



Channelling Progress in Central and South East European Energy Market Integration

Proposals for the Terms of Reference for the new CESEC Working Groups

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Summary

The Central and South Eastern Europe Gas Connectivity (CESEC) is a major political success for the European Commission and the member states in their bid to integrate Central and South East European (C&SEE) energy systems. CESEC has already made a significant contribution to strengthening the regional and wider European energy security.

Broadening the scope of CESEC to include electricity, renewables and energy efficiency gives a unique opportunity to address energy systems in their full complexity, not just in technological and project 'silos'. The region of Central and South East Europe has significant energy efficiency, renewables and new technology potential that could be scaled up at low cost.

CESEC 2.0 offers a favourable occasion to consolidate the organisational framework while identifying an agenda that in the long term has the possibility to integrate C&SEE into the EU market, in line with EU objectives.

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Recommendations

- To continue the successful and rapid progress shown so far, the CESEC 2.0 terms of reference should keep the new mode of operation simple and manageable, while addressing the new energy sectors and their complex interdependency.
- To discuss the benefits of regional cooperation, sub-groups or ad hoc groups could be created to address specific barriers or issues common to only a number of countries.
- CESEC 2.0 should identify its own common interest, one that could aid participating countries to move their energy sectors further towards a low-carbon economy. A sub-group on 'infrastructures for the future', for instance, could be created to avoid possible stranded assets, assess the potential of new technological solutions and explore the impact of digital technology.
- Boosting regional cooperation in energy efficiency could start from establishing a collaboration platform for the exchange of best practice for financing such projects. With C&SEE having the highest potential for energy efficiency improvements in the EU, gas demand could be reduced through a dedicated building renovation programme (focused primarily on gas-consuming buildings), which could improve regional security of gas supply and reduce the need for investment in the supply infrastructure.
- A 'repository of studies' could be set up to simplify the reference to the vast available regional data and analysis, thus allowing for stocktaking, identification of gaps and avoidance of work duplication. The repository could be structured around the three CESEC 2.0 working groups or alternatively, the four CESEC themes: gas connectivity, electricity markets, energy efficiency.
- Covering four areas under three working groups, CESEC 2.0 could consider the adoption of a voluntary opt-in mechanism that would allow for certain interested parties to join specific (self-governed) 'thematic groups' on various issues of concern.
- National focal points could be appointed to enhance regional coordination and enable CESEC countries to streamline the functioning of the working groups along the various thematic areas. The link between the CESEC regional cooperation and the Energy Community and its initiatives should be strengthened.
- With the new working groups covering cross-cutting themes, a matrix for prioritisation of work could be envisaged to address specific issues and identify relevant gaps/overlaps.
- Stakeholder typology and engagement should be improved by having mechanisms to allow interested parties to engage in discussions in a transparent, timely and inclusive way.
- Existing EU, national and other financing instruments should be further aligned with the CESEC 2.0 priorities to facilitate the cross-border and sectoral integration.
- The new CESEC working group on renewables will need to address the issue of higher capital costs of renewable technology in C&SEE and the impact of retroactive changes to the investment framework.

Background

Countries from Central and South East Europe have often been exposed to gas supply crises, the last one being in 2009, and this vulnerability was highlighted in the 2014 Commission Stress Tests. The subsequent European Energy Security Strategy¹ reflected the need for timely implementation of infrastructure development and the Energy Union, which is a political priority of the European Commission to provide consumers with secure, sustainable, competitive and affordable energy,² has emphasised security of energy supply as one of its five elements.

Parallel to this, there is growing doubt about the paradigm of ever-increasing gas demand in the region. Even though gas demand increased (again) in 2016 after a long period of decline, there are structural shifts in the European economy and significant progress in energy efficiency that lead to changing consumption patterns.³ Central and South East European countries, notably Bulgaria and Romania, have also been at the forefront of renewable energy initiatives, at least to date.

The annexation of Crimea by Russia in 2014 changed the geopolitical landscape and triggered a shift of emphasis towards better connectivity, including the creation of the internal energy market under the Energy Union process. The Ukraine crisis and the successive imposition of European sanctions and non-compliance with EU competition and energy legislation compelled the Russian Federation to cancel the South Stream pipeline project in 2014. Ever since, reinforcing European energy markets has been seen as an important building block to reduce vulnerability, also in Central and South East Europe, where exposure to Russian imports is very high.⁴

This series of events triggered the establishment of the Central and South Eastern Europe Gas Connectivity (CESEC) in February 2015 – a high level regional energy policy cooperation initiative to address the diversification of natural gas and the challenges of security of supply. CESEC was the result of a longer infrastructure and market integration process led by the EU and by the Energy Community. The failure of the large-scale South Stream pipeline project created the opportunity for better integration.

¹ The European Commission released its Energy Security Strategy in May 2014, which aims to ensure a stable and abundant supply of energy for European citizens and the economy.

² COM/2015/080, A Framework Strategy for a Resilient Energy Union with a Forward-Looking Climate Change Policy.

³ E3G (2015), *Europe's declining gas demand. Trends and facts on European gas consumption*, Third Generation Environmentalism (E3G) (www.e3g.org/docs/E3G_Trends_EU_Gas_Demand_June2015_Final_110615.pdf). It is not unreasonable to believe that gas demand in the power sector may have peaked in 2010, unless there will be very fundamental policy changes, e.g. Genoese et al. (2016), "Gas demand for power generation peaked as early as 2010", CEPS Commentary, Brussels, 12 February (www.ceps.eu/system/files/GasDemandFinal.pdf).

⁴ Share of Russian imports in total gas consumption is more than 2/3 in Bulgaria, Estonia, Greece, Czech Republic, Finland, Hungary, Latvia, Lithuania, Slovenia and Slovakia.

The CESEC Group produced an Action Plan to identify projects to diversify gas supply in the region. Initially, the focus was on creating interconnectors through a limited number of infrastructure projects to supply gas when and where needed. The progress that followed saw the immediate implementation of 7 projects out of a total 20 proposed, and reverse flow agreements were subsequently signed in September 2016. Another priority is to develop and, importantly, implement rules to enhance connectivity.

Major progress on infrastructure projects, i.e. ‘hardware’ has been achieved. Attention is now shifting to what is frequently referred to as ‘software’, i.e. rules to ensure market functioning (reverse flows, setting cross-border tariffs and capacity allocation). Significant progress on the software is currently being made at the technical level.

Organisationally, CESEC is structured in three layers: political (ministerial), senior officials (provide guidance) and the working level (so far, only for gas infrastructure and market measures). Stakeholder engagement is provided for at the technical level.

CESEC High Level Meeting in Budapest: CESEC 2.0

Following the success of the first stage of operation, the CESEC High Level meeting in Budapest on 8-9 September 2016 agreed “that an expansion of the CESEC scope beyond natural gas could be beneficial for the regional energy system”. It proposed the establishment of two new working groups, focusing on “actions at the regional level”. One working group will promote “the cost-effective development of renewable energy and energy efficiency in the region”, thereby making explicit reference to “sharing best practice, promoting investment, and promoting job creation”, while the other working group would focus on “an efficient, well-connected electricity market”. Both groups were established with the task of, “in very close collaboration with the Energy Community, to prepare a Memorandum of Understanding and an Action Plan identifying possible concrete actions and timelines to promote a liquid and competitive electricity market in the region.”⁵

The working groups are expected to draft Memoranda of Understanding (MoU) and action plans for the 2017 CESEC High Level meeting to adopt. In CESEC language this is called “concrete areas and methods for collaboration”.

The CESEC High Level Group has also established the principle of “close cooperation with the Energy Community” for the working groups when developing the MoU and action plans. In the case of the electricity market group, the “Energy Community Secretariat should propose how the findings of the Working Groups can be incorporated in to the Energy Community”.⁶

⁵ “Expanding CESEC into Electricity, Renewable Energy and Energy Efficiency” (<https://ec.europa.eu/energy/sites/ener/files/documents/CESEC%20new%20horizons%20on%20paper%20-%20FINAL.pdf>).

⁶ CESEC High Level Group (2016), Budapest, 8-9 September (<https://ec.europa.eu/energy/sites/ener/files/documents/CESEC%202016.09.09%20HLG%20conclusions%20-%20FINAL.PDF>).

The Budapest CESEC High Level meeting emphasised the importance of the relationship with other ongoing activities and institutions. The Energy Community and one of its projects, the Western Balkan 6 Initiative ('Berlin process'), were mentioned explicitly on several occasions. Other initiatives and frameworks could support the ongoing activities and objectives of CESEC.

The expansion of mandate beyond natural gas has long been on the table as an idea, developing under a wide and complex integrative approach that gained the support of the European Commission and the endorsement of the European Parliament and member states. The European Energy Security Strategy released in May 2014 formulated the objective to ensure a stable and abundant supply of energy to the EU economy and citizens while making a political commitment to act in a number of areas: for example, moderating energy demand (especially in the building and industrial sectors), improving the district heating and cooling systems as a tool to reduce external energy dependency and exposure to price hikes. The Strategy also covered the integration of the European internal energy market (electricity and gas) through a regional approach, in terms of cross-border exchanges and security of supply. To achieve this, the construction of key interconnectors was accelerated, thus encouraging member states to achieve the already agreed EU target of at least 10% interconnection of their installed electricity production capacity.⁷ In October 2014 the European Council revised the EU interconnector target to 15%.

For the longer term, the Energy Security Strategy encourages the development of new energy technologies to reduce primary energy demand, to diversify, stabilise supply options and optimise energy network infrastructure. The potential for such development and investment lies in the capacity of new technologies to provide cost-effective solutions, improve the efficiency of buildings, provide energy storage options and optimise the management of grids.⁸

In 2015, the European Parliament issued a report⁹ on achieving the 10% electricity interconnection target, in which the CESEC High Level Group was considered to have the potential of becoming a platform for cooperation and coordination in the region for stakeholders to discuss and support joint projects. The report also advocated the increase of cross-border electricity capacity and the assessment of new electricity interconnections to develop renewables and increase security of supply.

The wide range of policy moves from the European Energy Security Strategy and European Parliament report are mostly reflected in the new CESEC 2.0 mandate, the starting point of which was the need

⁷ COM/2014/330 European Energy Security Strategy.

⁸ Ibid.

⁹ European Parliament, Report on achieving the 10% electricity interconnection target – Making Europe's electricity grid fit for 2020 (2015/2108(INI)).

to improve cooperation, solidarity and trust in the Central and South Eastern part of Europe, given its particular vulnerability. Dedicated cooperation arrangements would help to accelerate the better integration of these markets into the wider European energy market, which would improve the liquidity and resilience of the energy system and would allow full use of the region's energy efficiency and renewable energy potential. The Commission committed itself to take concrete initiatives in this regard as an urgent priority.¹⁰

In the medium term, the Paris Agreement, which entered into force in 2016, will continue to shape EU actions in this field, along with the CESEC agenda. Nearly 200 participating countries will update their national climate plans every five years, and notably increase the ambition level. The increasing ambition of the Paris Agreement will inevitably affect the national and regional plans. Its impact needs to be analysed and discussed in the CESEC so that the group can reach adequate conclusions for the development of its future energy potential and infrastructure.

How should CESEC 2.0 be governed?

With CESEC being able to rely on three working groups in the future, and considering the way in which these groups are broadly defined, market integration is likely to become a priority for CESEC. The development of well-functioning markets and market integration are already core concerns for the EU and the Energy Union, as well as for the Energy Community. The impressive progress of the integration of gas networks in CESEC to date, and the generally high level of electricity interconnections, prepare the ground for the (final) push for better integration of gas and electricity networks. This will also allow for the better integration of gas and electricity, which has been identified as one of the critical factors in improving Central and South East European security of energy supply and increasing resilience.¹¹

Additional opportunities exist by generally improving the functioning of the electricity markets both at wholesale and retail level, including notably the integration of more renewables and energy efficiency e.g. as proposed in the 'Clean Energy for All' Package of November 2016 and facilitated by the Energy Community. Once markets become more efficient, demands on new and future-proof infrastructure 'hardware' will occur, thereby reinforcing connectivity.

The terms of reference for the next stage of the CESEC High Level Group and its working groups will need to address both the new energy sectors included in its scope of work and their complex interdependency. At the same time, the new mode of operation needs to be kept simple and manageable so that CESEC can continue the successful and rapid progress that it has demonstrated so far.

¹⁰ COM/2015/080, A Framework Strategy for a Resilient Energy Union with a Forward-Looking Climate Change Policy.

¹¹ J. Gaventa, M. Dufour and L. Bergamaschi (2016), "More Security Lower Cost: A smarter approach to gas infrastructure in Europe", *Energy Union Choices*, Brussels, March.

Before deciding on the terms of reference and the institutional arrangements, it would be helpful to discuss and agree on the key operational objectives, e.g. securing financing, developing regional markets, etc.

These discussions could benefit from the significant body of analytical work on the energy developments in the region that have been completed or commissioned recently and are in the process of being drafted, a few of which are cited below. In order to simplify the reference to available data and analysis, the setting up of a 'repository of studies' has been strongly recommended by stakeholders. To date, there is a huge number of studies in the area, and the establishment of a simple 'repository of studies' would allow us to take stock, summarise them, avoid duplication and to identify the gaps. The repository could be structured around the three CESEC 2.0 working groups or alternatively, the four CESEC themes: gas connectivity, electricity markets, energy efficiency and renewables.

Returning to the terms of reference, a number of issues and questions have arisen that can guide these discussions.

1. *Exploiting the common interest*

To date, CESEC has been working on common projects and interests.¹² This approach has worked well and is one of the key elements of its success. The work of the High Level Group was articulated around the Steering Group and the Technical Sub-Groups. Most likely, this will be similar in the electricity market group and be the case for energy efficiency. The situation of renewables is somewhat different as the actual ambition of each country will depend on many factors, which countries cannot necessarily control themselves, e.g. interconnections, the level of market integration, flexibility options etc. Although, for the most part, renewables are driven bottom-up, cost competitiveness could create new realities and uncertainties that need to be addressed, an aspect that could call for a more top-down element, for example on grid planning or market functioning facilitated by the European Commission.

To discuss and highlight the benefits of regional cooperation, CESEC member countries or groups thereof could create sub-groups or ad hoc groups to address specifically identified barriers or issues common to only a number of countries.¹³

Learning from the success of the first phase of CESEC will mean that CESEC 2.0 will identify its own common interest, in line with the EU's political priorities (the Energy Union) and climate targets, the 2030 Climate and Energy Framework and the Paris Climate Agreement.

A reflection on the meaning of long-term common interests could facilitate participating countries to steer their energy sectors towards a low-carbon carbon economy. This reflection could include work in a sub-group on 'infrastructures for the future', for example, with the

¹² E.g. new interconnectors, reverse flow capability, gas storage, new supply corridors, creation of a gas hub and LNG import terminals etc.

¹³ For example, A. Dimitrova, C. Egenhofer and A. Behrens (2016), "A Roadmap to Enhanced Regional Energy Policy: Cooperation in South East Europe", CEPS Special Report No. 134, Brussels, April.

aim to avoid potential stranded assets, to assess the potential of new technological solutions (e.g. decentralised generation, demand response or electrical vehicles etc.) or to explore the impact of digital technology and thereby provide signals for emerging technologies.

The CESEC work related to gas and electricity markets will most likely be led by those countries with an interest in energy efficiency and market integration. Driving forward more ambitious measures for energy efficiency and the deployment of renewable energy will be more complex. Energy supply in Central and South East Europe, as elsewhere, is helped by maximising the deployment of energy efficiency measures as a first step, which is in line with the Energy Union Strategy principle of ‘energy efficiency first’. To this end, the role of the existing and new building stock is paramount. Central and South East Europe has the highest potential for energy efficiency improvements in the EU, and regional collaboration in this area could help in exchanging best practices and accessing regional funds.¹⁴ Reducing gas demand through a dedicated building renovation programme (focused on gas-consuming buildings) has the potential to improve gas supply security in the region and significantly reduce the need for investment in the supply infrastructure.¹⁵ A natural point to kick-start efficiency would be to establish a joint ‘platform for good practice for financing energy efficiency projects’.

The recent report of the International Renewable Energy Agency (IRENA) underscores the finding that South-East Europe has a very high potential for cost-competitive renewable power generation.¹⁶ The issue of how countries in the region could benefit more from this potential has frequently been discussed and the question of physical and statistical transfer to countries with limited potential has been raised. Furthermore, the recently adopted *Abu Dhabi Communiqué on Accelerating the Uptake of Renewables in South East Europe*¹⁷ signals the determination of countries in the region to scale up renewables deployment and, in this regard, details priority areas of collaboration including, among others, renewable energy planning, strengthened enabling frameworks, the socio-economic benefits of renewables, and renewable energy financing. These and other issues of common interest are likely to drive discussions in the CESEC 2.0.

2. Governance

Until now, the success of CESEC has depended on the particular modus operandi of the High Level Group coordinated by the European Commission, an aspect that should and is most

¹⁴ BPIE (2016), “Safeguarding energy security in South-East Europe with investment in demand-side infrastructure. The case for energy efficiency in buildings” (<http://bpie.eu/wp-content/uploads/2016/09/Safeguarding-energy-security-in-South-East-Europe-with-investment-in-demand-side-infrastructure.pdf>).

¹⁵ E.g. electrification of the district heating network with heat pumps, deep renovations in buildings.

¹⁶ IRENA, Joanneum Research and University of Ljubljana (2017), *Cost-Competitive Renewable Power Generation: Potential across South East Europe*, International Renewable Energy Agency (IRENA), Abu Dhabi.

¹⁷ The Communiqué was adopted at the High Level Meeting on Renewable Energy in South East Europe held on 13 January 2017 in Abu Dhabi by the Heads of delegation from Albania, Bosnia and Herzegovina, Croatia, Montenegro, the Republic of Moldova, Romania and Serbia to, see www.irena.org/DocumentDownloads/Publications/IRENA_SEE_Communique_2017.pdf.

likely to continue. The CESEC expansion to four areas under three working groups could consider the adoption of a voluntary opt-in mechanism that would allow for certain groups of countries to join specific (self-governed) ‘thematic groups’ on various issues¹⁸ of concern. This would mean that only interested parties would volunteer to opt into the thematic groups, and not necessarily all CESEC members.¹⁹ This approach has worked well so far when working subgroups have been formed around specific infrastructure projects.

National focal points

A means of enhanced simplification for regional coordination could be the appointment of a national focal point playing the role of a national co-ordinator. Such an arrangement would enable CESEC countries to streamline the functioning of the working groups along the various thematic areas. A single national focal point for each country would also overcome the problems that might arise from different government institutions possibly being responsible for the CESEC themes²⁰ in different countries.

A national focal point would also act as the main interlocutor for stakeholder interface. It would seem important that all four areas – gas, electricity markets, renewables and energy efficiency – have dedicated contact points in each country.

To enhance visibility and stakeholder engagement, the host country of the CESEC High Level Group could hold a major public event associated with the formal meeting.

Relationship to other initiatives

As has been documented, e.g. in the CEPS Energy Climate House ‘Roadmap’²¹ there are numerous bodies and institutions to enhance regional energy cooperation in line with EU objectives. The CESEC High Level Group has mentioned the Energy Community as an international organisation, and the Western Balkan 6 initiative. But many more exist, often very important at the working level. It therefore seems useful to discuss the merit of various ongoing initiatives and how they can be harnessed to facilitate the working groups.

A key point to address is the concrete link between the CESEC regional cooperation and the Energy Community and its initiatives. The apparent willingness of the Energy Community to ensure coordination and linkage between various policies and projects could be incorporated, in close cooperation with the Western Balkan Investment Framework (linked to DG NEAR).

¹⁸ E.g. heating and cooling, energy poverty etc.

¹⁹ A. Dimitrova, C. Egenhofer and A. Behrens (2016), “A Roadmap to Enhanced Regional Energy Policy: Cooperation in South East Europe”, CEPS Special Report No. 134, Brussels, April.

²⁰ Gas, Electricity, Energy Efficiency, Renewable Energy.

²¹ A. Dimitrova, C. Egenhofer and A. Behrens (2016), “A Roadmap to Enhanced Regional Energy Policy: Cooperation in South East Europe”, CEPS Special Report No. 134, Brussels, April.

Other successful regional cooperation initiatives such as the Baltic Energy Market Interconnection Plan (BMIP), the North Sea Initiative²² or the Pentalateral Forum²³ may hold useful lessons for how to incorporate various activities at operational level, i.e. into the working groups. A better market integration and well-functioning markets would not only address the security of supply in the region,²⁴ but also improve the sustainability of the energy system through reaching the energy efficiency and renewable energy potential.

An agenda for cross-sectoral discussions

The different working groups (Gas/Electricity/Energy efficiency and Renewables) will most likely cover a number of cross-cutting or horizontal themes, such as security of supply, job creation, fuel poverty and other non-energy benefits (e.g. productivity, comfort, and health), technologies, digitalisation and financing. A matrix could be envisaged to address specific issues and identify relevant gaps/overlaps of the CESEC 2.0 working groups – see example below. Such a matrix could be useful to identify the principal interests of the different member countries so as to prioritise work.

	Gas	Electricity	RES/EE
Financing			
Markets			
Regulatory issues			
Infrastructure			
Others (co-benefits, digital, energy poverty, jobs, security)			

Stakeholder involvement

Stakeholder involvement in CESEC to date has focused on a specific and well-defined approach, where stakeholders can easily be identified, e.g. Transmission Systems Operators (TSOs) or national regulators. On a case-by-case basis, research and academia have been invited, such as the Regional Centre for Energy Policy Research (REKK), the International Renewable Energy Agency (IRENA) or the Buildings Performance Institute Europe (BPIE). Such an approach can be justified on the grounds of ‘keeping things simple and manageable’. Nevertheless, as CESEC grows, the mechanisms for stakeholders’ involvement need to be considered.

²² European Commission, *Study on regulatory matters concerning the development of the North Sea offshore energy potential*. Authors: PwC, Tractebel Engineering, ECOFYS January, 2016. Study for DG Energy, January 2016.

²³ See www.benelux.int/nl/kernthemas/energie/pentalateral-energy-forum/

²⁴ Memorandum of Understanding on a Joint approach to address the natural gas diversification and security of supply challenges as part of the Central and South-Eastern European Gas Connectivity (CESEC) initiative (https://ec.europa.eu/energy/sites/ener/files/documents/CESEC%20MoU_signature.pdf).

Given the sheer size and variety of existing stakeholders, it is unrealistic to assume that the CESEC process will be able to institute formal stakeholder involvement, other than regular large-scale meetings. It might be worth reflecting on ‘mechanisms’ to allow interested stakeholders to engage in discussions, as well as making the consultative process more transparent, timely and inclusive. Further consideration could be given to the role of civil society and non-governmental actors. National focal points could organise regular stakeholder consultations. However, there will be also a need to consult international stakeholders that might not be adequately represented at national level.

3. Finance

Finance is likely to be a key issue in CESEC 2.0, which raises the question of how financial matters should be organised. While it seems logical to handle them separately in each group, there may be an opportunity to align discussions in the three groups. One could imagine that some sort of alignment could facilitate cross-border and sectoral integration.

In addition, there are at least two areas of a cross-cutting nature.

- One would be barriers to financing, for example due to an inefficient banking system, the general investment climate or lack of political stability.
- Another is the need to align existing EU, national and other financing instruments with priorities of CESEC. During the first phase of CESEC alignment was a success, helped by the clear focus of the first phase of CESEC and tailor-made EU instruments being available for the EU and Energy Community countries. For CESEC 2.0 such instruments exist as well but may need to be further aligned with the exact CESEC 2.0 priorities, i.e. projects that the CESEC member states will identify. This could result in the creation of an Investment Platform, for example, which exists in some member states such as France and Denmark.

Renewable energy investments are a somewhat special case. As highly capital-intensive technologies, they are particularly vulnerable to the costs of capital. This is why the new IRENA study estimated the deployment of technology capacity based on (three) different cost of capital scenarios with significantly different results.²⁵ CESEC countries tend to have significantly higher capital costs than western EU member states, for example.²⁶ The working group on renewables will need to address this question.

Renewables investment is also likely to suffer from the recent retroactive changes to renewables enacted in some CESEC countries. This has undermined the investment

²⁵ IRENA, Joanneum Research and University of Ljubljana (2017), *Cost-Competitive Renewable Power Generation: Potential across South East Europe*.

²⁶ Ecofys et al. (2016), “The impact of risks in renewable energy investments and the role of smart policies” (www.ecofys.com/files/files/diacore-2016-impact-of-risk-in-res-investments.pdf).

framework in these countries. One of the tasks in the region will therefore be to re-establish investor confidence. A number of proposals have recently been made.²⁷

Opportunities for the aggregation of smaller projects in energy efficiency or renewables across several countries to attract bigger investors is also likely to be a topic for discussion.

4. *Infrastructure for the future*

The transition to a low-carbon energy system will require the new Action Plan to shift attention to the 'Infrastructures for the future', where the possibility to go beyond the traditional 'gas and electricity' duo is explored, along with alternative solutions (such as the contribution of demand-side investments to security of supply, electrification of transport, the role of buildings in the energy infrastructure or digital energy solutions). This will also mean that cross-sectoral issues (such the relationship between renewables and gas, and grid flexibility to secure the maximisation of RES supply for electricity) need to be properly discussed.

Discussions on the infrastructure for the future will increasingly include a share of citizen-owned energy production initiatives. It will also include a debate on the need to further develop high-voltage direct current supergrids.²⁸ CESEC 2.0 could lead the way for a roadmap on regional cooperation on future infrastructure development.

²⁷ I. Temperton (2016), "Reducing the cost of financing renewables in Europe", Study on behalf of Agora Energiewende (www.agora-energiawende.de/fileadmin/Projekte/2016/De-Risking/Agora_RES-Derisking.pdf).

²⁸ Such direct current interconnections are fast developing in the Baltic countries and North Sea area.

Annex: Stakeholders participating in the CEPS workshops

European Commission	The Oxford Institute for Energy Studies
CRE - Romanian Energy Center	BPIE – The Buildings Performance Institute Europe
The Greek Energy Forum	Hellenic Association of Independent Power Producers
Eurerelectric	Agora Energiewende
Eustream	CAN Europe
ECF – European Climate Foundation	OMV Petrom
Macedonia Energy Resources	Analytica Think-Tank
Aegean Energy Agency	Sandbag
Hellenic Association of Independent Power Producers	Independent Energy Consultants
IRENA – The International Renewable Energy Agency	