

**Contract N°: IEE/11/845/SI2.616378**

***Bringing Europe and Third countries closer together  
through renewable Energies***

***BETTER***

***D7.1: Major barriers and critical success factors  
for renewable energy cooperation mechanisms***

—

***Joint RES Projects with non-EU countries  
(Article 9)***



*Project Coordinator: CIEMAT  
Work Package 7 Leader Organization ECN*

***May 2015***



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## PREFACE

BETTER intends to address RES cooperation between the EU and third countries. The RES Directive allows Member States to cooperate with third countries to achieve their 2020 RES targets in a more cost efficient way. The core objective of BETTER is to assess, through case studies, stakeholders involvement and integrated analysis, to what extent this cooperation *can help Europe achieve its RES targets in 2020 and beyond, trigger the deployment of RES electricity projects in third countries and create win-win circumstances for all involved parties.*

The case studies focusing on **North Africa, the Western Balkans and Turkey** will investigate the technical, socio-economic and environmental aspects of RES cooperation. Additionally, an integrated assessment will be undertaken from the “EU plus third countries” perspective, including a quantitative cost-benefit evaluation of feasible policy approaches as well as strategic power system analyses. Impacts on the achievement of EU climate targets, energy security, and macro-economic aspects will also be analysed.

The strong involvement of all relevant stakeholders will enable a more thorough understanding of the variables at play, an identification and prioritisation of necessary policy prerequisites. The dissemination strategy lays a special emphasis on reaching European-wide actors and stakeholders well beyond the target area region.

This report is registered at ECN under number ECN--O-15-019.

## PROJECT PARTNERS

N°	Participant name	Short Name	Country code
CO1	Centro de Investigaciones Energéticas, Tecnológicas y Medioambientales	CIEMAT	ES
CB2	German Aerospace Center (Deutsches Zentrum für Luft- und Raumfahrt e.V.)	DLR	DE
CB3	Energy Research Centre of the Netherlands	ECN	NL
CB4	JOANNEUM RESEARCH Forschungsgesellschaft mbH	JR	AT
CB5	National Technical University of Athens	NTUA	GR
CB6	Observatoire Méditerranéen de l’Energie	OME	FR
CB7	Potsdam Institute for Climate Impact Research	PIK	DE
CB8	Vienna University of Technology	TUWIEN	AT
CB9	United Nations Development Program	UNDP	HR



## Executive summary

The EU Renewable Energy Directive (Directive 2009/28/EU) (hereafter RES Directive) introduces cooperation mechanisms to allow Member States to achieve their national targets in a cost-efficient manner. Article 9 of the RES Directive refers to Joint Projects with Third Countries that allow for one or several Member States to cooperate with a third country, to develop a RES project in the territory of the third country. This project would receive financial support from the contributing EU countries and in return (a share of) the produced renewable electricity would be physically exported to the EU territories to be consumed and counted towards the EU Member State(s) targets. Joint Projects with Third Countries is one of four different cooperation mechanisms listed in the RES Directive. As part of the BETTER project, an IEE funded project that analyses the RES cooperation with third countries (hereafter the Joint RES Projects), this paper presents the major barriers to Joint RES projects and how these barriers can be seized.

To date no single project or cooperation under Article 9 has yet been realized. While the barriers analysed in this report can to a large extent explain why RES cooperation under Article 9 has not been implemented it is also partly due to various unforeseen events which have taken place since the RES Directive was adopted. The Eurozone crisis, caused by a global economic/financial crisis, with profound impacts on EU Member States' economies and policy agendas has resulted in reduction of energy demand and even power overcapacity in some Member States. This contributed to an ease in achieving the 2020 RES target domestically. Next to that, the civil unrest in some neighbouring regions, such as the Arab Spring, have led to higher country risks and financial costs, resulting in scepticism from foreign investors.

Against this background the EU Communication 'A Framework Strategy for a Resilient Energy Union with a Forward-Looking Climate Change Policy'<sup>1</sup> highlights the importance of enhanced regional cooperation with neighbouring countries, particularly from the perspective of improving energy security. Moreover, the BETTER project analysis indicates significant benefits of Joint Res Projects to Europe and the neighbouring regions that can be harnessed beyond 2030. Thus, based on the premise that RES cooperation can contribute to a long-term cost-efficient transition of the European energy system towards high RES-E shares and decarbonisation and at the same time result in significant benefits to the third countries, there will be a growing interest in Joint RES projects in the near future. In order to utilise these benefits existing barriers to Joint RES Projects need to be addressed.

We present main barriers in three levels. Macro level refers to national/international policies that may hamper utilisation of Joint RES projects. It focuses on the current policy process, highlights uncertainties and shortcomings and suggests possible ways to overcome them. Micro level barriers focus on the conditions that are key to triggering investments in Joint RES Projects such as legal and institutional frameworks, market structure and financing issues. Public discourse level refers to individuals or civil society concerns about Joint RES project that can turn into barriers.

The table below presents a summary of key barriers to *Joint RES Projects* and possible remedies to overcome them.

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<sup>1</sup> Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee, the Committee of the Regions and the European Investment Bank, "A Framework Strategy for a Resilient Energy Union with a Forward-Looking Climate Change Policy" (COM/2015/080 final).

**Table 1: Most important barriers to *Joint RES Projects* and remedies**

	Barrier	Possible remedies
<b>Macro level</b>	Uncertainty on 2030 framework and target incompliance penalties	To be addressed by the post-2020 the Governance instrument proposed by the European Commission.
	Physical electricity import requirement	Consider possible instruments to revoke this precondition or deal with the all the necessary frameworks for physical electricity import separately;  Consider point-to-point HVDC cables that carry flexible RES.
	Complexity of the multilateral agreements	Clear identification of benefits of potential agreements to businesses, countries involved and civil society to receive broad and strong support.  Transparent negotiation process.
	Barrier	Possible remedies
<b>Micro level</b>	Weak legal and institutional system	Signing the “Energy Charter Treaty”, which was designed to strengthen the international rule of law on energy issues by creating common energy regulation principles for all participating government and developing the complementary regulatory systems, could be an important step forward.
	Issues related to electricity markets	
	<ul style="list-style-type: none"> <li>Guaranteed and priority access both in the host and the transit country</li> </ul>	<p>Ensuring that the guaranteed and priority access is in place in all countries involved; or</p> <p>Considering dedicated lines to solely import RES-E</p>
	<ul style="list-style-type: none"> <li>Traceability of green energy to be transferred</li> <li>Insufficient transmission grid capacity in transit country</li> </ul>	<p>Setting certification tools and institutions that are acceptable/comparable to the EU to prove the renewable character of electricity generated in host country and transported to the EU.</p> <p>The transit country receives a certain share of the RES-E to be accounted for its own target, a share that is sufficient for compensating the costs related to grid upgrades.</p> <p>The costs directly related to renewable electricity trade is shared by host and off-taking country.</p>

	Raising project finance capital	<p>Elaborate Joint RES Project support benefits and benchmarks for project power revenues in cooperation agreement and project contracts enabling predictable project cash flows (project sponsors).</p> <p>Involve multilateral including European and/or national development finance and export credit agencies (project sponsors).</p>
	<b>Barrier</b>	<b>Possible remedies</b>
<b>Public discourse level</b>	Concerns about negative or unjust effects of Joint RES projects	<p>Foster acceptance by engaging in a true dialog between stakeholders about the project, its design and conditions.</p> <p>Transparent information on benefits and costs to the cooperating countries concerned need to be communicated effectively.</p> <p>Transparent consultation procedures in all countries involved.</p> <p>Follow a participatory process, in which the citizens have the right to be involved in the projects that affect them and their living conditions.</p> <p>Involve an independent third party to the procedures to increase trust in the process and stakeholders involved.</p>

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## List of abbreviations and concepts

EEA	European Economic Area: ‘bubble’ of European countries adopting EU legislation including its consequential rights and obligations
Joint Projects with Neighbouring countries	One of the cooperation mechanisms specified in the <i>RED</i> pertaining to cooperation between (one or more) Member States of the EU and (one or more) countries outside the EU, hosting cooperation projects on the generation of electricity from renewable sources
Joint RES Project	Joint renewable electricity project. In this report, <i>Joint RES Project</i> has the same meaning as a <i>Joint project with Neighbouring countries</i>
RED	Renewables Directive, i.e. Directive 2009/28/EU
RES	Renewable sources of energy
Statistical transfers	One of the cooperation mechanisms specified in the <i>RED</i> . It refers to the ex post virtual transfer of renewable energy in a statistical sense for the purpose of accounting for the compliance with national <i>RES</i> targets as specified in the <i>RED</i>
Statistical transfer units	Units of renewable energy, transferred for target compliance accounting purposes
TSO	Transmission system operator

# 1. INTRODUCTION

The European Union Renewable Energy Directive (Directive 2009/28/EC) (referred as RED) has introduced *cooperation mechanisms* to allow Member States to achieve their national renewable energy targets as well as the overall EU target of 20% in a cost-effective way. According to Article 9 of the RED – *Joint RES Projects with neighbouring countries* – one or more Member States can cooperate with one or more non-EU countries<sup>2</sup> and support renewable energy projects outside of EU's territory and count (part of) the energy produced towards 2020 targets of the cooperating Member States. The Directive limits this mechanism to renewable electricity generation, with the additional requirement that electricity counting towards RES targets be physically imported into the EU. Furthermore, the project should not receive any Third Country support, other than investment aid granted to the installations. Only newly constructed installations or newly expanded capacities are eligible, i.e. new or expanded installations after 25 June 2009 (which is the date on which RED came into effect).

Although some cooperation examples have emerged there have been no *Joint RES Projects with neighbouring countries* in place. In 2009, Italian and Serbian governments signed a MoU for trading renewable energy. However, due to changing political and economic situations in the countries, the project has now been put on hold. The global financial and economic crisis has slowed down the economic growth in Europe and resulted in overcapacity of electricity markets in certain Member States. In return, 2020 RES target achievement with domestic resources has become easier decreasing the interest of Member States to RES cooperation. Furthermore, cost decline of RES-E, particularly solar PV, has reduced the cost advantage of RES-Electricity imports. In addition to these, the energy security concerns, following the Russia-Ukraine crisis, increased the scepticism on RES-E import from other regions.

Against this background the EU Communication “A Framework Strategy for a Resilient Energy Union with a Forward-Looking Climate Change Policy”<sup>3</sup> highlights the importance of enhanced regional cooperation with neighbouring countries, particularly from the perspective of improving energy security. Additionally, the main findings of the BETTER project indicate that there is significant potential for RES-E export from neighbouring regions to the EU in the medium-long timeframe (2040), with positive cost savings and other positive net benefits both to the EU and the neighbouring regions (see D7.4 BETTER Roadmap from <http://www.better-project.net/content/results>).

On the premise that Joint RES Projects are beneficial to both the EU and the neighbouring regions and there is (political) willingness to involve in RES cooperation this report introduces the key barriers to Joint RES Projects and the key enabling framework conditions to address these barriers.

## 1.1. APPROACH

This report is part of the final deliverables within WP7, along with the Practical Guidelines for Project Developers and Finance Providers, Action Plans and the project's overall Roadmap. This work package aims

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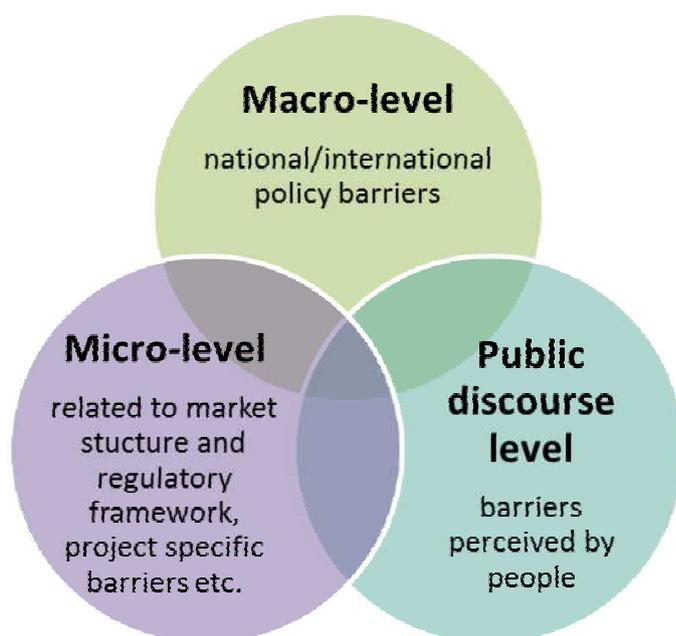
<sup>2</sup> In EU logo and from the EU perspective referred to as “Third Countries” as distinct from EU Member State countries.

<sup>3</sup> Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee, the Committee of the Regions and the European Investment Bank, “A Framework Strategy for a Resilient Energy Union with a Forward-Looking Climate Change Policy” (COM/2015/080 final).

at producing a policy-relevant synthesis of key project results. It is to yield a comprehensive set of practical recommendations for relevant stakeholder representatives including national government officers (for both EU and the third countries), officers of the European Commission, regulators, grid operators and project developers.

This document (D7.1) builds on the outcomes of the BETTER project case studies, stakeholder consultations and “D2.4 Issues that are Likely to Play a Key Role in the Implementation of the Cooperation Mechanism (Ellenbeck et al., 2012)” and “D2.3 Design Options of the Cooperation Mechanisms and their Complementarity with Different Financing Schemes (Frieden et al., 2012)”.

The barriers are grouped as macro-level, micro-level and public discourse level, all interacting with each other.



**Figure 1:** Schematic description of barriers

As illustrated in Figure 1: **Schematic description of barriers**, macro level refers to macroeconomic and national/international policy and addresses the question – what are the main national/international policy barriers to Joint RES Projects? This level also includes the key drivers for Joint RES Projects that can become barriers when they are not in place. Micro level focuses on the conditions that are key to triggering investment to Joint RES Projects such as market structure and regulatory framework, project specific barriers etc. Public discourse level refers to the key barriers perceived by the people that affect their acceptance.

We adapt the terminology from the EC guidance document (EC, 2013) as follows:

- Member States that finance renewable energy development in another country and transfers (a share of) the renewable electricity as "*off-taking country*".
- Non-EU country (*third country* as in the guidance Document) that exports (a share of) its renewable electricity to the EU as a "*host country*".
- Country acting as a "*transit country*" between the host and the exporting country.

- *Joint Renewable Projects with Third Countries-referred as Joint RES Projects with the neighbouring countries in the rest of the report.*

## 1.2. OUTLINE

This report is structured as follows. In Chapter 2, macro-level barriers and how to scale them down are presented. Chapter 3 looks into micro-level barriers and success factors. This is followed by the summary of public discourse level barriers and possible remedies. In Chapter 5 the main conclusions of the study are presented.

## 2. MACRO-LEVEL BARRIERS AND REMEDIES TO JOINT RES PROJECTS

'Macro level barriers' refer to national/international policies that may hamper utilisation of Joint RES Projects. It focuses on the current policy process, highlights the uncertainties and shortcomings and suggests possible ways forward.

### 2.1. UNCERTAINTY ON THE ROLE OF COOPERATION MECHANISMS IN ACHIEVING EU RES TARGETS BEYOND THE YEAR 2020

The EU Governments agreed on the 2030 framework for climate and energy policies in October 2014 and set a 27% RES target for the EU, rather than including national binding targets. As part of the proposal a new governance system is proposed. There is, however, no clarity on the details of this new governance structure and what possible role the cooperation mechanisms may play. Up till now, Member States were reluctant to get involved in any RES cooperation mechanism, even within the EU, and the uncertainty pertaining how to reach the 27% RES target by 2030 is a barrier to Joint RES Projects. Cooperation with neighbouring countries require clear signals from the policy makers, mainly the European Commission, as neither the mechanisms are well known nor are there any applications for project developers to rely on. In addition to that, for potential off-taking countries, there is no clarity so far on the penalties for possible non-compliance of 2020 targets. Besides, there is no clarity on the non-compliance beyond 2020 as there are no national targets in 2030. These considerations cause for Members States to act more reluctantly.

The uncertainty pertaining the future of cooperation mechanisms beyond 2020 could be minimised by embedding them into the new governance system to be implemented. For instance, a part of the envisaged 2030 EU RES target can be earmarked to cooperation mechanisms. Such an approach may give some impetus to cooperation mechanisms in general. Project developers may opt for cost competitive RES resources in the neighbouring countries and engage in Joint RES Projects, provided that the other bottlenecks listed below are also overcome. A more stringent option could be to ensure that at least the high-income member States would engage in Joint RES Projects with non-EU neighbourhood countries. Additionally, clarification of the infringement procedure is essential for the EU, detailing not only the non-compliance penalties but also what the procedures will be beyond 2020.

### 2.2. THE CONDITION OF PHYSICAL IMPORT OF RES-E TO EU PREMISES

As stated previously, Article 9 includes the pre-condition that renewable electricity is physically transferred to the EU. Trans-border trade of renewable electricity will need new or additional capacities of interconnections, which would otherwise work as a major bottleneck to cooperation (Ellenbeck et al. 2012). Next to significant investment requirements, there will be issues related to congestion management, dispatch priority, balancing rules, and access to the interconnection. Moreover, the demand for physical import of renewable electricity<sup>4</sup> and the insufficient interconnection capacities within Europe hinders the Joint RES Project. According to the ENTSO-E 2014 TYNDP analysis the grid expansion requirements in Europe would require around €150 billion, excluding the option of a geographical expansion of grid infrastructure to the EU neighbouring countries. As such it is not very likely to implement Joint RES Projects with the current

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<sup>4</sup> Article 9 requires RES electricity to be physically imported to the EU, not necessarily to the off-taking country. However, the EU MSs in general oblige to the physical import up to their territories.

or medium term limited interconnection capacities or to assume that Article 9 will initiate the necessary upgrades and expansions.

One of the approaches to scale this barrier is to enable target Joint RES Projects host countries (the neighbouring countries such as North Africa Region, West Balkans and Turkey) to access the European Economic Area<sup>5</sup> for the purposes of the RED, upon full compliance with the obligations the RED imposes upon countries transposing this directive into their national law. Subsequently, the **condition of physical delivery of RES to the EU can be revoked**. It is, **however, important to note that to implement the EEA, a country needs to satisfy EU standards of governance**, such as good administration, rule of law, etc. In addition, to join the EEA candidates would need to be admitted to EFTA, which also require high standards (Avery, 2012). As such, this option is not easy to achieve and would require a time frame that is certainly beyond 2020.

Another approach is to access them to Energy Community Treaty, and thereby binding them to EU energy acquis. The Contracting Parties to the Energy Community can *per se* participate in all cooperation mechanisms. Statistical transfers for the purposes of target achievement are possible independently from the physical flow of electricity. However, statistical transfers is subject to certain preconditions and prior agreement by the Ministerial Council. In order to qualify, the Contracting Parties must implement the Directive 2009/28/EC as adapted by the Ministerial Council, exceed the indicative trajectory and compile energy statistics in compliance to the *acquis*.

The European Electricity Regulatory Forum decided in November 2008 to develop an EU-wide **Target Model** and a roadmap for the integration of electricity markets across regions. The tasks were to develop a practical and achievable model for the harmonisation of co-ordinated EU-wide transmission capacity allocation, to manage congestions and to propose a roadmap with concrete measures for the integration of forward, day-ahead, intraday and balancing markets – including governance issues. The main areas of work to achieve the TM were:

- A flow-based transmission capacity allocation method in highly meshed networks
- A single European platform for the allocation and nomination of long-term transmission rights
- A single European price market coupling
- Implementation of continuous implicit.

Third approach is, through bilateral agreements, to enable statistical transfer in the short term and ensure all frameworks are set– from necessary grid upgrades and regulatory modifications to setting up a financing regime for the upgrade of the interconnection infrastructure to ensure physical transfer in the longer term. To do this, the host countries<sup>6</sup> will have to set their national renewable energy action plans that present their 2020 and 2030 targets. Any surplus above these targets could be statistically counted towards the EU targets. In the meantime all necessary grid up grades and the interconnections both in the host countries(regions) and the EU should be enhanced to enable the two way flows beyond 2030. In order to ensure all requirements of physical energy delivery to a designated EU customer in the off-taking country is met the

<sup>5</sup> It allows the EEA EFTA States ([Norway](#), [Iceland](#) and [Liechtenstein](#)) to participate in the Internal Market on the basis of their application of Internal Market relevant acquis.

<sup>6</sup> Contracting Parties to Energy community have already been adopted or are in the process of adopting National Renewable Energy Action Plans.

*acquis communautaire* of the Target Model for Electricity Markets<sup>7</sup> – an important step towards increased cross-border trading, and consequently, towards the completion of the EU Internal Energy Market – can be acquired in the candidate Joint RES Project host countries as well. The EU would benefit from effectively supporting these countries towards adopting the Target Model. Yet most benefits of embracing the Target Model by the host countries would accrue in the host countries themselves.

One aspect meriting due attention is **the need to ensure adequate long-term rights to use transmission capacity on relevant interconnectors from the host country to the off-taking country**. In principle, long-term transmission rights (LTRs) are at odds with the spirit of the Target Model for Electricity Markets, as such rights may reduce competition for obtaining transmission rights at short time-scales and consequently market functioning.<sup>8</sup> LTRs will play a crucial role for Joint RES Project developers to secure market access over the lifetime of their project and provide a secure revenue source for financing new transmission infrastructure. In this respect, an acceptable compromise needs to be struck and approved by the European Commission.

Another approach that do not require a full-fledged EU-style internal system is realization of a dedicated point-to-point High-Voltage-Direct-Current (HVDC) interconnections for the transfer of flexible power from concentrating solar power plants (CSP) commissioned specifically for that purpose and directly connected to European centres of demand (Trieb et al., 2013). Such an infrastructure would be very similar to natural gas pipelines that carry natural gas from one location (for instance Russia) to the EU countries. When these cables carry flexible renewable electricity such as CSP, issues related to grid upgrades and transfer and backup capacity, concession management arising from further development of variable RES generation capacities in the EU will be discarded. However, planning and building such dedicated lines will be challenging.

With a **transit country** in between the host country and the off-taking country increases the complexity of meeting the physical import requirement. In the absence of new amendments to the RED that came into effect in year 2009, there are two ways to go about it.

- Firstly, the off-taking country could officially serve as the country of destination<sup>9</sup>. Then the necessary preparations and contractual arrangements with the TSOs in the three countries need to be made to provide the required documentation for demonstrating that the planned production for the electricity market in the host country can be transported from the planned Joint RES Project all the way to the designated customer in the off-taking country.
- Alternatively, an electricity supplier or trader in the transit country could sign up as the customer for the power generated by the Joint RES Project for export to the EU. On the basis of countervailing

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<sup>7</sup> A Target Model for Electricity Markets and one for Gas Markets (within the EU) have been defined, specifying the measures that need to be taken towards the emergence of a single energy market in the European Union, better known as the IEM, internal energy market. In 2012 the Heads of State of the Member States decided that this should be realised by the end of 2014.

<sup>8</sup> The Target Model for Electricity Markets requires TSOs to sell forward capacity, but leaves open whether this should be in the form of physical transmission rights (PTRs) or financial transmission rights (FTRs). A movement to FTRs would represent a change in the present situation in Europe where most transmission trading is done on the basis of PTRs. (Booz&Co., 2011)

<sup>9</sup> The pre-condition here is that the transit country has enough capacity to transit the RES electricity to the off-taking country.

swap contracts he will then have to export the power procured from the Joint RES Project to the designated customer in the off-taking country. Either way, cooperation by the TSO and – what's more – the government of the transit country will have to be secured and consolidated by the necessary commercial contracts and official cooperation agreements.

As already stated, a timely construction of an (adequate) interconnector between the host country and the **transit country** before the planned commissioning date of the proposed Joint RES Project is a *condition sine qua non*. Without any external support it might be a remote possibility that the interconnector needed will be realized in time. To speed up investment in the interconnector needed it may be necessary for such a project to get Project of Common Interest (PCI<sup>10</sup>) status. At the very least it should be included in ENTSO-E's recent Ten-Year Network Development Plan (TYNDP<sup>11</sup>) report. The third country and MS concerned should provide certainty that the project will be implemented in time. Hence, the Final Investment Decision milestone should already have been passed. Financing should be totally independent from the envisaged Project with neighbouring countries.

### 2.3. COMPLEXITY OF MULTILATERAL FRAMEWORK AGREEMENT FOR COOPERATION PROJECTS BETWEEN THE COUNTRIES INVOLVED

It is key for any Joint RES Project between the cooperating countries concerned, that both the off-taking, the transit and the host country undertake the necessary preparatory work to create enabling framework conditions. The countries have to enter into a multilateral cooperation framework agreement, specifying the arrangements for transmitting the pre-set part of energy production into the EU, as well as specification of the distribution rule for *transfers* created by the project between the three cooperating countries concerned. In the case of weak interconnector capacity between the transit country and one or both of the cooperation partner countries, this issue has to be addressed satisfactorily (for potential Joint RES Project financiers) in such cooperation framework agreements.

When developing an international legal framework the following areas should be considered (Gentry and Ronk, 2009).

- Identify clearly the benefits of the potential agreement to businesses (increase predictability of host country action and investor responses thereto), host country(ies) (affirm right to regulate within traditional boundaries, attract more private investment), and civil society organizations so that the negotiations have broad and strong support.

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<sup>10</sup> On 14 October 2013, the European Commission has adopted a list of 248 key energy infrastructure projects. These projects have been selected by twelve regional groups established by the new guidelines for trans-European energy infrastructure (TEN-E). Carrying the label "projects of common interest" (PCI) they will benefit from faster and more efficient permit granting procedures and improved regulatory treatment.

<sup>11</sup> Regulation (EC) 714/2009 requests ENTSO-E to "adopt a non-binding Community-wide ten-year network development plan" (TYNDP) with the objective to ensure greater transparency regarding the entire electricity transmission network in the Community and to support the decision making process at the regional and European levels.

- Be as transparent as possible in and around the negotiations, including outreach to a wide range of stakeholders in both business and civil society.
- Include clear definitions of “investment,” “investor,” and “expropriation” so that parties to the agreement can understand the balance being created between private and public interests.

Clearly support the host countries’ “right to regulate” in a non-discriminatory (at least with respect to foreign investors) manner on matters relating to RES projects.

### 3. MICRO-LEVEL BARRIERS AND POSSIBLE REMEDIES

Micro level barriers focuses on the conditions that are key to triggering investment to Joint RES Projects such as legal and institutional frameworks, market structure and financing issues.

#### 3.1. WEAK NATIONAL LEGAL AND INSTITUTIONAL FRAMEWORK IN THE HOST COUNTRY

One of the first necessary condition for the implementation of Joint RES Projects is the legal and economical possibility to invest in third country energy markets (Ellenbeck et al., 2012). Lessons learned from the CDM projects (Ellis and Kamel, 2007) indicate that the foreign direct investment framework of a host country can have significant impacts to the project developers and finance providers (UNEP, 2004). When the host country foreign direct investment laws restrict or impose cost on foreign investment, or foreign direct investment approval may be a condition precedent to the contracts establishing the joint projects the risk of such interference may burdensome Joint RES projects. For instance:

- i. Foreign investment may require government approval, which may not always be forthcoming. Prior approval from the government is, for instance, needed in Tunisia (Dii, 2013);
- ii. Restrictions on foreign ownership of assets (particularly land) may apply. In some countries investments are limited to a certain level of equity in a project, while in others any joint ventures must have a minimum of 50% of local ownership. Ownership arrangements related to the land access, ownership of the grid and finally ownership issues related to the installation(s) are particularly important to access to sufficient equity and need to be arranged early in the process so that the associated risks are eliminated. Obtaining land for renewable power projects may be complicated by fragmented land ownership, obsolete information in the land registry, and ambiguous property rights. Developers need to get permissions from every small land owners to develop infrastructure passing their land. Many properties in remote areas are not registered in the land registry, so the owners lack formal deeds (Dii, 2013).

Monopolistic structures provided by the law can stop third parties investing in the national grid infrastructure. The grid operators have no obligation to carry out investments for new transmission capacity that is not essentially needed for the national power supply. Investing in own electricity transmission system without connecting to the national grid can be an option. However, the law may not allow national and foreign entities to win transmission line destined exclusively for export.

Next to these, high bureaucratic obstacles, non-transparent administrative procedures, with lengthy, complex and cumbersome permitting procedures for new RES projects can present an obstacle for project developers. Often many different permits are required and many institutions are involved. Permitting processes do not always account for the size of the projects in a meaningful way resulting in unnecessary constraints for micro- and small-generation projects. Also, lack of proactive spatial planning for energy purposes can result in extensive re-zoning procedures.

Improving the functioning of the national legal system of a host country pays off in terms of increased confidence by potential foreign investors and financing institutions. This translates into higher inflows of direct foreign investments and lower project funding costs (lower project cost of capital). In making project agreements less prone to fraud and political instability, project agreements should recourse to international

law with independent third-country conflict resolution procedures and national law enforced by impartial judges to the maximum extent possible (WBCSD et al, 2003). Such institutional embedding might be new to the host country.

For the neighbouring countries signing the “The Energy Charter Treaty”, an international treaty system in force since 1998, which was designed to strengthen the international rule of law on energy issues by creating common energy regulation principles for all participating government, and developing the complementary regulatory systems required to underpin Joint RES Project could be an important step forward to minimise some of the legal issues on energy. To date, the treaty has been signed or ratified by 51 states. No governments in the North Africa have signed the treaty, and only Syria, Jordan and Morocco signed the 1991 charter that was a precursor to the agreement (Energy Charter, 2014).

## 3.2. ISSUES RELATED TO THE ELECTRICITY MARKETS

### 3.2.1 GRID RELATED ISSUES

As indicated in the macro level barriers section absent or insufficient transmission capacity between the host and the off-taking country can stand on the way to Joint RES projects. Even if the benefits of a Joint RES Project enable new interconnection capacities for the host and the off-taking country this might not necessarily be the case for a transit country. Thus, insufficient transmission grid capacity in a transit country could be a major barrier to Joint RES Projects. While an access tariff received by the transit TSO will not be sufficient enough to invest in capacity upgrade and/or new transmission lines such a bottleneck can be overcome in two ways.

- Either the transit country receives a certain share of the RES-E to be accounted for its own target, a share that is enough to compensate the costs related to grid upgrades, or
- the costs directly related to renewable electricity trade is shared by host and off-taking country. This, however, could be quite problematic as there is the issue of using the same transmission lines for grey electricity.

According to the Renewable Energy Directive preferential access must be granted to RES-E. However, it is not clear whether this is applicable to any market players from any EU or non-EU country. Particularly, if the country is acting as a transit country, the TSO might be reluctant to provide access. Next to that, depending on curtailment mechanisms and congestion situations, grid operators in the host country may decide not to take renewable electricity. In order to prevent such issues

- Guaranteed and priority access should be in place in the host country, or
- Dedicated merchant lines by-passing the national systems could be a way forward.

Once the interconnection capacity and the preferential access issues are resolved the amount of renewable electricity flowing from host country to the off-taking country must be firmly nominated to the allocated interconnection capacity by all responsible TSOs, from the host, the transit and the off-taking countries. It will be necessary to precisely trace at the injections and withdrawals on the basis of nominations (Glachant and Ahner, 2013). Additionally neighbouring countries must provide certification tools and institutions that are acceptable/comparable to the EU to proof the renewable character of electricity generated in host

country and transported to the off-taking country. The greenness of the electricity delivered will also need to be traceable at the injection and the transmission points of the transit country.

### 3.3. ISSUES RELATED TO RAISING PROJECT FINANCE CAPITAL

The project revenues (sale of energy and support benefits from EU Member States involved) should be attractive enough in terms of expected level and expected volatility. Information on the project revenues, e.g. the nature and level of support benefits and the benchmark used to determine the price of delivered energy should be elaborated as detailed as possible in the overall cooperation framework agreement between the countries concerned and in commercial contracts. Involvement of development finance institutions and export credit agencies in arranging – and participating in – the project finance can help to reduce the project funding rate and to adequately raise trust among the envisaged project finance consortium partners.

## 4. PUBLIC DISCOURSE LEVEL BARRIERS

Importing renewable electricity from third countries to EU may have positive and negative impacts on people and the environment. When individuals or civil society have concerns about negative or unjust effects they could possess the authority and hamper the implementation of such projects. Possible concerns the host, transit or off-taking country may have are summarised below.

- A substantial amount of jobs may be created in host countries due to joint projects and their related upstream and downstream industries. This may be perceived as potential job loss in the EU off-taking country and opposition may arise (Prade and Klinge Jacobsen, 2012).
- Perceived negative impacts of new RE sites or transmission lines on the well beings of the public.
- There is a danger that investors and private sector entities would search for countries and locations with the most profitable investment conditions and may include less stringent environmental and social standards for project development. Competition to attract foreign direct investment could lead to following less stringent standards. Several previous projects developed with climate finance mechanisms (e.g., the CDM) have demonstrated that host countries tend to dilute sustainable development criteria (Rindeljäll et al., 2010). One way to ensure sustainability in Article 9 projects would be to incorporate social and environmental safeguards based on international conventions, national laws, and the state-of-the-art impact assessment research within an overarching sustainability framework into the utility-scale deployment of renewable energy technologies during all project development stages (Schinke and Klawitter, 2014).
- In times of high domestic RE feed-in, and thus low electricity prices in EU Member State markets, subsidies for RE power from joint projects may lead to opposition by consumers and domestic RE industries (Hockenos, 2012)
- International trade of electricity from renewable energy technologies is a new market opportunity that may impose question of national interest and sovereignty issues. Relying on electricity imports from third countries or, if the perspective is reversed, relying on revenues from electricity sales to Member States induces a dependency which could be perceived as threat (Supersberger et al., 2010) or at least limiting the potential (or increasing the costs) for specific foreign policy options as embargoes etc. As a consequence, public and political support for joint projects may not be given due to national security and sovereignty issues.
- Fairness concerns can come up towards the distribution of economic gains, towards the distribution of negative environmental impacts and towards the perceived imbalance between costs and benefits for one side.
- Joint RES Projects may be perceived as ‘colonialism’ (Dittmann, 2011) and may negatively affect the public decision-making. Especially with regards to regions with a history of colonization by European countries, large-scale energy projects financed by the European investors may be seen as a new form of colonialism. The perception of distributional and procedural fairness related to the implementation of such projects may play an important role.

Wüstenhagen et al. (2007) distinguishes social acceptance of renewable energy technologies to three dimensions, which are also valid for Joint RES Projects. The first dimension is the socio-political acceptance and refers to general acceptance of both technologies and policies by the general public, key stakeholders and policy makers. The second dimension is community acceptance, which refers to acceptance of projects

at local level, and which addresses local stakeholders (affected population, key stakeholders and local authorities). The interaction between the project developers and the stakeholder plays an essential role at this level. The level of acceptance is mainly influenced by issues such as trust in project developer, and perceived procedural justice (fairness of decision making process) and distributional justice (fairness of distribution costs and benefits) (Wüstenhagen et al., 2007). The third dimension is market acceptance and this relates to the process through which market parties (consumers, investors, and firms) adopt and support such projects in the energy fields.

Key approach to fostering acceptance is to engage in a true dialog between stakeholders about the project, its design and conditions in order to find a robust outcome that can be favoured by all. Transparent information, perceived as impartial, on benefits and costs to the cooperating countries concerned need to be communicated effectively. Transparent consultation procedures in all countries involved (host, transit and off-taking countries) have to be designed and respected<sup>12</sup>. Once the business cases are defined by the project developers the benefits, risks, costs and possible solutions to them need to be communicated through a participatory process. This is the foundation for communication to obtain broad-based acceptance of the project.

Community acceptance of new transmission lines could cause significant delays or even stop construction of transmission lines and thus, hinder Joint RES Projects. For instance, the Spain-France interconnection project (Baixas-Santa Llogai) dates back to 1980s. The people opposed this project because they didn't want to have the lines built in their vicinity and there were objections to the crossing of touristic and protected nature areas. The success to solving these issues have been pointed out as following a participatory procedures, in which the citizens have the right to be involved in the planning phase of the projects that affect them and their living conditions (Ciupuliga & Cuppen, 2013). As suggested by Ciupuliga and Cuppen (2013) the aim should not be to create acceptance of a given project, but to engage in dialogue about the project, its conditions and design, in such a way that a robust outcome can be found that is supported by all stakeholders. Finding such a "robust outcome" has been referred to as searching for "congruency of meaning" (Grin and Van de Graaf, 1996), meaning stakeholders with different perspectives may not agree on the underlying motivation for a specific transmission line project, yet, they can converge on the specific level, that is , on the level of strategies and solutions. Next to that, involving a third party (in the case of France-Spain issue it was a coordinator from the European Commission) to the procedure could increase the trust to the process and the stakeholders involved (governments, TSOs, local actors, local governments and NGOs).

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<sup>12</sup> For instance, in 2012, the UK Government initiated a consultation process, in which, they asked for evidence about trading renewable energy with other countries. See [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/251889/130627\\_Response\\_to\\_Call\\_for\\_Evidence\\_on\\_Renewable\\_Energy\\_Trading\\_Final.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/251889/130627_Response_to_Call_for_Evidence_on_Renewable_Energy_Trading_Final.pdf).

## 5. CONCLUSIONS

To date, there have been no Joint RES Projects even though Article 9 of the RES Directive introduced this instrument in 2009 as one of the RES cooperation mechanisms. The main motivation of RES cooperation mechanisms was the achievement of national 2020 RES targets in a cost effective manner. This motivation, however, has decreased as the global economic and financial crisis has reduced energy demand in Europe and the civil unrest in some neighbouring regions, such as the Arab Spring, have led to higher country risks and financial costs, resulting in scepticism from foreign investors. At present there is barely any interest in RES-E exchange, neither from EU Member State nor from the neighbouring country perspective. However, analysis carried out in the BETTER project shows that there is significant potential for RES-E exports from the neighbouring regions to the EU in the medium-long timeframe (2040), with positive cost savings and other positive net benefits to the EU if the EU is to decarbonise its electricity system (see D7.4 BETTER Roadmap). Next to that, the recent EU Communication “A Framework Strategy for a Resilient Energy Union with a Forward-Looking Climate Change Policy”<sup>13</sup> highlights the importance of enhanced regional cooperation with neighbouring countries, particularly from the perspective of improving energy security. As such, we can assume that there will be a growing interest in Joint RES Projects in the near future. In order to utilise these benefits existing barriers to Joint RES Projects need to be addressed.

The barriers are grouped as macro, micro and public discourse level. Macro-level barriers reflect the willingness of the EU to involve in Joint RES projects with neighbouring countries. For the realisation of any future Joint RES Project clarity on the details of the new governance structure that will be the backbone of the 2030 Climate and Energy package is needed. What possible role the cooperation mechanisms may play in this Governance structure shall be soon clarified. Furthermore, a more enabling redesign of the framework conditions governing *Joint Projects with Neighbouring countries* in an amended post-2020 RES Directive should be contemplated. The precondition to physically export RE-E to Europe in the absence of electricity interconnection capacities stands as a major obstacle to Joint RES projects. The design of the mechanism can be revisited (to revoke physical import requirement) and/or further enabling conditions to involve in RES cooperation with the neighbouring countries can be introduced. For instance, deployment of EU-level instruments such as *Projects of Common Interest and Project of Energy Community Interest* and participation of European and/or Member State development finance institutions such as EIB, EBRD, KfW, etc. to build the necessary interconnection capacities may be a way forward.

Micro-level barriers relate more to the investment decisions, such as the weak national legal and institutional framework, particularly in the host countries, increasing the investment risks. Once the macro level barriers have been overcome and there are clear signals and demand for Joint RES Projects the micro-level barriers can be handled.

Acceptance of Joint RES projects at public discourse level depends on transparent consultations that clearly communicate all the possible costs and benefits, present the socio-economic and environmental impacts and the ways to overcome the negative impacts. These consultations should take place in all of the countries involved and at every stage of the Joint RES Project, from the initiation phase till the final execution phase.

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<sup>13</sup> Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee, the Committee of the Regions and the European Investment Bank, “A Framework Strategy for a Resilient Energy Union with a Forward-Looking Climate Change Policy” (COM/2015/080 final).

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