Assessing EU–Mediterranean Policies in the Fields of Industry and Energy from a Bottom-Up Perspective

Nora Aboushady, Chahir Zaki, Jean-Yves Moisseron and Khaled Guesmi

This project is funded by the European Union's Horizon 2020 Programme for Research and Innovation under grant agreement no 693055.
Assessing EU–Mediterranean Policies in the Fields of Industry and Energy from a Bottom-Up Perspective

Nora Aboushady, Chahir Zaki, Jean-Yves Moisseron and Khaled Guesmi

ABSTRACT
The objective of this report is to evaluate the different EU policies in the industrial and energy sectors in four countries (Egypt, Lebanon, Morocco and Tunisia) based on assessment by local and European stakeholders, and to provide a list of policy recommendations based on these assessments. Adopting a bottom-up approach, such policies are evaluated in terms of their general conceptualization, how they have been implemented (instruments), in which sectors they have been channelled (substance) and how they have been tailored to different stakeholders (actors). Our main findings show that for industry, at the instruments level, most of the tools have targeted mainly trade and infrastructure, and – sometimes – macroeconomic stabilization rather than addressing industrial development and thereby contributing to job creation and inclusive growth. Concerning energy, despite the many instruments put in place by the EU in the region, local respondents were unable to name even one of the EU’s regional energy policies, platforms or initiatives. Furthermore, at the actors level, civil society was almost absent in tailoring and developing such policies. For industry, at the substantive level, most of the interventions did not directly target the industrial sector and when they did, they were channelled to low-value-added sectors leading to an insignificant effect on employment in general and women’s employment in particular. For energy, the scope of the EU policies remains timid and below the needs of the South Mediterranean countries. A different approach (with the civil society in the development stage; for women and in different sectors in the implementation stage) is essential for more effective policies.

INTRODUCTION
The concept of the Mediterranean emerged in the 1960s as a response to historic, political and economic ties between the European Community and countries on the southern shore of the Mediterranean. The importance of Europe as a main trade partner for the majority of South Mediterranean Countries (SMCs) acted as the main trigger to the institutionalization of these ties. Euro-Mediterranean relations began as unilateral preferences and non-reciprocal treatments between European countries and SMCs in the 1960s and continuing until the launch of the Barcelona Process in 1995. More particularly, the Global Mediterranean Policy carried out in 1972 assigned some privileges to Middle East and North Africa (MENA) countries in areas not threatening to the European Common Agricultural Policy.

1 Nora Aboushady is Assistant Professor at the Faculty of Economics and Political Science, Cairo University. Chahir Zaki is Associate Professor at the Faculty of Economics and Political Science, Cairo University. Jean-Yves Moisseron is Research Director at the Institut de Recherche pour le Développement (IRD) and Professor at IPAG Business School. Khaled Guesmi is Finance Professor at IPAG Business School and Visiting Professor at Telfer School of Management, University of Ottawa.
With the launch of the Barcelona Process in 1995, the concept of the Euro-Med region has evolved into a more advanced form of relations based on the will to establish a common area of peace and prosperity. The region witnessed the launch of trade negotiations based on including bilateral concessions and the conclusion of Association Agreements (AAs) with a number of SMCs, leading to an eventual creation of a Free Trade Area (FTA) for industrial products between both shores of the Mediterranean by 2010. Trade agreements fall, however, under the larger three-pillar Euro-Mediterranean Partnership (EMP) providing for (i) a political and security partnership to achieve common area of peace and stability; (ii) an economic and financial partnership to create an area of shared prosperity; (iii) a partnership in social cultural and human affairs to promote understanding between cultures and exchanges between respective civil societies.

The EMP was replaced by the New Neighbourhood Policy in 2004 and later by the Union for the Mediterranean (UfM) in 2008. The UfM currently frames Euro-Mediterranean relations in all of their dimensions, covering 12 SMCs: Jordan, Israel, Morocco, Tunisia, Egypt, Syria, Turkey, Cyprus, Malta, Algeria, the Palestinian Authority and Lebanon. Association Agreements have been concluded by means of Action Plans (AP) to cater to the objectives of the UfM, to achieve the FTA, and to pave the way for an eventual Deep and Comprehensive Free Trade Agreement (DCFTA) in the future, allowing for a greater reduction in non-tariff barriers, the elimination of technical barriers to trade, free trade in services, and better investment flows.

Yet, it is important to note that, based on theory and practice, trade liberalization is not the golden door to reach inclusive development, especially between countries that have not achieved a similar level of development (Harrison 1996, Lee 2005, Zaki 2016). Furthermore, different stakeholders (especially for Tunisia and Lebanon) mentioned the lack of balance between the effort made by the countries in the framework of the Free Trade Agreement and the counterparts offered by the EU (grants and loans) (Guesmi and Moisseron 2018, Chaaban et al. 2018). Indeed, the way the SMCs have been integrated to the European Market (i.e., low technological subcontracting) leads to a development model that is not compatible with the qualified youth entering the job market. This is why the dependent trade relations with Europe and the specialization of the South Mediterranean country are strong obstacles to reforming the economic model.

Concerning energy, the EU policy is mainly driven by the Mediterranean Solar Plan (MSP), one of the six pillars of the Union for the Mediterranean (2008) which was the successor to the New Neighbourhood Policy (2004) and tried to enforce the Barcelona Process (1995). The MSP has both political and industrial objectives. Its aim was the development of renewable (mainly solar) energy systems for power generation in the Mediterranean, with the purpose of achieving a capacity of 20 gigawatt/year by 2020.

The general ambition of the Mediterranean plan was to support liberalization and market regulation in the production and distribution of electricity, and also to build the infrastructure to connect European and southern grids. The general philosophy consists of helping the emergence of an integrated Trans-Mediterranean Market. The MSP was also fuelled by the Desertec project, initiated by a consortium of German enterprises, whose purpose was to develop large CSP power plants in the South, connected by trans-Mediterranean HVCC grids able to transport electricity over long distances.
However, these two huge projects failed for different reasons detailed in the MEDRESET Methodology and Concept Paper on energy and industry (Moisseron et al. 2017: 16), notably the impossibility for Mediterranean countries to export green energy due to the huge local demand for electricity, and also difficulties encountered by the MSP reflecting governance issues and political economy constraints that were underestimated.

These failures have affected the regional ambitions of the EU. Even if the initial goals remain (support for liberalization and integration), the EU is using limited grants and facilities to finance national projects in the southern countries, while keeping a regional dimension through multilateral programmes on specific topics (for example, MedReg). The EU is also challenged by the policies of EU member states that are acting autonomously in the field of energy, as is the case for Germany, Spain and Italy.

The EU is still focusing on energy with the creation of the Energy Union, the initiative launched by the Juncker Commission in February 2015 with the publication of two Communications and aimed at covering the whole spectrum of European energy policy. Five comprehensive dimensions pave the way for new policies: security of supply, energy market, energy efficiency, decarbonisation, and research and development. However, the Mediterranean aspect is limited, and the EU has encountered new challenges and turbulences such as Brexit and the migration problems, which limit the scope of the energy priorities.

Hence, the objective of this report is to present the main results of Work Package 6 of the MEDRESET project aiming at evaluating EU policies in the industry and energy sectors in the Southern and Eastern Mediterranean (SEM) region from a bottom-up perspective, as well as to provide policy recommendations addressed to the EU. In particular, WP6 was based on recursive multi-stakeholder consultations carried out in four SEM countries (Egypt, Lebanon, Morocco and Tunisia) and in the EU. Adopting a bottom-up approach, such policies are evaluated in terms of their general conceptualization, how they have been implemented (instruments), the sectors in which they have been channelled (substance) and how they have been tailored to different stakeholders (actors).

The report is organized as follows. Section 1 presents the methodology. Section 2 shows how the concept of the Euro-Mediterranean region is perceived by different stakeholders. We find that European stakeholders were unable to provide a concrete conceptualization of EU policies in the region. For both energy and industry, integration remains relatively limited and rather shallow, taking the form of fragmented financial and technical assistance programmes. Section 3 evaluates how EU policies have been assessed by the interviewed stakeholders in terms of instruments, substance and actors. We conclude that for industry, most of the tools have focused on trade in the first place, and when they have been directed towards industry, they have been channelled to low-value-added sectors. For energy, the scope of EU policy is below the needs of the SMCs. At the actors level, civil society was almost absent in tailoring and developing such policies for both sectors. Section 4 provides a gender lens towards such policies. Our findings suggest that for both industry and energy, the gender dimension is largely absent from EU policies towards the region, and does not contribute to employment creation in general, and for women in particular. Finally, the latest section concludes by providing a list of policy recommendations for both sectors.
1. Methodology

WP6 aims to investigate the Euro-Mediterranean policy regarding industry and energy “to deconstruct the theory and practice and try to pave the way for a new approach or consolidate what has been gained so far” (Moisseron et al. 2017. 25). In this context, the research seeks to understand whether EU policies related to the industry and energy sector in our four countries respond to welfare and to local economic needs. In this regard, specific attention is given to the scope and objectives of the EU industry/energy policy contained not only in political declarations, but in the reality of its instruments. To do so, we relied upon the existing and accessible documentation: EU-produced documentation (i.e., reports and decisions), national documentation (i.e., institutional documents or statements, media materials, including daily reports from grassroots organizations) and grey and academic literature when deemed relevant to the EU–industry–energy nexus.

The above-described methodology adheres to the framework proposed in the conceptual and methodological background on industry and energy (Moisseron et al. 2017), namely recursive multi-stakeholder consultations (RMSCs). The RMSCs, based on semi-structured interviews with relevant stakeholders, constitute an innovative methodology permitting reversal of the ordinary approach whereby perceptions and priorities of southern shore partners are included in the picture only marginally and/or a posteriori. In MEDRESET, in contrast, EU-level stakeholders are invited to react and position themselves with reference to structured inputs coming from Mediterranean partners. This reversal represents an innovative approach capable of generating fresh and innovative policy perspectives. Interviews have been conducted with officials in public institutions, international organizations, firms from the private sector, financial institutions and civil organizations, from both the southern and the northern shores of the Mediterranean. The interviews were mostly conducted over the period September–December 2017 (first round) and over the period February–April 2018 (second round). Interviews were held in Morocco (21 interviews: 13 males and 8 females), Tunisia (21 interviews: 14 males and 7 females) and Lebanon (21 interviews: 14 males and 7 females), but not in Egypt. However, for the energy sector in Egypt, 15 Skype interviews were carried out (11 males and 4 females).

On the European side, interviews in the energy sector involved a total of 13 different European stakeholders (interviews were conducted via Skype with the exception of some interviews that were done on the field in Morocco and Egypt). For industry, 10 interviews were conducted (8 out of 10 were done face-to-face in Brussels, one in Paris and one by phone). Only two females for industry and three females for energy were interviewed. In general, these stakeholders involved: (i) European national institutions and authorities; (ii) private energy companies operating in the countries considered; (iii) think-tanks, scholars and research centres; (iv) international organizations and non-governmental organizations working in the area; (v) energy associations and platforms; and (vi) lobbyists.
2. The Conceptualization of the Mediterranean

The concept of the Mediterranean remains limited to a shallow form of integration based on "aid-for-trade". More specifically, interviewed stakeholders from the EU and the four SMCs were mostly unable to conceptualize EU policies towards the region. There has been an overall confusion between trade liberalization and EU industrial policies, on the part of local stakeholders. The main objective of the concept of the Mediterranean – "an area of peace and shared prosperity" – failed to materialize for a number of reasons:

First, establishment of the FTA by 2010 did not take place, and the integration process was further delayed due to the overall economic slowdown since 2008 as well the divergence of EU member countries on the idea and modalities of a Free Trade Agreement with the region (Moisseron et al. 2017: 19). The objective of an integrated Trans-Mediterranean market for energy has been delayed as well, becoming a long-term target. Each state in the EU and along the southern shore of the Mediterranean still has its own strategies, policies and security concerns. The construction of interconnected HCCC grids will take years and maybe decades to be achieved.

Second, after the events of the Arab Spring, the region was politically and economically shaken. These events highlighted the need for a new way to address the southern shore of the Mediterranean with more effective policy tools that fit within the new setup and contribute to solving chronic issues in SMCs. It has been highlighted in the Tunisia country report concerning industry that, before the uprisings, EU policies towards the region did not correspond at all to the situation (Guesmi and Moisseron 2018). Moreover, the Arab Spring has affected the energy production capacity of the countries, mainly in Tunisia and Egypt. Restoring energy security has therefore become the first priority instead of developing renewable energy and strengthening the role of the market.

Third, the current status of the Euro-Mediterranean integration process remains fragile and shallow. Euro-Mediterranean relations continue to rely heavily on trade liberalization of industrial products, largely excluding agriculture (where SMCs have a revealed comparative advantage) and services. Additionally, the EU does not have one comprehensive framework for cooperation with the region in the field of FDI, one of the major motors of growth in the industrial sector. Instead, SMCs such as Egypt have concluded bilateral FDI agreements with EU countries separately (Moisseron et al. 2017: 19). One of the European think-tanks interviewed also pointed to the nature of industrial links and the quality of FDI coming from the EU. These flows were allocated towards the acquisition of privatized companies in less labour-intensive sectors, such as banking, oil and real estate. These investments also neither generate spillovers and innovation, nor provide a larger access to EU markets for SMCs (Bianchi et al. 2018c: 14). Finally, the market orientation of the EU policy in the international field may further limit the possibilities to construct long-term structural agreements, especially for oil and petrol.

Fourth – as will be discussed in this report – EU policies towards the region do not directly target industrial development, and have contributed little to job creation, inclusive growth or the sorts of structural change that are much needed in SMCs after the successive uprisings in 2011. It is also worth noting that SMCs can hardly be described as industrial countries and have not developed significant industrial sectors (Bianchi et al. 2018c: 5). In the case of Morocco, for example, the country has an industrial policy and a plan and a vision for the
industry sector, which have contributed to the rise of the automobile and aeronautic sectors. However, as the authors of the Morocco report conclude, the economy remains basically rural, and these emerging industrial sectors remain dominated by foreign stakeholders in terms of design, conception and implementation (Moisseron and Guesmi 2018b: 30). As for Tunisia, local stakeholders note that EU policies were unable to assist with an upscale to more promising niches (Guesmi and Moisseron 2018: 26). EU policies in this field remain limited to fragmented financial and technical assistance programmes serving trade enhancement, trade facilitation and increased competitiveness in traditional sectors characterized by low added value and by intensity in unskilled labour. Similarly, we observe fragmentation and low involvement of the EU in the field of energy.

Fifth, SMCs enjoy different degrees of integration with the EU. While Morocco has held Advanced Status since 2008 and Tunisia has been a Privileged Partner since 2012, countries such as Lebanon and Egypt are relatively late in the integration process. Although some lobbyists in favour of a DCFTA highlight that its conclusion will significantly facilitate the trade between the two shores of the Mediterranean, as it will reduce the potential to “overuse” non-trade barriers (Bianchi et al. 2018c: 14), SMCs appear to be reluctant about implementation for fear of high social costs resulting from competition between their local market actors and the European providers. A DCFTA may worsen the situation in terms of unemployment, labour precariousness and job losses for women (Moisseron et al. 2017: 20). In Morocco, the existing FTA with the EU is criticized for having deteriorated the country’s trade deficit (Moisseron and Guesmi 2018b: 22). In the case of Lebanon, stakeholders argue that the AA, along with steps taken to ensure Lebanon’s accession to the WTO, have hurt Lebanese exports and worsened the trade deficit (Chaaban et al. 2018: 9). Moreover, the MSP rationale which consists of exporting green energy to Europe was not always considered as a “win-win” process. The EU was perceived by Tunisian stakeholders as a dominant power, using its own technology and its financial clout to take advantage of a resource in the South when the growing needs for electricity are mainly in Africa (Guesmi and Moisseron 2018: 24).

Finally, the concept of the Mediterranean does not exclusively rely on North–South integration, but also includes South–South cooperation to facilitate the development of the region into a single integrated market through the Greater Arab Free Trade Area (GAFTA) and the Agadir Free Trade Agreement. However, the region remains one of the least integrated in the world, with low prohibitive levels of intraregional trade that frighten off international investors (Moisseron et al. 2017: 19). Aside from political instability, non-tariff barriers, poor infrastructure and high transportation costs, lack of economic diversification and lack of intra-regional investments are among the main causes leading to the current situation of SMCs at the level of South–South as well as North–South integration. The situation is similar for energy. The national grids of the SMCs are barely connected and the level of energy trade between the countries and with Europe is limited.
3. Evaluation of the EU’s roles

3.1 Instruments

Although industry has been at the core of the Association Agreements signed with SMCs (since free trade concerns the industrial sector in the first place), the relevance of EU policy instruments to promote industrial development in the South Mediterranean appears to be low. As highlighted by several stakeholders and concluded from texts of agreements and Action Plans, there is a general impression among European stakeholders that EU policies have shifted from a slight interest in industry to a stronger focus on trade liberalization and trade-related reform under the Neighbourhood Policy (Bianchi et al. 2018c: 5). Aside from trade-related policy tools that may affect industry, or fragmented sector-specific programmes, the interviewed stakeholders in the four SM countries were mostly unable to provide a clear picture of the EU’s policy instruments targeting the industrial sector per se. Respondents from the private sector in Morocco pointed out that the diversity of sources for EU funds, and the fact that European financing is channelled through Moroccan institutions, renders the EU’s actions in the field of industry invisible (Moisseron and Guesmi 2018b: 26, 30). In Tunisia, EU funds have been mainly allocated towards economic recovery since 2011 (Guesmi and Moisseron 2018: 19–21), in addition to technical assistance to enterprises in a number of sectors (PCAM programme). However, Tunisian stakeholders were unable to identify EU industrial policy in the region in an isolated way. This is because the EU tools mainly depend on funds delegated to the Tunisian state, which allocates its resources to different institutions and agencies (Guesmi and Moisseron 2018: 25).

In the early implementation phases of the Association Agreements, however, countries such as Morocco and Tunisia were able to benefit from EU-funded industrial upgrade programmes to prepare their sector for increased competition due to liberalization and thereby contain the possible negative effects. However, under the European Neighbourhood Instrument (ENI), targets of EU policy tools appear to have changed. Financial and technical assistance mainly caters to the fluidity of regional trade and paves the way towards deeper integration (Bianchi et al. 2018c: 5).

The majority of EU instruments do not specifically target industry, but may affect businesses in the field. In general, EU instruments with some (indirect) relevance to industry include: (i) technical assistance for capacity-building and twinning projects in government institutions, notably in the field of quality infrastructure; (ii) infrastructure development programmes; (iii) tools targeting SMEs, growth, competitiveness and enhancing the business climate; (iv) education and other social aspects; and (v) funds to support macroeconomic structural reform. In Lebanon for example, EU industry-related policies are aimed at capacity-building through technical assistance, training and workshops, and at creating a favourable business environment for SMEs (Chaaban et al. 2018: 13). In Egypt, only marginal funds were directly allocated towards certain (traditional) industry sectors, such as textiles, whereas instruments targeting industrial diversification and upscale have been largely absent. In Morocco, the EU policy is reflected in the upgrading programmes, training or employment support, and in the growth and competitiveness support programme. These policies do not specifically target the industry field even if they affect industrial businesses (Moisseron and Guesmi 2018b: 30).
The 2014–2017 Euro-Mediterranean work programme has an industry component on the establishment of a pan Euro-Mediterranean market for industrial products. To realize this objective, the EU is using the Agreements of Conformity Assessment and Acceptance (ACAA) instrument and the elimination of technical barriers to trade. Again, the objective is to enhance trade, paving the way towards a DCFTA rather than contributing to developing the industrial sector.

One of the main explanations for the absence of explicit policy tools in the field of industry concerns SMCs’ internal policies. In Egypt, the Industrial and Trade Development Strategy (2016–2020) does not provide a clear vision of targeted sectors with potential for upscaling, growth or job creation. In Tunisia, the Economic Development Programme (2016–2020) appears to be very ambitious for a 5-year implementation period. In Morocco, the state does not position itself as a strategist responsible for determining industrial policy, but rather as a market regulator whose role is to limit distortions. Policy tools are hence limited to financial inclusion and SME support. Finally, in Lebanon, an industrial development strategy is absent and high costs of land, energy and labour, in addition to regional instability, offset any efforts to improve this sector.

The absence of a clear vision and timeframe with specific and realistic targets concerning industry in SMCs is likely to limit the efficiency of any EU efforts to provide support in this field. This is particularly clear in the case of Lebanon: on the one hand, local stakeholders blame the government for “failing to understand the needs of the [industry] sector” which in turn has translated into ineffective, unnecessary or redundant projects being carried out by the EU (Chaaban et al. 2018: 17). On the other hand, the absence of clear industry-targeting instruments has been largely attributed by multiple local stakeholders to the allocation of large parts of EU assistance to the Syrian refugee crisis rather than the development of certain Lebanese sectors that desperately need support (Chaaban et al. 2018: 13). It has been emphasized by several local stakeholders that bureaucracy, corruption and absence of coordination among government authorities have also limited any potential success of industry-specific EU policies. The Association of Lebanese Industrialists, for example, emphasized the necessity for improving transparency within public administrations to curtail corruption (Chaaban et al. 2018: 14). Also, a number of interviewees have pointed to excessive evaluation by the EU before project implementation, whereas there is less clear assessment following project implementation or fund disbursement, opening the door for corruption (Chaaban et al. 2018: 17–8). In Morocco, particular governance issues and excessive administrative sectionalism prevent different stakeholders from coordinating their efforts and benefiting from EU funds (Moisseron and Guesmi 2018b: 27). Moreover, Moroccan experts suggested that European policies and the projects created by Europe are poorly evaluated. There is also a lack of transparency concerning evaluations of projects (Moisseron and Guesmi 2018b: 28).

Fragmentation and lack of sustainability have also limited EU policies efficiency in the industry sector. In Lebanon, lack of sustainability of funds has contributed to this outcome. It was argued by a local stakeholder that projects often cease after a certain period of time due to discontinuation of funding or administrative change within the coordinating partner in Lebanon (Chaaban et al. 2018: 18).
Concerning energy, according to the last Single Support Framework, the involvement of the European Union in MENA’s energy sector has been mostly in support of the securitization of energy resources and production, as well as efforts towards environmental sustainability, ultimately aimed at improving the quality of life, more than dealing with the energy sector *stricto sensu*. The main mechanisms the EU has used to enhance cooperation with MENA region are twofold: bilateral and multilateral instruments.

The bilateral instruments are tailored according to national strategies and support projects or programmes launched by the countries. For example, the EU support to Egypt is coherent with the Egyptian 2035 Energy Strategy adopted in 2016: according to the last Single Support Framework (2017–20), the involvement of the European Union in Egypt’s energy sector was mostly in support of (i) the securitization of energy resources and production, and (ii) efforts towards environmental sustainability, ultimately aimed at improving quality of life. After significant investments through the European Neighbourhood and Partnership Instrument (ENPI) programme between 2007 and 2013, in recent years the European Commission has focused its investments on the Natural Gas Connection Programme (2014), and on the reforms in the renewable energy sector.

The second type of instrument used by the EU is the multilateral programmes. Each of them includes different groups of countries and has specific targets. The budget for these multilateral programmes is much lower than for the bilateral instruments. We may quote as examples the following programmes. MedReg supports the ongoing reforms to the energy sector. For example, it produced a peer review of the reformed EgyptERA regulatory body for electricity (Law 87/2015), focusing on independence. MedTSO, in the framework of its 2017 Mediterranean Master Plan, is cooperating with Egypt in the attempt to improve that country’s electricity interconnections by (i) connecting Egypt to Turkey and Jordan, and (ii) reinforcing the already existing link with Libya, for a total increased capacity of 4,300 MW.

As a country Lebanon benefits from several multilateral projects. The EU has made a major push towards raising awareness and building the capacities of Lebanese professionals through the following projects and tools: TAIEX, MED-ENEC, CES-MED, SISSAF, MED TEST, Clima South, MED-DESIRE, SHAAMS, FOSTer in MED, GR.EN.E.CO and SUDEP. Other Mediterranean institutions such as the European Investment Bank (EIB) finance local projects. For example, the EIB has financed renewables projects in Morocco through the FEMIP Trust Fund. The last such financing, in 2016 and 2018, was directed to support the Noor III and Green for Growth Fund projects. In 2016 the EIB also enlarged the membership of the Green for Growth Fund, whose mission is to promote, in the form of a public–private partnership with a layered risk-return structure, energy efficiency and renewable energy in Mediterranean countries (Bianchi et al. 2018b: 14). In Egypt, EIB has pledged investments worth 2.1 billion dollars, and to date has been mostly involved in renewable energies projects.

However, despite the many instruments, in most cases local respondents were unable to name even one of the energy policies, platforms or initiatives that the EU has put in place in the region. Private actors and academics alike share this perspective, whereas respondents from EU-related institutions preferred not to comment on the issue (Bianchi et al. 2018c: 10–11). In Morocco, EU energy policies were perceived as modest or non-existent by virtually all respondents (Bianchi et al. 2018b: 21). Almost none of these interlocutors have directly dealt with European projects or policies or feel they have been clearly influenced by them.
The perceived absence of the EU does not mean that individual European states are absent in the MENA region. For example, the German international cooperation agency GIZ has supported Tunisian partners like the Ministry of Energy, Mines and Renewable Energies, the STEG, the ANME and other public and private actors in the sector. Since 2017 GIZ has been granting to Tunisia a donation of 7 million euro (17 million dinars) for help finance implementation of the Tunisian Solar Plan. Furthermore, the Tozeur photovoltaic power station (10 MW) is financed by KfW, the German Development Bank. The Bank lent 12.5 million euro to the STEG for construction of the power station. The Italian company TerniEnergia won the bid. The loan is supported by the EU with a Neighbourhood Investment Facility reaching 1.35 million euro during the period 2016–2018. The plant is under construction. Some of the EU member states and the national or international stakeholders have their own priorities and agendas. Concerning electricity, Germany is very active and efficient in supporting the solar sector. Italy is also involved, for example in the Tozeur power station. France promotes energy with the SUNREF programme of the AFD.

Many interviewed stakeholders also mentioned the difficulty of operating a sound communication channel between their needs and the administrative bodies that are in connection with Europe. In the case of Tunisia, the instruments of the EU appear to be unreachabe for many actors, especially small enterprises or even academics in the research and innovation H2020 programmes.

Another point commonly raised by the local stakeholders relates to the fact that EU instruments in energy are modest, consisting mainly of budget transfers and then secondarily of technical assistance and loans to the state or to public enterprises. In the case of Tunisia, for example, despite the engagement of the European Union to support the energy transition in the country, the current projects remain marginal (Moisseron et al. 2018b). The financial allocation for EU–Lebanon cooperation for 2014–16 amounted to 147 million euro for all EU policies. Only a small part of the resources (less than 20 million) were allocated for sustainable and transparent management of energy and natural resources. Energy accounts for a peripheral part of European aid (Moisseron et al. 2018a 10).

### 3.2 Substance

In general, there is a relative consensus among the local stakeholders in Lebanon, Tunisia and Morocco (Chaaban et al. 2018: 7, Guesmi and Moisseron 2018: 27, Moisseron and Guesmi 2018: 23) that the EU’s continued support through technical and financial assistance is necessary to the advancement of the industrial sector, but not sufficient. Until now, as mentioned by different stakeholders (especially from the private sector in Tunisia), industrial policies have indeed been almost absent from most of the EU interventions, hindering the development of the industrial sector (Guesmi and Moisseron 2018). Similarly, EU stakeholders also argued that "Industry-related EU policies are not denominated or conceptualized as such by the European stakeholders. Industry was at the core of the Association Agreements (AAs) signed by the EU with the Med-countries because the primary purpose of these agreements was to dismantle the tariffs on industrial products" (Bianchi et al. 2018c: 4).

Along the same lines, "questions on industry led to a certain perplexity because of the shift from industry to aid-for-trade" (Bianchi et al. 2018c: 12).
First, in recent years, funds directly allocated to the development of industries have been relatively limited since most were channelled to more general economic objectives (trade integration or humanitarian assistance). Moreover, as argued in the EU stakeholders report:

The central preoccupation of the EU was no longer to help the Mediterranean countries to buffer the competitive pressures by supporting the upgrade of programmes, but to help them to implement the administrative capacities and the regulatory framework to achieve a deeper trade integration. (Bianchi et al. 2018c: 5)

Regarding general economic objectives, in Egypt, the relative disinterest of the EU towards industrial policy is confirmed in the latest 2017–2020 programme (with a budget of 432 to 528 million euro) where 40 per cent of programme funds are devoted to economic modernization, energy sustainability and the environment. Hence, the programme does not target industry as such since it appears neither in the objectives nor in the indicators. Similarly, in Tunisia, the EU contributed first 300 and then 500 million euro as loans to complement the agreement signed between Tunisia and the IMF in 2014. The goal was to allow Tunisia to face emergency situations, achieve rebalancing of public accounts and initiate reforms at the macroeconomic level (fiscal, tax and monetary policies). As for humanitarian assistance, multiple stakeholders in Lebanon acknowledged that since the start of the Syrian war, efforts and funds have been mostly directed toward humanitarian assistance to refugees rather than the development of certain Lebanese sectors that desperately need support (Chaaban et al. 2018: 13).

Second, according to local stakeholders in Lebanon and Tunisia, most of the interventions lack technical assistance helping producers comply with EU standards and norms. Indeed, in the AA framework, firms from the southern shore of the Mediterranean are expected to meet certain standards that they cannot comply with due to technical barriers and sanitary measures. These requirements pertain to rules of origin, quality certifications and product norms. For instance, in Lebanon, industrialists think that barriers imposed by the EU are unreasonable given that some Lebanese factories are either already accredited by France or supervised by European firms (Chaaban et al. 2018: 17). Along the same lines, in Tunisia some stakeholders of the private sector pointed to the role Europe could play in strengthening the capacities in terms of international norms so that the sector can integrate in the global market and most relevantly the European market. Europe can thus extensively augment the creation of a national commission in charge of following up assessment of the Codex Alimentarius norms, relative to the WTO agreements to reduce the barriers faced by Tunisian exporters (Guesmi and Moisseron 2018: 26).

Third, outsourcing has been perceived as a deeper and more effective way than trade to increase the insertion of some countries at the international level. Yet, as argued by NGOs and individuals from the private sector in Tunisia, it is not sufficient to develop technological competences nor offer job opportunities for skilled young graduates entering the labour market (Guesmi and Moisseron 2018: 25). Indeed, some Tunisian stakeholders argued that the industrial specialization method and adoption of the workshop strategy mainly based on imports of semi-finished goods intended for re-exporting mainly to Europe and in place since the 1970s, is unlikely to facilitate the establishment of an industrial base that is able to absorb the highly skilled graduates entering the labour market each year (Guesmi and Moisseron 2018: 9).
Fourth, different interventions were also lacking the social dimension. For instance, in Egypt, while exports have increased significantly since the adoption of the 2004 EU–Egypt AA, this has translated into very little social gain, as employment rates in industry only slightly increased from 12.4 to 13 per cent over a ten-year span (2003–2013), while urban poverty rose (from 10.1 to 70.5 per cent) (Moisseron et al. 2018a: 31). Several reasons explain such an outcome: FDIs were mainly in capital-intensive sectors (only 3.4 per cent of inflows in 2015/2016 were channelled to the manufacturing sector) and thus employment was not affected; exports of labour-intensive products are still facing several non-tariff measures; and most of the exports are hydrocarbons, which are low value-added and hence have a limited effect on job creation. This is why a more inclusive approach where different parties (not only governmental institutions but also NGOs, industry federations, private sector) are consulted before the development of any policy will be indispensable for better understanding and assessment of effective social outcomes.

Fifth, SMEs, being a source of job creation and a significant player in the industrial sector, were not taken into consideration as a component in developing industrial policies vis-à-vis the southern shore of the Mediterranean. Indeed, in the Egyptian case, the MISMESIS project (“Support to the implementation of strategies to foster Micro, Small and Medium Enterprises development in Egypt”) is an EU programme aiming at helping “the Ministry of Trade and Industry […] and its key stakeholders in the elaboration and implementation of relevant strategies to foster SME and entrepreneurship development as well as to improve the business environment in Egypt”. The EU contribution in grants amounts to 2.39 million euro. Yet, this support programme, while aiming at supporting SMEs in general, was not conceived as a tool to promote SMEs in the industrial sector and help them produce and export different products (Moisseron et al. 2018a: 30). This is why it can be concluded that linking SMEs to FDI from the EU through clusters will help SMEs be part of a value-chain leading to more sustainable and internationalized activities.

Finally, at the institutional level, EU industry-related policies have not always been successful in achieving their developmental target due to excessive bureaucracy and corruption within public agencies (Chaaban et al. 2018: 17). At the same time, project financing by the EU suffers from excess bureaucracy. It was, interestingly, one of the European stakeholders who highlighted that:

[we have] to allow a few exceptions, such as including some local content in the development of projects, or a less bureaucratic and strict process to access funding.

In general, many respondents suggested easing current procedures, in order to widen the potential participants in current projects and initiatives. (Bianchi et al. 2018c: 11)

This is why rigorous reforms aimed at simplifying administrative procedures and improving the institutional setup are crucial to guarantee that such policies will be effective.

As far as the impact of EU action related to energy in the SEM countries is concerned, local participants in all the country case studies provided very limited or no response. Energy cooperation between the EU and the South Mediterranean countries is mainly “market-oriented” (Moisseron and Guesmi 2018a: 2) and often on a member state basis (Bianchi et al. 2018c: 11).
The majority of European stakeholders did not have a well-defined idea of how cooperation between the two shores of the Mediterranean should be reformed, but some of them asked for an EU-wide, long-term strategic plan including both shores of the Mediterranean (Bianchi et al. 2018c: 11).

Furthermore, the goal of regional cooperation has been mainly to reinforce energy infrastructures in North Africa (Tunisia and Morocco) and to fully integrate the two energy markets, including the possibility for North African countries’ renewables to be introduced in the EU green energy market. Many European stakeholders suggested to continue and expand a project-based approach, in particular in those countries where the EU presence in the local energy sector is limited (Bianchi et al. 2018c: 11).

### 3.3 Actors

Four main issues could be identified in terms of actors. First, the civil society is practically absent when EU policies are developed in the field of industry and furthermore for energy, as noted by the interviewed stakeholders in Egypt, Morocco, Lebanon and Tunisia. Yet, industrial and energy transition require a high level of awareness and involvement on the part of the population or the civil society. For instance, in Egypt, the current industry strategy and the EU policies in the country, which are mostly concentrated on “aid for trade”, appear not to respond to local people’s needs. In terms of priority issues, they do not comply with people’s expectations for better wages, equal distribution of resources, creation of good quality jobs and more transparent institutions (Moisseron et al. 2018a: 36).

Second, several stakeholders argued that the EU consistently works with the same partners. For instance, the president of the Lebanese League for Women in Business (LLWB), a female, claims that the EU does not explore newly developed associations or other entities, such as the LLWB. Indeed, the EU is reproached for not supporting newly established organizations that are promoting gender equality (Chaaban et al. 2018: 17). For energy, the number of stakeholders involved is also very limited. The main partners of the EU in each country are the government and the public administration in charge of the sector. It appears that Lebanon is the only country where private and civil society actors participate in or beneficiate from the EU policies. This is because, in Lebanon, the national strategy relies on private stakeholders and is market-oriented (Moisseron and Guesmi 2018a).

Third, in most of the interviews with the local stakeholders related to the industry sector in Lebanon, Egypt and Tunisia (see Chaaban et al. 2018, Moisseron and Guesmi 2018a, Guesmi and Moisseron 2018), it was stated that there is a lack of communication and coordination between different actors (EU, government, industrialists, NGOs, other international donors and SMEs). This sometimes results in the implementation of irrelevant policy actions. For instance, in one of the interviews in Morocco, one of the stakeholders mentioned the fact that the EU intervenes in ways invisible to the stakeholders, including those who indirectly benefit from EU financing (Moisseron and Guesmi 2018b: 26). Along the same lines, some interviewed experts from Morocco argued that European policies and the projects created by Europe are poorly evaluated. In addition, when evaluations are made, they are not sufficiently
disseminated. This is why effective tools of transparent communication are important for the credibility of EU interventions (Moisseron and Guesmi 2018b: 28).

Fourth, energy issues have begun to raise awareness in the emerging SMC civil society which is increasingly making its voice heard. In Egypt, in 2014 a joint statement by several associations affirmed that coal would "pollute the environment, harm people's health, and destroy marine life especially coral reefs", considering tourism as another victim of the coal revival. The movement even filed a court case concerning the amendments to the law advanced in 2015 (Bianchi et al. 2018a: 12).

Moreover, the NGO Habi Center for Environmental Rights accused two important cement multinationals of violating Egyptian law, which requires environmental impact assessments and public hearings on their plans. Coal has enhanced divisions within the ruling class as well: the minister Laila Iskander was removed, allegedly due to her critiques towards coal, and replaced by Khaled Fahmy in 2014 (Bianchi et al. 2018a: 12–13).

In Morocco, organized civil society and citizens have started to react to macro-projects, as happened in the context of the 4th Desertec Conference held in Rabat on 30–31 October 2013. Desertec was indeed criticized for a top-down "Eurocentric" approach not conducive to local engagement, and for and not investing sufficiently in transparency, consensus building and participation. The need for a bottom-up and participative "energy transition" in Morocco was asserted by the civil society (Bianchi et al. 2018b).

Energy has become an issue for the civil society agenda also in Tunisia. Social acceptability of energy infrastructure projects became a crucial and symbolic matter, as witnessed by the eagerness of social contestation concerning corruption in this sector. The campaign "winou el-petrol" is an example: the distribution of mineral resources benefits was considered as unfair. The social media campaign launched in 2015 questions who profits from Tunisia’s mineral resources. It expresses the frustration and more generally the grievances of a large part of the population, who consider that they don’t benefit from the natural resources of the country or who are disappointed by the economic situation. The campaign moreover sheds light on the question of social justice, which is the major issue on which the numerous demonstrations and protests in Tunisia converge (Moisseron et al. 2018b: 19).

Furthermore, shale gas extraction with hydraulic fracturing in Tunisia is meeting strong opposition. Hydraulic fracturing is criticized for its environmental consequences. A first Mediterranean Forum against fracking and shale gas was organized in Bizerte in May 2015. The civil society in Tunisia, Morocco and Algeria sought to join their action in the “Collectif Euro-Maghrebin Anti gas de Schiste”. Facing this opposition, the Tunisian government launched in early 2017 an environmental impact study on shale gas, which should lead to a political decision (Moisseron et al. 2018b: 10).

The main pillar of the EMP, exports of renewable energy across the Mediterranean area, has served to crystallize the differences of opinion and conflicting interests (Moisseron et al. 2018b: 15). Mansour Cherni, a Tunisian trade unionist, expressed serious concerns during the 2013 World Social Forum in Tunis, asking, “Where will the energy produced here be used?... Where will the water come from that will cool the solar power plants? And what do the locals get from it all?” (Hamouchene 2015). The analysis of Hamza Hamouchene, co-founder of Algeria
Solidarity Campaign, is very critical of projects like the Tunisian TuNur, which “deny local people control and access to their land, rob them of resources and concentrate the value created in the hands of domestic and foreign predatory elites and private companies” (Hamouchene 2017).

Thus, in the different SMCs, civil society is becoming increasingly involved in environmental issues and national policies concerning energy.

4. A Gender Lens towards EU Policies

First, when the effectiveness of EU policies with respect to the industrial sector is assessed at the social level, stakeholders in Egypt, Lebanon, Morocco and Tunisia claim that issues related to women and youth, who need assistance the most, have not been specifically addressed in the four economies (Moisseron et al. 2018a: 31, Chaaban et al. 2018: 16, Moisseron et al. 2018b: 21, Guesmi and Moisseron 2018: 30). For instance, in the Tunisian case, gender-related questions were focused on the link between European policies in terms of industry and the gender theme “Does the European Union’s industrial policy have an impact on women and gender relations?” No answer was given to this question (Guesmi and Moisseron 2018). This was partly because it is difficult to identify the scope of European policy for Tunisian industry. At the same time, this also reflected the fact that, even though the issue of gender is relevant to analysis of the industry sector in general due to the feminization of employment in the textile industry, it does not seem to be an issue of concern for the stakeholders, national policies and the EU. One of the EU NGOs highlighted a similar point:

The social impacts of the [agreement associations] are not really a subject of concern despite the EU narrative on inclusive growth, employment and gender issues. The priority remains assistance with reforms and especially those related to the acquis communautaire, instead of cushioning adverse effects and adjustment costs of trade liberalization. (Bianchi et al. 2018c: 12)

This is why in most of the interviews, answers to gender questions were rather vague and normative. Hence, gender is, in general, not mainstreamed in EU policies and when it is taken into consideration, it is based on vague initiatives or limited projects that do not significantly promote women’s labour participation in decent jobs in the industrial sector. For instance, the EU provided an 800,000 euro grant to the National Commission for Lebanese Women in support of the project “Gender Equity and Empowerment of Women in Lebanon”, whose objective is the promotion of gender equality in policymaking and advancement of women’s status. Yet, the outcome of this grant was not meaningful (Chaaban et al. 2018: 20).

In a more indirect way, women’s empowerment bottlenecks are not addressed through EU interventions.

Second, women are still generally excluded from the industrial sector or concentrated in some low-value-added sectors. For instance, in Tunisia, women have minimal presence in the industrial sectors except for textiles, a sector that is somewhat in decline and provides women with very low wages and poor working conditions (Guesmi and Moisseron 2018). Moreover, the current situation is not optimistic since the economic priorities of the 2016–2020 five-year
plan are mainly oriented towards infrastructure construction, thus towards economic sectors with little female presence. Yet, it is important to note that women could thrive the most in industries that do not require a level of physical force; or in other terms, that are not capital-intensive and male-dominated, such as cosmetics, textiles and pharmaceuticals or industrial research. Hence, a stronger focus on these sectors is a must to promote gender equality in these countries.

Third, women face several impediments to their participation as entrepreneurs in the industrial sector because of difficulties in accessing financing. For instance, in Lebanon, banks require additional guarantees from women, which delays the process as women usually are not able to provide these guarantees. In response to this problem, Kafalat (a Lebanese local financial institution) assures that women will not be treated differently and thus urges women to apply for loans through Kafalat as the demand for loans among female-led SMEs is very low and the number of female-led SMEs in Lebanon is well below international standards (Chaaban et al. 2018: 15–16).

Fourth, women also suffer from bad and indecent working conditions in sectors that are providing inputs to the export-oriented industrial sector, including those linked to the EU market. The case of Egypt is very revealing, as women’s informal and irregular employment has increased, especially in the agriculture sector. According to the Arab Trade Union Confederation, this situation extends to nearly two million female farmers in Egypt working in cotton harvesting. Clearly, they do not fall under state protection, which makes them extremely vulnerable elements within the workforce (Moisseron et al. 2018a: 13).

Fifth, for energy the situation is even worse. Women are not considered as relevant stakeholders in the energy transition – as indeed happens in many other sectors. The tendency to underestimate their role and value within the community is much wider than the energy area alone. In Lebanon, for example, the cross-issue between gender and energy is not a subject for most of the women’s advocacy NGOs, which focus on women’s participation in economic life and politics, inclusive citizenship and equality instead of energy (Moisseron and Guesmi 2018a: 20). Even if the gender–energy nexus is obvious, there was shallow concern for gender issues both in official documents and in discussion with the stakeholders, as shown in all the country reports. Moreover, the gender issue was not present in the different bilateral and multilateral EU projects.

The inclusion of women in the energy transition is largely unconsidered. The energy sector is essentially male-driven in all SMCs. But, introduction of participatory procedures in energy transition would give women an opportunity to get involved in associations or projects related to the energy sector and at the same time would contribute to a better understanding of the consumption dynamics. The reasons for a stronger inclusion of women in the sector are many, particularly due to their predominant function at home, dealing with energy consumption and managing domestic affairs (Bianchi et al. 2018b: 12).
**Policy Recommendations**

**More inclusion:** It is obvious that EU policies need to be better tailored to respond to people’s local needs and priorities. Given the lack of social assessment of its trade policies and programmes, the EU should be more committed in this regard by undertaking systematic investigations and consultations with different stakeholders (especially civil society, which is usually absent). In order to ensure independent assessments, this could be done by, for example, giving the task of conducting studies to grassroots civil society actors who are in the field and can therefore provide studies considering the views of civil society, local communities and workers. Similarly, energy policy remains a top-down affair elaborated within a limited number of actors (state organizations, energy ministries, think-tanks). In order to understand the challenges of the energy sector for the EU, it is thus important to associate the stakeholders in a multi-scalar approach and from a bottom-up perspective. It is necessary to involve the NGOs, academic researchers, the local communities and even the citizens in a new way of governance if we are to explore all the potentialities and the opportunities of the renewable energy sector.

**A clear vision for industry:** Clearly, there is need for more coherence between EU instruments and internal reform targeting the industrial sector in the four SMCs, to maximize the outcome of these policy tools. In cases such as Tunisia, although EU policies did not target the industry directly, they have largely affected the overall economy. EU policies should therefore shift from aid-for-trade towards a clearer support to industrial reform and development in SMCs. However, a clear vision on the part of the national governments concerning the development of the industrial sector in these countries seems to be absent. In Morocco as in Tunisia, for instance, it is difficult to define a true industrial setting. Industrial sectors remain poorly connected and therefore also require a more comprehensive development strategy. In Egypt, the Industrial Development Strategy does not target specific sectors with potential for growth and job creation. In Lebanon, the focus is rather on enhancing market conditions and the overall business climate in light of high entry and operational costs (land, energy), as well as in light of internal and regional instability. Hence, EU instruments could target the design and implementation of more elaborate industrial development strategies, be it through technical or financial assistance.

**Rules and institutions for property rights:** Enforcement of intellectual property rights (IPR) is becoming a central issue in attracting FDI. Indeed, according to Berytech, an incubator of start-ups in Lebanon, updating and enforcing IPR law is part of an incentive package that would retain the brightest graduates and attract foreign talent (Chaaban et al. 2018: 11).

**Communication:** As was mentioned by different actors in both energy and industry, communication between the EU and all stakeholders is important so that stakeholders are aware of what is being implemented by the EU. Hence, it is important to publish and efficiently disseminate among different stakeholders in all countries: (a) press releases related to projects, and (b) studies assessing finished projects and identifying the lessons to be learnt.

This will increase awareness and boost synergies and externalities between economies – if a project is implemented in a country, what are the lessons to be learnt for other countries if they embark on a similar project?
Clusters: Linking SMEs to FDI from the EU countries in the manufacturing sector through clusters will help SMEs be part of a value-chain leading to more sustainable and internationalized activities. This will have four main effects:

- It will help SMEs enter the export market.
- It will guarantee the sustainability of their activities and hence increase their lifetime.
- It will improve their technology and their know-how thanks to foreign firms.
- SMEs will be explicitly considered as an efficient partner in industrial policies.

A major involvement of the EU in the energy sector: Considering the challenges, the people’s welfare and the local needs, EU policy regarding energy could be much more proactive based on a macro-geopolitical approach, which includes Europe, SMCs and Africa. Until now, as noted in this report, such involvement has consisted mainly of loan facilities, technical assistance and several multilateral projects.

Better coordination of the EU stakeholders in the field of energy: The perceived absence of the EU does not mean that single European states are absent in MENA region. Indeed, EU member states are acting autonomously in the field of energy, particularly Germany, Spain and Italy. The EU should therefore help to build a global vision into which actors could insert their strategy. The level of coordination and cooperation between the EU stakeholders should accordingly be reinforced to address challenges such as energy transition and climate change.

Support a better integration with the European Energy Market: Some countries should be more integrated into the Mediterranean and international market. For example, Lebanon used to import electricity from Egypt and Syria (Moisseron and Guesmi 2018a: 19). Due to the Syrian turmoil and the destruction in the country, an administrative officer insisted on strengthening the connection of Lebanon with the rest of the world. The grid connections with the neighbourhood countries need to be enhanced by the construction of high-voltage direct current (HVDC) lines. Furthermore, the cooperation goals of EU and Morocco have remained those of 2008. The transmission of electricity from one shore to the other is at the core of their energy cooperation. As a result of this, (i) the Morocco–Spain transmission line, the only electrical connection between Europe and MENA, acquires significant strategic relevance, and (ii) the additional HVDC lines interconnecting the two Mediterranean shores are needed to realize the Mediterranean Solar Plan – in particular the setting up of a trans-Mediterranean super-grid of HVDC cables, able to export 5 gigawatt of energy from MENA to Europe by 2020.

Increase decentralized models: The governance issues that explain the slow start or the failure of the Mediterranean Solar Plan are directly linked to the choice of centralized production instead of a liberalization which could allow all actors to develop direct and peer-to-peer relations either by avoiding the central grid, or by using it under an open regulation. Renewable energies allow a multitude of decentralized models if the regulation and the governance of the sector enable them. Small solutions can be replicated and attract new investments. Alternative models will need to be developed to respond to the demand for a new strategy for the energy sector.

Focus on energy efficiency: Another important solution is to improve energy efficiency, the potential for which is tremendous in the North and also in the South. Better efficiency will reduce both demand and CO₂ emissions.
Gender issues need to be taken urgently into account by institutions, companies and civil society actors in the fields of energy and industry. Among the possible actions to be implemented by the EU, assessment studies of EU policies both for energy and industry should be carried out taking into account issues of decent jobs and working conditions, particularly in those sectors that are female-dominated. In addition, the introduction of participatory procedures in energy transition would give women an opportunity to get involved in associations or projects related to the energy sector and at the same time would contribute to a better understanding of the consumption dynamics. Other possible actions include development of specific research programmes on the gender–energy, gender–industry nexus, and strengthening of awareness programmes for the NGOs.
REFERENCES


This project is founded by the European Union’s Horizon 2020 Programme for Research and Innovation under grant agreement no 693055