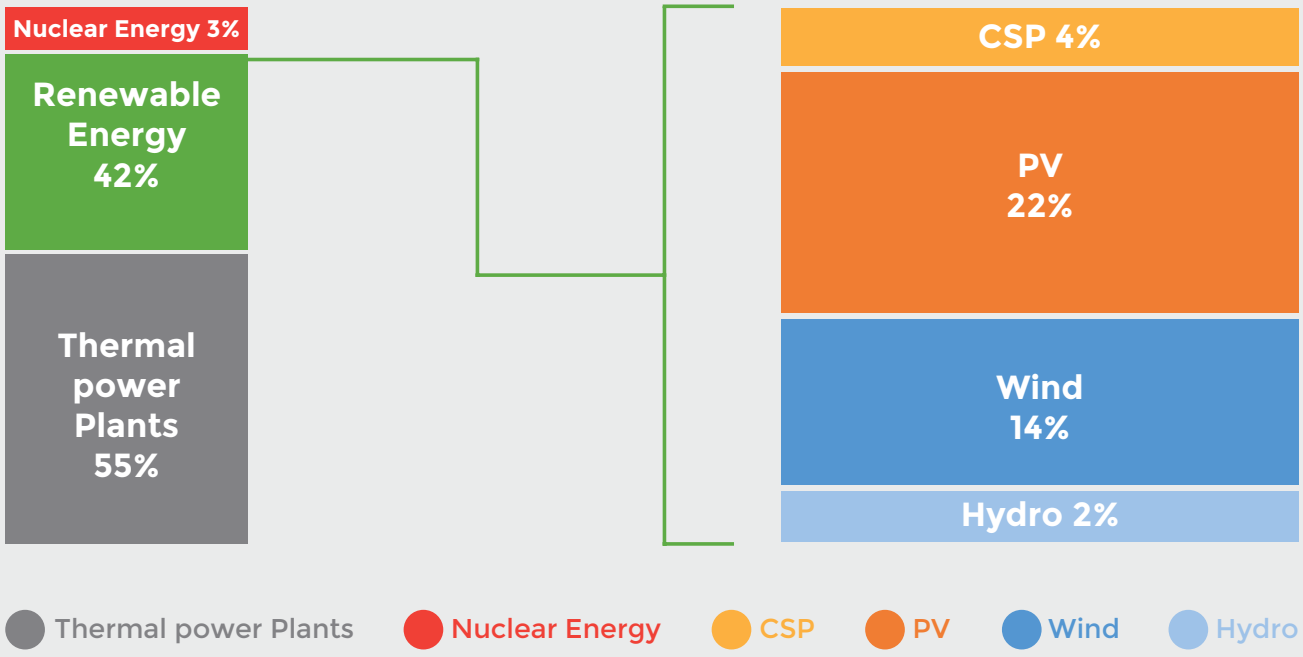
Renewable Energy Targets

The Ministry of Electricity and Renewable Energy states the following targets for 2035 from a 2022 baseline year. However, Green hydrogen is not mentioned.

Electricity Production 2022



Electricity Production 2035



Sustainable Agricultural Development Strategy 2030

The Strategy developed for the eradication of hunger, food insecurity, and malnutrition. Key strategies include capacity development, gender equality, environmental sustainability, human rights-based approach, technological sustainability, and economic sustainability.

Emissions Trading System in Egypt (A voluntary carbon market)

Currently Egypt applies Energy taxes, yet no carbon tax or emissions trading system is in place. However, recent reports show that the Environment Ministry and the Egyptian Exchange (EGX) are working to set up a local carbon credit exchange. An Environment Ministry official explained that the credits would follow international guidelines, allowing the credits to be on the international market. While they have participated in the UN-run Clean Development Mechanism and both the public and private sectors have previously gotten involved with carbon credits, they have never had a formal and effective framework. Skeptics say that the involvement in carbon credit will be for financial benefit- auctioning carbon credit has generated 26 billion USD in 2020, according to the World Bank.

Egypt took a major step towards emissions trading system on December 25th, 2022, incorporating new provisions to the executive regulations of the Capital Markets Law No. 95 of 1992. The Prime Minister's decision No. 4664 of 2022 regarding the establishment of a market for trading of carbon emissions reduction certificates (CERs) on the Egyptian Stock Exchange and considering these certificates as financial securities tradable on the Egyptian Stock Exchange.

This is a step in the right direction towards establishing Emissions trading market in Egypt and the CERs Supervisory and Monitoring Committee" shall be established by the FRA board of directors in coordination with the Ministry of Environment involving representatives from the relevant authorities to set the rules for the issuance and trading of CERs, as well as supervising and monitoring…etc.

Renewables	Aims to increase energy from PV by 1100% (2% to 22%) and other sources of renewables
Sustainable agriculture	Takes a holistic approach (social and economic mea-(sures
Sustainable food	Addresses food insecurity
Carbon Trading	Prime Minister's decision No. 4664 of 2022 regarding the establishment of a market for trading of carbon (emissions reduction certificates (CERs

In summary, Egypt is taking a pioneer step on all fronts related to EU GD, however, the country is facing major challenges those include but are not limited to:

- Difficult economic situation that might hinder the implementation of various green strategies.

- Lack of good governance across various sectors .

- A clear gap between regulation and policies and implementation due too weak enforcement and poor awareness levels.

On the positive side, Egypt has many comparative advantages in terms of strategic location, cheap labor markets and potentials for green energy and green technology applications. For instance, Egypt's natural gas and blue hydrogen export to EU region is foreseen to increase in short and medium terms (till 2030). Egypt also is expected to increase its production and exports from green hydrogen in medium and long term to EU and other regions as well.

Lebanon

From the survey analysis, it was clear that business sectors/associations in Lebanon are "relatively familiar and relatively prepared" with regard to the EU GD. "Business Matchmaking with New Green businesses" is the main support policy that businesses in Lebanon need from the EU to mitigate the impacts of the EU GD. While "Lack of financial resources" is the main hurdle for Lebanese Business Associations in dealing with the EU GD.

Business Associations in Lebanon are "informed" about the circular economy. They plan for "Offering up-skilling and re-skilling opportunities" targeting Employees to raise their capacities to better adapt and deal with the EU GD and Circular economy. "Green hydrogen, Green buildings, Green mobility and sustainable agriculture" are the top priority policy area of the Green Deal in Lebanon.

Lebanon Economic Vision

Lebanon has a net zero target, in line with Paris Agreement, however, Lebanon's emissions are not high, and they explicitly mention in the Lebanon Economic Vision that air pollution is a more pressing issue.

According to its vision, the country intends to break free from the vicious economic cycle driven by high volatility and corruption.

Amid Lebanon's economic crisis, the Lebanese people face acute energy shortages. The public Electricite du Liban (EDL) is responsible for 90% of the nation's electricity but has only been able to supply electricity to homes for a few hours daily. This has caused the Lebanese to shift to private diesel generators, but fuel prices have become less viable with the surge. One solution has been solar. This could be a great opportunity, as the country receives 300 days of sunshine daily (Taha, 2022).

The national power grid experienced a failure, further exacerbated by the lack of utility-scale plants. However, there are national policies that aim to improve the situation. The Housing Bank has launched a 'solar energy loan', between 75 to 200m Lebanese pounds. This loan can be taken with a low-interest rate

of 5% and can be repaid over five years. Current electricity prices suggest that investment in solar energy is a cheaper alternative to conventional energy sources (Houssari, 2022). Experts believe that a decentralized model with a feed-in-tariff system, in which excess electricity created by households will be rewarded, could be a feasible way to stabilize electricity in the country. However, trends in politics show that this is not realistic in the short term (Taha, 2022).

There are also public-private partnerships to increase renewables. The Lebanese Center for Energy Conservation shows that the Ministry of Energy and Water has supported initiatives in this realm. Namely, negotiations to decide on 12 PV farms to be distributed equally across Lebanon's main regions were finalized in February 2022 (n.d.).

The international community has also cooperated with the national government to increase access to solar energy. For example, the United Nations Development Programme CEDRO 5 project, co-funded by the European Union, aims at working on several sustainable energy activities in cooperation with the Association of Lebanese Industrialists (ALI), The Lebanon Green Building Council (LGBC), and the International Renewable Energy Credits (I-REC) Institution (CEDRO V, n.d.).

Lebanon National Agriculture Strategy

Agriculture sector is deemed a great opportunity for employment potential, as many Lebanese have resorted to growing crops themselves. Also, the country has arable land, a moderate climate, and freshwater resources.

According to this strategy, adaptation to climate change and sustainable management of natural resources is enhanced and use of low carbon technologies and practices is to be increased by 2025.

1) Increase climate change adaptation and encourage related private investment along the agri-food value chains.

2) Promote sustainable use of natural resources (soil, pastures, forests, and fisheries).

3) Enhance the efficient use of irrigation water and expand the supply of water resources for irrigation.

4) Encourage and support the use of renewable energy in the agricultural sector.

Lebanon's NDC Updated 2020 Version

Lebanon has two sets of nationally determined contributions, depending on the support they can obtain from other Annex 1 countries. Overall, they pledge to unconditionally reduce by 20% by 2030 from a 2015 baseline year. (Conditionally, they pledge to reduce by 31 %). They intend to reduce emissions by increasing their supply of renewable energy; 18% of power demand and 11% of heat demand in the building sector should come from renewables by 2030 unconditionally. (Conditionally, 20% of power and 16.5% of heat.) In terms of food and agriculture, the achievement of food and water security through the sustainable management of resources is one of the guiding adaptation principles. Additionally, they intend to implement climate-smart agriculture which includes GHG-reducing measures such as managing quantities and types of fertilizers.

Emissions Trading System in Lebanon

Currently there is no Carbon Trading System Mechanism in Lebanon. Also, basic requirements such as a Monitoring, Reporting, and Verification (MRV) system ,which ensures transparency and accuracy in monitoring carbon emissions, does not exists. There is a great opportunity to develop this area in Lebanon to create business employment opportunities and adopt to EU GD requirements.

Circular economy	Achievement: • acknowledges that landfill rate of total waste, recovery rate, and lack of resource waste sorting are bottlenecks in waste management
Emission reductions	Air pollution is deemed a more urgent matter in comparison to emissions. Pledges to unconditionally reduce by 20% by 2030 from a 2015 baseline year. (Conditionally, they pledge to reduce by 31%).
Energy efficiency	Achievement: • plans in electricity (demand and supply side), oil and gas, buildings, aviation, tourism • 31 companies applied no/low-cost energy efficiency measures in petroleum sector • audits in 2 refineries, 1 petrochemical plant, and 2 upstream oil and gas facilities • reduction in electricity consumption in FY2019/20 in comparison to FY2018/19 despite a growing population and large development initiatives • 40% reduction in energy consumption in some buildings • passing the Energy Law 87/201
Renewable energy	Targets • renewables reach ~20% of generation by 2030 • 3200 MW of new CCGTs by 2023 • 4000 MW of solar PV and wind by 2030 18% of the power demand and 11% of heat demand in the building sector should come from renewables by 2030 unconditionally
Sustainable agriculture	Targets • Improve water sustainability • Mentions the sustainable management of agriculture as one of the guiding adaptation principles
Green mobility	Achievement: • labeled the conjunction of Beirut caused by the high penetration of cars, lack of reliable public transport, and uncoordinated public works as a problem • 500m USD plan to improve Beirut rapid-bus public transport
Green buildings	18% of power demand and 11% of heat demand in the building sector should come from renewables by 2030 unconditionally.

In summary, Lebanon, currently, is facing a very difficult situation politically and economically. corruption and a lack of transparency have continued to cause frustration among local and foreign businesses which negatively affects the progress on various Green Deal policies/ sectors. Despite the country's strategic location, and innovative business mentality, Lebanon is still behind than most of the other countries of the region in relation to various green policies.

For instance, the country is unable to develop its natural gas resources, blue and green hydrogen, along with the establishment of green mobility, etc. Besides, in the near future the country does not have any plan to develop an Emissions Trading System.

Jordan

From the survey analysis, it was clear that business sectors/associations in Jordan are "relatively familiar and relatively prepared" with regard to the EU GD. "Direct fund, capacity building and technical assistance, business matchmaking" are the main support policies that businesses in Jordan need from the EU to mitigate the impacts of the EU GD. While "Lack of financial resources and lack of skills" is the main hurdle for Jordanian business sectors in dealing with the EU GD.

Business Associations in Jordan are "informed" about the circular economy. They plan for "Offering up-skilling and re-skilling opportunities" targeting employees to raise their capacities to better adapt and deal with the EU GD and Circular economy. However, the initial list of goods covered by the CBAM contains such as cement, electricity, fertilizers, iron and steel, and aluminum sectors, which are less aware of CBAM requirements.

"Energy Efficiency and circular economy" are the top priority policy area of the EU GD in Jordan. Business Associations have partnered with the GIZ to work on Project Development Program - Green Hydrogen Projects.

Economic Modernization Vision

This vision summarizes Jordan's two strategic pillars 1) accelerated growth through unleashing Jordan's full economic potential and 2) improved quality of life for all citizens. While sustainability is a cornerstone of this future vision, it puts a) sustainable resources and b) a green economy as two of the eight drivers of growth. Jordan intends to implement circular economy practices and puts resource efficiency, circularity, climate responsiveness, nature protection, human well-being, and social inclusion as the core of green growth. The vision addresses emissions reductions, energy efficiency, green hydrogen, renewable energy, sustainable agriculture, green building, green mobility, and food security. These are measured with economic indicators such as GDP, employment, GDP/employee, and exports.

Circular economy	Puts circularity at the core of green growth but concrete targets or measures are not included
Emissions reduction	Mentions emission reduction but has no concrete targets or measures
Energy efficiency	Mentions energy efficiency but has no concrete targets or measures
Green hydrogen	Is included in renewables
Renewable energy	Mentions renewables but has no concrete targets or measures
Sustainable agriculture	Mentions agriculture but has no concrete targets or measures
Green buildings	Mentions buildings but has no concrete targets or measures
Green mobility	Mentions mobility but has no concrete targets or measures
Sustainable food	Mentions food but has no concrete targets or measures

Updated Submission of Jordan's 1st NDC

The new NDC pledges to reduce emissions by 31%. To achieve this target, Jordan aims to reduce energy consumption by 15% through energy efficiency measures. Also, they aim to continue to grow their share of renewables, as they have done from 0.7% in 2014 to 13% in 2019. Hydrogen could play a significant role for Jordan, and they are in the process of quantifying its potential. Renewables and energy efficiency are to reduce emissions from the energy sector by 10% . In addition to energy, Jordan highlights the importance of change in water, agriculture, transport, industry, and waste. As for agriculture, they have a National Strategy for Agricultural Development (2016-2025) which aims to ensure food security by covering the availability, access, utilization, stability, and governance of food security.

Jordan has also been developing the National Transport Strategy to contribute to the mitigation and adaptation measures of transport, which accounts for 28% of the total GHG emissions (in 2016). They intend to decrease emissions by supporting the adoption of electric vehicles. Furthermore, Jordan has measures for green buildings such as the adoption of green building codes, considering water and/or energy use, and energy efficiency in public buildings and public spaces.

Emissions Trading System in Jordan

A Monitoring, Reporting, and Verification (MRV) system ensures transparency and accuracy in monitoring carbon emissions. A robust system as such is necessary for the establishment of an ETS, in which specialists predict Jordan may try to implement in the future. In short, being the first country to develop MRV and GHG Registry systems to international standards, they could use these developments as the foundation of emissions trading.

Emissions reduction	31% reduction
Energy efficiency	15% reduction in energy consumption through energy efficiency
Green hydrogen	Is included in renewables, but its potential is not yet quantified
Renewable energy	Aims to grow renewables (13% in 2019)
Sustainable agriculture	Has set the National Strategy for Agricultural Development (2016-2025)
Green buildings	Aims to adopt green building codes for better resource use and energy efficiency
Green mobility	Developing the National Transport Strategy for mitigation and adaptation measures
Sustainable food	Set the National Strategy for Agricultural Development (2016-2025) for the governance of food security
Carbon Trade	With a MRV system, Jordan could join the global ETS market in the future

In summary, Jordan faces challenges not only on a social and economic level (high unemployment rate, public debt), but also in terms of scarcity of natural resources. Nevertheless, it is strategically located between Gulf Cooperation Countries and Mashreq countries and EU region making it a transit point especially for energy resources with possibility to develop some green hydrogen capacities. This could result not only in enhanced opportunities for the green transition, but also in potential employment opportunities for its population.

There is relatively modest progress on regulation and policies of overall EU GD policies. No Emission Trading System is yet in place.

Syria

From survey analysis, it was clear that business sectors/associations in Syria are "relatively familiar and relatively prepared" with regard to the EU GD. "Carbon Border Adjustment Mechanism (CBAM) assistance from the EU (technical, financial…) as well as capacity building and technical assistance on EU GD topics" are the main support policies that businesses in Syria need from the EU to mitigate the impacts of the EU GD. While "Difficulties in the economic transition and difficulties in implementing behavioral change" is the main hurdle for Syrian business sectors in dealing with the EU GD.

Business Associations in Syria is "Less informed" about the circular economy. They plan for "Offering up-skilling and re-skilling opportunities" targeting employees to raise their capacities to better adapt and deal with the EU GD and circular economy. However, the initial list of goods covered by the CBAM contains such as cement, electricity, fertilizers, iron and steel, and aluminum sectors are less aware of CBAM requirements.

"Renewables, sustainable agriculture and sustainable consumption and production" are the top priority policy area of the EU GD in Syria.

The National Development Program for Post-War Syria

Overall, Syria has been impacted greatly by the war. It does not have the infrastructure or political stability to build green industries upon. Nevertheless, the National Development Program for post-war Syria, Syria Strategic plan 2030 and Syrian Arab Republic NDC under Paris Agreement on Climate are in place.

Their baseline emissions are from 2005 and are not reliably measured thereon, posing a challenge to building targets. As of 2005, the share of emissions from the energy sector was 73%, followed by the agriculture sector at 18%, the industrial sector at 4%, and the waste sector at 5%. They see all crude oil and renewables, particularly solar and wind as opportunities and expect to reach 10% of power production to be renewables by 2030. As for transportation, the estimated 2 million cars currently in circulation are mostly old, and they propose to develop urban transportation and encourage the use of buses and cars powered by modern technology. For buildings, they intend to set standards and regulations that consider environmental factors and encourage the use of modern environmental technologies such as the production and use of environmentally building materials and thermal insulation techniques.

Sustainable agriculture

Finally for agriculture, they aim to organize agricultural production according to the map of land use and determine appropriate agricultural rotations, sustainably managing forests and developing production and productivity while incorporating climate adaptation measures.

Key opportunities include land use, appropriate agricultural rotations, forest management, and adaptation measures. This sector is especially important to Syria as the top exports of Syria are agricultural products.

Green Mobility

No major policy or action towards green mobility are in place. This represents a good business opportunity as well as has the potential to play a key role in reducing emissions in the country.

Emissions Trading System in Syria

Currently there are no Carbon Trading System in Syria. Also, basic requirements such as a Monitoring, Reporting, and Verification (MRV) system ensures transparency and accuracy in monitoring carbon emissions does not exist. There is a great opportunity to develop this area in Syria to create business employment opportunities and adopt to EU GD requirements.

Renewable energy

Syria faces energy shortages, due to the civil war. First, the infrastructure has been heavily damaged, and reports state that $2 billion in damages to the energy grid has been inflicted (Perry, 2022) because the Assad regime had targeted power stations as a form of retaliation against civilians not under his control (Al Mansour & Frakes, 2022).

The state has tried to improve the situation by encouraging renewables. They have eliminated customs on imports of equipment needed to produce renewables, and there have been increasing solar farms that sell electricity to the state grid (Perry, 2022; Taix, 2022). In northwestern Syria in particular, solar energy has become a necessity. Many civilians have solar power for their domestic electricity needs, such as phone charging (Al Mansour & Frakes, 2022). However, this movement has been encouraged widely in the private sector, and Assad said the state remained focused on traditional forms of power generation. Additionally, there are still an array of obstacles that hinder the widespread use of solar energy, such as the collapse of the currency which has increased the cost of equipment (Perry, 2022).

There are notable public initiatives to rectify the situation. The Syria Recovery Trust Fund announced in September 2022, the "Sustainable Solar Energy Supply Systems for Water Pumping Stations in Rural Areas of North Aleppo - Phase 1", a project with a budget of EUR 1.8. This initiative aims to benefit 165,000 individuals (Syria Recovery Trust Fund, 2022).

Renewable energy	10% of energy demands to be met with renewables, particularly solar and wind
Sustainable agriculture	Key opportunities include land use, appropriate agricultural rotations, forest management, and adaptation measures
Green buildings	Key opportunities include the standardization of environmentally adequate buildings and incorporating environmental technologies
Other	An interesting finding from the NDC is that their baseline year is 2005, which is the last time they have measured their emissions.

In summary, Syria is facing mounting multiple crisis, those include the worst economic crisis since the conflict began in 2011, brought on by the prolonged nature of the armed conflict, economic crises, sanctions, a severe drought, and the negative economic consequences as a result of the Ukraine-Russia War. Besides, on February 6, 2023, a powerful 7.8 magnitude earthquake and a series of strong tremors and aftershocks devastated southeast Türkiye and northwest Syria.

Syria is still lagging behind in various green deal policies and regulation. Currently there is no Emissions Trading System foreseen and the country does not have Green Hydrogen potential in the short and medium terms.

Türkiye

From survey analysis, it was clear that Business Associations/Sectors in Türkiye are "relatively familiar and relatively prepared" with regard to the EU GD. "Carbon Border Adjustment Mechanism (CBAM) assistance from the EU (technical, financial…) is the main support policy that businesses in Türkiye need from the EU to mitigate the impacts of the EU GD. While "Lack of Financial Resources and lack of Skills" are the main hurdles for Turkish business sectors in dealing with the EU GD.

Business Associations in Türkiye are "Well informed" about the circular economy. They plan for "Information dissemination and awareness raising" targeting top and mid-level managers as well as employees to raise their capacities to define Green Deal targets better and prioritize actions for the transition.

The initial list of goods covered by the CBAM contains such as cement, electricity, fertilizers, iron and steel, and aluminum sectors in Türkiye are fully aware of CBAM requirements.

"Adaptation to climate change, Biodiversity protection and nature restoration, Circular economy, Emission reduction, Energy efficiency, Pollution reduction, Renewable energy (solar, wind) production and Green mobility" are the top priority policy area of the EU GD in Türkiye.

Türkiye Vision 2023

Türkiye has a net zero target by 2053. Türkiye is considered an Annex I country according to UNFCCC. The Türkiye vision 2023 highlights Türkiye's initial steps toward the 2030 Agenda. First, Türkiye intends to increase its share of renewables to 30% by installing more power, transmission lines, power distribution units, smart grids, and natural gas storage capacities. Türkiye plans to construct geothermal, solar, hydro, wind and nuclear power plants to defer from fossil fuels. Türkiye has ranked 5th in Europe and 12th in the world in terms of installed capacity in renewable energy.

The share of renewables in Türkiye's installed power reached to 54% at the end of 2022. Additionally, they plan to develop their railways and EVs further. Based on the Mobility Vehicles and Technologies Roadmap prepared by the Ministry of Industry and Technology; EV market share to reach %10 by 2025, %35 by 2030. EV vehicle park: 402 thousand by 2025, 2,5 million by 2030.

Türkiye Intended NDCs

While Türkiye is listed as an Annex I party, they are not subject to the same responsibilities as other Annex I parties for its unique situation. They intend to increase renewables and tap into hydroelectric power. During their transition, they intend to commission nuclear power. Energy loss during transmission and distribution losses is expected to reduce to 15% in 2030.

In the transport sector, Türkiye intends to increase urban railway systems and encourage the use of energy-efficient vehicles. They have national plans such as the National Intelligent Transport Systems Strategy Document (2014-2023) and Action Plan (2014-2016) for concrete steps. Regarding buildings, they have built regulations and certifications on energy-efficient residential buildings and encouraged zero-energy houses. For agriculture, Türkiye aims to save fuel by consolidating land, rehabilitating grazing land, and controlling the use of fertilizers. All mitigation measures are expected to decrease greenhouse gas emissions by 21% by 2030 compared to business as usual (almost a 50% increase from their baseline year of 2012).

The Ministry of Energy and Natural Resources predicts that by 2030, more than one million electric vehicles will be in use in Turkey and that sales of electric and plug-in hybrid vehicles will reach 55% of total sales of vehicles. Furethermore, Türkiye is a major exporter of steel, the 10th in the world, and can contribute to the EU GD to build high-speed railways.

Emissions Trading System in Türkiye

In dialogue with the EU, Türkiye formally explained that they are considering the establishment of an ETS while hinting at more significant partnership with its accession. The ETS internal systems will align with the EU ETS standards.

By the end of 2020, the country held a series of workshops, conducted technical analyses, and organized stakeholder meetings which culminated in:

1. A draft legal and institutional framework for a pilot ETS;

2. The identification of the emission cap and development of the national allocation plan;

3. The development of Turk-SIM, an ETS simulation with gamification features;

4. The development of a transaction registry for the pilot ETS; and

5. The assessment of Article 6 and options for Türkiye.

Türkiye will start the Emission Trading System applications as of 2023. The system will penalize those who produce emissions," as announced by the Minister of Environment, Urbanization and Climate Change H.E. Murat Kurum revealed at COP27.

Emissions reductions	41% decrease compared to business as usual at 929 Mt CO2e (baseline year 2012 430 MT c02e) as declared in COP27.
Energy efficiency	Aims to reduce GHG emissions by up to 21% through energy efficiency improvements. Has a National Energy Efficiency Action Plan. Acm tivities on capacity building, energy efficient mobility and buildings
Renewables	share of renewables in Türkiye's installed power reached to 54% at the end of 2022.
Green buildings	Implementation of regulations and certifications for energy-efficient and zero-energy buildings
Green mobility	Increase urban railway systems and encouraging energy-efficient vehicles, EVs
Mitigation	Net zero target by 2053
Emissions Trading	Türkiye is internally setting up the necessary systems for ETS, especially in cooperation with the EU

In general, in Türkiye, companies are aware of EU trading system and Carbon Border Adjustment Mechanism. Companies deal with CBAM by measuring their emissions, following the developments in the EU regarding the requirements of CBAM, decreasing their emissions, planning for technological transformation in their business models and advocating for an easy adaptation of the Turkish industry to CBAM requirements through Business Associations at the national and international level.

Several targets determined In the European Green Deal Action Plan of Türkiye for CBAM:

- Modelling the impact of CBAM on energy and resource incentive sectors and determining the actions based on the results of these models;

Preparing a national roadmap in order to support the decrease of greenhouse gas emissions especially in sectors which will be subjected to CBAM;

- Determining the position of Türkiye in terms of carbon pricing. In this regard, Turkish government has started to work in order to create a national Emission Trading System (ETS) in line with the ETS pursued in the EU (According to the EU CBAM draft regulation, ETS mechanisms which are compatible with EU ETS implemented in third countries will exempted. By having an ETS in line with the EU one, Türkiye's private sector is advocating to be exempted from the application of the CBAM);

- Evaluating support mechanisms in order to cover increased costs during the CBAM adaptation process;

- Developing a system in order to monitor greenhouse gas emissions in industrial production

- Providing technical assistance for reporting in line with the standard determined by the EU. Türkiye is currently working on the establishment of a carbon market in line with the EU ETS structure and cooperating with the EU under the EU-Türkiye High Level Climate Dialogue's working group on carbon pricing to achieve alignment. Continuing timely exchange of information between the EU and Türkiye during the Trilateral negotiations on the revision of the EU ETS and establishment of the CBAM would support these joint efforts on technical level.

In summary, Türkiye is facing an economic crisis (debt and currency crisis) and recently suffering from the devastating Kahramanmaras earthquakes (Feb. 2023) causing $34 billion in damage (initial estimates). However, one must say that Türkiye is more aligned to EU GD giving the fact that the country has already taken various steps to align its policies to EU rules and regulations like Emissions Trading System.

Tunisia

From survey analysis, it was clear that business sectors/associations in Tunisia are "relatively familiar and relatively prepared" with regard to the EU GD. "Capacity building and technical assistance on Green Deal topics" are the main support policies that businesses in Tunisia need from the EU to mitigate the impacts of the EU GD. While "Lack of financial resources and difficulties in implementing behavioral change" are the main hurdle for Tunisian business sectors in dealing with the EU GD.

Business Associations in Tunisia is "informed" about the circular economy. They plan for "Facilitating employment opportunities in new sectors and those in transition" to raise their capacities to better adapt and deal with the EU GD and Circular economy. However, the initial list of goods covered by the CBAM contains such as cement, electricity, fertilizers, iron and steel, and aluminum sectors are fully aware of CBAM requirements.

"Renewables, energy efficiency and pollution reduction" are the top priority policy area of the Green deal in Tunisia.

Carbon Neutral and Climate Resilient Development Strategy for 2050

Tunisia aims to achieve carbon neutrality by 2050 and promote a circular economy, especially through systemic sorting, reuse, recycling, and repairing of products at the consumer level. Their energy reduction trajectory can be seen below, with energy being the main source of emissions.

	2021-30	2031-40	2041-50	2021-50
Energie	63	220	378	**662**
Procédés	8	22	78	**108**
AFAT	11	85	181	**278**
Déchets	5	23	39	**67**
Total	**87**	**350**	**676**	**1114**
Réparation/période	8%	31%	61%	100%
Réduction BaC des émissions rapprtées aux émissions BaU	**21%**	**60%**	**93%**	**64%**

(*) Les réductions des emissions dues à l'énergie sont très légèrement supérieurs à celles fournies par la SNBC-Energie du fait de la prise en compte de l'impact d'une action de réduction des gaspillages ciblant le secteur agricole. Cette action a impacté les émissions des autres sources (énergie pour l'agriculture, AFAT et déchets), donc dument prises en compte dans les résultats sectoriels

Tunisia expects that energy efficiency projects would account for 33% and renewable energy (includes green hydrogen) 24% of GHG reduction measures. Additionally, they aim for sustainable and climate-resilient agriculture that improves food security, improves natural resource governance, protects natural resources, protects its water/land capital, and secures the livelihoods of stakeholders. Furthermore, the building sector is one of the sectors on which Tunisia intends to focus on technological innovation. The country intends to establish international partnerships to develop and generalize construction techniques, materials, and industries of sustainable building materials to achieve carbon-neutral buildings.

Finally, the Tunisian transport sector is energy-intensive and is a major source of GHG emissions. Several solutions are possible, including improving the energy performance of light and heavy vehicles by 2030, then their systematic electrification.

The government, urban areas and even companies can launch large-scale sustainable mobility projects. For public transport, the needs of travelers must be a key consideration in order to give public transport a competitive advantage over individual transport modalities.

The focus is on decreasing inefficient vehicles and making public transport competitive while promoting electric vehicles in urban areas. Motor vehicles are Tunisia's 5th most valuable export. Increasing the share of EVs can be an opportunity.

Circular Economy	Tunisia puts circular economy as one of the important drivers to environmental sustainability
Emissions reduction	Target: Net zero by 2050
Energy efficiency	Aims to reduce GHG emissions by 33% using energy efficiency measures.
Green hydrogen	Is included in renewable energy Existing gas pipelines could be used to export renewable hydrogen to Europe and therefore reduce the overall costs that would be involved if new infrastructures needed to be constructed.
Renewable energy	Aims to reduce GHG emissions by 24% using renewable energy
Sustainable agriculture	Is mentioned but focuses on climate resilience
Green buildings	Utilizes technological innovation and partners for the development of the sector with focus on energy efficiency.
Green mobility	Focuses on decreasing inefficient vehicles and making public transport competitive
Sustainable food	Climate resilient agriculture is to protect food security

Updated NDCs of Tunisia

Tunisia expects to decrease its emissions by 45% in 2030 against a 2010 base year. The country has clear mitigation targets and financing plans, which focus greatly on energy (efficiency and renewables) as seen below.

Table: Investment financing needs to support the NDC low-carbon scenario over the period 2021-2030 (millions US$ 2020)

SECTORS/AREAS	**Total**	**%**
ENERGY	**11785**	**40,0%**
Energy efficiency	5755	30,4%
Renewable energy	4377[4]	11,5%
Infrastructure (strengthening of the electrical system)	1653	4,7%
PROCESSES	**675**	**5,2%**
AFOLU	**753**	**-**
WASTE	**1182**	**2,2%**
Solid waste	313	6,0%
Sanitation	**869**	
TOTAL	**14 273**	**100%**

Specifically within renewables, they intend to access innovations in 5 main fields: wind (on-shore and off-shore), photovoltaic, concentrated solar power, biogas, and green hydrogen. As for agriculture, they focus on adaptation measures especially regarding deforestation, conservation, and progressing arboriculture, being one of the six most vulnerable sectors. Related, Tunisia aims to improve food resilience through a holistic approach related to water, agriculture, ecosystems, coastal zones, health, gender, land-use planning, and DDR. Emissions from buildings are expected to be reduced greatly through energy efficiency measures. The transportation sector is expected to reduce emissions largely through electric vehicles, especially in urban areas.

Emissions Trading System in Tunisia

Specialists say that the use of national and international market mechanisms and carbon pricing can be an effective method for lowering GHG emissions. The German Ministry of Environment, Conservation and Nuclear Safety (BMU) commissioned the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) with the Global Carbon Market project. Tunisia was one of the countries selected for implementation. Under this, Tunisia has developed a Measurement, Reporting and Verification system in the cement sector, one of the largest emitting sectors.

Emissions reduction	Target: 45% decrease in its carbon intensity in 2030 from the baseline year of 2010
Energy efficiency	Is the most financed to support the low-carbon scenario
Green hydrogen	Is included in renewable energy
Renewable energy	Is the second most financed and includes wind (on-shore and off-shore), photovoltaic, concentrated solar power, biogas, and green hydrogen
Sustainable agriculture	Focuses on climate resilience and measures include deforestation, conservation, and progressing arboriculture
Green buildings	Focuses on energy efficiency
Green mobility	Focuses on electric vehicles in urban areas
Sustainable food	Takes a holistic approach to the entire value chain
Emissions Trading	Under construction in collaboration with Germany

In summary, Tunisia is facing a lot of economic and political challenges. Tunisia's transition to democracy remains incomplete and under stress. The country is slowly progressing to align its regulation and policies to EU GD. Poor governance is one of the main challenges in Tunisia. No Emission Trading System in Tunisia yet and only initial steps (MOU with Germany to explore the possibility to produce Green Hydrogen in Tunisia) are present.

Malta

From survey analysis, it was clear that business sectors/associations in Malta are "relatively familiar and relatively prepared" with regard to the EU GD. "Communication and Awareness raising" are the main support policies that businesses in Malta need from the EU to mitigate the impacts of the EU GD. While "Lack of financial resources and difficulties in economic transition" are the main hurdle for Malta business sectors in dealing with the EU GD.

Business Associations in Malta are "informed" about the circular economy. They plan for "Facilitating employment opportunities in new sectors and those in transition and Offering up-skilling and re-skilling opportunities" to raise their capacities to better adapt and deal with the EU GD and Circular economy. However, the initial list of goods covered by the CBAM contains such as cement, electricity, fertilizers, iron and steel, and aluminum sectors are relatively aware of CBAM requirements.

"Renewables, energy efficiency and pollution reduction" are the top priority policy area of the Green deal in Malta.

Malta Low Carbon Development Strategy

Being a country in the EU, Malta has 2050 net zero targets and is part of the EU ETS system. Malta intends to reduce their emissions following the below trajectory. This is to be done in parallel with circular economy measures. Energy efficiency and renewables are labeled cost-effective and a priority.

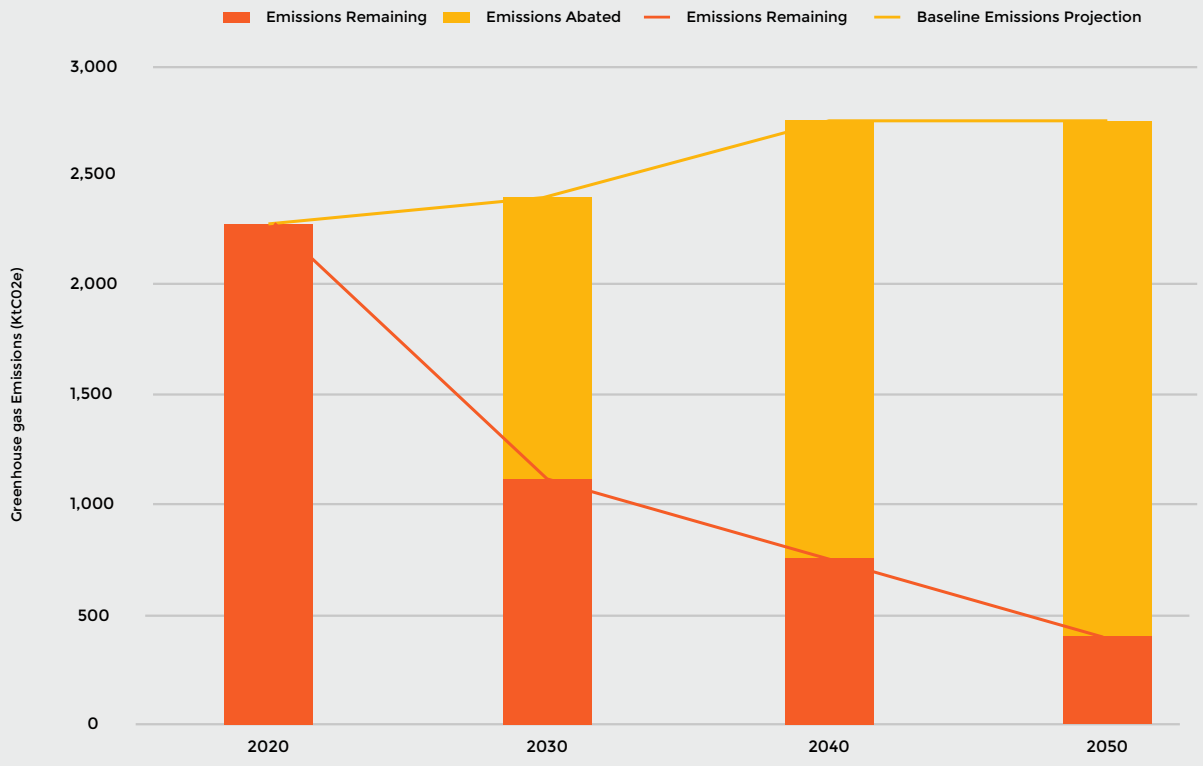


Figure 2: Total GHG Emission Reductions

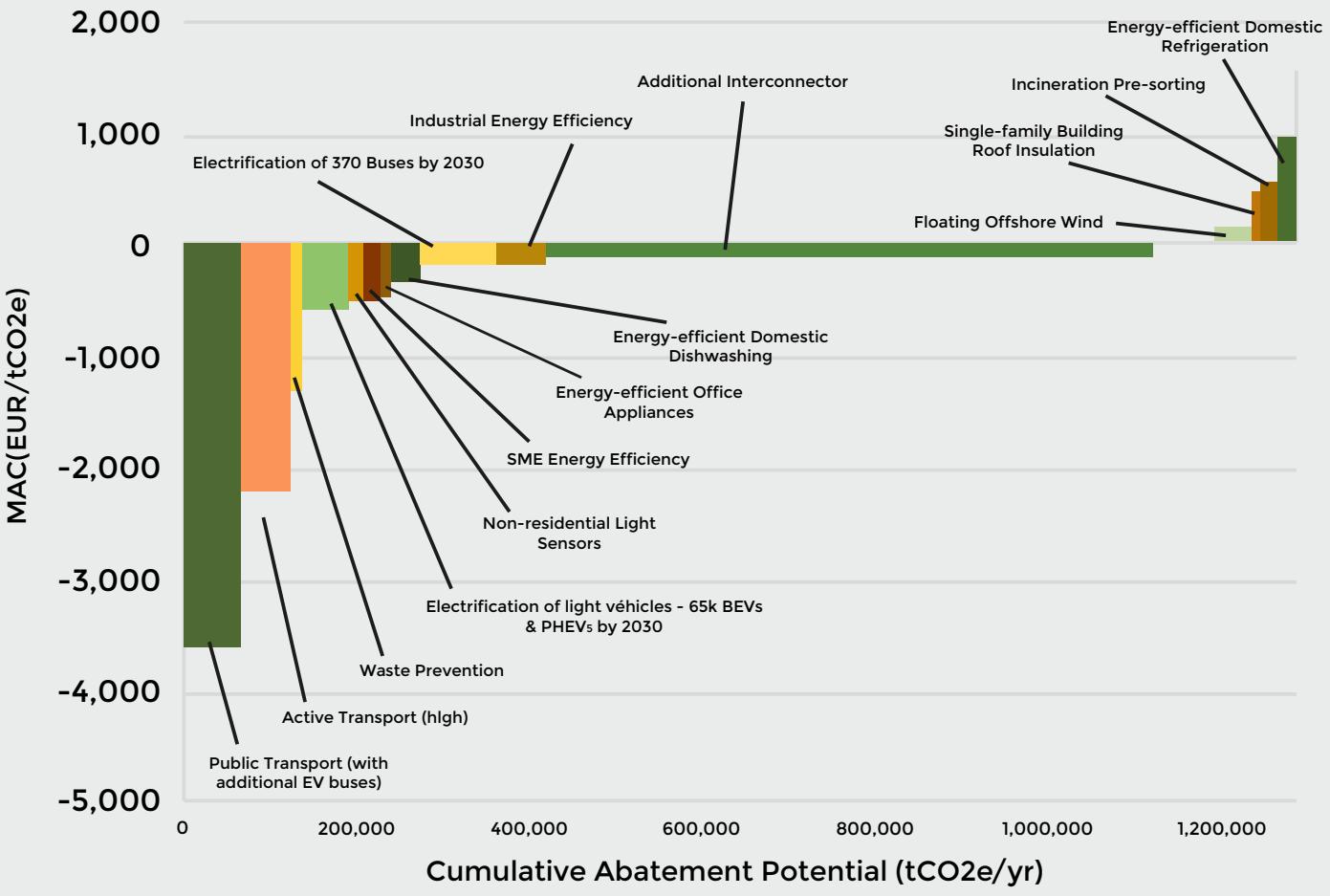


Figure 9: Marginal Abatement Cost Curve in 2030

The above curve shows what measure is to be implemented in each segment and its impact. It is clear from this that buildings and transport are identified to be great opportunities linked with renewables and energy efficiency.

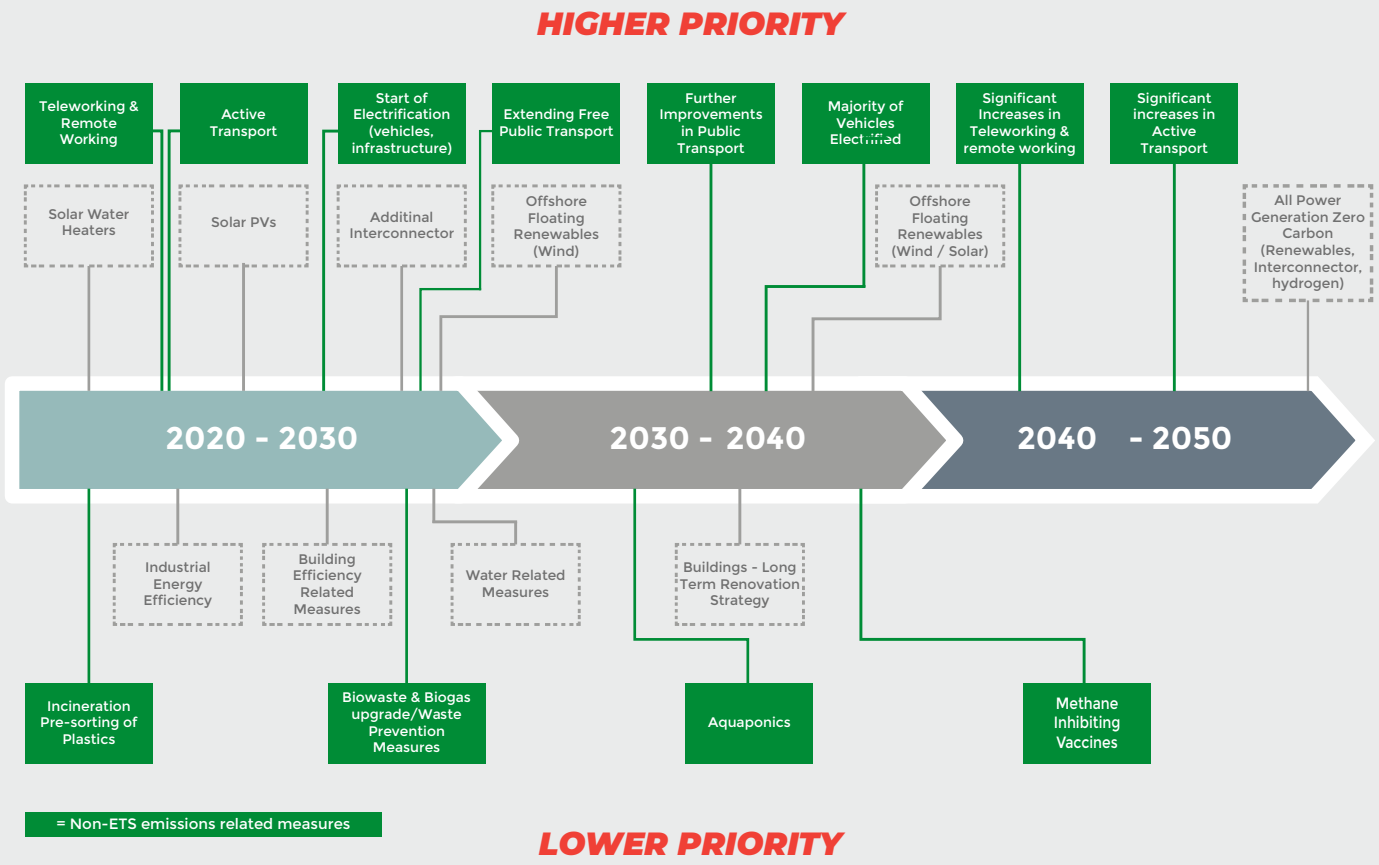


Figure 11: Overview of key policy initiatives

Its priorities and timeline of implementation can be seen above. Of all renewables, solar is most prioritized, followed by wind and finally hydrogen. Green hydrogen, however, has a risk because hydrogen must be imported.

Next, agriculture is seen as a priority within adaptation more so than for mitigation. They intend to implement commercial scale Aquaponics- based food production and methane-inhibiting vaccines. Related- while food security was not mentioned, food waste and its minimization and management was addressed.

Emission Trading System in Malta

The EU ETS is the largest and longest-operating carbon market. It covers around 40% of the EU's emissions and accounts for about 75% of the carbon market. It works under a 'cap and trade system, whereby a total amount of emissions allowances are set. Companies are expected to use these allowances (emit carbon in their operations), save them for future needs, or trade them. This framework requires careful measurement, and lack of compliance is strictly fined. The annual cap is reduced annually, to ensure the whole market transitions into low/zero carbon. This annual

reduction pace was set to 2.2% as of 2021. This is set to help mainstream the EU's new target of a 55% reduction by 2030.

To implement the EU ETS in Malta, it has set laws such as the Legal Notice 434 of 2013 and Legal Notice 403 of 2012 to transpose the directive into local law, in relation to stationary installations and aviation activities

Without the ETS, Malta had set targets to reduce emissions by 30%, but this has increased greatly to 41% with the introduction of the ETS. Significant reductions can be attributed to the changes in the electricity supply. Malta has limited renewable energy capacities (rail, hydropower, and onshore wind are not applicable). However, they have cut emissions greatly due to investment in efficient generation capacity, fuel switching and interconnection with the European grid

Circular economy	Intends to apply circular economy principles along with their mitigation strategy. The country has a Sustainable Consumption and Production National Action Plan created with partners in the EU
Emissions reduction	Aims for to halve emissions by 2030 from a 2020 baseline year, and emit less than 500 tCO2e by 2050)
Energy efficiency	The country aims to have a 32.5% improvement by 2030 in energy consumption.
Green hydrogen	Is included in renewables, but the risk of being reliant on the supply of hydrogen has been identified a risk
Renewable energy	Aims to account for 32% of all energy consumption by 2030 (which is double that of 2017) and focuses largely on solar and wind power. In general, Malta has limited renewable energy capabilities without wind and hydropower.
Sustainable agriculture	Introduces measures such as commercial scale Aquaponics-based food production and methane-inhibiting vaccines
Green buildings	Is linked with energy efficiency and renewables. The country implemented Directive (EU) 2018/844 on energy performance of buildings.
Green mobility	Transport is the largest emitting sector in Malta. However, public transport is the largest opportunity, and other measures include EVs
Emissions Trading	Part of the EU ETS system, which has allowed them to increase their carbon emissions targets

In summary, Malta is facing some economic and environmental challenges such as labor shortages, widespread construction and natural resource exploitation and environmental degradation. However, Maltese Businesses Associations are fully aligned and familiar with the EU GD policies giving the fact that Malta is an EU member country and taken various steps to align its policies to EU rules and regulations like ET system.

Assessment of another component of Green Deal: Green Hydrogen – country level

The countries under investigation have "huge potential" to supply Europe with green hydrogen made from renewable power at low cost. Green hydrogen is crucial fuel to decarbonize many industry processes and thus realize energy transition and net zero targets. The MENA-region is capable of producing green hydrogen at a cost of a little more than one dollar per kilogram. Egypt alone is totaling some 100 billion dollars. If all projects are implemented, the country could produce up to 3.6 million tons of green hydrogen per year, more than a third of what the European Union plans to import by 2030.

In the following section a discussion of strengths and weaknesses for each country under investigation, in order to understand where each country stand and what need to be done to move forward with green hydrogen production.

Egypt

Strengths	Weaknesses
Shorter shipping distance to Europe via Mediterranean Sea	The uptake of hydrogen will largely be based on the mix between green and blue hydrogen.
Existing LNG ports	The lack of pipeline transport-options will lead to shipping of ammonia, liquified hydrogen or other derivatives. This leads to high landing costs at ports in Europe.
Around 16 projects announced in Egypt with Norway, Denmark, India, UAE, France…ect, below are just some of these projects and MOUs: 1. UK-headquartered Globaleq to establish a green fuel production plant with an annual production capacity of 2 million tons at a total investment of $11 billion. 2. Saudi company Alfanar to establish 500,000 tons per annum capacity green fuel production facility at a total investment of $4 billion. 3. UAE's Alcazar to establish an industrial complex for green fuel production at an investment of $2 billion with a total production capacity of 230,000 tons annually. 4. UAE's K&K Group to establish a 230,000 tons per annum capacity green hydrogen plant. 5. India's ACME Group to establish $13 billion green hydrogen production plant with a total capacity of 2.2 million tons annually. 6. UK's Actis to establish green fuel production plants at a total investment of $1.5 billion with a production capacity of 200,000 tons annually.	Egypt plans to use clean fuel hydrogen as part of efforts to generate 42% of its electricity from renewable energy sources by 2030. (https://www.reuters.com/business/sustainable-business/egypt-aims-generate-42-power-renewables-by-2030-2021-11-04/)

Jordan

Strengths	Weaknesses
The Hashemite Kingdom of Jordan imports 91% of its energy supply (MEMR, 2019). The investment in green hydrogen should motivate the government to decrease its fossil fuel dependency and increase renewable energy penetration.	Water scarcity in Jordan is a major obstacle. Using water as a feedstock for developing molecular hydrogen as a fuel and energy storage medium is, therefore, one of the main challenges. The production of grey and blue hydrogen requires an ample amount of water for steam in the reformation process.
On July 7, 2020, the Ministry of Energy and Mineral Resources (MEMR) released the 2020-2030 Energy Strategy. MEMR aims to diversify energy resources, expand the utilization of renewable energy sources, increase the investments in mineral resources, and endorse international relations and collaborations.	Cost is a barrier to enabling the hydrogen market in Jordan. This hurdle is associated with the aforementioned challenges. If hydrogen was cost-competitive with conventional fossil fuels, it would have already been employed. One of the main challenges in this regard is the cost associated with generating green hydrogen, which produces H2 with near-zero or low carbon emissions.
Production of green hydrogen in Jordan should be regarded as a great business opportunity. The favorable sun conditions and previous record-breaking prices of renewable energy can attract international businesses to produce price-competitive green hydrogen	Challenges to Green hydrogen development in Jordan also include: • Decarbonization of hard to abate sectors like the iron, steel and cement industries. • Sectors that are impacting Jordan's environment the most must be the top priorities. This is shown in Figure 18 in CO2 emissions measured by sector. Energy intensive sectors are important to consider, especially with Jordan's plans to reduce the use of natural gas in electrical generations and with hydrogen being a great energy carrier (see Figure 20). • Technological advancements in transportation are unlike those in ammonia production. Thus, it is easier to penetrate a market that has the technological and research tools than one without due to cheaper production and more economical feasibility. A different study and benchmarking should be conducted to investigate those aspects.

Türkiye

Strengths	Weaknesses
Türkiye already has a relatively high share of renewable power generation, particularly hydro, and recent solar auctions have resulted in low prices, leading to a focus on potential green hydrogen production. The first green hydrogen pilot production in Türkiye comprises 10 kW-electrolyser with a 20 m^3 buffer tank installed in Enerjisa Üretim's Bandırma Energy Base in 2022. Enerjisa Üretim is one of the leading private power companies in the country which ranks first in terms of installed renewable capacity among the private sector players. Moreover Türkiye's first indigenous green hydrogen pilot plant with a 30 kW capacity electrolyser will be installed and this project will be co-financed by South Marmara Development Agency, Enerjisa Üretim and Eti Maden which are the three members of the South Marmara Hydrogen Shore Platform.	Türkiye generates over half of its electricity from fossil fuel, including over 25% from coal and lignite.
The MENR planned to publish Türkiye's hydrogen strategy by the end of 2022, being shifted to 2023, after receiving the findings of R&D conducted by Gazbir-Gazmer. It is critical to break down and prioritize the usage areas and the demand on the industry side on a sectoral basis. A preliminary roadmap prepared by Gazbir outlines four time periods for hydrogen development in the country: • 2021–2025: initial pilots, including innovation and demonstration projects, finalize testing of domestic appliances, and start working on a regulatory regime; • 2025–2030: 10 per cent hydrogen blending (ie. 3–4 per cent by energy content) into parts of the natural gas grid, development of the renewable and low carbon gas market, increasing industry incentives for the production of hydrogen-ready appliances, and development of regulations for transport, storage, distribution and consumption of hydrogen; • 2030–2040: up to 20 per cent regional hydrogen blending, an increase in hydrogen production, and connecting industrial clusters to hydrogen storage and production facilities by dedicated hydrogen pipelines; • 2040–2050: widespread use of hydrogen in the industrial sector and residential buildings, distribution lines to be 100 per cent hydrogen compatible, start of hydrogen export, and creation of sufficient hydrogen production and storage capacity.	The country does not have abundant natural gas resources and all the gas currently consumed is imported via pipelines and LNG from various countries. Türkiye's gas discovery in the Sakarya field in 2020 and its gas production after 202326 is projected to add from 7 to 15 bcm/year at plateau level, which may start from 2025-26, with total field gas reserves of above 400 bcm. Any natural gas for hydrogen production would have to be imported.
Türkiye has some competitive advantages from geographic proximity to EU- market, low-cost renewable energy production and supportive government policy. In addition, natural gas export pipelines such as the Trans Adriatic Pipeline (TAP) and interconnectors between Türkiye, Greece and Bulgaria could potentially transport blended hydrogen initially and 100 per cent hydrogen in the longer term. The increase in demand for Europe's renewable energy and hydrogen, the export potential due to this increase, as well as investments in the production capacity to be made through international cooperation can be mentioned. Incentives for investment for this purpose and current hydrogen strategies and import plans of European countries can be specified.	

Syria

Strengths	Weaknesses
Syria has directed its national petroleum company to launch investment programmes in renewable energies	There is little to no data on the green hydrogen sector in Syria
Plenty sunlight, and space to develop green hydrogen capabilities.	No national strategy
LNG infrastructure and pipelines already in place	No announced projects for green hydrogen facilities

Malta

Strengths	Weaknesses
Malta's Sustainable Development Vision for 2050 sets out aspirations and priorities towards a low-carbon economy, sustainable mobility, transition towards low-carbon energy and sustainable buildings and urban development, amongst others. It also sets a precedence for mainstreaming sustainable development up till the year 2050 and is set to become Malta's main guiding principle for developing policies when planning and implementing projects.	Inherent challenges and opportunities brought about by national specificities such as spatial constraints, high population density, and a mild Mediterranean climate. the unavailability of a natural gas distribution system on the Maltese territory, excludes the option to blend biogas
Malta has identified the formulation of a long-term Low Carbon Development Strategy as a useful tool in the implementation of the objectives of the Paris Agreement, and has given this process due priority As such the Maltese Government is committed to: • Uphold national GHG emission reduction commitments in the EU up to 2020; • Move towards a reduction of national GHG emissions as opposed to pursing a continued limited increase in emission level post-2020; • Progress in reducing national GHG emissions post-2030 in full knowledge of Malta's economic development and priorities of the time; • Set sector-specific GHG emission reduction targets post-2020 to contribute to meeting reduction commitments made at the national level; • Identify and implement opportunities to enhance climate resilience in Malta.	It must be noted that given the relatively small market, Malta cannot take advantage of economies of scale in procurement and shipping, therefore the CIF costs tend to be higher than for larger markets.
Electricity transmission infrastructure: There is no electricity transmission system in Malta and hence no transmission system operator (TSO). Malta was granted derogations pursuant to Article 66 of Directive EU/2019/944 from the requirements of Article 43 (Unbundling of transmission systems operators), Article 35 (Unbundling of DSO), Article 6 (Third party access), and until 5th July 2027, from Article 4 (Free Choice of Supplier). Modernization projects: Malta's electricity generation infrastructure recently underwent major modernization. This included new, upgraded and more efficient generation capacity which allows the DSO to meet future demand with significantly higher efficiency and lower emissions. Between 2014-2017, the DSO invested over €100 million to upgrade and expand major nodes of the national electricity network and improve quality of service. Therefore, no other major modernisation projects are envisaged in the short-term.	There are currently no gas pipeline interconnections, however a final investment decision on the construction of the Melita Trans Gas Pipeline project (MTGP) between Malta and Sicily is expected to be taken by 2020 subject to financing. LNG is imported via marine carriers and held in a Floating Storage Unit (FSU) supplying LNG to a regasification plant and to Delimara 341 and Delimara 442 power plants. LNG is procured on the international market, which provides flexibility in terms of sources of origin. In 2017 and 2018 LNG was delivered from 8 different countries of origin.

Tunisia

Strengths	Weaknesses
With extensive solar and wind resources at its disposal, Tunisia has great potential for producing electricity from renewable energy sources.	***Storage and Transport*** The export of green hydrogen is a gateway to industry development. However, the costs of storage and transport can be significant. Existing natural gas pipelines can be converted for hydrogen transport, this nevertheless will require new construction or retrofitting which can be costly. Likewise, the transportation of hydrogen via shipping, if opted for, will first require adaptation to the decentralized expansion paths of hydrogen production to connect longer distances than pipelines. To do this, the hydrogen will require liquification, which is both costly and energy consuming. There are currently no commercial ships for hydrogen transport and investment in this sector may be costly and unreliable.
The Tunisian Government has committed itself in its solar plan to expanding renewable energy. The country aims to generate 30 per cent of its electricity from photovoltaic systems and wind power plants by as early as 2030.	***Land Availability*** The production of hydrogen often requires a close source of renewable energy, usually built into land. The availability of land is often a problematic issue for investors in the field of renewables in Tunisia. Most land currently suited for renewable energy is under undivided, collective, or state ownership. Aside from ownership issues, agricultural land is often classified by the Ministry of Agriculture as a prohibited zone that cannot be used for renewable energy installations. The Land legislation also does not provide the right for private pipelines to connect electrolysis facilities to the gas network. The current Land legislation, therefore, requires amendment regarding private pipelines and ownership of land to facilitate the production of renewable energy.
Tunisia and Germany concluded, on 15 December 2020, the "Tunisian-German Alliance for Green Hydrogen" (the "Agreement") based on the countries' long-standing cooperation in the energy sector. Under this Agreement, Germany granted Tunisia € 31 million in funding for various missions including: • Establishing a pilot hydrogen production unit; • Studies; • Capacity building; • Establishing an institutional and regulatory framework.	***Unclear Regulatory Status*** The question of whether electrolysis should be considered a hazardous industry which requires specific authorizations has not yet been clarified. Similarly, the current environmental legislation does not specify whether the production of hydrogen by electrolysis would require an environmental impact study like the requirements for gas extraction and gas storage. Expert opinions indicate that power generation from hydrogen should also be added to the list of activities subject to an environmental impact study. If an environmental impact study were required, it would also need to include the issue of water desalination. It is worth noting that Decree No. 64-10 of 17 January 1964 approving the technical specification of the supply of gas in Tunisian territory (security, standards, etc.) does not cover the injection of hydrogen into the gas network. This remains a topic to be specifically regulated under Tunisian legislation. With respect to power production from hydrogen, the current power sector legislation does not include any technical provision regarding the use of hydrogen for power generation. This also remains an area for development which will allow growth in the sector. Another challenge faced by the investors in hydrogen production is the lack of regulation regarding the manufacture and use of synthetic fuel from hydrogen. Law No. 91.45 of 1 July 1991 relating to petroleum products governs import, export, refining, recovery, storage, distribution, and pricing. This regulation gives a monopoly to the state on the manufacture and supply of oil products, including defining the price structure of these products. Should hydrogen production fall under the same monopoly, investors may be discouraged therefore, this topic requires specific clarification by the Tunisian legislator.

Lebanon

Strengths	Weaknesses
The Copenhagen conference on climate change in 2009 and the Paris Agreement from 2016 have endorsed the Lebanese government to move towards the energy transition and decarbonization of the energy mix. Specifically, in 2009, Lebanon pledged to reduce the domestic fossil fuel usage through achieving a target of 12% renewables in the energy mix by 2020.	The Lebanese electricity sector faces three main challenges: • An unreliable power supply; • A distorted subsidy system; • Weak financial stability at utility level. Despite the economic crisis in Lebanon, the primary energy demand has increased. It is steadily being accelerated due to the high influx of Syrian refugees, among other factors. The expansion of generation capacity has not taken place at the same pace as the energy peak demand, leading to unreliable electricity supply with daily power cuts. As a consequence, investments in diesel generators have increased, making the Lebanese electricity sector even more dependent on fossil fuel imports.
It has also ratified the Paris Agreement on March 29th, 2019 (Law 115/2019) and deposited the instrument of ratification in February 2020 at the United Nations (UNDP, 2021b). Through the latter, the country plans to reduce its GHG emissions by 30% as well as its power-demand by 10% through energy-efficiency measures. This is contingent upon the provision of international support. Furthermore, the country aims to unconditionally reduce its GHG emissions by as much as 20% and its power-demand by 3% all by 2030, relative to a business as-usual scenario (UNDP, 2021a).	The dwindling of foreign currencies reserves threatens the fuel supply, seeing as most of the fuel demand has to be imported. This has led to operational challenges for the state-utility Electricité du Liban (EDL) as well as private diesel generators.
Lebanon possesses advanced RE financing and regulatory mechanisms compared to many other MENA countries.	The Lebanese electricity sector represents a clear case of a mismanaged publicly owned monopoly that has existed since the civil war.

Overall Synthesis

	Circular economy	Emission reduction	Energy efficiency	Green hydrogen	Renewable energy production	Sustainable agriculture	Green buildings	Green mobility	Sustainable food production and consumption	Emissions Trading
Egypt	Not mentioned in their long-term visions	Has clear emissions reduction targets for electricity, oil and gas, and transport (numbers can be found in docs)	Aims to reduce consumption in despite a growing population through efficiency measures, but concrete targets or measures cannot be found	Is included in renewables, and a 140m investment has been made	Aims for 42% of electric power by 2035, mostly with CSP, PV, wind, and hydro	Takes a holistic approach focusing on adaptation and efficiency measures. Concrete measures include urban agriculture and rooftop farming	Implemented the National Green Building Code for energy efficiency within buildings	Encourages public transport and non-motorized transportation while developing public transport	Tries to address food security through capacity development, gender equality, environmental sustainability, human rights-based approach, technological sustainability, and economic sustainability	Does not have a carbn tax or a CO2 emissions trading system but does collect energy taxes
Lebanon	Acknowledges that circular economy is necessary but has no concrete targets or measures	Pledges to unconditionally reduce by 20% by 2030 from a 2015 baseline year. (Conditionally, they pledge to reduce by 31%.	Aims to reduce consumption despite a growing population through efficiency measures	0	Aims to reach 20% of all generation by 2030 with CCGT, solar PV, and wind	Aims to implement low carbon technologies and practices, but is more of an adaptation principle rather than mitigation	18% of power demand and 11% of heat demand in the building sector should come from renewables by 2030 unconditionally.	Has a 500m plan to improve public transport	Aims to achieve food security though sustainably managing resources	NA
Jordan	Puts circularity at the core of green growth but concrete targets or measures are not included	31% reduction	15% reduction in energy consumption through energy efficiency	Is included in renewables, but its potential is not yet quantified	Aims to grow renewables (13% in 2019)	Set the National Strategy for Agricultural Development (2016-2025)	Aims to adopt green building codes for better resource use and energy efficiency	Developing the National Transport Strategy for mitigation and adaptation measures	Set the National Strategy for Agricultural Development (2016-2025) for the governance of food security	Being the first country to develop MRV and GHG Registry systems to international standards, they could use this as the foundation of emissions trading according
Syria	0	0	0	0	10% of energy demands to be met with renewables, particularly solar and wind	Key opportunities include land use, appropriate agricultural rotations, forest management, and adaptation measures	Key opportunities include the standardization of environmentally adequate buildings and incorporating environmental technologies	0	0	NA
Türkiye		21% decrease compared to business as usual at 929 Mt CO2e (baseline year 2012 430 MT c02e)	Capacity building, energy efficient mobility and buildings	0	Increasing shares of renewables to 30% in 2030 by utilizing geothermal, solar, hydro, and nuclear power	0	Implementation of regulations and certifications for energy-efficient and zero-energy buildings	Increase urban railway systems and encouraging energy-efficient vehicles	0	Is being considered

Tunisia	Tunisia puts circular economy as one of the important drivers to environmental sustainability	45% decrease in its carbon intensity in 2030 from a baseline year of 2010 and net zero by 2050	Is to account for 33% of ghg reduction measures and is most financed	Is included in renewable energy	Is to account for 24% of GHG reduction measures and includes wind (on-shore and off-shore), photovoltaic, concentrated solar power, biogas, and green hydrogen	Focuses on climate resilience andn-measurs include deforestation, conservation, and progressing arboriculture	Utilizes technological innovation and partners for the development of the sector, with a focus on energy efficiency	Focuses on decreasing inefficient vehicles and making public transport competitive while implementing electric vehicles in urban areas	Climate resilient agriculture is to protect food security, and a hollistic apprach is to tackle the entire value chain	Under construction
Malta	Intends to apply circular economy principles along with its mitigation strategy, focusing on waste management	Aims to halve emissions by 2030 from a 2020 baseline year, and emit less than 500 tCO2e by 2050)	Aims to have a 32.5% improvement by 2030 in energy consumption	Is included in renewables, but the risk of being reliant on the supply of hydrogen has been identified a risk	Aims to account for 32% of all energy consumption by 2030 (which is double that of 2017) and focuses largely on solar and wind power	Introduces measures such as commercial scale Aquaponics-based food production and methane-inhibiting vaccines	Implemented Directive (EU) 2018/844 on energy performance of buildings	Public transport is the largest opportunity, and other measures include EVs. There is a new binding target on the energy efficiency of new cars sold	Shows efforts to mitigate food waste	Within the EU ETA framework
Synthesis	4/7 countries spoke about carbon economies, but they do not have any concrete goals or measures of success.	All countries have submitted an NDC meaning they have reduction targets, but the level of engagement differs depending on their status (being an Annex I party, in crisis, etc)	All countries excluding Syria has energy efficiency targets. This is usually expected to have the highest impact on emissions reductions	4/7 countries include green hydrogen in their renewables mix. Currently, however, none of the countries mentioned green hydrogen as a priority	All countries include renewables in their emissions reduction measures. Most countries focus on the more common wind and solar panels. However, some countries such as Türkiye and Tunisia include a wider range of renewables (geothermal. biogas, off-shore wind)	Türkiye is the only country that does not address agriculture in their long-term strategies. Other countries focus on agriculture for their need to be climate resilient	Most countries try to increase the number of energy-efficient buildings. These are standardized through national building codes	Most countries encourage/develop public transport, electric or energy-efficient vehicles, and try to deter consumers from inefficient cars. What is interesting is that countries such as Malta (which have policies in line with EU completely ban cars under a certain threshold and subsidize EVs, but a more impoverished state such as Syria is attempting to lower the number of inefficient cars in operation. This shows careful measures being implemented depending on the status of the countries	Many countries have separate action plans on agriculture and food, focusing mostly on adaptation measures. What is interesting is that Malta and Egypt identify food waste as a contributor to climate change and have measures to decrease it.	

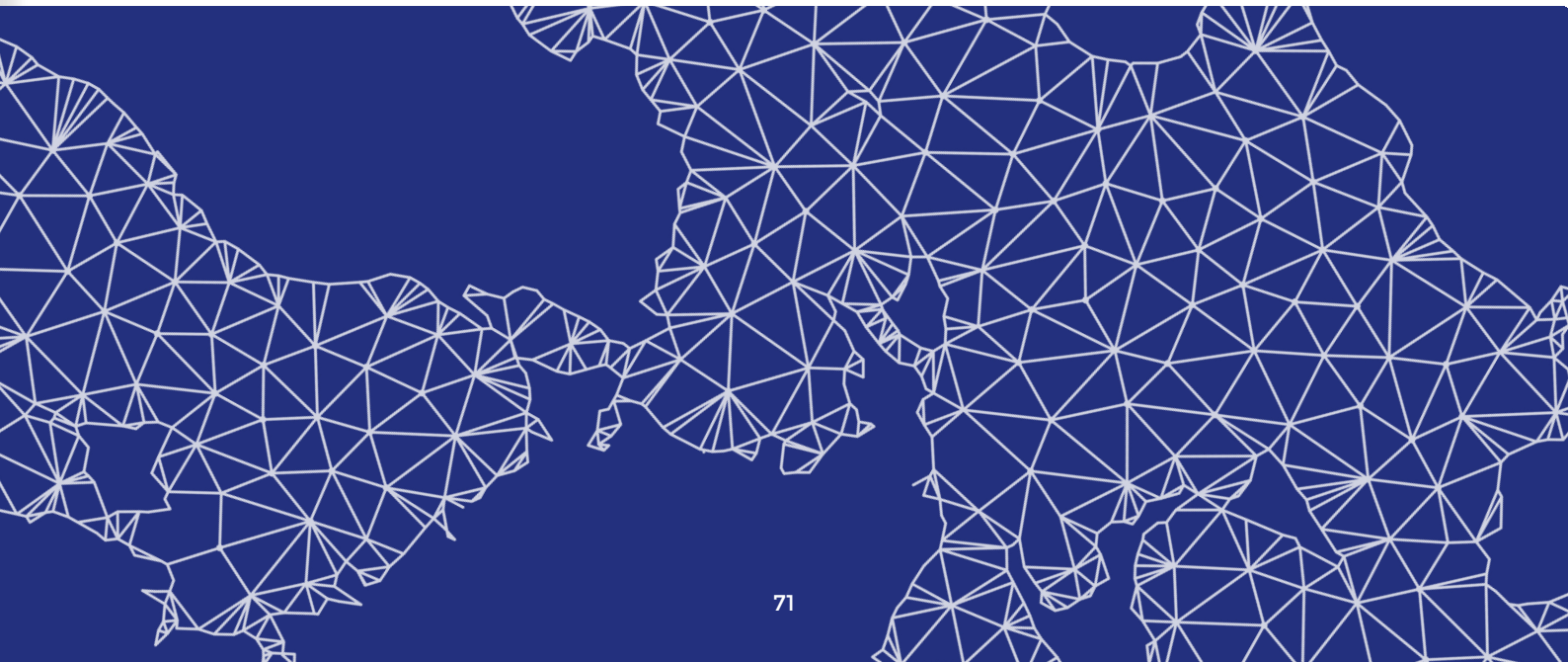
Conclusion

In conclusion, there is an urgent need in all seven countries to align with EU GD however, the North Mediterranean countries (Malta and Türkiye) are more aligned with EU GD giving the fact that Malta is an EU country and Türkiye has already taken various steps to align its policies and regulations to EU rules and regulations. Efforts taken to establish an ET system is a clear example for this alignment by Türkiye. Accordingly, the northern countries are more familiar with EU GD and relatively more prepared to adopt EU GD requirements.

However, if necessary policies and regulations are adopted, many south Mediterranean countries are better positioned to benefit most from EU GD a clear example is the potential production and exports of Green Hydrogen to EU by south Mediterranean countries.

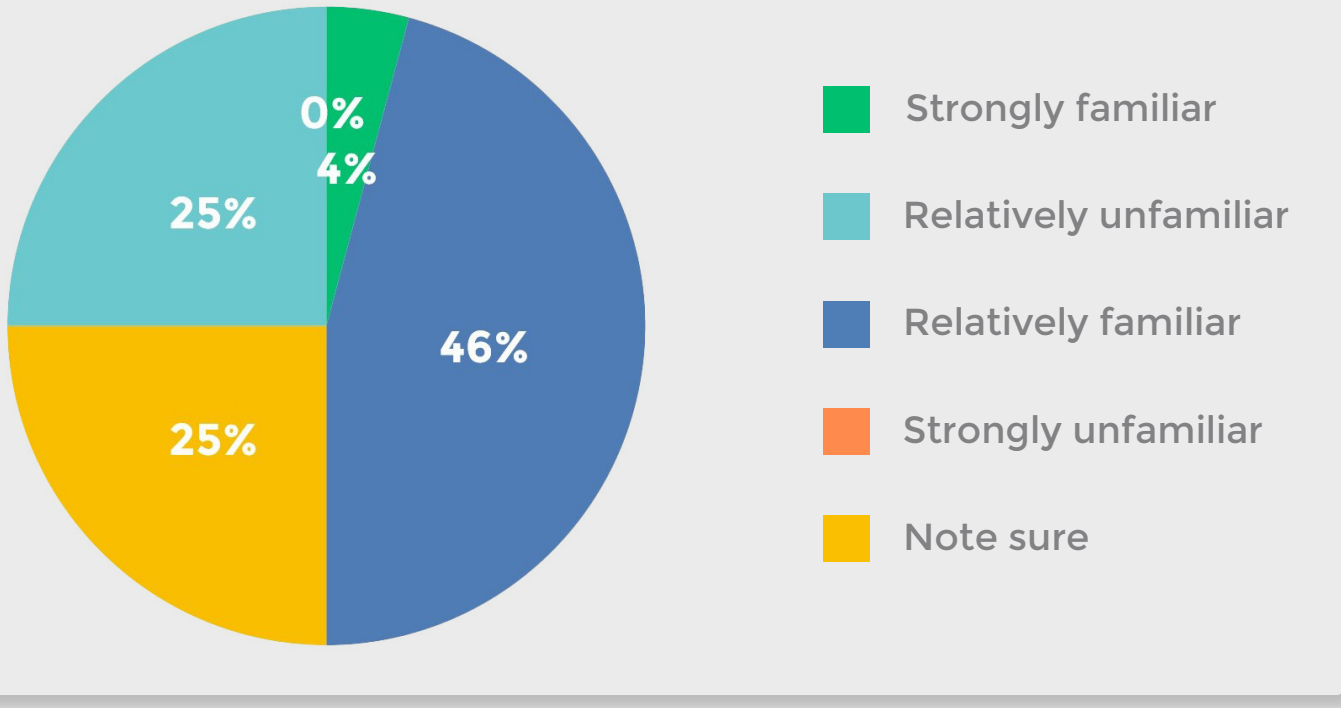
From survey analysis, it was clear that business sectors/associations in all countries under investigation are “relatively familiar and relatively prepared” with regard to the EU GD. All Business Associations are doing their role in this regard, with different degrees, For instance, information dissemination, awareness raising, workshops, etc.

There is still a big room for all Business Associations/sectors in the seven countries under investigation to play a more active role regarding EU GD, circular economy and Green Hydrogen especially in capacity building, facilitating employment opportunities in new sectors, offering up-skilling and re-skilling opportunities and business matchmaking. The “Lack of financial resources and lack of skills” is the main hurdle for business sectors in these countries in dealing with the EU GD.Adressing these obstacles requires a comprehensive and tailored approach adapted to the specific circumstances and needs of each country surveyed. Close collaboration between the countries in the southern Mediterranean, the EU, and other stakeholders to provide financial, technical and capacity-building support to overcome the challenges and promote a successful transition to sustainable and inclusive green economy.

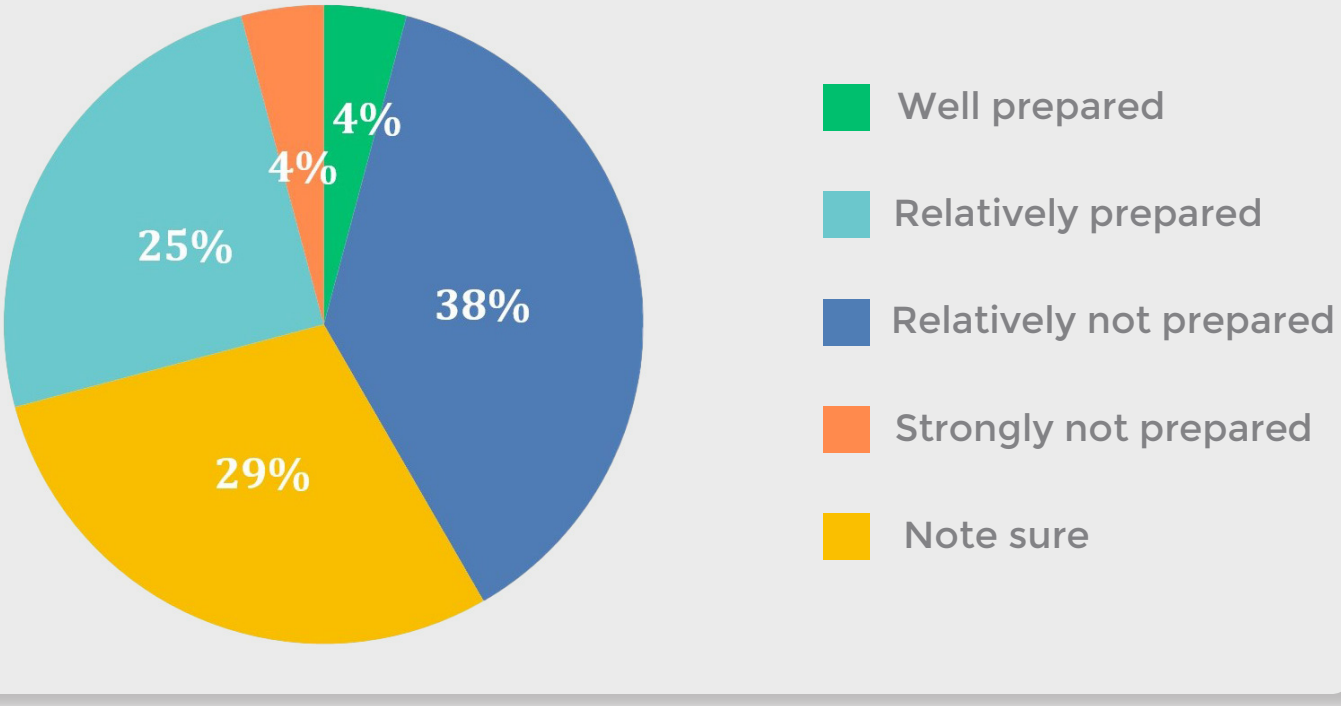


Annex

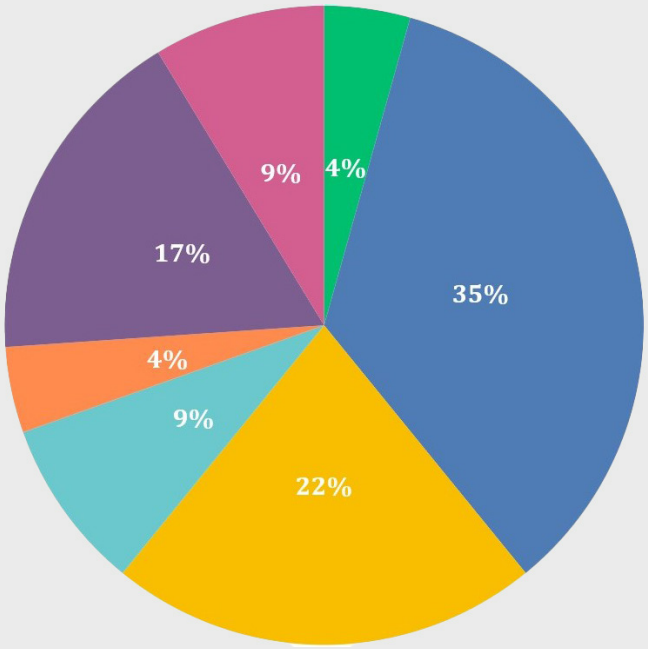
Q: In general, are business sectors in your country familiar with the EU GD?



Q: In your opinion, does Bussiness Associations/sectors in your country are prepared for the EU GD?

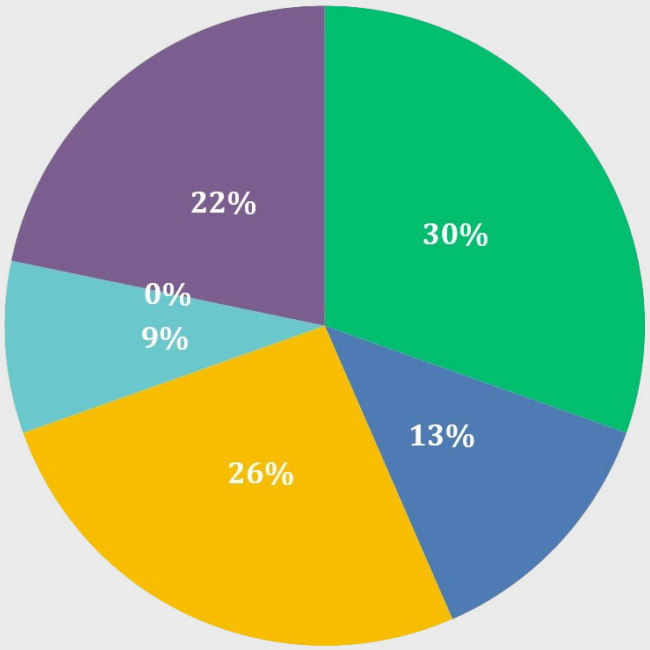


Q: What support (policies) would businesses in your country need from the EU to mitigate the impacts of the EU GD?



- Revise taxation/ levies Regulations/policies
- Capacity building and technical assistance on Green Deal topics
- Communication and awareness raising
- Business Matchmaking with New Green businesses
- Direct funding
- Carbon Border Adjustment Mechanism(CBAM) assistance from the EU (technical, financial...)
- Direct funding

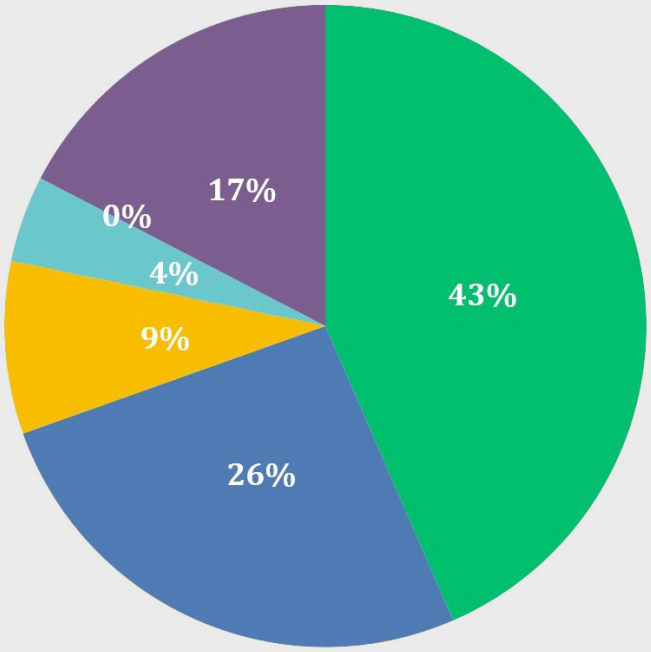
Q: Which is the main hurdle Bussiness Associations see in dealing with the EU GD?



- Lack of financial resources
- Lack of skills and knowledge
- Difficulties in implementing behavioral change
- Difficulties in the economic transition
- Technological barriers
- Other (please specify)

Other: All the above according to answers received

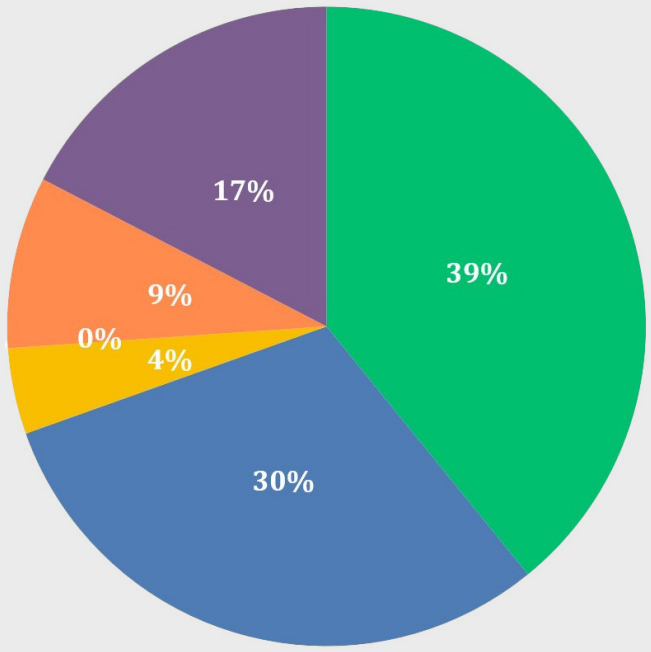
Q: In your country, what are the perceived challenges by companies to deal with the EU GD?



- Lack of organizational skills and processes to understand all of the implications of the Green Deal
- Understanding the benefit from available incentives
- Quantifying the costs of Green Deal levies
- Lack of commitment by government
- Inadequate governance mechanisms
- Other (please specify)

Others: All the above

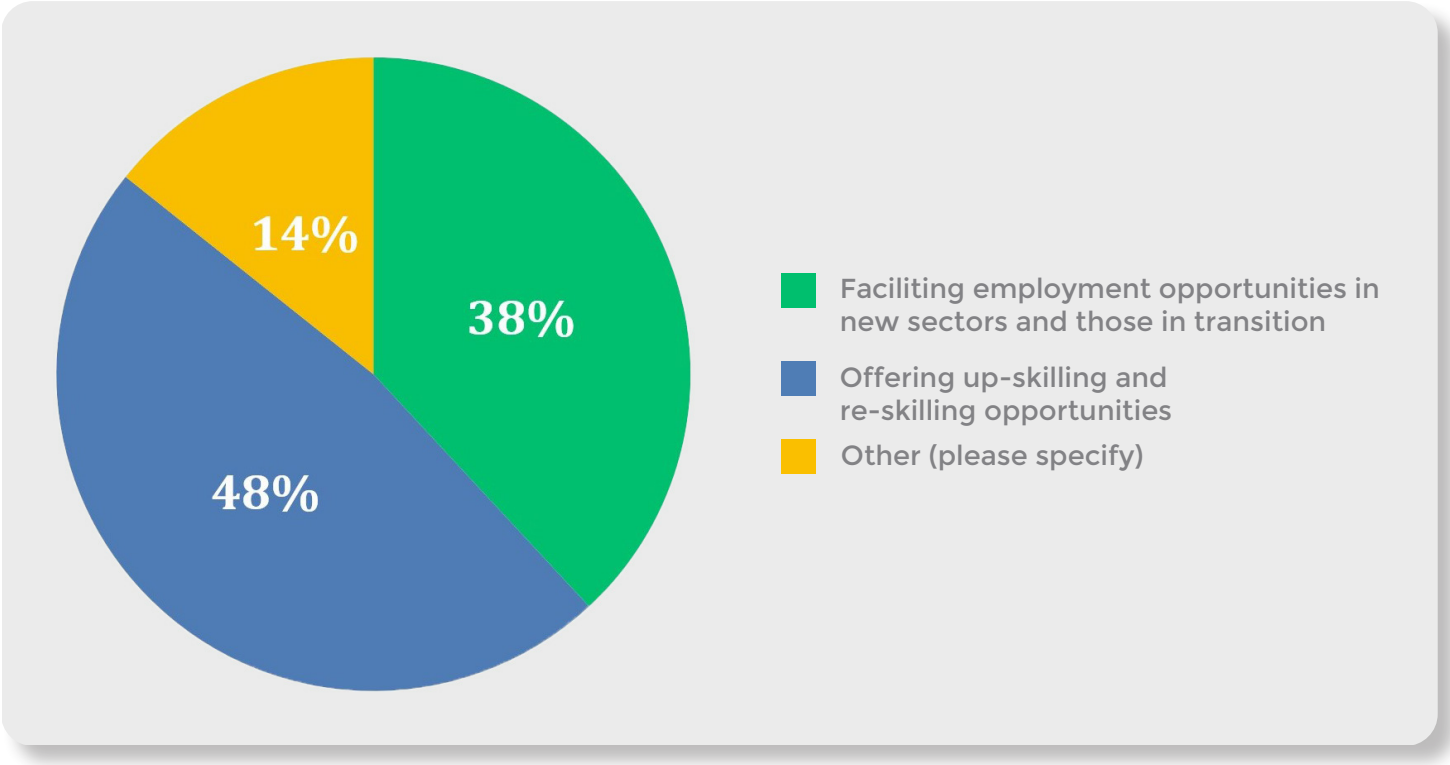
Q: Please specify activities undertaken in relation to the EU GD conducted by Bussiness Associations in your country:



- Awareness raising
- Collecting, exchanging and/or disseminating information
- Providing guidance
- Identifying best practices
- Advocacy for necessary regulations
- Other (please specify)

Others: All the above

Q: Any plans for targeting Employees to raise their capacities to better adapt and deal with the EU GD and Circular economy?

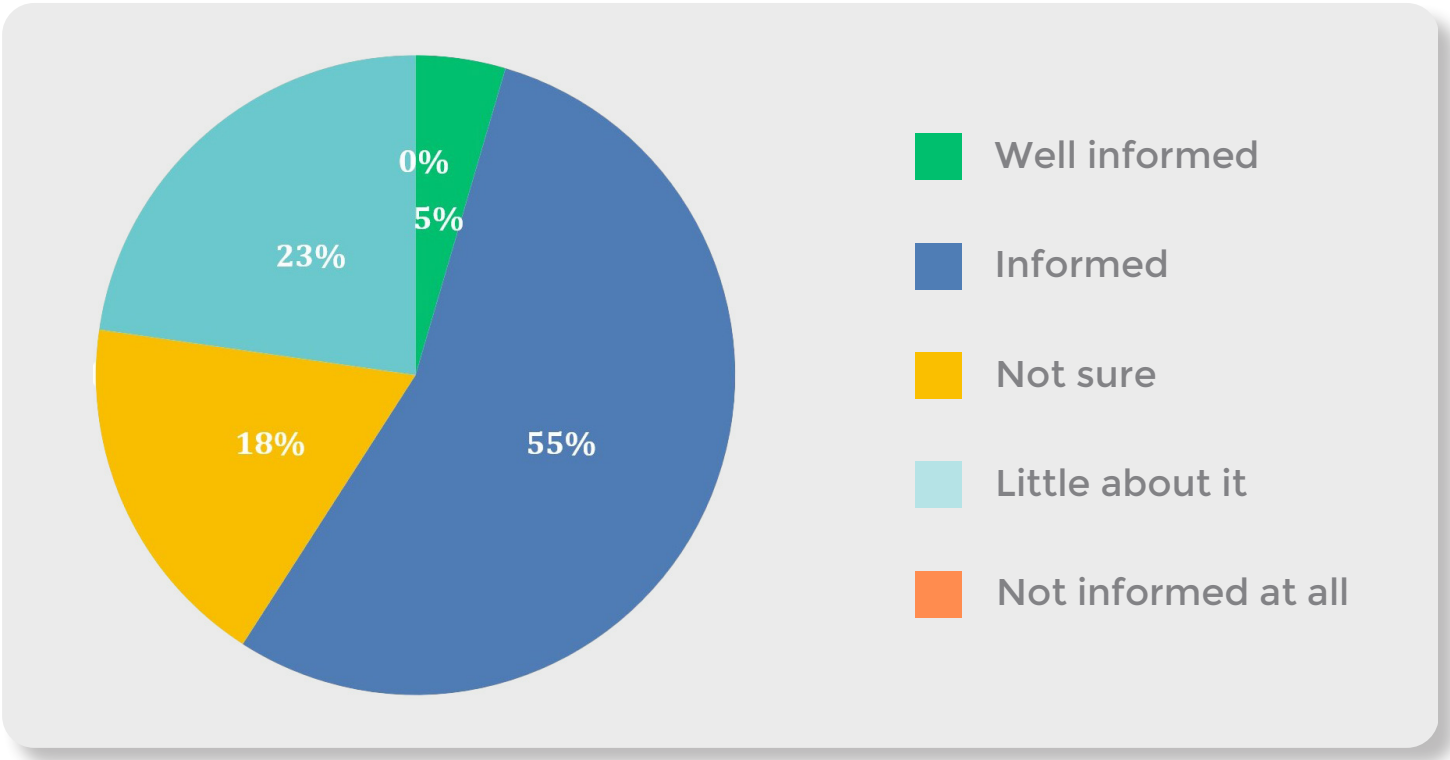


Others:

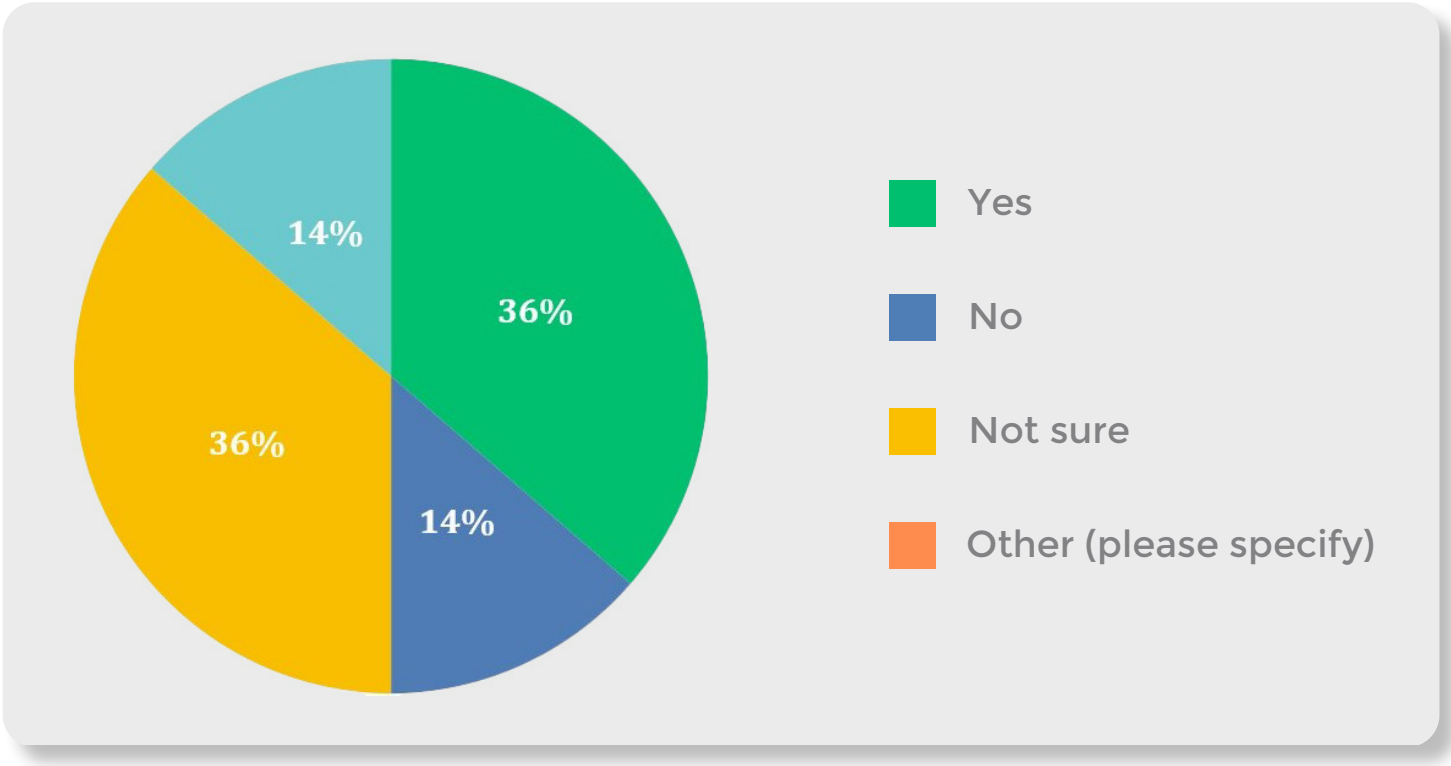
- TUSIAD seminar under 360 Green Deal to help cooperate top and middle level managers to better define green deal targets and prioritize actions and prioritize for the transition. Moreover, disseminate information through various use cases which are fine examples of green and digital transition among its members.

- Awareness raising

Q: How much do Bussiness Associations know about the circular economy?



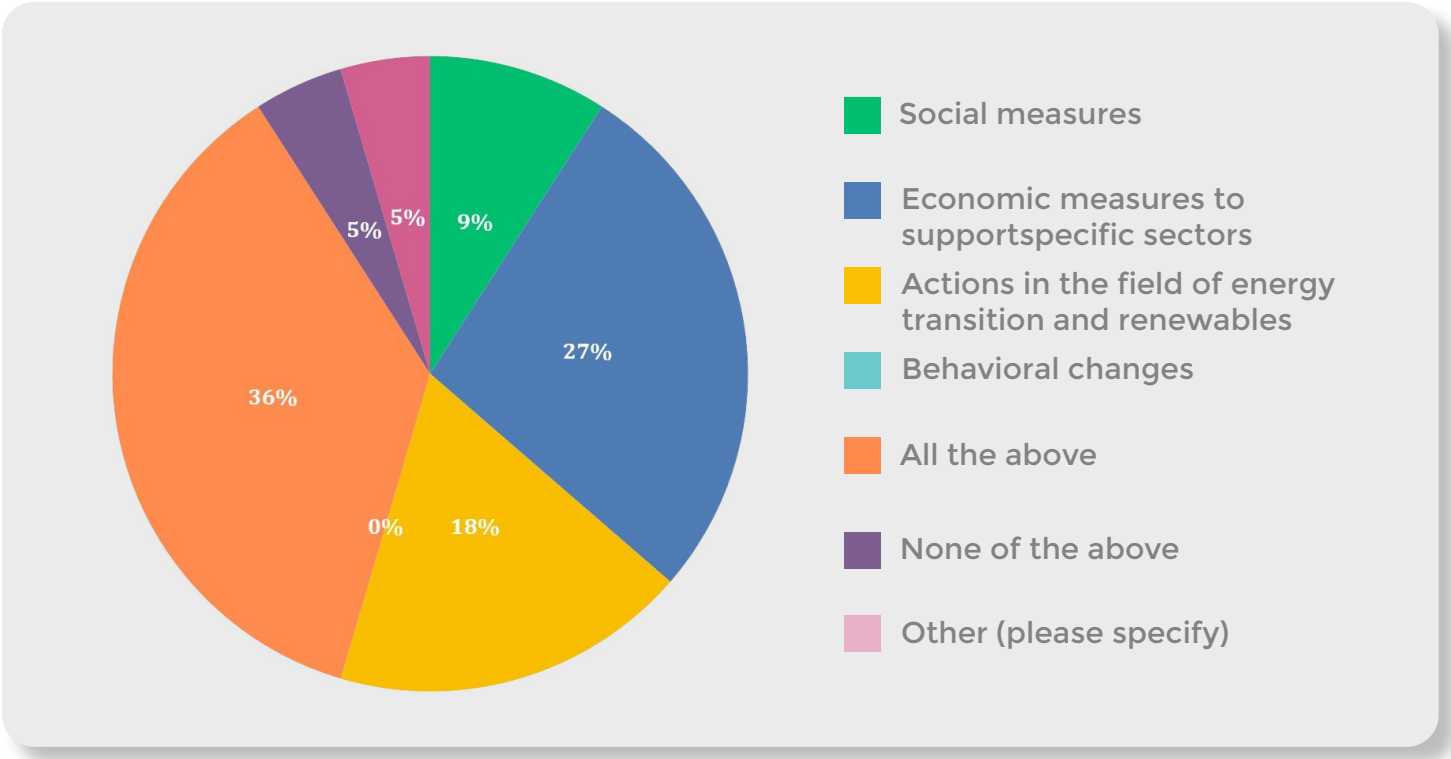
Q: In general, does existing "business models" allow for a shift towards a "circular economy model"?



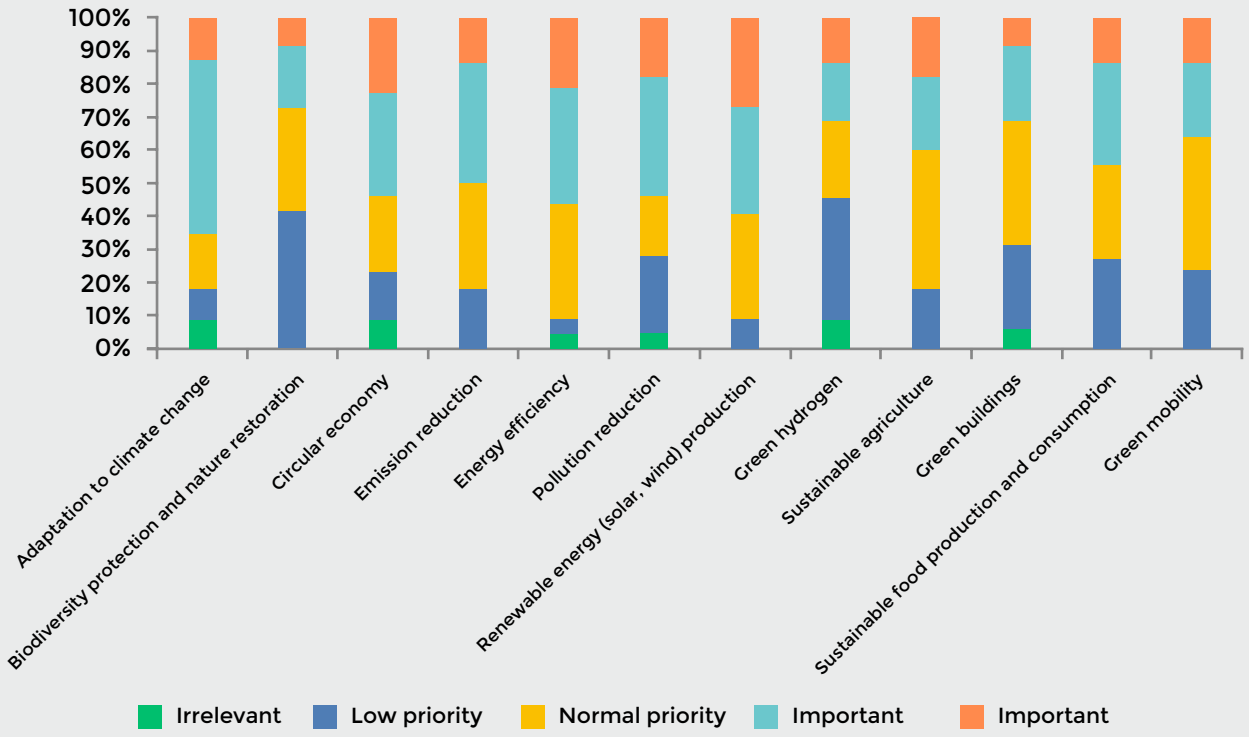
Others:

Although circularity is on the agenda of many sectors considering the developments at EU level. There are many issues to be resolved to create a suitable ecosystem. To overcome this problem, manufacturers need to work closely with recycling facilities. In this way, opportunities such as renewing, recovering, and repairing properly segregated, qualified materials will emerge, and thus, sustainable raw material supply will be ensured. In this way, the demands of consumers to buy recycled, repaired or refurbished products will increase. Moreover, another issue to encourage access to recyclable products can be by establishing relevant incentive mechanisms. Circular economy transformation is insufficient in sectors where recycling infrastructure is technologically inadequate or non-recyclable single-use products are used, or where there are no facilities such as repair, remanufacturing, refurbishment, and reuse. Moreover, legislative framework for “circular economy model” tools, such as the sustainable design and remanufacturing, shall be established in Türkiye. In addition to these, in order to provide a successful transition to the circular economy model, Türkiye needs a cultural transformation.

Q: Which actions is your country taking to mitigate the impacts of energy crisis?

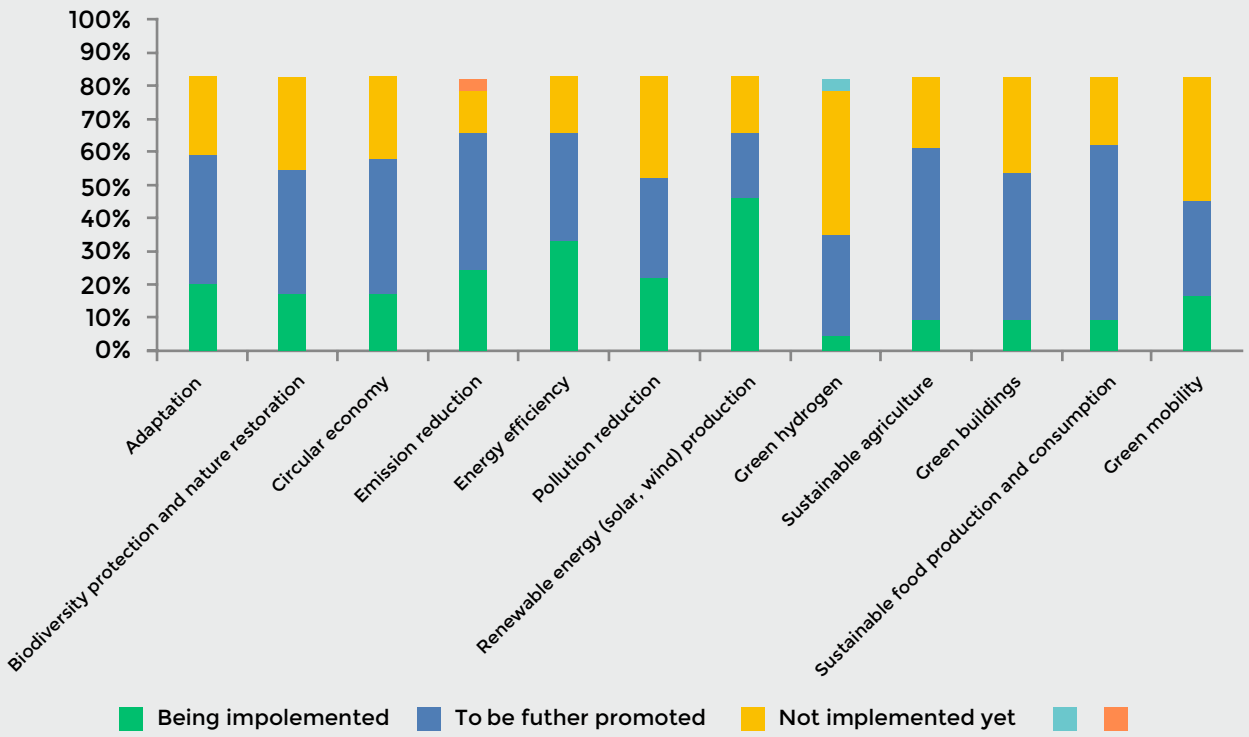


Q: Please rate how much the policy area of the Green deal is a top priority for your country



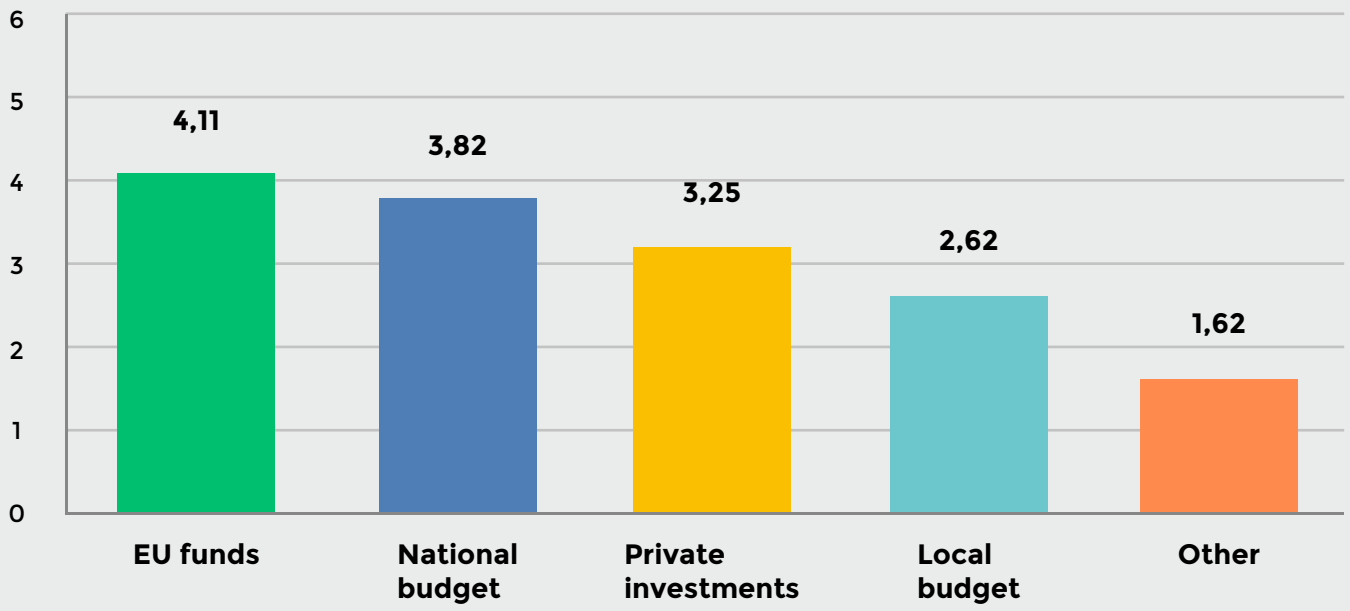
	IRRELEVANT	LOW PRIORITY	NORMAL PRIORITY	IMPORTANT	VERY IMPORTANT
Adaptation to climate change	8.70%	8.70%	17.39%	52.17%	13.04%
Biodiversity protection and nature restoration	0%	40.91%	31.82%	18.18%	9.09%
Circular economy	9.09%	13.64%	22.73%	31.82%	22.73%
Emission reduction	0%	18.18%	31.82%	36.36%	13.64%
Energy efficiency	4.35%	4.35%	34.78%	34.78%	21.74%
Pollution reduction	4.55%	22.73%	18.18%	36.36%	18.18%
Renewable energy (solar, wind) production	0%	9.09%	31.82%	31.82%	27.27%
Green hydrogen	9.09%	36.36%	22.73%	18.18%	13.64%
Sustainable agriculture	0%	18.18%	40.91%	22.73%	18.18%
Green buildings	4.55%	27.27%	36.36%	22.73%	9.09%
Sustainable food production and consumption	0%	27.27%	27.27%	31.82%	13.64%
Green mobility	0%	22.73%	40.91%	22.73%	13.64%

Q: Please indicate implementation status of different Green policies



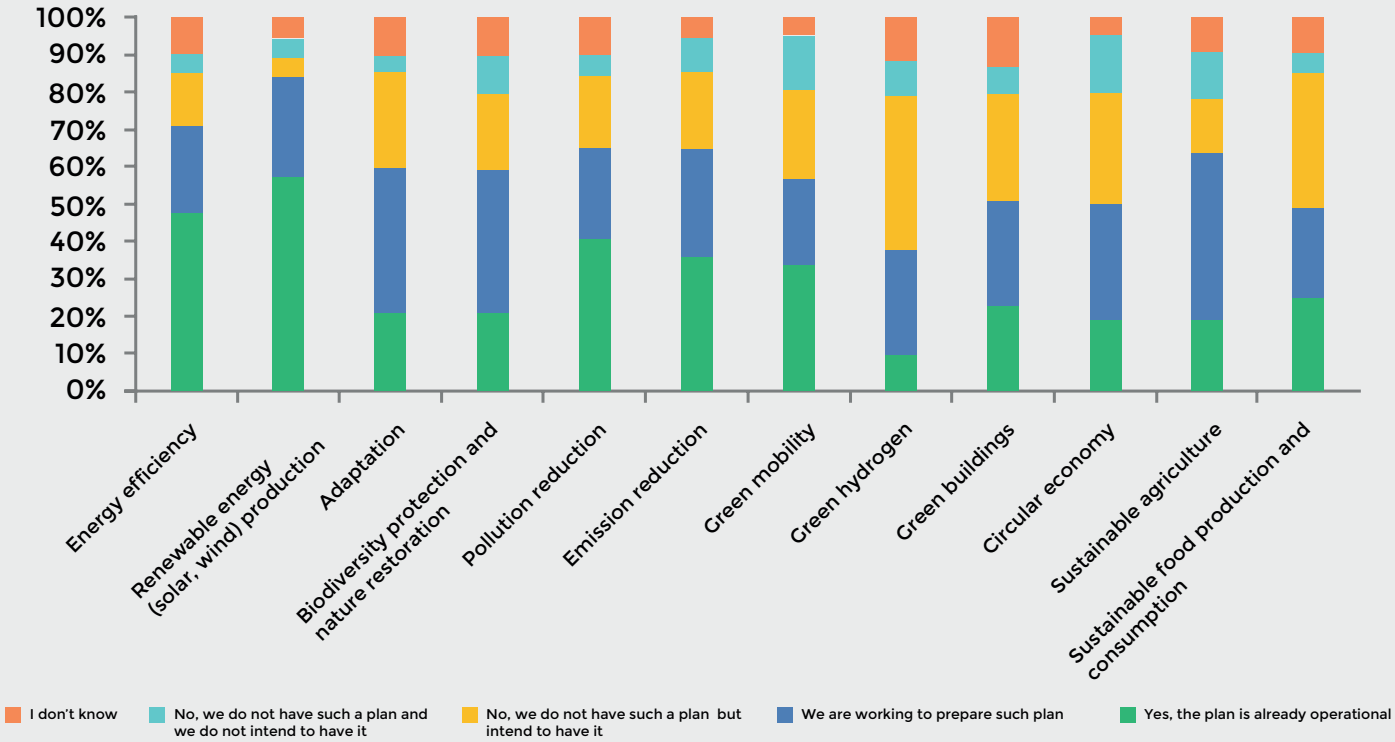
	BEING IMPLEMENTED	TO BE FURTHER PROMOTED	NOT IMPLEMENTED YET
Adaptation	23.53%	47.06%	29.41%
Biodiversity protection and nature restoration	20.0%	45.00%	35.00%
Circular economy	20.0%	50.0%	30.0%
Emission reduction	30.0%	50.0%	15.00%
Energy efficiency	40.0%	40.0%	20.0%
Pollution reduction	26.32%	36.84%	36.84%
Renewable energy (solar, wind) production	55.00%	25.00%	20.0%
Green hydrogen	5.26%	36.84%	52.63%
Sustainable agriculture	10.53%	63.16%	26.32%
Green buildings	10.0%	55.00%	35.00%
Sustainable food production and consumption	10.0%	65.00%	25.00%
Green mobility	20.0%	35.00%	45.00%

Q: Please reorder the sources of financing for Green projects in your country being number 1 is most common



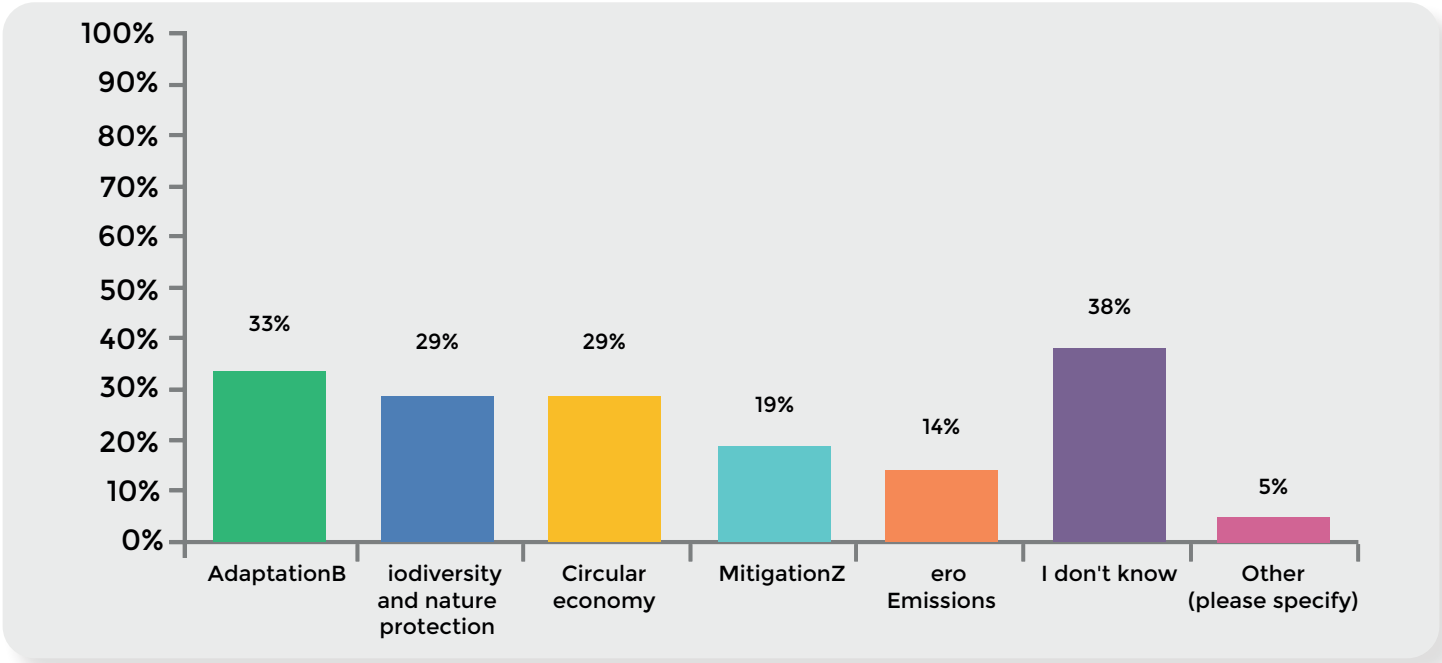
Fund category	1	2	3	4	5	Score
EU funds	50%	28%	11%	6%	6%	4.11
National budget	29%	47%	6%	12%	6%	3.82
Local budget	0%	8%	54%	31%	8%	2.62
Private investments	25%	15%	20%	40%	0%	3.25
Other	8%	0%	15%	0%	77%	1.62

Q: Does your country have a climate/energy/environment plan for the following policies?



	YES, THE PLAN IS ALREADY OPERATIONAL	WE ARE WORKING TO PREPARE SUCH PLAN	NO, WE DO NOT HAVE SUCH A PLAN BUT INTEND TO HAVE IT	NO, WE DO NOT HAVE SUCH A PLAN AND WE DO NOT INTEND TO HAVE IT	I DON'T KNOW
Energy efficiency	47.62%	23.81%	14.29%	4.76%	9.52%
Renewable energy (solar, wind) production	57.89%	26.32%	5.26%	5.26%	5.26%
Adaptation	20.0%	40.0%	25.00%	5.00%	10.0%
Biodiversity protection and nature restoration	20.0%	40.0%	20.0%	10.0%	10.0%
Pollution reduction	40.0%	25.00%	20.0%	5.00%	10.0%
Emission reduction	35.00%	30.0%	20.0%	10.0%	5.00%
Green mobility	33.33%	23.81%	23.81%	14.29%	4.76%
Green hydrogen	10.53%	26.32%	42.11%	10.53%	10.53%
Green buildings	23.53%	29.41%	29.41%	5.88%	11.76%
Circular economy	20.0%	30.0%	30.0%	15.00%	5.00%
Sustainable agriculture	20.0%	45.00%	15.00%	10.0%	10.0%
Sustainable food production and consumption	25.00%	25.00%	35.00%	5.00%	10.0%

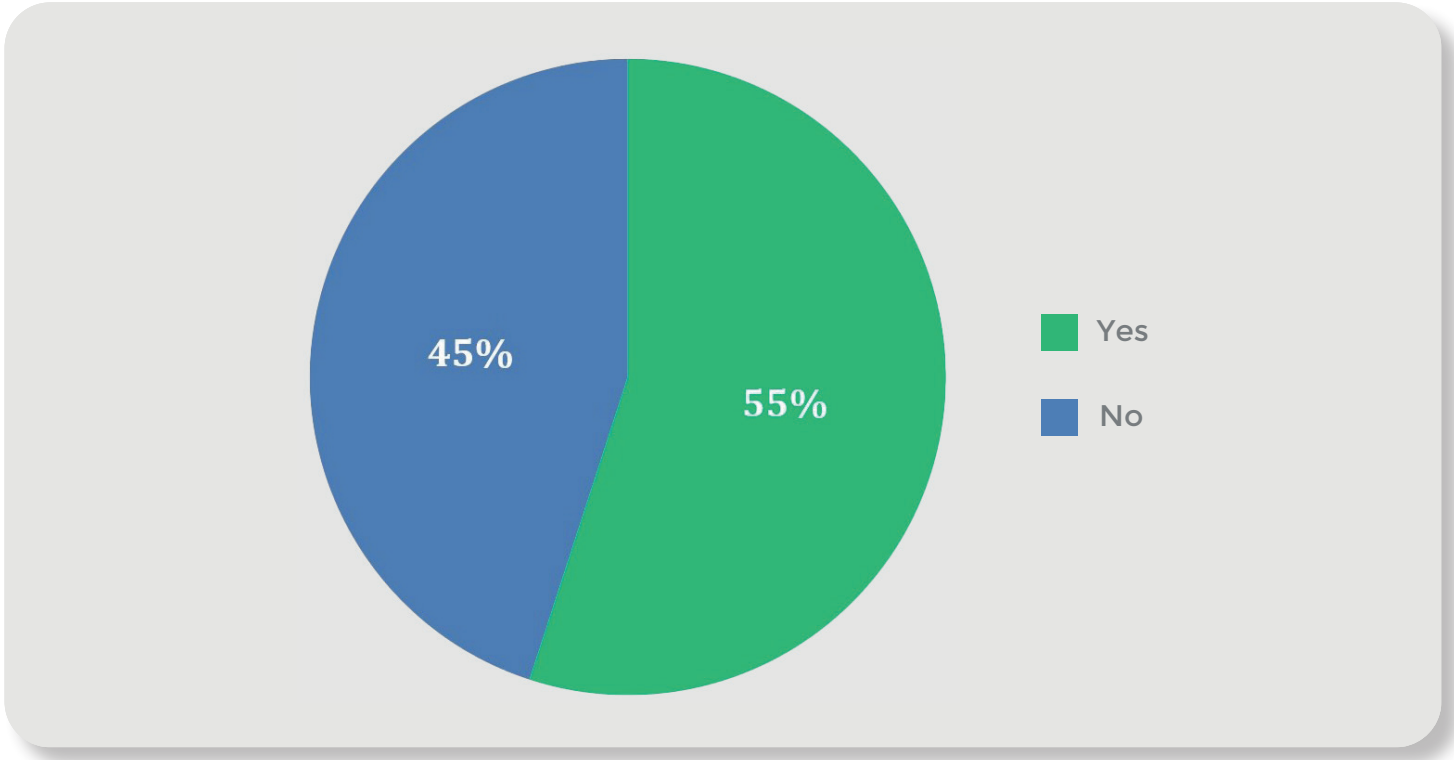
Q: Does your country have concrete targets for implementing the EU GD? Kindly mention target or percentage/year next to the following (if applicable)



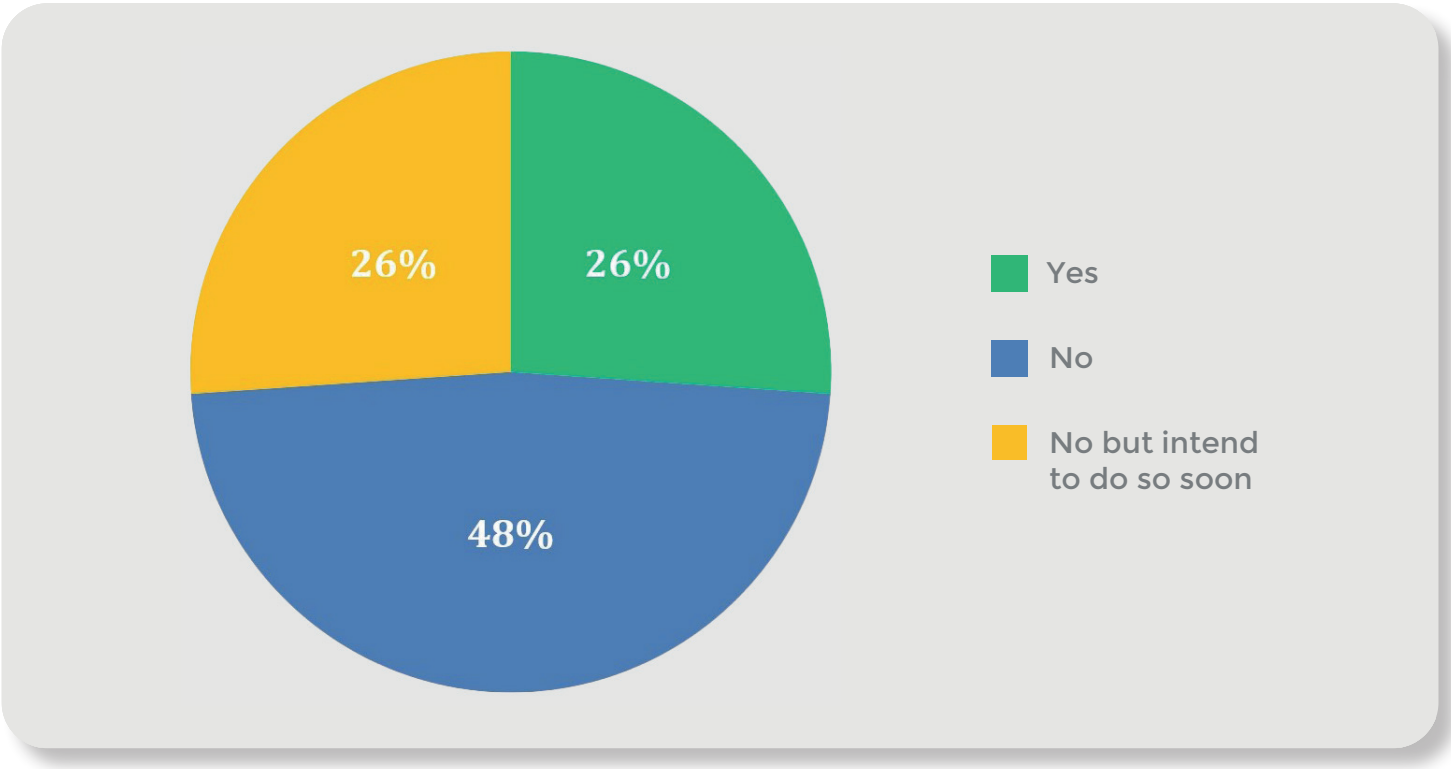
Others:

There are targets in the Green Deal Action Plan prepared in coordination by the Ministry of Trade in Türkiye, regarding biodiversity, zero emissions, mitigation and circular economy. However, concrete targets (such as percentages by year) are not defined explicitly. On the other hand, Türkiye has made climate change commitments, ratifying the Paris Agreement in October 2021 and committing to net zero emissions by 2053. The country is establishing new institutional arrangements for climate change issues, including the Ministry of Environment, Urbanization and Climate Change (Moecc), and is updating its National Climate Change Action Plan. The Climate Change Law, which is under preparation is expected to set concrete targets.

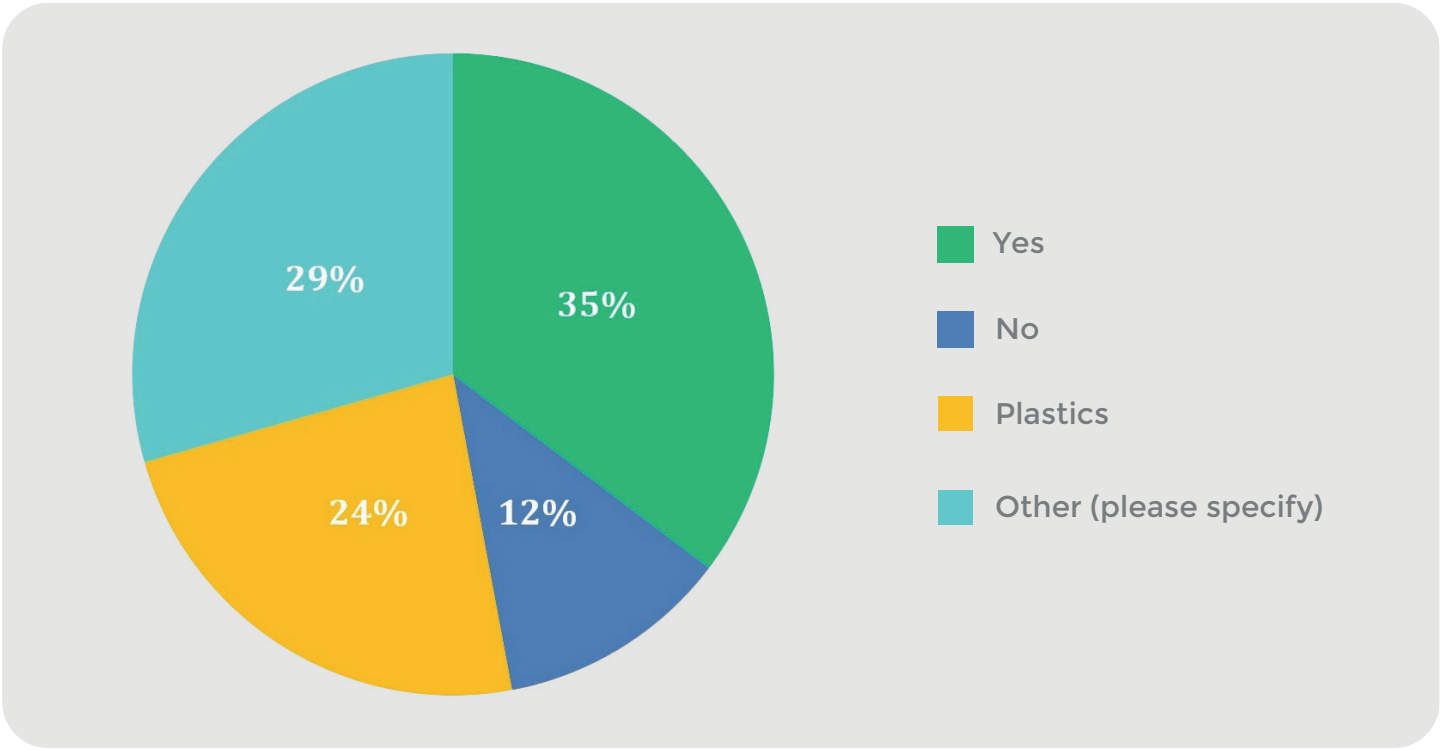
Q: The initial list of goods covered by the CBAM contains selected products in the cement, electricity, fertilizers, iron and steel, and aluminum sectors. Are these business sectors aware of CBAM requirements in your country?



Q: Does your country apply any form of carbon taxes or emissions trading schemes?



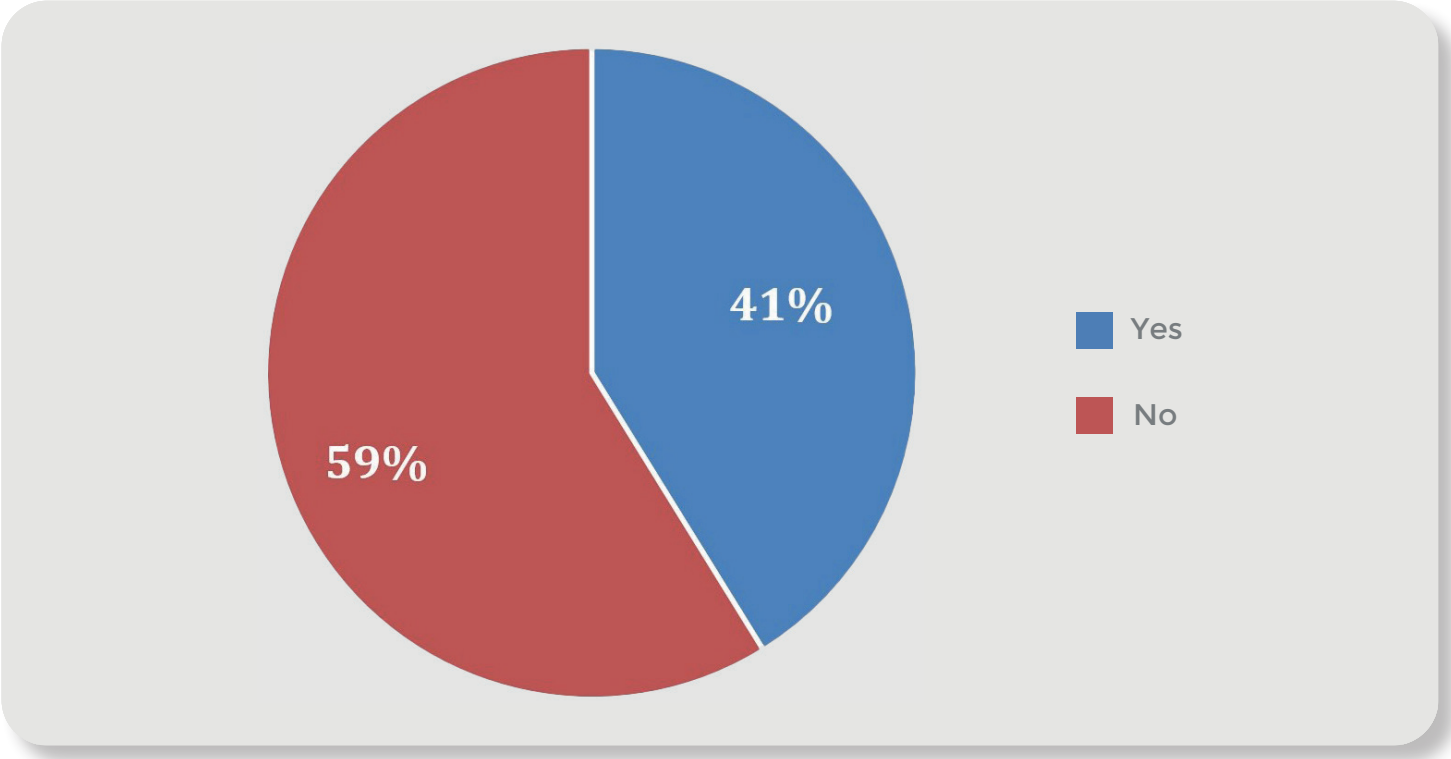
Q: What are the carbon emissions intensive goods that are exported to the EU from your country?



Others:

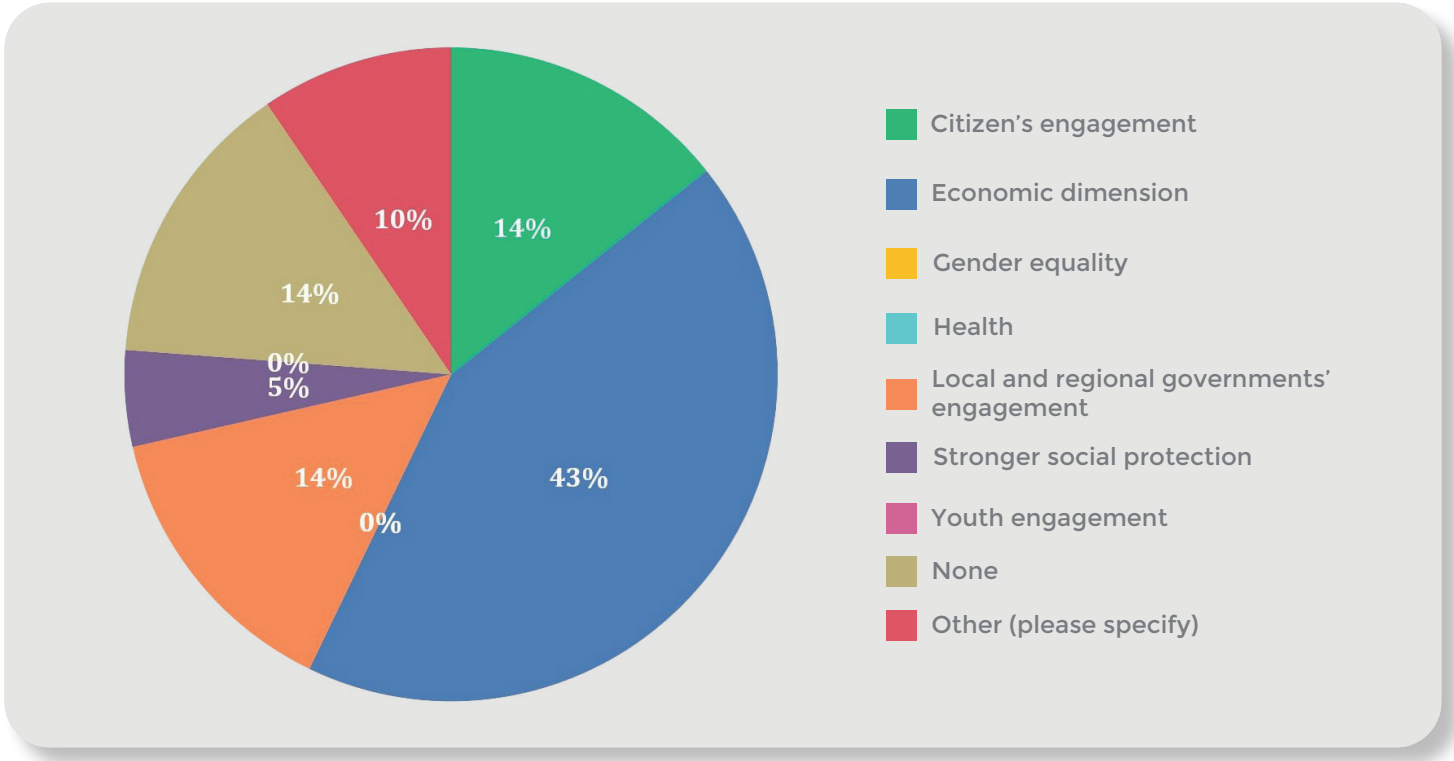
- All above.
- Aluminum, cement.
- No emission intensive goods are exported from Lebanon.

Q: Would CBAM negatively affect your country's competitive trading advantage (compared to countries to Africa, Asia for instance)?



- If countries are exempted from carbon taxes by aligning their ETS with the EU, they will be able to increase their global competitiveness.

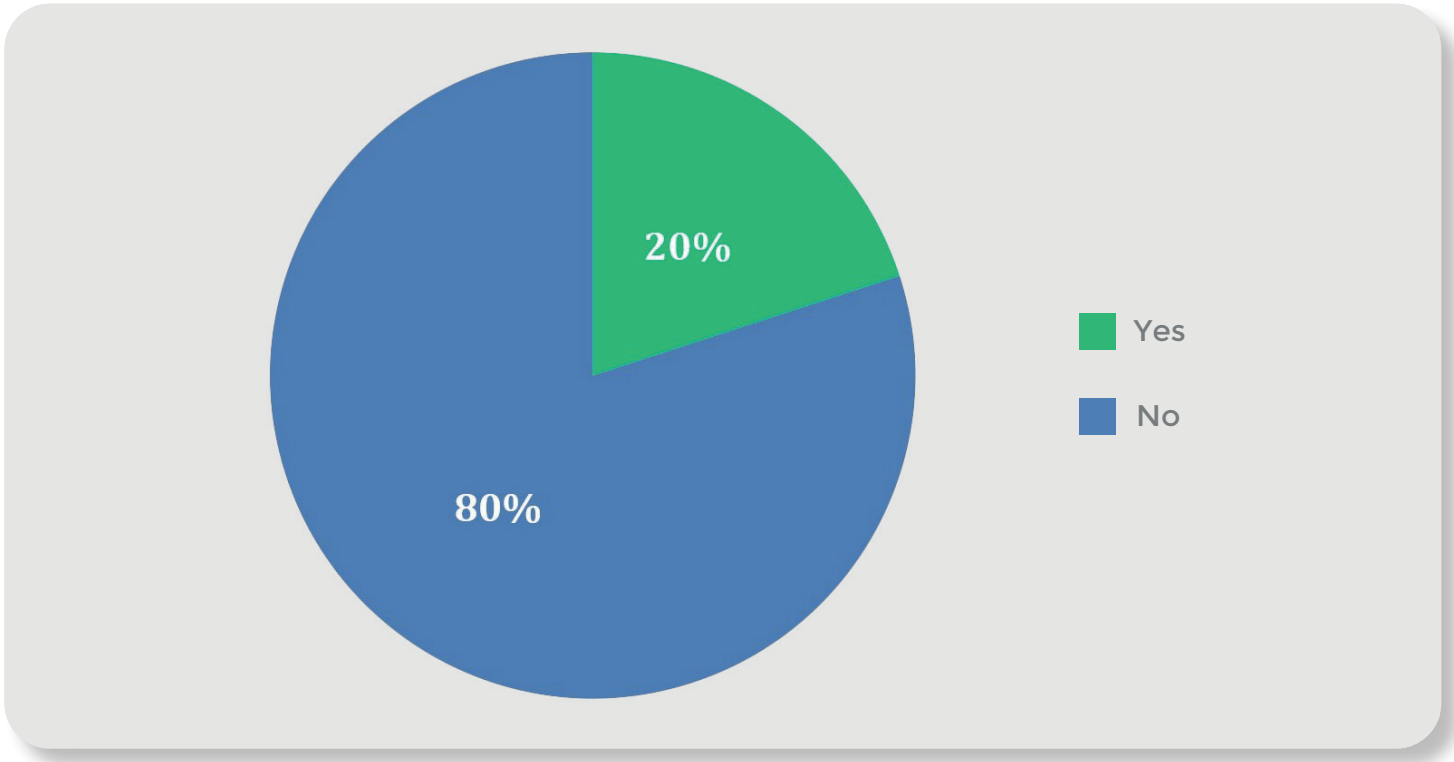
Q: Which elements do you see missing in the EU GD approach in your country?



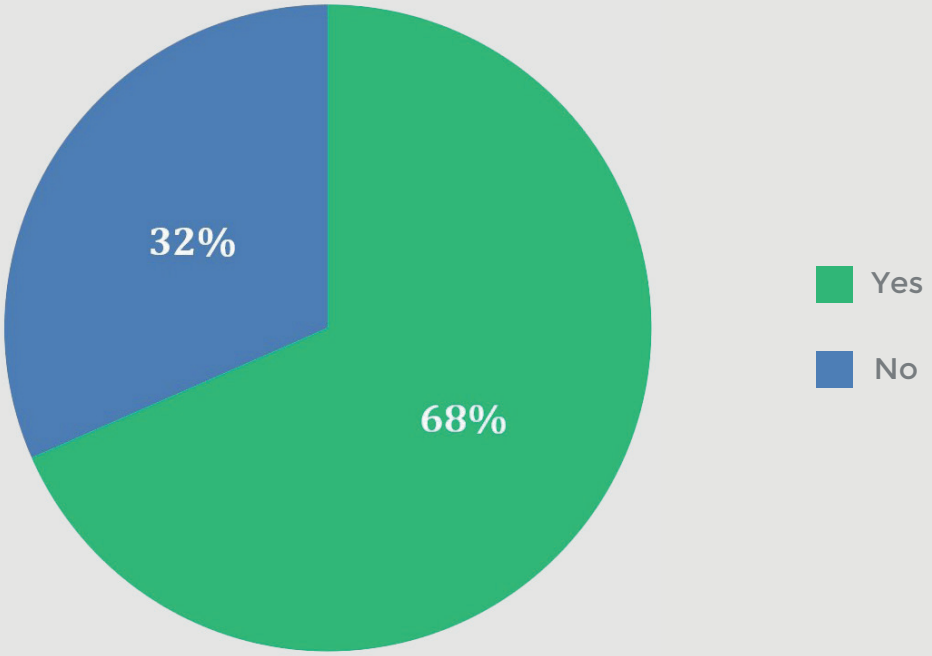
Others:

- Citizen's engagement, gender equality, health, stronger social protection, youth engagement and global cooperation.

Q: Do you export oil or natural gas to the EU?



Q: Any plans for electric vehicles (EV)?



Endnotes

1. European Commission, A European Green Deal, https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal_en, accessed on 27 August 2022.

2. Ministry of Planning, Egypt, Egypt vision 2030, https://arabdevelopmentportal.com/sites/default/files/publication/sds_egypt_vision_2030.pdf, accessed on 17 November 2022

3. Cairo governorate, Cairo future vision 2050, https://cairofrombelow.files.wordpress.com/2011/08/cairo-2050-vision-v-2009-gopp-12-mb.pdf, accessed on 10 November 2022

4. United Nations Conference on climate change, Egypt NDC, https://unfccc.int/sites/default/files/NDC/2022-07/Egypt%20Updated%20NDC.pdf.pdf, accessed on 5 November 2022

5. Grantham research Institute on Climate change and Environment, Egypt National Climate change strategy 2050, https://www.climate-laws.org/geographies/egypt/policies/egypt-national-climate-change-strategy-nccs-2050#:~:text=-Egypt›s%20National%20Climate%20Change%20strategy,all%20sectors%20in%20the%20country, accessed on 10 November 2022.

6. Ministry of Electricity, New and renewable Energy authority, Renewable Energy targets, http://nrea.gov.eg/test/en/About/Strategy, accessed on 10 November 2022.

7. Food and Agriculture organization, https://www.fao.org/3/cb6249en/cb6249en.pdf, accessed on 12 November 2022.

8. Organization for Economic cooperation and development, Taxing energy use for sustainable development, https://www.oecd.org/tax/tax-policy/taxing-energy-use-egypt.pdf, accessed on 16 November 2022.

9. Enterprise, what can we expect from the planned local carbon credit exchange, https://enterprise.press/greeneconomys/plans-afoot-introduce-local-carbon-trading-scheme-egypt/, accessed on 2 November 2022.

10. Lebanon, Economi9c vision of Lebanon, https://andp.unescwa.org/sites/default/files/2020-10/Lebanon%20Economic%20Vision.pdf, accessed on 3 November 2022.

11. Lebanese republic, ministry of Agriculture, Lebanon Agriculture strategy 2020-2025, https://andp.unescwa.org/sites/default/files/2021-09/Lebanon%20National%20Agriculture%20Strategy%202020-2025.pdf, accessed on 31 October 2022.

12. Lebanon, Lebanon updated NDCs, https://d1bf-23g64f8xve.cloudfront.net/sites/default/files/Lebanon%27s%202020%20Nationally%20Determined%20Contribution%20Update.pdf, accessed on 28 October 2022.

13. Jordan, Economic modernization vision, https://www.jordanvision.jo/img/vision-en.pdf, accessed on 28 October 2022.

14. United Nations Conference on climate change. NDC Lebanon, https://unfccc.int/sites/default/files/NDC/2022-06/UPDATED%20SUBMISSION%20OF%20JORDANS.pdf, accessed on 30 October 2022.

15. World Bank, Countries on Cusp on carbon markets, https://www.worldbank.org/en/news/feature/2022/05/24/countries-on-the-cusp-of-carbon-markets, accessed on 26 October 2022.

16. Mistry of Planning-Syria, https://andp.unescwa.org/sites/default/files/2021-11/Syria_2020.pdf, accessed on 4 November 2022.

17. Republic of Turkey, Turkey vision 2023, https://www.turkey-japan.com/business/category1/category1_70.pdf, accessed on 22 November 2022.

18. Ministry of Foreign Affairs, https://www.mfa.gov.tr/turkeys-energy-strategy.en.mfa, access on 1 January 2023.

19. United Nations Conference on climate change, NDC - Turkey, https://unfccc.int/sites/default/files/NDC/2022-06/The_INDC_of_TURKEY_v.15.19.30.pdf, accessed on 2 November 2022.

20. ERAI turkey, https://eraiturkey.com/news/electric-car-production-in-turkey/m Access 15 December, 2022.

21. World Steel Association, https://worldsteel.org/steel-topics/statistics/world-steel-in-figures-2022/, Access on 18 December, 2022.

22. European commission, Eu and Turkey discuss climate crisis and future

cooperation, https://climate.ec.europa.eu/news-your-voice/news/eu-and-turkey-discuss-climate-crisis-and-future-cooperation-2021-09-16_en, accessed on 23 November 2022.

23. International carbon Action Partnership, https://icapcarbonaction.com/en/ets/turkey, accessed on 18 November 2022.

24. United Nations Conference on climate change, https://unfccc.int/sites/default/files/resource/Stratégie%20de%20développement%20neutre%20en%20carbone%20et%20résilient%20-%20Tunisie.pdf, accessed on 12 November 2022.

25. United Nations Conference on climate change, https://unfccc.int/sites/default/files/NDC/2022-08/CDN%20-%20Updated%20-english%20version.pdf, accessed on 29 November 2022.

26. GIZ, global Carbon Market - Tunisia, https://www.giz.de/en/worldwide/74572.html, accessed on 30 November 2022.

27. United Nations Conference on climate change, https://unfccc.int/sites/default/files/resource/MLT_LTS_Nov2021.pdf, accessed on 2 December 2022.

28. European commission, Emission trading system, https://climate.ec.europa.eu/eu-action/eu-emissions-trading-system-eu-ets_en

29. Malta resources Authority, Emission trading – introduction, https://mra.mt/emissions-trading-intro/, accessed on 5 December 2022.

30. United Nations Conference on climate change, https://unfccc.int/sites/default/files/resource/9_Malta%20BR4_MA%20Presentation%202021.pdf, accessed on 3 December 2022.

31. Clean Energy Wire, Egypt's green hydrogen plans met with keen interest by German industry | Clean Energy Wire, accessed on 2 December 2022.

32. Youm Elsabeh, Egypt enters the era of Green hydrogen, https://www.youm7.com/story/2022/11/8/-مصر-تدخل-عصر-الهيدروجين-الأخضر-من-أوسع-أبوابه-إنفوجراف/5970168, accessed on 6 December 2022.

33. Zawaya, Egypt Suze Canal Signs seven new green fuel Production, https://www.zawya.com/en/projects/industry/egypts-sczone-signs-7-new-green-fuel-production-agreements-anpcb95x, accessed on 6 December 2022.

34. FES, Green Hydrogen Opportunities in Jordan, https://library.fes.de/pdf-files/bueros/amman/19061.pdf, accessed on 20 November 2022.

35. https://a9w7k6q9.stackpath-cdn.com/wpcms/wp-content/uploads/2021/11/Insight-102-What-role-for-Hydrogen-in-Turkeys-energy-future.pdf, accessed on 25 November 2022.

36. Reginal Center for renewable Energy and Energy Efficiency, Prospects and challenges of green hydrogen in the Arab region, https://www.google.com/search?q=-Prospects+and+Challenges+of+Green+Hydrogen+in+the+Arab+...+https%3A%2F%2F-www.oapecorg.org+%E2%80%BA+-media&client=safari&sxsrf=ALiCz-sa9WM-vwJPsKKJ5ENCZI9P6OGR4R-w%3A1670691264239&ei=wLmUY8KeDs-fGlwTk4LroAg&ved=0ahUKEwjC_tX-6we_7AhVH44UKHWSwDi0Q4dUD-CA8&uact=5&oq=Prospects+and+Challenges+of+Green+Hydrogen+in+the+Arab+...+https%3A%2F%2Fwww.oapecorg.org+%E2%80%BA+media&gs_lcp=Cgx-nd3Mtd2l6LXNlcnAQAzIHCCMQsAM-QJzIKCAAQRxDWBBCwAzIKCAAQRx-DWBBCwAzIKCAAQRxDWBBCwAzIK-CAAQRxDWBBCwAzIKCAAQRxDWBB-CwAzIKCAAQRxDWBBCwAzIKCAAQRx-DWBBCwAzIKCAAQRxDWBBCwAzIH-CAAQsAMQQ0oECEEYAEoECEYYAFDW-CVjWCWDtCmgDcAF4AIABAIgBAJIBA-JgBAKABAqABAcgBCsABAQ&sclient=g-ws-wiz-serp, accessed on 3 December 2022.

37. European commission, Malta 20309, National Energy and climate Plan, https://energy.ec.europa.eu/system/files/2020-01/mt_final_necp_main_en_0.pdf, accessed on 29 November 2022.

38. Mereller, Tunisia as a new hub for Green hydrogen, https://amereller.com/publication/tunisia-as-the-new-hub-for-green-hydrogen/?utm_source=Mondaq&utm_medium=syndication&utm_campaign=LinkedIn-integration, accessed on 22 November 2022.

39. FES, Sustainable transformation of Lebanon Energy system, https://library.fes.de/pdf-files/bueros/beirut/19294.pdf, accessed on 28 November 2022.

Chapter 3 :

Recommendations

Based on the analysis and findings presented in previous chapters of this report, it is crucial to provide actionable recommendations and guidance to the member countries, for a clear understanding of the EU Green Deal and optimal preparation to seize the opportunities it offers.

This chapter aims to provide specific recommendations to address the challenges faced and to support decision-makers and stakeholders in business support organizations, business networks, trade associations, policy organizations and relevant institutions in formulating effective strategies and action plans. To that end, and on the basis of analysis of the feedback received, here are the main recommendations and policy advice for employer federations in the seven member countries surveyed (Egypt, Jordan, Lebanon, Malta, Syria, Tunisia and Türkiye) to play an important role in promoting sustainable development and align enterprises' practices with the objectives of the EU GD:

1. Ecosystem

Understand the EU GD objectives:

Familiarize the members, as equally as possible, with the EU GD, to be at the same level of awareness and to ensure that no one is left behind. Introduce its objectives and targets, that could be defined as "a strategy for mobilization of whole community and enterprises to create clean and green economy through implementation of pro-environmental solutions in various sectors, which take into account the three aspirations of sustainable development - the well-being of people, the environment and economic sustainability" [1], and analyze the possible obstacles and risks (economic challenges, political and governance issues, technological gaps, infrastructure, etc.) as well as the opportunities which the members can benefit from.

Strengthen the ecosystem:

Communicate and engage with stakeholders to raise awareness among member companies about the importance of sustainability and the benefits of aligning with the EU GD objectives. Engage with employees, customers and the wider public, to communicate the commitment to sustainability and inspire broader action. Initiate a dialogue and start listening to what frontline and vulnerable communities think about green transition to get them on board. The ecosystem should be established with an inclusive mindset. Members should ensure that just transition addresses social and gender equity, job creation and social protection to avoid exacerbating existing inequalities and social unrest at the national level, and avoid asymmetric relationships between the EU and neighboring countries, at the regional level. [2]

Embrace sustainable practices to move towards Sustainable Industry:

Advocate for implementing sustainable practices not only as an environmental conservation tool but also as a cost-efficiency and competitiveness enhancer. Launch sector specific sustainable strategies and promote the importance of integration of twin transition by encouraging member enterprises to adopt sustainable practices across their operations and promoting responsible resource management, minimizing waste

generation and enhancing environmental Management Systems (implementing robust environmental management systems ISO 14001 or equivalent frameworks).

Promote Circular Economy (CE):

Promote the adoption of circular economy approach by members with a focus on recycling through encouraging the development of infrastructure to support the delocalization of CE value chains (absence of concrete targets or measures in the majority of countries investigated, more details in chapter 2). Consider the informal sector, especially in southern Mediterranean countries, since it has been demonstrated that significant economic and environmental benefits can be realized by integrating and leveraging the strengths of informality [7]. Align the EU's CE plan with existing CE initiatives in southern countries and explore innovative business models based on resource efficiency and product life extension. Support initiatives that promote the reintroduction of high-quality recycled materials with similar EU standards to facilitate exports.

Update trading system:

Establish national Emission Trading Systems (ETS), in close collaboration with the EU, and initiate negotiations to develop clear criteria in line with the EU-ETS system. In order to avoid fragmentation and disruption in value chains, start preparing for harmonization of standards for carbon emissions calculation, CBAM (Carbon Border Adjustment Mechanism), traceability and methodology. Work with those that will be hit hardest by this mechanism in order to help key industries transition away from carbon-intensive production. Take actions to scale companies up in order to compete or maintain access to the EU market and to not adversely affect the competitiveness of third country manufacturers in an unfairly fashion by causing new excessive bureaucracy. Take up opportunities and develop strategies to export green technologies, renewable hydrogen and replace current exporting countries to the EU. Improve the security of Critical Raw Materials (CRM) supply and limit dependence, first and foremost on China, by essential measures that includes greater supply diversification, increased recycling volumes and substitution of critical materials [8]. Finally, adopt new mirror clauses (example developed in agri-food trade to require that imported products meet similar regulatory standards as EU producers [9]).

2. Policy

Advocate for policy reforms:

Advocate with relevant partners for the introduction of regulatory frameworks and the promotion of favorable policies, tax incentives, funding mechanisms and subsidies that encourage sustainable practices, renewable energy adoption and the development of a greener economy. Shift to an active climate policy that supports access to finance opportunities and that facilitates climate- friendly transformation. Engage with government bodies and policy makers at the national and regional levels to improve areas of weakness in terms of legislations [3] and to promote policies that support the objectives of the GD in a timely manner. Stay updated on the latest global policies and regulations related to climate action, sustainable energy, circular economy and biodiversity conservation. Member countries surveyed should also seize this opportunity to redefine and reclaim citizen's participation in policy making by democratically restructuring institutions and monitoring to boost transparency [4], and set up, right from the start, just transition policies and programs to integrate the equity dimensions of the transition and ensure inclusion, to not perpetuate pre-existing sets of winners and loser [5].

Address barriers:

Address any legal or bureaucratic regulatory barriers that hinder the adoption of green initiatives.

Align with Sustainable Development Goals:

Adopt national transformation strategies to align the practices with the UN SDGs, that are closely linked to the EU GD, such as affordable and clean energy, responsible consumption, production and climate action. The SDGs and GD represents a new window of opportunity and should be a basis for dialogue between the EU and neighboring countries for defining joint cooperation for sustainable development [6].

Implement Energy Efficiency Measures:

Promote the mindset that advocates "the cheapest energy is the one we don't use". Encourage members to improve the energy performance in buildings, transportation, etc. (all countries surveyed, excluding Syria, has energy efficiency targets; more details in chapter 2). Include energy efficiency practices within value chains, upgrade equipment to more energy-efficient models, optimize production processes, raise employees' awareness about energy-saving measures and conduct regular energy audits.

Support clean energy transition:

Invest more in green transition in terms of labor and systems in the short/long term in order to remain competitive in a sustainable global market. Advocate for the adoption and expansion of renewable energy sources, in line with each country's specific geographical and climatic conditions, and encourage members to prioritize investments in clean energy technologies to reduce reliance on fossil fuels and decrease greenhouse gas emissions. Promote cooperation on

renewable electricity and explore innovative opportunities such as renewable sources of hydrogen, rather than natural gas-derived hydrogen, that is considered more sustainable and aligned with the objectives of the GD (for example solar hydrogen, wind hydrogen, geothermal hydrogen or biogas-derived methane pyrolysis hydrogen [10]). Encourage initiatives related to technologies based on Microbial Fuel Cells (MFC) [11] and nanomaterials to store CO_2, absorb pollutants and generate renewable energy[12] [13]. Most countries surveyed focus on the more common wind and solar panels. However, some countries such as Türkiye and Tunisia include a wider range of renewables (geothermal. biogas, off-shore wind), more details can be found in Chapter 2.

Each member country needs to develop its own transition strategy, taking into account the current state of the energy sector as well as its specific geopolitical situation. Common issues are utilization of efficient technologies, aligning the EU's Sustainable buildings plan with existing national Green Buildings' initiatives, replacement of coal, and nuclear power plants with "clean" technologies such as photovoltaics and wind [14], etc.

3. Funding and support

Green financing and investment:

Specify the financial resources needed and explore potential funding mechanisms and partnerships, at national and regional levels.

Implement new funding mechanisms:

develop incentives, grants, microfinance, loan guarantees, etc. Business organizations can educate green investors about the potential benefits of financing GD projects and the positive impact these investments can have on climate goals and sustainability.

Access to finance:

raise awareness among businesses about financial opportunities associated with the GD and sustainable investments. Organize workshops and seminars to educate enterprises about available green finance options, application process and eligibility criteria. Create green investment platforms that connect enterprises with potential green investors to facilitate matchmaking between them.

Support:

Business organizations can play crucial role in supporting enterprises not only by offering various financial assistance, as stated above, but also by non-financial assistance. It's crucial to offer technical assistance and capacity-building programs to help enterprises develop robust green projects (guidance on project planning, financial modeling, risk assessment, market assessment, technology assessment, sustainability assessment, etc.).

4. Education and skills development

Promote Green Skills and Education:

The shift to a green economy may lead to job losses in traditional sectors, such as fossil fuels, and require workforce reskilling and retraining, particularly for vulnerable populations in the least developed countries. Develop partnerships and collaborations with academic institutions and vocational training centers to work on programs that enhance green skills and knowledge among the workforce for national and regional job markets. Encourage members of Mediterranean countries to invest in training programs that promote sustainability and provide employees with the necessary skills to adapt to green economy and to promote a culture of sustainability.

Foster collaboration and knowledge sharing:

Facilitate collaboration among the member businesses, organizations and networks that share a common interest in sustainability through organizing conferences, workshops and networking events focused on sustainable practices aligned with the EU GD. Promote knowledge sharing, joint projects and exchange of best practices, fostering a culture of sustainability in the region to accelerate progress toward green goals.

5. Research and innovation

Invest in Research and Development:

Enable an equitable, technology-informed and clean energy transition through inclusive research [16]. Encourage the members to invest in Research and Development (R&D) activities to foster innovations and to develop sustainable technologies. This can also include initiatives such as supporting companies which foster partnerships with universities, research institutions to develop green solutions, processes and products. Startups and small and medium-sized enterprises that often do not have the resources to set up their own R&D departments need to be encouraged and supported to rely on public research for technological innovation. The missing link between member countries' entrepreneurs and researchers must be addressed, by putting in place the necessary regulatory framework and financial and technical support to develop joint projects, meetings (B2R -Business to Research) and various initiatives supporting this collaboration.

Support technology transfer and innovation:

Proactively negotiate fundings, skills, knowledge and technology transfer as well as localization of jobs around new green technologies. Southern countries, which may lack the necessary technological expertise and infrastructure to deploy and integrate green technologies effectively, need to benefit from technology transfer, capacity building and knowledge sharing initiatives as

well as adequate support and cooperation from EU developed nations to fill new technological gaps. In a context in which the EU competes with the US and China for clean technologies, countries in the neighborhood must position themselves as partners and not just as export markets for EU technologies, and ensure, as key partner countries, that technology transfers and skills exchanges are available so that they are not left behind by the green transition. Also, southern Mediterranean companies must be prepared to collaborate to foster economic diversification, including investment into renewable energy and green hydrogen sectors that could in the future be exported to Europe (4/7 countries surveyed, include green hydrogen in their renewables mix, however, none of the countries mentioned green hydrogen as a priority, more details to be found in chapter 2).

Support access to research programs:

Assist members to explore funding opportunities to support research projects and green innovations (such as Horizon Europe, LIFE, European Innovation Council, etc.). Provide financial support, expertise, and personalized coaching to improve skills in networking, setting up consortiums, drafting and submitting project applications for greater success in obtaining funds. Take advantage of the Southern neighborhood strategy of the EU and the mobilization of €7 billion under the NDICI, including EFSD and the Neighborhood Investment Platform, which would help mobilize private and public investments of up to EUR 30 billion in the Southern Neighborhood of the EU.[17]

6. Monitoring progress

Monitor and report progress:

Encourage the companies of member companies surveyed to monitor their sustainability performance and report their progress data transparently. Required relevant indicators are grouped in three main categories “ESG”, Environmental (Amount of water used, life cycle of the product, Raw materials used, Carbon footprint, Carbon dioxide emissions during transit), Social (handling of diversity, compliance with equality policies, transparency in human resources management, support for balancing work and family life, health and safety of employees) and Governance (working capital, debt, turnover and overall profitability)[15]. Consider EU’s regulatory framework on ESG Standards (Corporate Sustainability Due Diligence Directive - CSDDD, Corporate Sustainable Reporting Directive - CSRD, Taxonomy criteria) to develop relevant metrics and indicators in line with the EU, rather than separate local standards, to assess and track the environmental impact demonstrating the commitment to sustainability, and associate it with digital transition (4/7 countries surveyed don’t have any concrete goals or measures of success, more details in Chapter 2).

7. Communication strategy

Communicate progress:

recognize and celebrate the achievements of businesses within the confederations that have successfully implemented sustainable practices.

Establish digital platforms:

associate green transition with digital transition (twin transition) to develop platforms for dialogue and knowledge sharing.

Organizing impactful events:

engage and inspire members and, using creativity and originality, by organizing green events (sustainable fashion show, recycling rewards program, green deal fil festival, etc.). Take advantage of the presence of the creative and cultural sector in confederations to involve them in raising awareness of the GD issues, and invite established individuals for widespread impact.

Conclusion

The Green Deal, introduced by European Union, aims to transform the region into a climate- neutral and sustainable economy by 2050. While majority of the developed European countries may strongly benefit from its application, other Mediterranean countries, particularly the least developed ones, are likely to encounter several challenges in its implementation. Countries surveyed need to become prepared for economic challenges, political and governance issues, socioeconomic implications, infrastructure and connectivity difficulties, and technological gaps.

Consequently, the transition towards a sustainable and green economy, often taken for granted, must be managed cautiously. Implementation of the EU GD, without the noted adjustments poses a potential risk to sustainable development. By considering the recommendations outlined in the last chapter, the seven member countries surveyed (Egypt, Jordan, Lebanon, Malta, Syria, Tunisia and Türkiye) can harness the transformative potential of opportunities led by the EU GD. The recommendations presented must be taken as a starting point, their updating may be necessary based on evolving circumstances and specific national and regional contexts. It is also critical to take into account the unique socio- economic, political and environmental context of each country studied, and to acknowledge the importance of collaborative efforts and partnerships in achieving the GD goals. Southern Mediterranean countries should take advantage of the declared will in EU's regional strategies, and seek to respond to the needs of partner countries and regions. Through concerted efforts and collective action at national and regional levels, sustainable, green and inclusive economies can be nurtured in the Mediterranean and contribute to the global efforts to develop a greener future.

References

Smol, M. Is the green deal a global strategy? Revision of the green deal definitions, strategies and importance in post-COVID recovery plans in various regions of the world. *Energy Policy* **169**, 113152 (2022).

Filipović, S., Lior, N. & Radovanović, M. The green deal – just transition and sustainable development goals Nexus. *Renew. Sustain. Energy Rev.* **168**, 112759 (2022).

Türker, Y. Ö. & Aydin, A. How ready is the Turkish Legislation for the green deal? *Energy Clim. Change* **3**, 100084 (2022).

Vanegas Cantarero, M. M. Of renewable energy, energy democracy, and sustainable development: A roadmap to accelerate the energy transition in developing countries. *Energy Res. Soc. Sci.* **70**, 101716 (2020).

Carley, S. & Konisky, D. M. The justice and equity implications of the clean energy transition. *Nat. Energy* **5**, 569–577 (2020).

Koch, S. & Keijzer, N. The external dimensions of the European green deal: the case for an integrated approach. *Brief. Pap.* (2021) doi:10.23661/BP13.2021.

Kala, K., Bolia, N. B., & Sushil. Analysis of informal waste management using system dynamic modelling. *Heliyon* **8**, e09993 (2022).

European Council on Foreign Relations *et al.* The geopolitics of the European Green Deal. *Int. Organ. Res. J.* **16**, 204–235 (2021).

Matthews, A. & Matthews, A. Implications of the European Green Deal for agri-food trade with developing countries. (2022) doi:10.22004/AG.ECON.321162.

Sánchez-Bastardo, N., Schlögl, R. & Ruland, H. Methane Pyrolysis for Zero-Emission Hydrogen Production: A Potential Bridge Technology from Fossil Fuels to a Renewable and Sustainable Hydrogen Economy. *Ind. Eng. Chem. Res.* **60**, 11855–11881 (2021).

Naha, A., Debroy, R., Sharma, D. & Shah, M. P. Microbial Fuel Cell: A State-of-the-Art and Revolutionizing Technology for efficient Energy Recovery.

Li, K. *et al.* Coal-derived carbon nanomaterials for sustainable energy storage applications. *New Carbon Mater.* **36**, 133–154 (2021).

Nishu & Kumar, S. Smart and innovative nanotechnology applications for water purification. *Hybrid Adv.* **3**, 100044 (2023).

Dedinec, A., Dedinec, A., Taseska-Gjorgievska, V., Markovska, N. & Kanevce, G. Energy transition of a developing country following the pillars of the EU green deal. *Therm. Sci.* **26**, 1317–1329 (2022).

Di Simone, L., Petracci, B. & Piva, M. Economic Sustainability, Innovation, and the ESG Factors: An Empirical Investigation. *Sustainability* **14**, 2270 (2022).

Ravikumar, A. P. *et al.* Enabling an equitable energy transition through inclusive research. *Nat. Energy* **8**, 1–4 (2022).

Green-deal-eu-foreign-development-policy-ecdpm-briefing-note-131-2021.pdf.

EU Green Deal implications on the South Mediterranean countries

This document is developed by

In the framework of the EBSOMED project

Project funded by the
EUROPEAN UNION

The EBSOMED project is led by BUSINESSMED within a consortium of six partners.