

Chapter 12.

Energy policy in South East Europe

This chapter on energy policy assesses the policy settings, strategies, processes, and institutions in six South East European economies. After a brief overview of energy trends and performance in South East Europe, including the reliability of energy supplies, energy intensity and trends in prices, the chapter then focuses on four essential sub-dimensions. The first, governance and regulation, examines the extent to which overarching energy policy is comprehensive and has clear objectives, and the ability of the national regulatory agency to carry out its critical role. The second sub-dimension, sustainable development, evaluates policies on renewable energy and energy efficiency. The third, energy security, considers policy frameworks for electricity and gas, and emergency and crisis management. Finally the fourth sub-dimension, energy markets, analyses progress towards the formation of a single regional market. The chapter includes suggestions for enhancing the policies in each of these sub-dimensions in order to manage energy well, which in turn would foster the competitiveness of these economies.

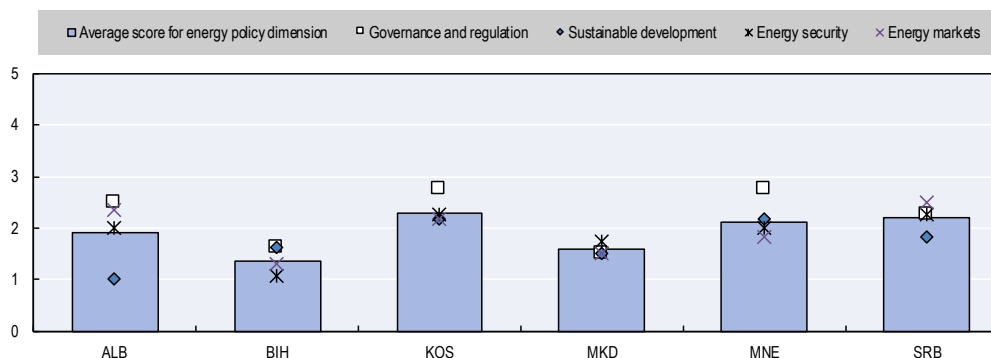
Main findings

It is difficult to overstate the fundamental importance of the energy sector for any economy. Energy enables production and consumption, transforming the lives and well-being of all citizens. Energy policy which delivers a reliable, environmentally sustainable energy supply at efficient prices enhances productivity and thereby advances the competitive potential of the entire economy.

Energy sector reform improves competitiveness by moving away from vertically integrated structures, restricting regulation to the core networks which are natural monopolies, and introducing competition into the energy services that are supplied over the networks (Newbery, 2002).

Taken together, the six SEE economies assessed in this report – Albania, Bosnia and Herzegovina, the Former Yugoslav Republic of Macedonia, Kosovo,* Montenegro, and Serbia – score an average of 1.9 for the energy policy dimension. This indicates that they have all taken important steps to establish comprehensive policy, legal and regulatory frameworks across all four sub-dimensions: governance and regulation, sustainable development, energy security and energy markets. Scores higher than 2 signify that some implementation of policy has taken place and effective monitoring of progress is planned or undertaken (Figure 12.1).

Figure 12.1. **Energy policy: Dimension and sub-dimension average scores**



Note: See the methodology chapter for information on the *Competitiveness Outlook* assessment and scoring process.

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Comparison with the 2016 assessment

No direct comparison with the 2016 *Competitiveness Outlook* assessment can be made, because this is the first time that the energy sector has been assessed.

Achievements

All six assessed SEE economies have taken steps to improve the competitiveness of their energy sectors. They have either developed policy frameworks that set direction and objectives across sub-dimensions, or are actively developing comprehensive policy

* This designation is without prejudice to positions on status, and is in line with United Nations Security Council Resolution 1244/99 and the Advisory Opinion of the International Court of Justice on Kosovo's declaration of independence.

frameworks. Kosovo and Serbia have the highest average scores across the entire energy policy dimension (2.3 and 2.2 respectively), due in large measure to their relatively strong performance in establishing Third Energy Package-compliant legislative and regulatory frameworks,¹ and their progress in implementing their policy frameworks.

All six economies recognise the positive competitiveness effect of regional energy market formation, and have committed to the Western Balkans Connectivity Agenda,² which is a strong high-level driver of reform.

The six SEE economies have identified gaps in their energy infrastructure. Working together and with the Energy Community Secretariat, they have established a priority list of ten Projects of Energy Community Interest (PECI): six projects on electricity transmission, three projects on gas transmission and one on oil transmission. The ten selected projects will benefit from streamlined issuing of permits and the possibility of regulatory incentives, cross-border cost allocation, and funding under the European Union's (EU) Instrument for Pre-Accession Assistance and the Neighbourhood Investment Facility. In addition, two electricity and eight gas projects have been approved as Projects of Mutual Interest with the EU.

Remaining challenges and key recommendations

- **Remain committed to reforming national and regional energy markets.** Energy sector reform is an ongoing and intense challenge. It will require sustained political and institutional will if the economies are to achieve both national and regionally shared objectives by implementing the adopted legislative and regulatory frameworks.
- **Adopt and implement urgently the EU Third Energy Package-compliant primary and secondary legislation.** At present compliance with the EU Third Energy Package is patchy at best, but is an essential prerequisite for the interoperability of the SEE and EU energy systems, as well as for improving the productivity and competitiveness of the sector at regional and national levels.
- **Ensure that energy policy strategies and action plans set out measurable objectives and outcomes.** Current strategies and policies do not always include well-defined objectives and outcomes and therefore lack focus. As a consequence reform may be slow, and the evaluation and monitoring of progress is problematic.
- **Implement energy policy fully, including action plans and strategies.** Key aspects of several sub-dimensions have not been implemented. In particular, the strategies and action plans in the sustainable development sub-dimension have not been fully implemented, which is disappointing given the considerable potential for renewable energy sources (RES) and energy efficiency to give the SEE region and economies a significant competitiveness boost. The sustainability of the energy sector and the competitiveness of the region's economies is further threatened by plans for substantial new investments in coal-fired power plants.
- **Strengthen administrative and institutional capacity and provide additional resources.** Adequate institutional and administrative capacity is a prerequisite for effective energy sector reform. However in assessing almost every sub-dimension concerns were raised about insufficient human and/or financial resources within some national and municipal administrative authorities and regulatory agencies. Pressure on skills and financial resources is likely to increase due to the dynamic

nature of EU energy policy, and as administrative and regulatory institutions expand their competence across the whole range of energy sector functions.

Context

Energy policy typically addresses three overarching objectives: energy security, environmental protection, and competitiveness and economic development. These objectives are particularly pertinent for the SEE economies, which have important energy challenges. All six SEE economies are generally net importers of energy, which means that security of supply is a concern. Similarly the region as a whole urgently needs to modernise its energy infrastructure, which is degraded and sparse in places. As a result, consumers and industry experience somewhat unreliable power supplies, and access to energy is further constrained by the affordability of power. Achieving the required levels of investment will be especially challenging in the current macroeconomic context. The region as a whole has relatively high greenhouse gas emissions, limited deployment of renewable energy sources other than large-scale hydropower, and relatively high total energy intensity compared to its European Union (EU) neighbours.

For these and other reasons, including political instability, energy sector reform is arguably one of the most complex issues facing the six SEE economies. It is also one of the most urgent because these challenges act as a brake on productivity. As the SEE economies work to align their power sectors with the EU energy market, they are implementing liberalisation programmes which will restrict regulation to the core networks, which are natural monopolies, and introduce competition to the energy services that are supplied over the networks. Incumbent state-owned and vertically integrated enterprises are being unbundled and new market participants encouraged to enter the sector. This approach, which is the basis for EU energy policy, rests on evidence that competition in energy services improves efficiency and encourages innovation (Newbery, 2002), thus increasing competitiveness.

At a time when the nations of the world are coming to regard the transformation to a low-carbon energy system as one the key priorities (IEA, 2016b), the sheer scale of the task of energy sector liberalisation places a considerable burden on institutions. This burden is only intensified by the rapidly increasing focus on environmental protection. But while the six SEE economies face shared challenges, they also share strong resource endowments, including unexploited renewable energy potential, some of which could already be cost competitive (IRENA, 2017), and they have significant potential for improving energy efficiency.

The importance of energy to competitiveness and economic development means it has links to many other policy areas. The most pertinent policy overlaps covered in this *Competitiveness Outlook* include:

- **Chapter 1. Investment policy and promotion** are more likely to succeed where energy supplies are secure. These affect an economy's investment attractiveness but can also constitute important destinations for foreign direct investment. The transition to low-carbon economies requires the mobilisation of investment in green energy infrastructure, renewables and energy efficiency.
- **Chapter 11. Transport policy**, through measures to increase the share of electric transport in urban areas.

- **Chapter 13. Environmental policy**, through measures such as raising awareness and shaping consumer behaviour to reduce greenhouse gas emissions, improve air quality and reduce energy intensity.
- **Chapter 15. Tourism**, as the policy of expanding tourism across the region implies an increased demand for power, particularly in the hot summer months when air conditioning places a heavy load on electricity systems.

Energy policy assessment framework

This chapter presents an analysis of energy policy in the SEE region. The analysis focuses on the following four broad sub-dimensions:

1. Governance and regulation: is the energy sector subject to strong governance? Are policy objectives clear and measurable? Is the national regulatory agency independent of political and other influences?
2. Sustainable development: are renewable energy and energy efficiency policies prioritised? Are policy frameworks and rules to support investment in renewables and energy efficiency transparent and market-based? Are measures to increase public awareness of energy efficiency and renewable energy sources in place?
3. Energy security: does energy policy reflect supply and demand so that consumers and businesses can rely on a continuous energy supply? Are investment plans informed by robust estimates of future demand and consistent with obligations under international treaties and agreements? Are firm plans in place to deal with a major supply interruption?
4. Energy markets: are companies in the energy sector vertically integrated and vulnerable to monopolistic behaviour, or are they managed and operated by separate entities? Is access to transmission grids by third parties allocated on a transparent and fair basis? Are energy markets open to energy trade across borders underpinned by harmonised market rules on a regional level?

Figure 12.2 shows how the sub-dimensions and their constituent indicators make up the energy policy dimension assessment framework. Each sub-dimension is assessed through quantitative and/or qualitative information. The OECD collected the qualitative and quantitative data for this dimension with the support of the SEE governments and their statistical offices. Quantitative indicators are based on national or international statistics. The qualitative indicators have been scored in ascending order on a scale of 0 to 5, and are summarised in Annex 12.A1.³ For more details on the methodology underpinning this assessment please refer to the methodology chapter.

Energy policy performance in the six SEE economies

In addition to the potential to release well-recognised improvements to competitiveness, three factors motivate SEE energy sector reform. First, the six SEE economies are either candidates or potential candidates for accession to the EU, which means that they are committed to aligning their legislative and regulatory frameworks for energy with those of the EU. Second, since the financial crisis of 2008, the scope for macroeconomic support has become weaker, which creates an imperative for private (rather than public) investment. Third, existing energy networks are relatively weak and much of the installed generation capacity is in need of replacement. Taken together, these factors imply significant investment requirements.

Energy policy in the SEE economies should be considered with reference to EU energy policy – they are intimately related through the Energy Community, to which all SEE economies are Contracting Parties. The key objective of the Energy Community is to create an integrated pan-European energy market across the EU and its neighbours by extending EU energy market rules across the SEE region. Membership of the Energy Community requires economies to harmonise their energy policies, legislation and regulatory frameworks with those of the EU, and is a necessary condition to attract private-sector investment to the region.

Figure 12.2. Energy policy assessment framework

Energy policy dimension			
Outcome indicators <ul style="list-style-type: none"> • Energy imports, net (per cent of energy use) • Energy intensity (gross inland consumption of energy as a share of GDP) • Electricity prices for industrial consumers (purchasing power standard, including taxes and levies) • Power outages experienced by firms (per cent) • Firms identifying electricity as a major constraint (per cent) 			
Sub-dimension 1 Governance and regulation	Sub-dimension 2 Sustainable development	Sub-dimension 3 Energy security	Sub-dimension 4 Energy markets
Qualitative Indicators <ol style="list-style-type: none"> 1. Energy policy, legal and institutional framework 2. Energy regulator 	Qualitative Indicators <ol style="list-style-type: none"> 3. Renewable energy policy, legal and institutional framework 4. Energy efficiency policy, legal and institutional framework 5. Awareness raising 	Qualitative Indicators <ol style="list-style-type: none"> 6. Gas supply framework 7. Electricity supply framework 8. Energy infrastructure investment framework 9. Emergency and crisis management system and demand restraint programmes 	Qualitative Indicators <ol style="list-style-type: none"> 10. Unbundling and third-party access rules 11. Harmonisation of market rules on a regional level 12. Interconnection congestion and reliability management
Quantitative indicators <ol style="list-style-type: none"> 1. Number of full-time equivalent staff of energy regulator 2. Implementation of national regulatory agency independence criteria 	Quantitative indicators <ol style="list-style-type: none"> 3. Renewable energy capacity, per source (megawatt) 	Quantitative indicators <ol style="list-style-type: none"> 4. Electric power transmission and distribution losses (per cent of output) 	Quantitative indicators Not applicable in this assessment

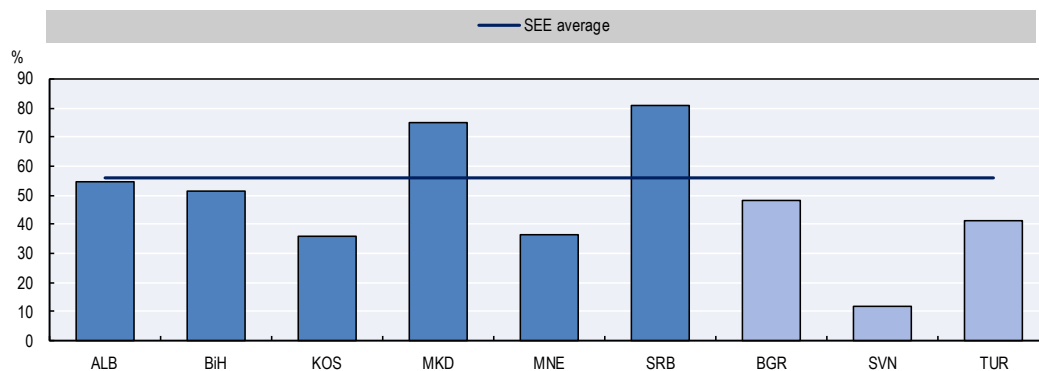
The first objective of energy policy is to ensure a secure and reliable energy supply. Achieving this objective can be a challenge in a region where energy infrastructure – particularly electricity transmission and distribution networks – is sparse (e.g. in rural areas), or degraded due to, among others, underinvestment. Consumers and businesses in the SEE economies sometimes go without electricity due to issues with both quality of supply and affordability.

Figure 12.3 reveals that, on average, almost 56% of firms in the SEE economies experienced electrical outages in 2013 (World Bank, 2017a). While not radically different from similar economies Bulgaria, Slovenia and Turkey, this is particularly significant for the six assessed economies given that access to natural gas supplies is patchy at best, with Albania, Kosovo and Montenegro not connected to gas pipelines. This means that

businesses and industry rely on the electricity sector to a large degree. This uncertainty in energy supply is detrimental to consumer welfare and, crucially, undermines national competitiveness. Reliable energy supplies are critical to the competitiveness of local industries and businesses, and an important signal for potential investors.

The six SEE economies are committed to improving energy infrastructure, and considerable progress has been made in recent years. The pipeline of investments in energy infrastructure in place aims to improve energy security further, address remaining historic weaknesses and accommodate rapid technological change. These include key infrastructure projects, especially cross-border projects that link the energy systems of more than one EU/Energy Community country, supported under the initiatives Projects of Energy Community Interest and Projects of Common Interest.⁴

Figure 12.3. **Percentage of firms experiencing electrical outages (2013)**



Note: BGR – Bulgaria; SVN – Slovenia; TUR – Turkey.

Source: World Bank (2017a), *Infrastructure* (database), www.enterprisesurveys.org/data/exploretopics/infrastructure#all-countries.

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The commercial and technical availability of energy can be enhanced by regional markets enabling demand to be met from abroad. Currently, while infrastructure to support cross-border trade in electricity is relatively good compared to for example that between EU Member States, capacity is not used optimally. Often unilaterally declared congestion over the interconnectors is a binding constraint on the extent to which security of supply can be boosted in this way. However, as Contracting Parties to the Energy Community, the SEE economies have agreed to form a regional SEE energy market. In 2016 they reinvigorated their commitment by participating in the Western Balkans Six (WB6)⁵ and Central and South-Eastern European Gas Connectivity (CESEC)⁶ regional initiatives.

Security of supply is linked to sustainable development through the diversification of fuel sources. The six SEE economies enjoy a good energy resource endowment, with large deposits of coal and lignite, and all except Kosovo have substantial hydropower potential. Historically these mature technologies have dominated electricity generation, and indeed still do. By virtue of substantial hydroelectric installed capacity and the extensive use of firewood, the six economies use a higher proportion of renewable energy than the EU average, although neither of these energy sources is necessarily produced sustainably. For example, the widespread use of firewood for domestic heating in many SEE households is beginning to pose a serious threat to forests (SEE Change Net, 2016a, 2016b).

The SEE economies have around 8.5 gigawatts (GW) of installed hydropower capacity, of which 0.6 GW is in small hydropower plants (ECS, 2017b). In addition to the substantial large hydropower capacity, several economies have plans to install more hydropower plants (both large and small). In Montenegro, for example, plans to develop two new large hydropower plants have been in place for almost a decade. In Albania developments of medium-sized plants have gained momentum lately and are progressing well. For example the Banja hydropower plant on the Devoli River was commissioned in 2016 and is operational. Although these and similar plans have the potential to deliver emissions reductions, they raise serious questions about the wider environmental impact and potentially important negative effects on local communities and on tourism. Large hydropower plants change the surrounding environment, affecting land use, homes and natural habitat. For example they may obstruct fish migration and affect populations.

However despite the contribution of hydropower, the large proportion of coal and lignite burned across the region means that greenhouse gas emissions per unit of national income are relatively high. For example, carbon dioxide (CO₂) emissions in Austria – measured in kilograms per USD of gross domestic product (GDP), purchasing power parity (PPP) adjusted – were 0.1 kg per PPP USD of GDP in 2014. In Albania, Bosnia and Herzegovina, the Former Yugoslav Republic of Macedonia, Montenegro and Serbia the respective CO₂ emissions were 0.2, 0.6, 0.3, 0.2 and 0.4 kg per PPP USD of GDP (World Bank, n.d.). There is considerable scope to increase both the security of supply and the sustainability of the energy sector by diversifying fuel sources.

In addition to hydropower potential, the six economies are endowed with solar irradiation and wind speeds which would make solar photovoltaic (PV) and onshore wind cost competitive in many locations (IRENA, 2017). However, installed capacity of these technologies is practically non-existent at present (see Table 12.1). Renewables are promoted through a range of policy initiatives including rules for grid connection of renewable generation, obligations for the purchase of renewable power specified in secondary legislation such as grid codes and rule books, and subsidies to generation from renewables. All six SEE economies operate subsidy schemes to encourage the use of renewables. Feed-in-tariffs (FITs) oblige the public energy supplier to pay an agreed tariff for the electricity generated from renewable energy sources which provides the generator with a guaranteed revenue stream and so reduces the risk profile of projects. The details of renewable subsidies vary by economy, for example the technologies that are covered, the tariff rate and the duration of the subsidy.

In common with most other countries, the six SEE economies subsidise energy produced by traditional technologies. Subsidies on coal-based power generation, which imposes costs in terms of local air pollution and greenhouse gas emissions (Box 12.1), are widespread in the region. The International Monetary Fund (IMF) has found that within the SEE economies, Bosnia and Herzegovina, and Serbia had the highest post-tax energy subsidies as a proportion of GDP (37% and 35% respectively), while the share for the Former Yugoslav Republic of Macedonia was 19% and Montenegro 17% (IMF, 2015). In Albania, where electricity is almost totally generated from hydropower, energy subsidies amount to 2% of GDP. Data for Kosovo were unavailable. The level of energy subsidy for any economy is clearly inversely related to the consumption of coal (and lignite) used in electricity production. Given the potential welfare gains and improvement to competitiveness, as well as the reduced strain on public finances that could be derived from removing these subsidies, subsidy reform is a strong motivation for diversifying energy sources, specifically towards renewables. However it is undeniably a difficult policy choice which requires strong political support and the willingness to take a long-term view.

Box 12.1. The problem with energy subsidies

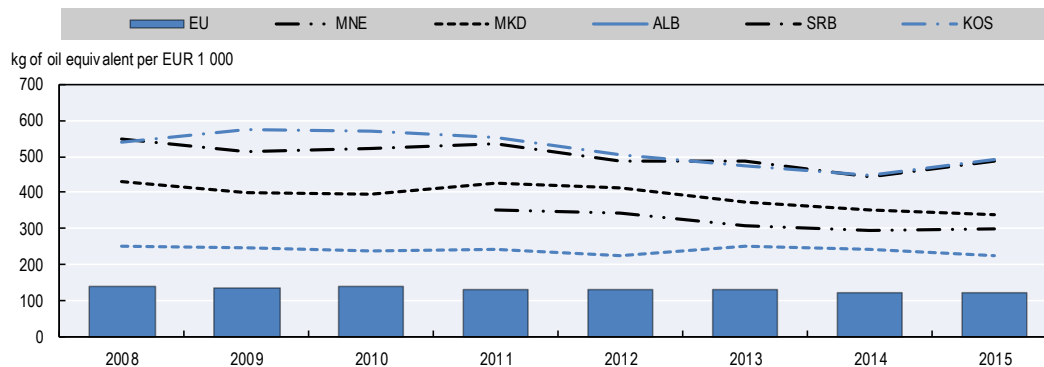
Energy subsidies, specifically the post-tax energy subsidies which arise when consumer prices are below supply costs, plus a tax to reflect environmental damage and an additional tax applied to all consumption goods to raise government revenues, are pervasive in almost all countries. The IMF has estimated that eliminating post-tax subsidies could raise global economic welfare by around 2.2% of GDP (IMF, 2015). Subsidies include not only direct payments to producers or consumers, but also tax concessions, price control mechanisms (i.e. tariffs and quotas) and environmental externalities such as pollution, and the associated human ill-health and habitat degradation due to burning fossil fuels (OECD, 2013). Energy subsidies:

- damage the environment by causing premature deaths, exacerbating congestion and increasing greenhouse gas (GHG) concentrations
- impose large fiscal costs which can constrain economic growth and damage competitiveness
- inhibit investment in energy efficiency, renewables and energy infrastructure
- are inefficient as a means of supporting vulnerable households.

The energy intensity (the energy required to produce one unit of GDP) of the six SEE economies is high compared with the EU average (Figure 12.4). Energy intensity is related to economic structures (e.g. industry, transport and residential sectors) and the status of an economy's structural transformation (e.g. Serbia has a large industrial sector, while Albania welcomes many tourists, fuelling a demand for air conditioning). While a shift towards services will, other things being equal, tend to reduce the energy intensity, the real energy efficiency gains will be derived from policies designed to increase the efficiency with which energy is used in the production of goods and services (or consumed by households).

Figure 12.4. Energy intensity (2008-15)

Gross inland consumption of energy divided by GDP



Note: Data for Bosnia and Herzegovina not available. Data for Montenegro from 2011.

Source: Eurostat (2017a), *Energy Intensity of the Economy* (database), <http://ec.europa.eu/eurostat/tgm/table.do?tab=table&init=1&plugin=1&language=en&pcode=tsdec360>.

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Energy efficiency can be improved across the SEE economies, including in the energy sector itself and in energy transformation. The challenges here vary from sector to sector, but in short, the more sectors are exposed to market forces, the more energy prices will drive investment in energy efficiency. In sectors less exposed to competition, there may be more market failures that have to be addressed. And reform of the energy transformation sector is critical to reduce the large amount of energy simply wasted through inefficiencies in turning primary energy supplies into final consumption. Another element to be aware of is the rebound effect, where paradoxically increasing energy efficiency can lead to greater overall energy use (Box 12.2).

Box 12.2. Being aware of the rebound effect

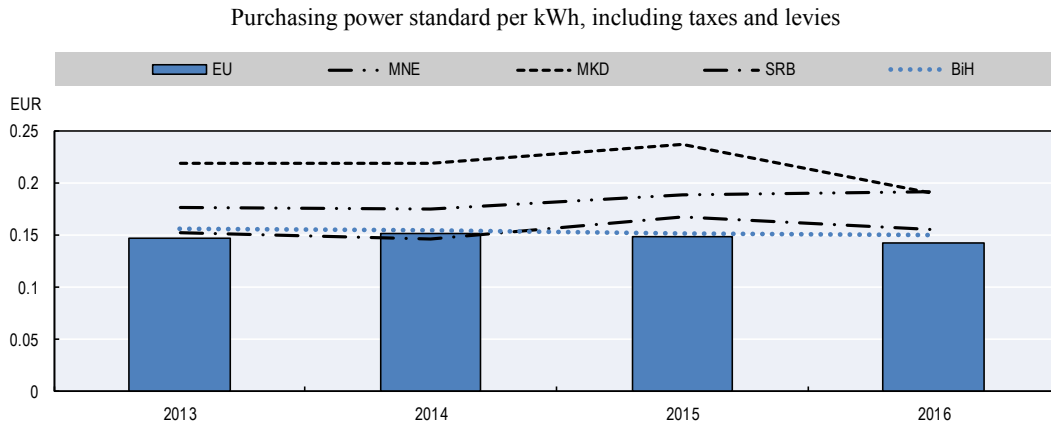
Technological progress may increase how efficiently energy resources are used, but the total use of energy resources may increase because greater energy efficiency can lead to increased demand (the rebound effect). For example, the gradual shift in the United States towards smaller vehicles, which began after the 1974 oil shock, went into reverse as cars got more fuel efficient. Disentangling these effects is complex because lower oil prices contributed to this result, but the rebound effect appears to be a factor. Somewhat different implications arise when the energy is being consumed by a business: it means more output per unit of energy consumed, whereas for households it may mean increased final consumption of heat or electricity, and hence an increase in welfare. This is particularly relevant where access to energy is limited by affordability. While there is some debate about the cost-effectiveness of energy efficiency investments, some authors argue for a nuanced analysis of energy efficiency policies which focuses on the economic efficiency of policy in the broadest sense, and explicitly evaluates the effect of the policy on people's welfare effects (e.g. Fowlie et al., 2015; McKinsey & Company, 2009; Gillingham et al., 2014).

Electricity prices in the SEE economies are higher than in the EU. Figure 12.5 shows that, measured by purchasing power standard, average prices for industrial customers in Bosnia and Herzegovina, and Serbia are slightly above the EU average, while those in the Former Yugoslav Republic of Macedonia and Montenegro are somewhat higher. Given the reliance on electricity resulting from limited gas availability, relatively high electricity prices undermine national and regional competitiveness, send a negative signal to potential investors and may constrain access to energy for both industrial and domestic consumers.

In response to a World Bank survey around 20% of firms in the region reported that electricity was a constraint to their business in 2013 (Figure 12.6). Clearly this constraint involves two aspects: the quality of the electricity supply, and the affordability of electricity. We note that the quality of supply has improved in recent years, particularly in Kosovo. Even so, with the majority of firms unable to resort to gas for their power needs, most economies have scope to improve access to electricity for businesses.

Governance and regulation

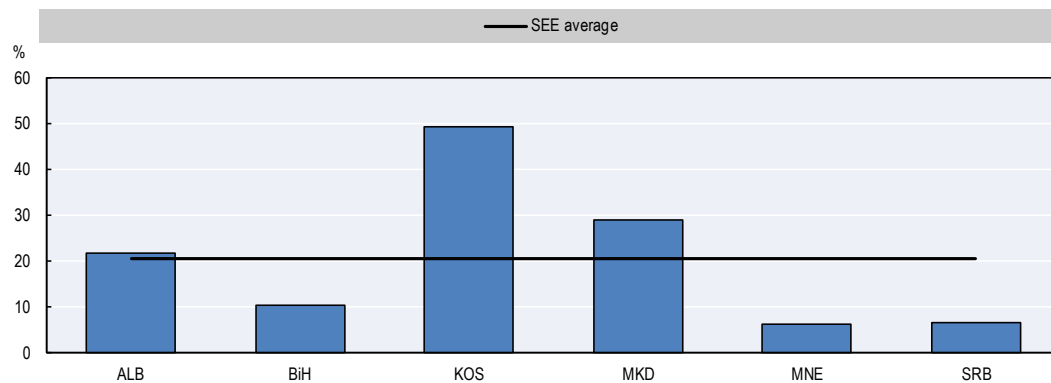
Good governance and a strong set of regulatory institutions underpin liberalised energy sectors. Good governance is derived from sound policies with clear objectives developed with the strong involvement of stakeholders, and that identify where accountability lies. Regulatory agencies must be competent to discharge a complex suite of responsibilities ranging from the most basic – ensuring that demand for power and investment requirements are met – to securing the efficient operation of the system and ensuring it has the flexibility to respond to new technologies (Newbery, 2002). The role of national regulatory agencies is particularly significant in countries where there is a tradition of high levels of state involvement in the energy sector, and/or state ownership of assets.

Figure 12.5. **Electricity prices for industrial customers (2013-16)**

Note: kWh – kilowatt hour. Data for Kosovo and Albania not available.

Source: Eurostat (2017b), *Electricity Prices for Non-household Consumers* (database), http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=nrg_pc_205&lang=en.

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Figure 12.6. **Share of firms identifying electricity as a major constraint (2013)**

Source: World Bank (2017a), *Infrastructure* (database), www.enterprisesurveys.org/data/exploretopics/infrastructure#all-countries.

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To encourage private investment, the regulatory agency must introduce rules which establish a level playing field so that potential investors, and all market participants more generally, are confident of being treated as favourably as any incumbents. For example, rules for investment in renewable generation, including the permit-issuing process and the terms of access to the grid for the energy generated, should be transparent and non-discriminatory. Similarly, the governance and operation of the regulator itself should be such that it is evidently independent of political or other outside influences.

Regulatory agencies also have a critical role in sectoral reform since they are instrumental in policy formulation, implementation and monitoring. As EU accession countries, the SEE economies are required to adopt and implement a set of laws and regulations relating to energy sector governance and regulation aligned with the

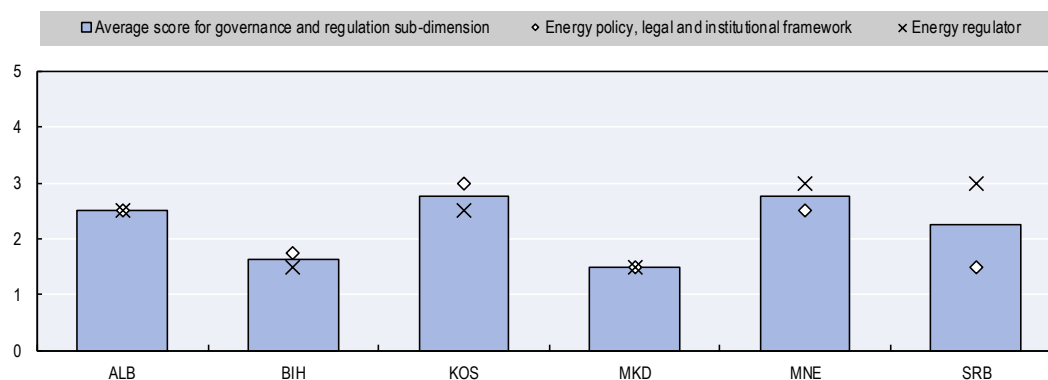
requirements of the EU Third Energy Package. National regulators perform important duties in this long and sometimes politically sensitive process.

The governance and regulation sub-dimension comprises two qualitative indicators:

- The **energy policy, legal and institutional framework** indicator evaluates the overall energy policy framework. A comprehensive policy framework, supported by strong primary and secondary legislation and accountable independent institutions, provides the economies with goals against which they can measure progress, and sends strong signals to investors about stability of returns which cover both the general energy policy framework and the regulatory environment.
- The **energy regulator** indicator evaluates the extent to which the national regulatory authority in each economy is equipped to carry out its functions effectively, and the extent to which it does so in practice.

Scores for these indicators are presented in Figure 12.7. Overall the SEE economies score an average of 2.2 out of 5 for the governance and regulation sub-dimension. That means that they have established an overarching energy policy that spans the various policy areas, and have proceeded to implement a proportion of the policies and strategies.

Figure 12.7. **Governance and regulation: Sub-dimension average score and indicator scores**



Note: See the methodology chapter for information on the *Competitiveness Outlook* assessment and scoring process.

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Energy policy, legal and institutional frameworks are progressing

On average the six SEE economies score 2.1 out of 5 for the overall energy policy, legal and institutional framework indicator. Individual scores range from 1.5 to 3 (Figure 12.7). The variation reflects the reality that several economies have made insufficient progress in two key aspects which are basic requirements for all the economies. The first is transposing a legislative framework that is fully aligned with the Third Energy Package. The second is the adoption of overarching strategies and policies based on stakeholder consultation which have both clear and measurable objectives, and defined actions and measures with timelines and budgets to meet them. Achieving both results in a score of 2, while more dynamic implementation and co-ordination of policy and legislation warrants a higher score.

The picture is mixed on the adoption of a comprehensive energy sector policy framework, including Third Energy Package-compliant legislation and clear, costed strategies and action plans. Albania, Kosovo and Montenegro have adopted primary

legislation that is broadly compliant across the energy sector and are drafting energy strategies and action plans which include the gas sector. However for all six economies, the adoption of secondary legislation is not consistent across the sector. Serbia is due to adopt a new energy strategy though the associated action plan for the sector is lagging somewhat behind.

Bosnia and Herzegovina, and the Former Yugoslav Republic of Macedonia, score below 2. This indicates that they are still developing policy, legal and institutional frameworks and that relevant legislation is not adopted and/or fully aligned with the relevant Energy Community *acquis*. In the Former Yugoslav Republic of Macedonia, at the time of the assessment, the energy law was not yet Third Energy Package-compliant and a clear strategy for the whole sector, including measurable objectives, is not in place.

Progress on the legislative and policy framework in Bosnia and Herzegovina is complicated by its constitutional structure⁷ and the fact that the state has limited responsibility for energy policy. In general, competence for energy lies with the entities, though there are exceptions. For example the State has some role in energy efficiency and renewables. The Republika Srpska has generally succeeded in adopting legislation and developing action plans to a slightly greater extent than Federation of Bosnia and Herzegovina. But it is fair to say that both in Bosnia and Herzegovina as a whole and the Former Yugoslav Republic of Macedonia, the legislative framework and implementing strategies and action plans are still in progress.

Energy regulators struggle with resource and independence issues

As discussed above, the energy regulator plays a crucial role in energy sector reform. The six SEE economies achieve an average score of 2.3 out of 5 for the energy regulator indicator (Figure 12.7). Scores range from 1.5 to 3. Montenegro and Serbia achieve 3, reflecting their well-developed sets of strategies for implementing the Energy Community *acquis* and energy sector development which address the need for capacity building and institutional development. Similarly both have clear strategies for the operation and objectives of the regulatory agency.

Resource shortages and limited institutional capacity affect many regulators and other institutions across the six SEE economies. For example, in Albania, Kosovo, Montenegro and Serbia the lack of both financial resources and skilled staff across the range of energy policy areas limits their regulators' effectiveness and ability to carry out their responsibilities fully, while the institutional structure of Albania's regulator was found to be inflexible and outdated. In the Former Yugoslav Republic of Macedonia and in Bosnia and Herzegovina, key problems relate to the restricted scope of competences within the agencies which limits their ability to implement Third Energy Package-compliant legislation.

Employment in national regulatory agencies has tended to rise over the past ten years in most economies. However the remit and workload of regulators are also expected to continue to grow over the foreseeable future as the WB6 and CESEC initiatives absorb more time and because of the dynamic nature of EU energy policy.

Regulatory independence underpins energy sector reform and ensures that regulators are free to act in the best interests of consumers. To achieve this objective, they should be protected from political influence and insulated from the regulated companies. That is, regulators should be both politically and functionally independent and not subordinate to any public body (ECRB, 2015). Potential investors regard regulatory independence as critical since it gives them confidence that all market participants will be treated equally

and transparently, without favouring incumbents. Transparency and fair treatment are important during the market reform phase that the SEE economies are undergoing, as the task of adopting legislation and developing policy is central. Regulators also play an important role in holding market participants to account in implementing policy and upholding their decisions as energy markets become more mature.

The SEE national regulators are expected to adopt and implement the best-practice independence criteria set out in the Energy Community *acquis*, and the Third Energy Package, which stresses the importance of regulatory independence. On the face of it, the national regulators have generally achieved a reasonable level of implementation of Energy Community Secretariat (ECS) independence criteria, although Bosnia and Herzegovina lags behind its neighbours (ECS, 2016). However the test of the true functional independence of the national regulators is their willingness to use the independence granted to them under the law and to take and uphold impartial decisions – the evidence for this is limited (ECRB, 2015).

The way forward for governance and regulation

Creating a Third Energy Package-compliant legislative framework is an early and critical milestone on the path of energy sector reform. **Where economies have yet to transpose and adopt Third Energy Package-compliant legislation, this should be done without delay.** In Bosnia and Herzegovina, the Federation of Bosnia and Herzegovina would benefit from building on the working version of the framework strategy which will feed into the Bosnia and Herzegovina comprehensive strategic framework. The Republika Srpska would benefit from converting strategic objectives into concrete action plans including an implementation timeline.

But even with these frameworks in place, there is much work to be done in all SEE economies to **implement legislation through detailed, measurable strategies and associated action plans** for both indicators.

All SEE economies should ensure their national regulatory agencies have adequate human and financial resources to meet their obligations. Regulators should also have complete control of their institutional structures since they must be able to select how to deploy their resources to respond to changing EU and Energy Community legislative agendas and priorities. The test of regulatory independence is demonstrated by actions and decisions, therefore all regulators are urged to ensure that they are insulated from political and other influence by taking robust decisions and holding market participants to account where necessary. This will become increasingly important as SEE energy markets mature, new participants enter the markets and the regional market develops.

Sustainable development

Sustainable development in the context of this study focuses on renewable energy sources (RES) and energy efficiency. Given the mounting pressure on existing non-renewable energy sources globally, and the reliance of the six SEE economies on electricity as the main form of energy, the benefits of diversifying the energy mix through the expansion of RES has considerable potential to improve the competitiveness of the energy sector and the wider economy.

The SEE region as a whole has remarkably strong technical potential for renewable energy, particularly hydropower, wind and solar PV. Wind speeds in many locations are favourable and the region has generally high irradiation values. Further, the deployment

of large volumes of solar PV in SEE could be cost competitive. A recent study estimated that up to 15 GW of wind and 3.7 GW of solar PV could be deployed in the SEE economies cost-competitively today. By 2030 it may be possible to deploy up to 53 GW of wind and almost 13 GW of solar PV cost-competitively (IRENA, 2017).⁸

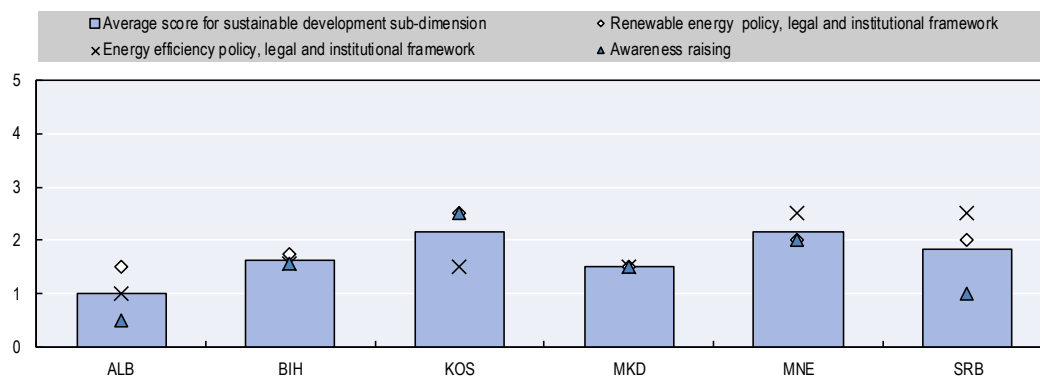
The SEE economies are in general more energy intensive than EU economies. For example, in 2015 the energy intensity of Kosovo and Serbia was almost five times the EU average, and even the least energy intensive of the SEE economies, Albania, was approximately 1.8 times as energy intensive as the EU average (Figure 12.4). This implies that there are large potential energy efficiency gains to be achieved across the region's economies. As noted above, energy intensity is related to both economic structures and structural transformation, and the large gains in energy efficiency will result from increasing the efficiency of energy use both in production of goods and services, and in domestic energy consumption.

The sustainable development sub-dimension includes three indicators:

- The **renewable energy policy, legal and institutional framework** indicator measures the extent to which policy intended to promote the use of renewables is in place, and how far it is implemented.
- The **energy efficiency policy, legal and institutional framework** indicator analyses the policy framework and action plans for energy efficiency measures, and the extent of implementation.
- The **awareness raising** indicator evaluates the policy framework for raising awareness of the importance of energy efficiency and RES among the public, businesses and in the public sector. Awareness-raising campaigns have been shown to be effective in changing behaviour by empowering consumers to make informed choices, and also in highlighting funding available for energy efficiency.

Overall, SEE economies scored an average of 1.7 out of 5 for the sustainable development sub-dimension (Figure 12.8).

Figure 12.8. Sustainable development: Sub-dimension average scores and indicator scores



Note: See the methodology chapter for information on the *Competitiveness Outlook* assessment and scoring process.

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National renewable energy and efficiency action plans exist, but implementation is at an early stage

Globally, the sustainability aspects of energy policy have gained considerable traction over the past few years, and the SEE economies have engaged with this agenda. The SEE economies together score 1.9 out of 5 on the **renewable energy policy, legal and institutional** framework indicator (Figure 12.8). This means that on average they generally have policy and action plans in place, including a National Renewable Energy Action Plan (NREAP), though implementation is some way behind. A score of 1.8 out of 5 for the **energy efficiency policy, legal and institutional framework** indicator suggests that the SEE economies have also begun to develop energy efficiency plans, including a National Energy Efficiency Action Plan (NEEAP). This is important in the light of the relatively high energy intensity of SEE economies and the scope for energy efficiency savings.

Despite having NREAPs and NEEAPs generally in place, there is some way to go in implementing them. Sustained pressure from the international community and the need to comply with international agreements, such as the Paris Agreement, will mean that governments will come under concerted and increasing pressure to not only develop but to fully implement their policies to address sustainable development.

Albania, Bosnia and Herzegovina, and the Former Yugoslav Republic of Macedonia score an average of 1, 1.6 and 1.5 out of 5, respectively, across all three indicators shown in Figure 12.8. These economies are in the process of developing comprehensive legal and regulatory frameworks to support sustainable development, but more work is required. For example, Albania adopted an NREAP in early 2016 but has not adopted an updated NEEAP, and other essential elements of the legislative framework are still under development. However, Albania did establish the Energy Efficiency Agency in late 2016. The Former Yugoslav Republic of Macedonia adopted its third NREAP in July 2017 but it does not comply with the Third Energy Package because it includes 2030 RES targets rather than 2020 targets. Bosnia and Herzegovina adopted the NREAP in 2016, but adoption of the NEEAP is pending.

Montenegro – with an average score of 2.2 across all three indicators – is the only economy to have adopted both the NREAP and third NEEAP, and its legislative framework is largely Third Energy Package-compliant, although secondary legislation is missing. Kosovo (average score of 2.2) has a legal and regulatory framework for sustainable development covering all three indicators, which mainly transposes the key requirements of the Third Energy Package. However, adoption of important elements of the sustainable development regulatory and legislative framework is still pending, including the third NEEAP and the Energy Efficiency Law to transpose the Energy Efficiency Directive.

Serbia (average score of 1.8 across all three indicators) adopted the third NEEAP in 2016 and transposition of the energy efficiency policy framework is relatively well developed. However the NREAP is non-compliant in many areas and deployment of RES remains almost negligible.

All the SEE economies are struggling to fully implement their NREAPs and NEEAPs where they have been adopted. In some cases this is due to missing primary and/or secondary legislation. For example, although Serbia has a relatively high level of compliance with the Third Energy Package, it lacks secondary legislation on energy labelling. In Albania legislation on biofuels for transport has been blocked for some time.

Across the sustainable development sub-dimension, numerous examples of enabling legislation and regulation are missing, which is hampering progress.

All six economies are also constrained by lack of institutional capacity and resources: almost every economy reports shortages in staff numbers and skills for working on sustainable development. Shortages are experienced in both ministries and municipalities. Similarly, financial resources constrain the ability of economies to implement their sustainable development policies.

Having said that, all SEE economies as Contracting Parties to the Energy Community have shown progress in the sustainability sub-dimension. For example Albania, Bosnia and Herzegovina, and Kosovo have adopted primary legislation in the past year (ECS, 2017a). Overall, however, existing policy measures have generally delivered only modest investments in solar and wind generation to date as shown in Table 12.1, which gives snapshots of installed capacity in solar and wind in 2010 and in 2016 (IEA, 2016a).⁹

Table 12.1. **Installed capacity: Wind and solar (2010 and 2016)**

		Megawatts	
		2010	2016
ALB	Wind	0.0	0.0
	Solar	0.0	0.0
KOS	Wind	1.4	1.4
	Solar	0.6	0.7
MKD	Wind	0.0	37.0
	Solar	0.0	17.0
MNE	Wind	0.0	72.0
	Solar	0.0	0.0
SRB	Wind	0.0	17.1
	Solar	0.0	10.1

Note: No data available for Bosnia and Herzegovina.

Source: IEA (2016a), *World Energy Statistics 2016*, <http://dx.doi.org/10.1787/9789264263079-en>.

StatLink  <http://dx.doi.org/10.1787/888933705955>

For the past decade or so, historic anxieties about energy dependence have been reinforced as environmental concerns have had an increasingly powerful influence on the energy mix (Chalvatzis and Hooper, 2009) and questions have been raised about the effect of intermittent RES on the operation and stability of power grids. Although large shares of renewables do not necessarily destabilise power systems (IEA, 2016c), this perception remains, and may partially explain the apparent reluctance to drive through the reforms required to achieve significant progress on sustainable development. Similar negative perceptions surround energy efficiency policies, which are sometimes regarded as “expensive” or “unaffordable”, particularly in times of macroeconomic stress. But international experience shows that this perception is not always well founded and that energy efficiency policies, including those relating to standards, can be highly effective (Boxes 12.3 and 12.4).

Box 12.3. Good practice: Improving energy efficiency

The United Nations General Assembly has declared 2014-24 the International Decade of Sustainable Energy for All (SE4All). One of the key objectives of the SE4All initiative is to double the global rate of improvement in energy efficiency by 2030. There are many clear benefits to improving energy efficiency, including increased energy security, a more sustainable environment, improved quality of life and economic competitiveness. However attempts to increase energy efficiency are undermined by inadequate national policy and legislative frameworks, or a failure to implement them fully. To overcome this inertia, countries have developed ambitious but ineffective energy efficiency policies aimed at households and utilities.

Well-designed fiscal policies can harness synergies between different policy priorities for any country. There is clear evidence that energy efficiency measures can be cost effective. For example, starting in 2014, Italy offered a 55% tax deduction for energy efficiency investments in the residential sector (subsequently increased to 65% for some measures). Between 2007 and 2013 more than 1.8 million applications were approved and households accessed around EUR 23 billion of investments, at a cost of about EUR 13 billion in undiscounted forgone tax revenue. In 2012 alone, more than EUR 2.8 billion was invested in over 250 000 energy efficiency measures, including 2.3 million m² of window replacements and 1.2 million m² of rehabilitated solid surfaces.

Experience from the United States has shown that standards (energy efficiency mandates) and other policies delivered through utilities can be powerful drivers of energy efficiency improvements. The regulated utility Efficiency Vermont reported that in 2016 households saved around USD 9 million through their residential services.

Source: UNECE (2015), *Best Policy Practices for Promoting Energy Efficiency: A Structured Framework of Best Practices in Policies to Promote Energy Efficiency for Climate Change Mitigation and Sustainable Development*, www.unece.org/fileadmin/DAM/ECE_Best_Practices_in_EE_publication_1.pdf; Efficiency Vermont (2017), *2016 Annual Report*, www.energycvermont.com/Media/Default/docs/plans-reports-highlights/2016/efficiency-vermont-annual-report-2016.pdf.

Box 12.4. Good practice: Energy efficiency in European buildings

In 2014, building stock accounted for 30% of the European Union's (EU) greenhouse gas emissions. This equates to approximately 40% of the EU's total energy consumption. As the number of buildings is continually rising, energy consumption and CO₂ emissions will also rise if energy performance minimum requirements are not applied.

Residential buildings dating from between 1945 and 1980 are the major culprits as they consume the most energy. The Energy Performance of Buildings Directive (EPBD) combines provisions on minimum energy performance requirements with certifications, providing both a constraint and an incentive to improve the energy performance of buildings.

A good example of embracing energy efficiency in buildings can be seen in the Brussels Capital Region, where all new buildings and large renovations must be built following passive house standards. The region has also introduced numerous initiatives to stimulate demand and enhance building supply. For example, in 2012 it launched the so-called Exemplary Buildings call for proposals in order to stimulate new constructions and renovations. The winning projects received funding and expert support. Not long after, buildings with extremely high energy and environmental performance started appearing across the region. Six Exemplary Buildings calls have resulted in more than 350 000 m² of new passive buildings, and 621 000 m² of newly constructed and renovated surfaces. As a result of its valiant efforts, the European Commission awarded the Brussels Capital Region the EU Sustainable Energy Award in 2012.

Box 12.4. Good practice: Energy efficiency in European buildings *(continued)*

In 2013, with the support of the EU and in partnership with the Energy Community Secretariat, the *European Bank for Reconstruction and Development (EBRD)* established the Regional Energy Efficiency Programme (REEP) for the SEE economies to improve energy efficiency. While the establishment of REEP is a welcome step forward, much still needs to be done on energy efficiency. In particular, following feedback from the Energy Community’s Energy Efficiency Coordination Group it became clear that there is an urgent need to extend REEP to the residential sector (EBRD, 2017).

Source: EU (2017), *Good Practice in Energy Efficiency: For a Sustainable, Safer and More Competitive Europe*, https://ec.europa.eu/energy/sites/ener/files/documents/good_practice_in_ee_-web.pdf; EBRD (2017), “Western Balkans Regional Energy Efficiency Programme Phase II - Policy Dialogue (REEP Plus)”, www.ebrd.com/work-with-us/procurement/pn-50669.html.

Awareness raising is the “low-hanging fruit” for sustainable development

Across the six SEE economies, the least developed area of policy is in raising awareness among the public, businesses and in the public sector of the need for energy efficiency and the use of renewables. With an average score of 1.5 out of 5, it is clear that while the economies have started to develop awareness-raising strategies and action plans, they face challenges in implementing them.

The SEE economies have taken different approaches to policies for awareness raising. For example some have integrated awareness raising in their energy efficiency and RES policies. In others, for example Albania, policy directed at shaping behaviour to promote energy efficiency and the use of RES is almost entirely lacking. Overall the paucity of awareness-raising measures means that opportunities to reduce emissions and improve the welfare of large numbers of households are being missed.

The way forward for sustainable development

As the six SEE economies look to the future, they should reconsider their policies for sustainable development. It is obvious from the average score of 1.7 for this sub-dimension that the development of Third Energy Package-complaint polices and action plans is a significant challenge for several of the assessed economies. For those with compliant policy frameworks, renewed emphasis on **full implementation of existing policies and revision of those which are not delivering** is the only way that they can achieve the transition to a sustainable energy sector. The establishment of the Energy Community Climate Action Group in September 2017 is a welcome step in this respect.

The SEE economies should be determined and ambitious in their strategies and action plans to improve energy efficiency. The International Energy Agency (IEA) has estimated that approximately 40% of the emissions reductions required by 2050 to limit warming to less than 2°C could potentially come from energy efficiency (IEA, 2016b). The scope for energy efficiency is high across all the economies.

Measures aimed at **raising awareness should be prioritised** since they are a particularly effective method of developing community and industry interest in and commitment to both energy efficiency and renewables projects.

There is scope and an urgent need to **boost skills in ministries and municipalities** so that the full range of sustainable development policies are developed and implemented. Similarly, increasing financial resources for the promotion of RES and energy efficiency would increase the competitiveness and resilience of economies.

The effectiveness of policies, strategies and action plans to increase the installation of renewable energy technologies should be renewed. The abundant solar and wind resources in the SEE region, combined with the dramatic fall in investment costs of these technologies, means that they already represent an economically viable alternative to fossil-fuel power plants. To date the installed capacity of these technologies remains very low.

Plans for substantial new investment in coal-fired power plants should be reassessed. Rigorous environmental impact assessments conducted to international best practice standards need to be undertaken and made available for public scrutiny. Planned new investment in coal-fired power plants of around 6 GW across the region is inconsistent with commitments to meet EU carbon targets agreed by all the SEE economies under the Paris Agreement. Given the lifespan of coal-fired power plants, this raises the real prospect of new coal plants becoming stranded assets if their operation is prematurely curtailed by existing climate policy obligations. The overall effect would be to diminish both energy sector and economy-wide competitiveness.

Investments in new large hydropower power plants must be subject to stringent environmental impact assessments. These should be carried out to international best practice standards and made available for public scrutiny. Hydropower already provides around one-third of the electricity in the SEE economies, and numerous new hydropower plants (large and small) are planned. The environmental impact of additional large hydropower plants should be reconsidered, bearing in mind the potentially negative effects of large hydropower on tourism and the natural environment.

Energy security

Energy security, the uninterrupted availability of energy sources at an affordable price (IEA, 2014a), is perhaps the most pressing energy sector concern for most countries. Energy security is directly linked to the competitiveness of economies through the strong relationship between economic growth and the reliability of energy sources, including electricity, gas and oil/petroleum products. The trade-off between the short-term social and political need for affordable energy, and the long-term sustainability of power systems, is particularly acute in the six assessed SEE economies where improving energy security will require substantial infrastructure investment. The smooth implementation of market liberalisation in order to increased infrastructure investment in the region requires adequate and effective mechanisms to protect consumers.

Concerns regarding security of supply tend to focus on two issues. Countries that are self-sufficient in energy production may have concerns about preparing for energy emergencies and their ability to react to growing demand. Countries which import energy may be vulnerable if they rely predominantly on imports of a single fuel or from a single country.

Energy security comprises long-term and short-term elements. In the long term it is principally about investment in energy infrastructure, so that energy supply keeps pace with economic development. In the short term energy security concerns the preparedness of energy systems to respond to shocks, such as the 2009 Ukraine-Russian Federation gas

dispute. Clear policies and measures to increase energy security improve the competitiveness of the sector and send positive signals for investors across the energy system and economies more generally.

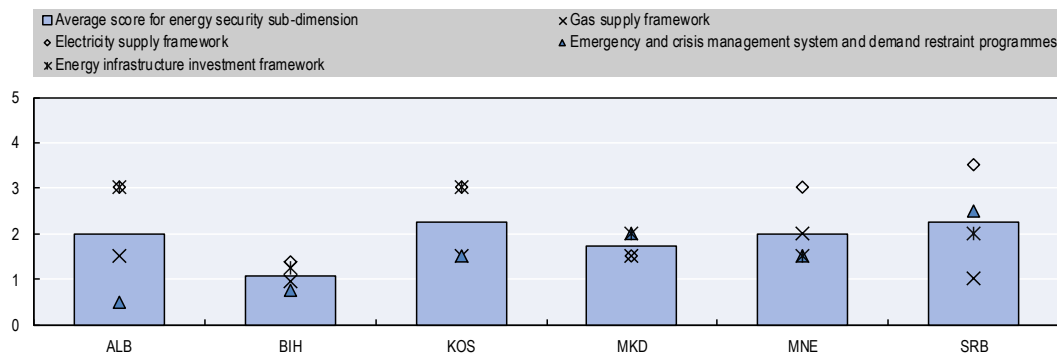
The region as a whole has limited domestic production of gas (Serbia only) and there exist no functioning gas markets in Albania, Kosovo or Montenegro. However economies across the region have ambitions to create gas markets and are developing enabling legislative and regulatory frameworks in preparation.

The energy security sub-dimension consists of four qualitative indicators (Figure 12.9):

- The **gas supply framework** indicator assesses the gas sector in the SEE economies.
- The **electricity supply framework** indicator identifies the reliability of the electricity sector as well as its functional efficiency.
- The **energy infrastructure investment framework** indicator is a measure of the health of the framework to support investment to replace ageing or damaged energy infrastructure and to build new capacity to meet future demand.
- The **emergency and crisis management systems and demand restraint programmes** indicator captures two specific characteristics which reflect the robustness of energy systems: 1) the degree to which well-co-ordinated and comprehensive decision-making structures and programmes provide protection from and a rapid response to external shocks, for example load curtailment in the event of a serious electricity supply interruption; and 2) the existence of effective action plans to manage demand, for example short-term plans for rationing transport fuel, and longer-term programmes to shift consumer behaviour, such as savings campaigns.

The average score for all six SEE economies for the overall sub-dimension is 1.9 out of 5.

Figure 12.9. Energy security: Sub-dimension average score and indicator scores



Note: See the methodology chapter for information on the *Competitiveness Outlook* assessment and scoring process.

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Frameworks for electricity are more advanced than for gas

Efficient operation of electricity and gas systems can only be achieved with clearly stated policy objectives, strategies and action plans supported by appropriate legislation and regulation, including market rules and network codes. The technical nature of electricity systems in particular means that the framework is especially complex and

extensive. As Contracting Parties to the Energy Community, all the SEE economies are required to adopt and implement electricity and gas legislation which complies with the EU Third Energy Package requirements. This is a substantial undertaking, particularly given the relatively small size of the economies (and governments) and widespread concerns over institutional capacity.

The average score for the **electricity supply framework** indicator is 2.6, which is considerably higher than the average score for the **gas supply framework** indicator (1.4), reflecting the paucity of gas networks in the region and correspondingly greater emphasis on electricity as the main source of power. Overall the gas supply infrastructure is poor over large areas of SEE and the provision of gas to consumers is patchy at best. Although Albania, Kosovo and Montenegro have no gas sectors at present, they have ambitions to create them.

However, even within the electricity supply framework, there is substantial variation in scores. Serbia scores 3.5, while Albania, Kosovo and Montenegro all score 3. These scores suggest that all four economies have put the requisite frameworks in place and that they are broadly aligned with the Third Energy Package. These economies have also gone some way in terms of active policy implementation. In contrast, Bosnia and Herzegovina and the Former Yugoslav Republic of Macedonia scored 1.4 and 1.5 respectively on the electricity supply indicator.

Serbia has adopted a legislative framework that will generally support Third Energy Package-compliant implementation, for example the rules on licensing and certification, switching supplier, vulnerable customers, organised electricity market operation, transmission and distribution network codes, pricing methodologies for transmission and distribution network usage, pricing methodologies for guaranteed supply, and pricing methodologies for connection to the transmission and distribution system (for more information on the Third Energy Package, see EC, 2011). The notable exception remains the unbundling of transmission from distribution. Co-operation between ministries and agencies is strong and it is clear that stakeholder engagement in policy development is well embedded.

Albania, Kosovo and Montenegro have all brought their legislation largely into line with the Third Energy Package and are making progress with adopting secondary legislation, for example in the areas of unbundling, capacity allocation and price deregulation, that will enable full implementation.

While taking the first steps towards establishing an appropriate legal and regulatory framework for electricity, Bosnia and Herzegovina and the Former Yugoslav Republic of Macedonia are falling behind their neighbours in transposing and adopting Third Energy Package-compliant legislation and regulations. For Bosnia and Herzegovina there is much work to be done at both the state and entity levels to update obsolete legislation. The Federation of Bosnia and Herzegovina would benefit from aligning its framework strategy with the new Bosnia and Herzegovina energy strategy. The Republika Srpska should finalise and adopt its draft law mandating a shift towards a more market-based electricity sector as soon as possible. The Former Yugoslav Republic of Macedonia needs to make a concerted effort to bring its electricity sector framework up to best-practice standards. Its economy's legislation does not comply with the Third Energy Package in many respects, including unbundling, third-party access to networks and market opening/price regulation.

With respect to the gas supply framework, only Montenegro achieved a score of 2; all the other economies scored between 1 and 1.5, meaning that most are at a relatively early stage in constructing comprehensive policy frameworks for gas. This position reflects the

poor gas infrastructure across the region, and the lack of indigenous gas supplies. Of the SEE economies, only Serbia has any domestic gas production, which meets around 20% of domestic demand. Despite its domestic gas production sector, Serbia's plan for the gas sector is still under development, and its primary and secondary legislation does not comply with the Third Energy Package.

Gas supplies from the Russian Federation dominate SEE gas imports and Gazprom is the main supplier of gas (and crude oil) to the entire region (Kovačević, 2017). It appears that the lack of institutional capacity in ministries and regulators – a point widely emphasised during this assessment – coupled with the substantial volume of work required to align energy sector legislation with the EU, has resulted in the prioritisation of the electricity sector policy framework. This is not surprising given the dominance of electricity as the main form of energy in all the SEE economies. Nevertheless the reliance on essentially a single source of imported gas, and the poorly developed gas infrastructure, highlight a real vulnerability for all the economies in terms of energy security. This vulnerability is rendered more acute by regular electricity outages, though their frequency has decreased in recent years (discussed below).

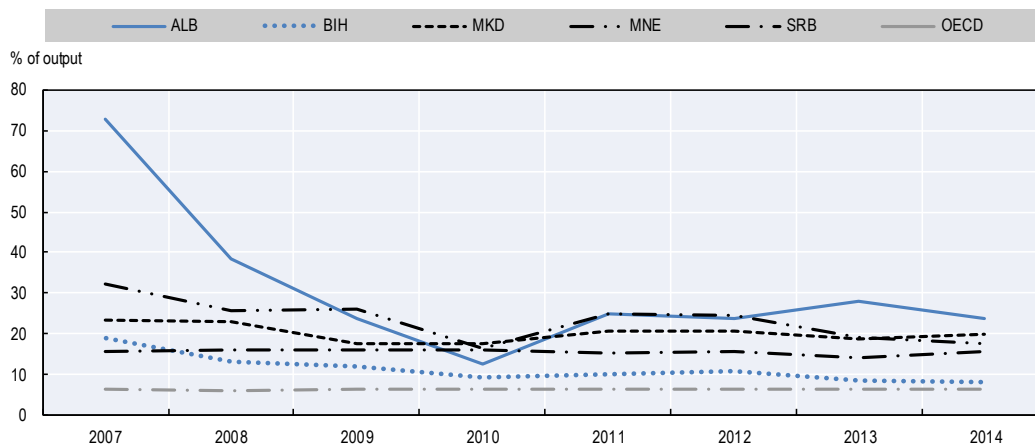
Investment in energy infrastructure is being guided by legislative and policy frameworks

Weak energy infrastructure has a negative effect on competitiveness as firms cannot rely on a constant electricity supply, and unreliable supply sends a negative message to potential investors. An average of 56% of firms across the region experienced electrical outages in 2013 (see Figure 12.3 above).

While there are many factors which explain the prevalence of outages across the region, one important factor is the weak energy infrastructure, which is in dire need of investment. Figure 12.10 presents data on electric power transmission and distribution losses¹⁰ between 2007 and 2014. The figure shows that these network losses are consistently well above the OECD average. However, in Bosnia and Herzegovina losses had almost fallen to the OECD average by the end of the period, and on average network losses across the five SEE economies have fallen over the period. High losses mean higher prices, reduced competitiveness and higher-than-necessary emissions, since a significant proportion of the power that is generated is wasted. This effect is compounded by the persistent nature of the problem.

In addition to the need to repair infrastructure, two additional factors lie behind the pressing need for investment in energy infrastructure. The first is a requirement to upgrade infrastructure to meet future demand patterns. For example, as the SEE economies continue to develop, many are planning to increase tourism which will affect the demand for power. This has happened in Croatia, which has switched to a summer peaking system¹¹ in recent years to respond to the growth in tourism and accompanying demand for air conditioning. While the six SEE economies typically have significant hydropower generation capacity, the increasing extremes of weather associated with climate change may render these electricity systems vulnerable in prolonged periods of very dry weather, especially as they are likely to coincide with heavy demand for air conditioning during the summer months. The second factor is the need to replace the large proportion of the generation capacity that is due to retire in the next ten years, while simultaneously building an energy system that allows the economies of the region to comply with their sustainability obligations under the Paris Agreement by investing in new clean energy technologies.

Figure 12.10. Transmission and distribution losses (2007-14)



Note: The figure shows the share of electric power transmission and distribution losses in electricity production. No data available for Kosovo.

Source: World Bank (2017b), “Electric power transmission and distribution losses (% of output)”, http://databank.worldbank.org/data/reports.aspx?source=2&series=EG.ELC_LOSS_ZS&country=ALB,BIH,KS,V,MKD,MNE,SRB.

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National regulatory agencies (NRAs) play an important role in facilitating and stimulating investment in energy infrastructure. One of their roles is to ensure a stable and predictable regulatory environment so that investors are confident that they will be subject to the consistent application of rules and regulations, including for example the licencing and permit granting procedures undertaken by regulators. NRAs are also required to support the adoption and implementation of the incentive regulatory framework for infrastructure (Regulation 347/2013/EU).

It is the role of NRAs to design regulatory incentives for investment and to approve the investment plans of regulated companies such as transmission system operators. The Energy Community Regulatory Board has agreed with SEE governments a set of guidelines for NRAs on their role in the promotion of new investments in trans-European energy infrastructure based on the EU guidelines (ECRB, 2013). NRAs are therefore required to develop regulatory investment incentives to promote new infrastructure investment. For example, they are required to co-ordinate with neighbouring NRAs on the allocation of costs and their inclusion in regulated network tariffs for cross-border projects. This kind of co-ordination is challenging and although all NRAs are working towards this objective, the pace of progress is slow.

Partnerships which include international financial institutions (IFIs) can be a powerful mechanism for mobilising investment in energy infrastructure. For example, the Western Balkans Investment Framework (WBIF), a joint initiative between the EU, IFIs, bilateral donors and the SEE governments, supports energy infrastructure investment projects through the provision of finance and technical assistance. A range of energy infrastructure projects has been supported through other partnerships, for example in Montenegro the EBRD and the German Development Bank (KfW) provided loan finance and grants for an overhead line between Pljevlja and Lastva. In June 2017 the EBRD signed a memorandum of understanding with the Energy Community which allows EBRD and KfW to explore new opportunities for co-operation on broad sustainability issues.

Despite a clear willingness for IFIs and other partnerships to invest in the region, the relatively slow rate of energy sector reform and the sheer scale of investment required present significant challenges.

The performance of the six SEE economies against the energy infrastructure investment indicator is variable (Figure 12.9). The average score is 2.1 out of 5. In all the SEE economies plans are in place or under development to replace degraded and ageing infrastructure. Bosnia and Herzegovina scores 1.3, which means that while it has started to establish a policy and legal framework to bring in investment in energy infrastructure, the process is still in the development stage. Serbia and the Former Yugoslav Republic of Macedonia are a little further on, with scores of 2. These economies have policy frameworks in place and their legislation for investment generally complies with the Energy Community *acquis*. Two economies, Albania and Kosovo, score 3 because they have built on policy and legislative frameworks that support investment in infrastructure and show evidence of implementation, public participation in policy development and good institutional co-ordination.

However, there is much progress to be made across all six economies on price regulation, which undermines investment signals. Regulated prices undermine competition. Prices which are set below the cost of supply will discourage new entrants from entering the market since they will make losses. If prices are set above the cost of supply then suppliers grow rich at the expense of consumers, and given substantial barriers to entry in energy markets, potential new suppliers are unable to enter the market.

Developing robust emergency and crisis management frameworks is a widespread challenge

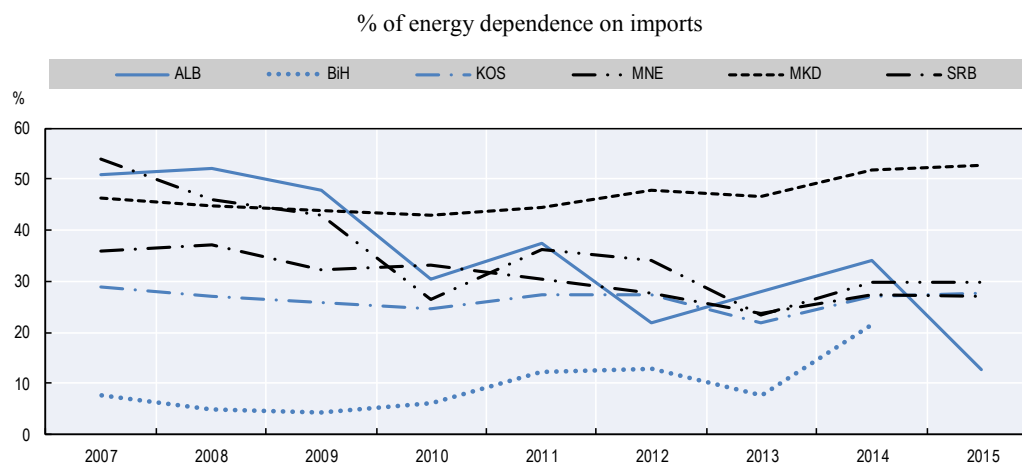
All six SEE economies are long-term net energy importers (Figure 12.11), although the proportion of net energy use covered by imports in 2015 varied from around 53% for the Former Yugoslav Republic of Macedonia to 13% for Albania, where the energy mix is dominated by large hydropower plants. The vulnerability of most of the SEE economies to external shocks is compounded by the lack of market integration between SEE energy systems, comparatively weak physical interconnection with neighbouring systems, and relatively low levels of oil and petroleum stocks.

The global nature of oil markets and their ability to deliver unforeseen shocks mean that emergency oil stocks are a powerful tool to insure against supply disruptions. The SEE economies are heavily reliant on imported petroleum and related products used mainly for transport. Serbia is in the process of building emergency oil stocks, but the other economies are still going through the process of developing policy or transposing/adopting legislation. Developing financial tools such as contracts based on call options – where the holder, for example a utility company, has the right (but not the obligation) to buy electricity at an agreed price at an agreed time – may be a feasible alternative to physical capacity and protect against volatile prices.

The average score for the indicator on emergency and crisis management systems and demand restraint programmes is 1.5 out of 5 (Figure 12.9). This suggests that in all six SEE economies, policy and legal frameworks require considerable attention. The pressing need for all the economies – apart from Serbia and the Former Yugoslav Republic of Macedonia – is to put in place robust policy and legislation. For Serbia and the Former Yugoslav Republic of Macedonia, which score 2.5 and 2 respectively, the challenge now is to implement their frameworks. Because all the SEE economies are very small,

co-operation over seasonal generation adequacy, emergency preparedness and mutual emergency support will be important to ensure security of supplies.

Figure 12.11. **Energy dependence (2007-15)**



Note: Energy dependency shows the extent to which an economy relies upon imports in order to meet its energy needs. The indicator is calculated as net imports divided by the sum of gross inland energy consumption plus bunkers.

Source: Eurostat (2017c), *Energy Dependence* (database), <http://ec.europa.eu/eurostat/tgm/table.do?tab=table&init=1&plugin=1&language=en&pcode=tsdcc310>.

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The way forward for energy security

It is important that progress towards market liberalisation and regional integration is maintained in order to attract investment and enhance security of supply. The region as a whole has an urgent need to invest in energy infrastructure so as to improve supply security. However, accelerating progress with market liberalisation and integration will also help to secure supplies. The current legal and institutional reforms – and in particular price deregulation – will ensure the sustainability of investment, and regional integration will reduce the total investment required by diminishing the overall requirement for emergency resources.

The pace of implementing planned reforms and legislation should be accelerated to give investors the confidence to commit to long-term and large-scale investments in the economies' energy sector. A crucial early step will be for all the SEE economies to ensure rapid progress in adopting and fully implementing reform policies and legislation that comply with the requirements of the Third Energy Package.

The SEE economies should continue to work with international financial institutions. Investment is required in all areas of energy infrastructure; however, investment which supports the transition to low-carbon economies, for example in energy efficiency and in strengthening grids to accommodate variable renewables, is particularly important. Improving energy efficiency and diversifying the generation mix to include more renewables will improve security of supply.

NRAs should evaluate their activity to promote investment in energy infrastructure. It is suggested they should take urgent steps to speed up the adoption of and implementation of the incentive regulatory framework for infrastructure and the investment incentives agreed with the Energy Community Regulatory Board.

Energy markets

Energy markets provide a platform for energy trade, and range widely in size, type and level of competitiveness. Differences in energy market performance are influenced by all aspects of the energy sector, including governance, legislation, market structure, the regulatory framework, the energy mix and infrastructure. Vertically integrated markets which display monopolistic behaviour, with subsidies or poorly regulated prices and relying on inadequate infrastructure, are the least competitive and most unlikely to attract private investment. This kind of market structure is typical of pre-liberalisation energy sectors in most countries, including the six SEE economies.

By contrast, the most competitive markets are those that allow access to many participants, require the least government intervention in price setting, and have infrastructure in place to enable trade in products. For example, OECD member countries' experience of energy market liberalisation is that markets for electricity that are co-ordinated and integrated across borders into regional markets, deliver consumer benefits, including more competitive prices and greater supply security (IEA, 2005).

Regional market integration has been a focus of EU electricity sector reforms since around 2006, when regional initiatives were established in both electricity and gas. More recently, it has become clear that regional integration of electricity markets is required to achieve least-cost emissions reductions (IEA, 2014a). The potential gains from balancing resources, if they are shared effectively among the economies, include increased technical possibilities for balancing capacity provision, lower overall balancing costs, and alignment of the costs of balancing service provision with the costs of making them available (ECS, 2014).

Overall, regional markets increase competitiveness at both national and regional levels. The SEE economies have recognised these benefits and have committed to a set of reforms to capture them. In 2015 all the SEE economies signed up to the Western Balkans Six (WB6) initiative with the objective of increasing connectivity of the electricity sectors and market coupling in the SEE region. Measures aim to remove barriers to integrating electricity markets at the national level, while at the same time increasing regional co-operation and strengthening regional institutions. The success of the WB6 initiative relies on the full and effective implementation of harmonised rules and the provisions of the Third Energy Package.

The energy markets sub-dimension includes three indicators (Figure 12.12):

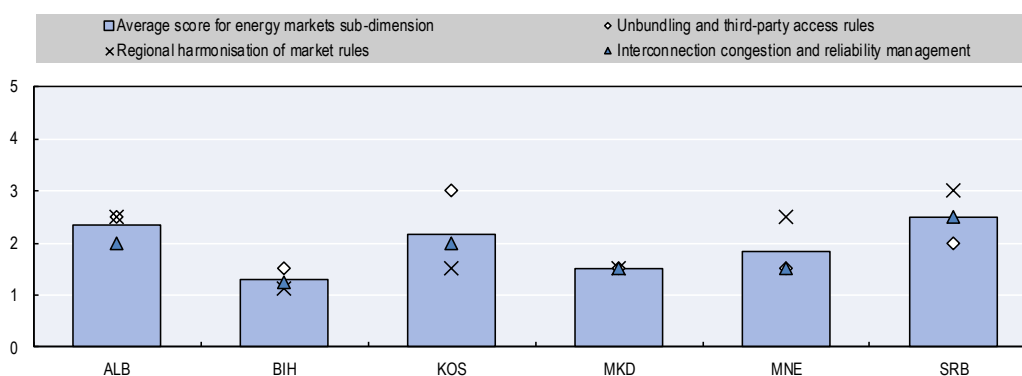
- The **unbundling and third-party access** indicator captures two related features of electricity and gas markets:¹² 1) unbundling, i.e. the extent to which different parts of the energy sector (e.g. transmission, generation, distribution and retail supply in electricity) are owned, managed and operated by separate entities; and 2) the ability of third parties and market entrants to gain access to the transmission and distribution networks on non-discriminatory, transparent terms. For example, can electricity generated by a new wind farm gain access to the transmission network on equal terms to electricity generated in an existing power plant?
- The **regional harmonisation of market rules** indicator measures the extent to which the technical rules which control the operation of the electricity networks and which have a cross-border impact are harmonised across the six SEE economies. The rules and codes define the standards for the pan-European energy

market and are intended to ensure the effective operation of electricity and gas transmission systems to meet energy policy goals: security of supply, sustainable development of the sector and competitive markets. The extent to which rules are harmonised indicates the ease with which producers and consumers of energy are able to trade across borders.

- The **interconnection congestion and reliability management** indicator demonstrates how efficiently the electricity interconnectors are managed as this affects the cost-effectiveness with which energy products reach consumers.

Across the SEE economies as a whole, the average score for the energy markets sub-dimension is 1.9 out of 5, though Kosovo and Serbia have quite divergent scores for the three indicators.

Figure 12.12. **Energy markets: Sub-dimension average score and indicator scores**



Note: See the methodology chapter for information on the *Competitiveness Outlook* assessment and scoring process.

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Legislative and regulatory frameworks are unbundling and facilitating non-discriminatory third-party access to networks

The average score across the SEE region for unbundling and third-party access is 2 out of 5, indicating that broadly speaking a policy framework is in place (Figure 12.12). At 3, Kosovo has the highest score: structural reform is underway and arrangements for non-discriminatory access to the grids are in place. Kosovo has also transposed legislation for unbundling and third-party access, including congestion management in electricity, that complies with Third Energy Package requirements. It also shows evidence of implementation, although certain elements remain to be implemented, including finalising market opening and publishing network tariffs.

Albania scores 2.5 for this indicator. It has unbundled transmission from generation and trade in a way that complies with the Third Energy Package, but has yet to unbundle supply from distribution. Albania has not implemented secondary legislation which would secure Third Energy Package compliance.

Serbia scores 2 because its unbundling model for electricity does not comply with Third Energy Package, and because it has yet to unbundle the gas transmission system operators and storage and distribution companies.

Montenegro scores 1.5. It has the legislative framework for ownership unbundling in place, and the transmission system operator has applied for certification. The unbundling of the distribution system operator is legally finalised, and a separate legal entity (CEDIS)

has been established. CEDIS owns the distribution network as well as operating and maintaining it.

Bosnia and Herzegovina also scores 1.5. It has taken steps to develop comprehensive legal and regulatory frameworks for unbundling and third-party access, although progress is quite limited.

The 1.5 score for Former Yugoslav Republic of Macedonia reflects that it has adopted market rules and grid codes in electricity, but its electricity unbundling is not fully Third Energy Package-compliant, while third-party access will only be transposed in the draft new energy law.

Harmonisation is proceeding at variable speeds across the economies

SEE economies are committed to forming a regional electricity market which will be part of the pan-European energy market (Box 12.5). A successful regional market requires harmonised technical rules and codes for operating electricity (and gas) networks and interconnectors. This is important for reliability and to facilitate trade in energy products nationally and across borders. The rules for balancing resources, for example, are critical for supply security and have an important impact on consumer costs.

SEE economies score 2 out of 5 on average for the regional harmonisation of market rules indicator (Figure 12.12). The scores for Serbia (3), Montenegro (2.5) and Albania (2.5) show that they have moved beyond transposing legislation that complies with the Third Energy Package, and have begun implementing legislation and policy. Serbia has established a day-ahead market which complies with the Network Code and which is based on an EU-style solution. Albania's Market Model has been adopted and a power exchange is under development.

The economies of Bosnia and Herzegovina, Kosovo and the Former Yugoslav Republic of Macedonia scored 1.1, 1.5 and 1.5 respectively for this indicator. For all three, policy for harmonising rules is only in the early stages of development. On a positive note, however, all have begun to implement soft measures, described in Box 12.5. In Bosnia and Herzegovina, the harmonisation issue comes under the authority of the State rather than the Federation of Bosnia and Herzegovina, and the Republika Srpska, although co-operation from all parties is necessary.

Box 12.5. Regional progress towards “soft” harmonisation measures

The governments of the six assessed SEE economies are committed to the formation of a single market. In 2016 they renewed their commitment to this objective by agreeing to strengthen the regional institutional structures required and to eradicate legislative and regulatory barriers at the national level. Steps on the path to a regional electricity market were taken at a WB6 summit in Vienna in August 2015. The measures set out clear actions and a timeline for developing the regional electricity market. The SEE economies have agreed to implement four categories of measures at the national level – so-called soft measures. These include spot market development, cross-border balancing, regional capacity allocation, and cross-cutting measures which include increasing the effectiveness of national administrative bodies. Since the 2015 summit over 50% of soft measures have been implemented by the six governments, with Serbia and Montenegro implementing over 60%, Albania, Bosnia and Herzegovina, and Kosovo 40-50% and the Former Yugoslav Republic of Macedonia just under 40% (ECS, 2017a). Stakeholders from all six neighbouring economies have joined the initiative, focusing on market coupling and cross-border balancing at the regional level.

Interconnection congestion and reliability management requires further development

Networks and interconnectors that are well managed and reliable are able to deliver faster responses, higher quantities and more competitive prices. Cross-border electricity markets based on the regional co-operation of system operators in terms of capacity calculation and making capacity available to markets will increase efficiency and benefit all consumers. However managing congestion over the interconnectors while ensuring the reliability of transmission networks poses considerable challenges.

The capacities of interconnectors are defined by neighbouring transmission system operators and used by market participants to conduct electricity trade across borders. However individual transmission system operators may be inclined to restrict capacities due to concerns over the secure operation of the transmission network, with the unfortunate consequence that electricity trade may be sub-optimal. In other words, there is a potential tension between freeing up interconnector capacity and network reliability. This is a highly complex system which requires high levels of co-ordination among transmission system operators and adherence to an agreed set of auction rules and of practices. The development of an SEE regional electricity market is to a large extent dependent on developing robust mechanisms for regional capacity allocation. The SEE average score for this indicator was 1.8 (Figure 12.12), suggesting that all SEE economies have much work to do to facilitate optimal cross-border trade in electricity.

In 2014 the SEE Coordinated Auction Office (SEE CAO) began conducting regional capacity allocation through auctions for cross-border capacity. The SEE CAO continues to develop rules to harmonise cross-border capacity calculations in electricity and is working with NRAs to determine the cause of lack of consistency and irregularities in some of the measures calculated.

The way forward for energy markets

The six SEE economies should maintain their strong engagement with the regional co-operation process. The WB6 initiative is relatively new but is already seen as an important policy driver for the economies. Combined with investment in physical infrastructure (i.e. interconnectors) continued progress towards forming a regional market will increase the competitiveness of all SEE economies and of the region as a whole. Sustained political will to overcome barriers to market integration will be essential if the long-term benefits to competitiveness are to be captured for the citizens of the WB6 economies. Box 12.6 explains the factors that were important for the highly successful Nordic regional electricity market, and which could offer some valuable ideas for the SEE governments.

SEE economies should increase their efforts to implement Third Energy Package-compliant unbundling of their energy sectors and to facilitate third-party access to networks. Unbundling the operation of different parts of the electricity and gas sectors is a key requirement of integrated and competitive markets, and the development of transparent rules to permit non-discriminatory third-party access to networks are key requirements of integrated and competitive markets. Together, unbundling and third-party access minimise potentially monopolistic behaviour at the national level and establish conditions for new entry.

Box 12.6. Good practice: Improving energy performance through regional co-operation

Regional co-operation is increasingly seen as an important milestone on the path to the pan-European Energy Union project. In 2006 the Regional Initiatives process created seven regional markets for electricity. In 2015 the Third Energy Package set out the regulatory, institutional and political background for achieving this goal. The SEE economies are committed to becoming the “eighth region”, which extends the Energy Union to the south east. Analysis of EU regional market formation shows that successful co-operation has been based on flexibility rather than a one-size-fits-all approach, but also that a clear framework can motivate regional initiatives and protect against possible risks. The EU’s seven electricity regional markets co-operate on energy in different ways, but possibly the best known and most successful is the Nordic electricity market.

The Nordic electricity market combines the wholesale markets of Norway, Sweden, Finland and Denmark. Electricity is traded on a common market, Nord Pool Spot, and electricity is produced where the cost of production is lowest. The key elements that have underpinned the formation of the successful Nordic electricity market are:

- Clear political vision guiding the process, closely aligned interests and a high level of trust between the countries.
- Participation of all relevant stakeholders in research projects, policy studies and working groups to develop knowledge of the Nordic area in terms of energy technologies and systems.
- A step-by-step approach to the development of frameworks required to achieve the shared objectives.
- Continuity and sufficient flexibility, with institutions set up to further Nordic regional cooperation receiving high level support from ministries in the Nordic member states and from the Nordic Investment Bank.

Source: Benelux Union (2016), *A Toolbox for Regional Energy Cooperation: Regional Steps Towards an Energy Union*, www.benelux.int/nl/publicaties/publicaties-overzicht/toolbox-regional-energy-cooperation.

Conclusions

Energy sector reform is a deeply complex and arduous process, particularly in those economies starting from state ownership and operation. The six SEE economies have shown that they are committed to raising productivity by reforming their energy sectors. Their participation in initiatives, including the WB6 and CESEC, demonstrates a strong commitment to the formation of a regional energy market. The WB6 and CESEC initiatives, combined with the dynamic nature of EU energy, place increasing demands on resources. However, all SEE economies have taken steps to develop legal and regulatory frameworks covering all sub-dimensions of the energy sector and encouragingly, progress is generally good in the fundamental governance and regulation sub-dimension. This is critical because the governance and regulation indicators set the direction for the remaining sub-dimensions.

Given the enduring and comprehensive nature of energy sector reform, it is not surprising that a number of challenges remain. Although these challenges vary from economy to economy, one of the most pervasive is the institutional capacity required to

realise effective energy market reform. Both skills and financial resources are required across all sub-dimensions, and in all institutions. Similarly, all economies continue to struggle with implementing sustainable energy policies and would benefit from complementary reform measures in environmental and investment policy in particular. A challenge that faces all governments is to mobilise the sheer political will and determination that will drive through a decades long programme of reform, and in particular to achieve an integrated SEE regional energy market. On that point, the history of energy market reform is unequivocal.

Notes

1. The EU Third Energy Package aims to make the energy market fully effective and create a single EU gas and electricity market. As Contracting Parties to the Energy Community the assessed SEE economies are required to align their legislation with the Third Energy Package. See EC (2011).
2. See EC (2017) for more information on the Connectivity Agenda.
3. A score of 0 denotes absence or minimal policy development while a 5 indicates alignment with what is considered best practices. Each level of scoring is updated for the individual indicator under consideration, but they all follow the same score scale: a score of 1 denotes a weak pilot framework, 2 means the framework has been adopted as is standard, 3 that is operational and effective, 4 that some monitoring and adjustment has been carried out, and 5 that monitoring and improvement practices are systematic.
4. For more information visit the following European Commission webpages: Projects of Common Interest (<https://ec.europa.eu/energy/en/topics/infrastructure/projects-common-interest>) and Priority Projects of the Energy Community (<https://www.energy-community.org/regionalinitiatives/infrastructure/selection.html>).
5. The Western Balkans 6 Initiative (also known as the Berlin Process) supports the six SEE economies in strengthening regional co-operation and driving growth and jobs. The WB6 Initiative is implemented in developing energy infrastructure, energy connectivity and sustainability. For more information please see <https://www.energy-community.org/regionalinitiatives/WB6.html>.
6. The Central and South-Eastern European Gas Connectivity Initiative sketches a joint approach to address the natural gas diversification and security of supply challenges. For more information see <https://www.energy-community.org/regionalinitiatives/CESEC.html>.
7. There are four main administrative levels in Bosnia and Herzegovina: the State, the Federation of Bosnia and Herzegovina, the Republika Srpska and the Brčko District. The administrative levels of the State, the Federation of Bosnia and Herzegovina and the Republika Srpska are taken into account in the *Competitiveness Outlook 2018* assessment, when relevant. The Brčko District is not assessed separately.
8. Total cost-competitive potentials depend on assumptions regarding cost of capital.

9. Several new wind and solar PV projects are under construction and expected to come online in 2017 or 2018.
10. The share of electric power transmission and distribution losses in electricity production.
11. i.e. the demand for electricity is at its highest in the summer rather than the winter.
12. All the SEE economies have plans to develop active gas sectors; however the gas sectors are far less developed than the electricity sectors. The focus of this sub-indicator is therefore on electricity, though in accordance with the Third Energy Package, the unbundling and third-party access rules indicator also reflects the status of rules and legislation in the gas sector.

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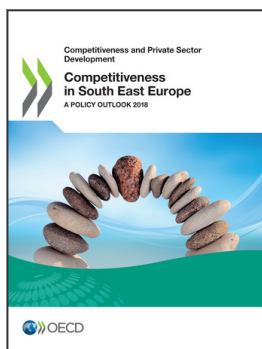
Annex 12.A1.

Energy policy: Indicator scores

Table 12.A1.1. Energy policy: Indicator scores

	ALB	BIH	KOS	MKD	MNE	SRB
Governance and regulation						
Energy policy, legal and institutional framework	2.5	1.8	3.0	1.5	2.5	1.5
Energy regulator	2.5	1.5	2.5	1.5	3.0	3.0
Sustainable development						
Renewable energy policy, legal and institutional framework	1.5	1.8	2.5	1.5	2.0	2.0
Energy efficiency policy, legal and institutional framework	1.0	1.6	1.5	1.5	2.5	2.5
Awareness raising	0.5	1.6	2.5	1.5	2.0	1.0
Energy security						
Gas supply framework	1.5	0.9	1.5	1.5	2.0	1.0
Electricity supply framework	3.0	1.4	3.0	1.5	3.0	3.5
Emergency and crisis management system and demand restraint programmes	0.5	0.8	1.5	2.0	1.5	2.5
Energy infrastructure investment framework	3.0	1.3	3.0	2.0	1.5	2.0
Energy markets						
Unbundling and third-party access rules	2.5	1.5	3.0	1.5	1.5	2.0
Regional harmonisation of market rules	2.5	1.1	1.5	1.5	2.5	3.0
Interconnection congestion and reliability management	2.0	1.3	2.0	1.5	1.5	2.5

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