



South East Europe
Sustainable Energy
Policy



INVEST IN HASTE, REPENT AT LEISURE

Are IFIs behaving as if EU accession criteria and extreme energy losses do not exist in South East Europe



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** According to the UN, the official name for Macedonia is “The former Yugoslav Republic of Macedonia”. In this study it is referred to as “Macedonia”.



Glossary

Annex-I countries – countries listed in Annex I of the Kyoto Protocol that took on binding emissions reductions obligations under the agreement

EBRD – the European Bank for Reconstruction and Development

EIB – the European Investment Bank

EU – the European Union

GHG – Greenhouse gases

IEA – the International Energy Agency

IFC – the International Finance Corporation, the private sector lending arm of the World Bank

IFIs – international financial institutions

4 IMF – the International Monetary Fund

IPA – the Instrument for Pre-Accession – an EU funding line for accession countries

IPCC – the Intergovernmental Panel on Climate Change

OECD – the Organisation for Economic Co-operation and Development

UNFCCC – the United Nations Framework Convention on Climate Change





South East Europe Sustainable Energy Policy Programme

With approximately 25 million potential new EU citizens in South East Europe, who are all energy consumers, energy is perhaps one of the most complex issues which is facing the region. It has inter-related and far reaching impacts on several areas, including society, the economy and the environment, particularly as South East Europe faces the imminent deregulation of the market in 2015 in a less than ideal governance environment.

The South East Europe Sustainable Energy Policy (SEE SEP) programme is designed to tackle these

challenges. This is a multi-country and multi-year programme which has 17 CSO partners from across the region (Albania, Bosnia and Herzegovina, Croatia, Kosovo, Macedonia, Montenegro and Serbia) and the EU. It is financially supported by the European Commission, Balkan Trust for Democracy and UNDP.

The contribution of the SEE SEP project will be to empower CSOs and citizens to better influence policy and practice towards a fairer, cleaner and safer energy future in SEE.



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Foreword by Commissioner for Climate Action Connie Hedegaard

“When the winds of change blow,” says an old Chinese proverb, “some build walls, and others build wind mills.”

A growing crescendo of influential voices agree that ending dependency on fossil fuels is one of the most urgent steps needed to combat climate change effectively and are adamant about the need to clean up our energy habits.

During January’s World Economic Forum in Davos, Lord Nicholas Stern, author of a well-known report outlining the measures that the world should take to avoid runaway climate change, admitted that the planet is on track to warm by four degrees Celsius this century. Looking back, Stern said, his report could have been more insistent about the need to take determined action to avoid the catastrophic risks that this level of warming implies.

Stern’s sentiment was echoed by Christine Lagarde, Managing Director of the International Monetary Fund, who pleaded in favour of stronger climate action to prevent future generations being “roasted, toasted, fried, and grilled.” And World Bank President Jim Yong Kim announced that his institution would prioritize the fight against climate change and focus on promoting, among other measures, the elimination of subsidies doled out to the fossil-fuel industry.

With this pledge, the World Bank joined an expanding list of international bodies, including

the UN, the IMF, and the OECD, that are calling for an end to such subsidies. Globally, we are on track to reach an international climate deal. But this will still take time, while the need for action will not wait. Harnessing the existing broad consensus against fossil-fuel subsidies is possible even in the absence of a legal agreement, and could quickly have a significant positive impact.

According to the IEA, fossil-fuel subsidies rose by almost 30%, to \$523 billion, in 2011. Meanwhile, the UN Environment Program reports that global investment in renewable energy totalled only \$257 billion in 2011.

In other words, we are doing exactly the opposite of what we should be doing. Support for energy efficiency and renewable energy sources is lagging, while governments around the world spend hundreds of billions of dollars subsidizing an incipient catastrophe. This must change.

As European Commissioner for Climate Action, I am particularly keen to see three international financial institutions – the European Investment Bank, the European Bank for Reconstruction and Development, and the World Bank – join with their EU and OECD partners to take a lead role in eliminating public support for fossil fuels. Together, these three institutions lend more than



€130 billion (\$168 billion) annually for projects in Europe and beyond, and maintain a strong advisory role in beneficiary countries. This year provides an especially important opportunity to use this potential for action.

All three institutions have announced reviews of their lending policies for the energy sector. The outcome will underpin their lending over the next 4–6 years, and send a strong political and financial signal about worldwide commitment to addressing climate change. Four to six years is also the interval over which climate scientists predict that greenhouse-gas emissions must peak and start to be reduced if the world is to have any hope for a decent future.

Multilateral lenders can lead by example by restricting conditions for public financing of coal, the most damaging fossil fuel, and by pressing for greater transparency in reporting on emissions. Encouraging investments in renewable energy and increased energy efficiency will have the added benefit of boosting long-term self-reliance and resilience against the volatility of fossil fuel prices.

More broadly, international financial institutions should guide public and private investments alike away from a short-term logic. Supported by a stable, long-term climate-policy framework, public financing can drive the decarbonization of our energy system and our economies.

Instead of offering unsustainable and environmentally damaging subsidies for fossil fuels, public finance should encourage the development of new industries and businesses that are emerging in the course of the low-carbon transition. The industries of the future, which will create jobs that last, are those that will use scarce resources efficiently, and that can pay the real environmental and health costs of the resources that they use.

At the same time, continued dialogue with civil society on these issues is an essential precursor to the EU's sustainable development agenda. This is particularly true for the candidate and potential candidate countries of the Western Balkans, who are now engaged in significant decision-making processes about the future of their energy sectors. These decisions will have enormous impacts on their future ability to join in the EU's efforts on climate change. This report outlines some of the climate challenges in these countries, and is a useful contribution from civil society to the ongoing debate about the region's energy future.

Executive Summary

An old adage considers the problem of “How to eat an elephant?,” to which the sage replies “One bite at a time, starting with the tail”.

To decarbonise an entire economy is not unlike the mammoth task above: it requires a definite starting point and a step-by-step approach to make seemingly insurmountable challenges manageable. It is for this reason that the EU has set its Member States’ targets on climate action for 2020, to be followed by targets for 2030 and 2050. This will be challenging enough for Member States, but what about for those states in the Western Balkans that will most likely join the challenge partway through the ‘meal’? Without

Macedonia² is engaged in High Level Accession Dialogue with the EU. This opens the prospect of many of the Western Balkan countries joining the EU in the next two decades.

This potential should have a real impact on the policy of the international financial institutions (IFIs) for prospective Member States, especially in the sphere of energy, where Member States aim for totally decarbonised electricity systems by 2050.

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Between 2006–2012, the IFIs and IPA invested EUR 1.68 billion in energy infrastructure in the Western Balkans, of which fossil fuels received 32 times more financing than non-hydropower renewables

serious preparations these countries will most certainly find it impossible to digest such a vast task, and it will cost the region’s and EU’s taxpayers enormous amounts of additional money to set them back on the right track, if indeed it can be done at all.

Slovenia entered the European Union in 2004, the first of the ex-Yugoslav Republics to do so. Several years on, Croatia is set to join the EU this July, Montenegro has opened negotiations, Serbia and Kosovo¹ have initialled an agreement which could unlock the path to EU membership, and

However so far plans for the Western Balkan countries³ are heading in exactly the opposite direction. 43.5 percent of the planned new electricity capacity is to run on coal or lignite,⁴ and the Energy Community’s Regional Energy Strategy envisages GHG emissions increases until at least 2030. If the region is to spend the planned – but most probably unrealistic – EUR

1 According to the UN, Kosovo is “under the United Nations Interim Administration Mission in Kosovo (UNMIK) established pursuant to Security Council Resolution 1244.” In this study it is referred to as “Kosovo”.

2 According to the UN, the official name for Macedonia is “The former Yugoslav Republic of Macedonia”. In this study it is referred to as “Macedonia”.

3 Energy Community Regional Energy Strategy, <http://www.energy-community.org/pls/portal/docs/1810178.PDF>

4 Calculated from the Energy Community Regional Energy Strategy, approved October 2012, <http://www.energy-community.org/pls/portal/docs/1810178.PDF>



Energy efficiency received only 17 percent of IFI/IPA funding even though an EBRD expert has estimated that it is between 1,000 and 10,000 times more cost effective to save a unit of energy than to generate a new unit

28.8 billion by 2020 on realising these plans,⁵ the outcome is likely to be rising electricity bills for the public without any significant planned reductions in transmission and distribution losses and improved efficiency of their homes. At the same time many new and damaging dirty lignite plants will be built and pristine ecosystems destroyed for new unsustainable hydropower, much of whose electricity will be exported to Europe and will move the region further from the EU's targets on renewable energy.

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For IFIs the choice should be simple. They are owned or part-owned by the EU, and in this region they are funding prospective future Member States, thus EU policies must be followed. Instead of viewing sustainability, security of supply and affordability as competing objectives, IFIs must use their limited financing to support only those projects which achieve all three objectives together.

Yet so far, as this report shows, from 2006–2012, the EBRD, EIB, World Bank and EU-IPA invested a total of EUR 1.68 billion in energy infrastructure in the Western Balkans, of which fossil fuels received 32 times more financing than non-hydropower renewables, or nearly double (1.8 times) that of all forms of renewable energy including hydropower. Fossil fuels received EUR 597.3 million (35 percent) of all IFI energy financing in the region, hydropower received EUR 310.1 million (19 percent), and other renewables received only EUR 18.5 million (1 percent). Energy efficiency, which

has massive potential to address energy poverty in the region, received only 17 percent or EUR 288.8 million, even though it has been estimated that it is between 1,000 and 10,000 times more cost effective to save a unit of energy than to generate a new unit.

Almost half of the energy lending by the EBRD (48 percent), the largest lender in the region, supported fossil fuels, with only two percent supporting non-hydropower renewable energy and a further 23 percent supporting hydropower.

Among the projects financed by the EIB and EBRD during this period is the Šoštanj lignite plant in Slovenia. Both banks failed to take into account that the project will emit enough CO₂ to account for Slovenia's entire carbon budget by 2050, thus 'locking in' the country to lignite power and restricting future energy choices. To continue with such investments, like those planned by the EBRD in Serbia and Kosovo, is not only at odds with the EU's climate and energy goals but, if applied across this region, will lead to carbon lock-in that will be extremely costly to reverse. These costs will be borne by the public in the region and the EU.

The role of the IFIs is to invest in projects where other sources of financing are not available at reasonable rates. IFIs therefore have a very specific role in supporting new, environmentally- and socially-sound investments rather than simply investing in whatever governments or companies propose.

5 http://www.energy-community.org/portal/page/portal/ENC_HOME/AREAS_OF_WORK/Consultation/PECIs

For prospective EU Member States, the question must be asked: is IFI funding leading the countries away from or towards EU energy goals for 2020 and 2050?

Given the imperative to assist the countries of the region to orientate towards the EU's 2020, 2030 and 2050 targets, this report recommends that the IFIs:

- Stop funding new fossil fuel projects in prospective Member States, especially coal, and rapidly increase the share of energy savings, energy efficiency and sustainable renewables in their portfolios;

- Make residential energy efficiency and energy savings the number one priority in the region;
- Adopt a zero tolerance approach to indicators of corruption or breaches of environmental standards for all projects;
- Support the diversification of renewables and de-emphasise support for damaging hydropower projects, especially those built as energy export vehicles;
- Prepare funds and programmes to assist the countries of the region who wish to meet 20 percent energy efficiency targets, especially in instances which will help tackle energy poverty;
- Prepare funds and programmes to assist the countries of the region to tackle the alarmingly high technical and commercial losses in the region's energy systems; and
- Greatly simplify project disclosure for funds and intermediaries so that it is clearer which money ends up where.





Introduction:

The Western Balkans energy sector and the EU energy crossroads

The Western Balkan countries⁶ face increasing energy challenges and are at a significant crossroads in deciding the future of their energy sectors. All countries in the region suffer from high electricity losses and serious underinvestment in energy infrastructure, as well as increasing energy poverty and in some cases public outcry about rising electricity prices. At the same time, the countries aspire to join the EU, and are gradually harmonising their legislation with the EU *acquis communautaire* as well as adopting EU policy goals and making the relevant investments. This process is, however, taking place in a two-speed manner, with only some elements of EU policy and legislation being implemented by most of the countries. Some elements of legislation such as the Environmental Impact Directive have been transposed but are poorly implemented, while others have not been adopted at all.

The most serious omission by governments in the Western Balkans is the issue of the 2020, 2030 and 2050 climate goals and the decarbonisation agenda. Those years may sound far away, but it is the investments made today which will prevent the Western Balkan countries from meeting the 2050 climate and decarbonisation targets. This situation threatens to store up problems for the whole EU as well as the public budgets and taxpayers of the countries once they join the Union.

Climate change may not be a popular topic in the region at the moment, but its effects and costs are already being felt through droughts and other extreme weather conditions. Failure to address it now will cost more later than taking decisive action.⁷ In order to maintain any chance of limiting global temperature increases to two degrees centigrade, if we discard geo-engineering,⁸ the overall level of GHG emissions globally must decrease by 50 to 70 percent by 2050 compared to 1990 levels,⁹ with aggregate developed country emission reductions of at least 80 to 95 percent by 2050 – a target

6 For the purposes of this study: Albania, Bosnia and Herzegovina, Croatia, Kosovo, Macedonia, Montenegro and Serbia

7 Nicholas Stern: *The Economics of Climate Change – the Stern Review*, Cabinet Office – HM Treasury, November 2007

8 This is so far nowhere near being proven to work and as such should not be taken for granted. Relying on such ‘techno-fixes’ also appears to diminish the urgency of taking action against climate change now, and provides fodder for those who wish to ignore the problem. An additional issue appears regarding the control and application of such technologies, which may not be applied, if controlled by a few, for the benefit of all humanity but only for certain groups or regions.

9 50 percent comes from the European Council Conclusions 29/30 October 2009. Paragraph 7: “The European Council calls upon all Parties to embrace the 2°C objective and to agree to global emission reductions of at least 50%, and aggregate developed country emission reductions of at least 80–95%, as part of such global emission reductions, by 2050 compared to 1990 levels; such objectives should provide both the aspiration and the yardstick to establish mid-term goals, subject to regular scientific review.” However more recent scientific work points to the necessity to reduce emissions by 70 percent globally: Meinshausen, M. et al. (2009) Greenhouse-gas emissions targets for limiting global warming to 2°C, *Nature*, 458, 1158–1162 and Allen, M.R. et al. (2009) Warming caused by cumulative carbon emissions towards the trillionth tonne, *Nature*, 458, 1163–1166.



endorsed by the European Council in 2009¹⁰ and incorporated into the EU's 2011 Low-Carbon and Energy Roadmaps to 2050.¹¹ While these goals are not exclusively linked to the energy sector, the roadmaps show that almost total decarbonisation of the energy sector will be required by 2050. Discussions are also currently ongoing on the EU level about adopting binding GHG emissions reduction targets for 2030 as an interim measure to achieve the 2050 goals.

For countries that plan to join the EU, the EU institutions should be utilising all available instruments to steer their governments in a more sustainable direction in order to avoid conflicts – and associated additional costs – with their future obligations. Such instruments include:

- bilateral accession negotiations between the EU and candidate countries Montenegro and Macedonia,¹² ensuring the adoption of at least all currently binding EU legislation
- the Energy Community,¹³ an EU-backed initiative aimed at establishing a common regulatory framework for energy markets in the Western Balkans, Moldova and Ukraine.¹⁴ It includes some elements of EU environmental protection legislation.¹⁵ In 2012 the

Contracting Parties also committed to the 2020 renewable energy targets¹⁶ but have not committed to the 2020 energy efficiency or GHG emissions reduction targets, with the exception of Croatia.

EU and multilateral funding sources – energy investments in the region are already supported to a large extent by:

- the EBRD,¹⁷ which aims to assist in a transition to market economies and sustainable development;¹⁸
- IPA grants which combine institution-building with infrastructure construction aimed at EU legal compliance;
- the EIB, which supports large projects of interest to Member States; and
- the World Bank Group, which includes the IFC and¹⁹
- the Western Balkans Investment Fund (WBIF), which acts as an umbrella for various international donors to coordinate technical assistance.

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10 Council of the European Union, Presidency Conclusions 1 December 2009 (15265/1/09).

11 EC communication: A Roadmap for moving to a competitive low carbon economy in 2050, March 2011, COM(2011) 112 final; EC communication: Energy Roadmap 2050, 15 December 2011, COM/2011/0885 final.

12 Croatia has closed its EU legislation chapters and is joining the EU in July 2013.

13 See www.energy-community.org for details.

14 Georgia has also applied for membership

15 i.e. the Environmental Impact Directive, the Sulphur in Fuels Directive, the Large Combustion Plants Directive, Article 4(2) of the Wild Birds Directive and the Integrated Pollution Prevention and Control (IPPC) Directive together with the now-expired Kyoto Protocol. EU

competition legislation is also covered, i.e. the prohibition of anti-competitive agreements, the prohibition of abuse of a dominant position and the prohibition of State Aid granted in violation of the principles of the Treaty on the Functioning of the European Union.

16 The targets for the share of renewable energy in Contracting Parties overall energy consumption in 2020 are the following: Albania 38%, Bosnia and Herzegovina 40%, Croatia 20%, Macedonia 28%, Moldova 17%, Montenegro 33%, Serbia 27%, Ukraine 11%, Kosovo 25%, Energy Community press release, 18 October 2012 http://www.energy-community.org/portal/page/portal/ENC_HOME/NEWS/News_Details?p_new_id=6342

17 The EBRD is not an EU institution but is 60 percent owned by the EU Member States, the EU itself and the EIB

18 Article 2, Agreement establishing the EBRD, <http://www.ebrd.com/downloads/research/guides/basics.pdf>

19 These are of course not EU institutions, however they often contribute financially to the fulfilment of EU-related obligations by countries in the region.

This latter category is the focus of this report: financial support from the EU and IFIs for the energy sector in the Western Balkans. IFIs represent a strong instrument for steering energy investments in a sustainable direction – even before binding climate targets are adopted – given their direct impact on whether a certain investment can go ahead or not.

IFIs play a specific role, investing in projects where other sources of financing are not available at reasonable rates. They therefore need to support new, environmentally- and socially-sound investments rather than simply investing in existing markets, which, if they are really economically viable, should be supported by the private sector.

This report examines the investments made by the IFIs in the energy sector in the region between 2006 and 2012, finding that although there has been an increase in investments in energy efficiency, energy savings and renewable energy, they are still a small minority. These investments are also likely to be undermined by actual and planned investments into coal power generation and other fossil fuel infrastructure.

In other words, the countries in the region are receiving mixed messages from the EU and related financing institutions.

The EU and IFIs must therefore use their limited financing more carefully, avoid contributing to carbon lock-in through support for coal and other fossil fuels and ramp up investments into demand-side energy efficiency, energy savings and sustainable renewable energy sources. Both the EBRD and EIB are revising their energy policies this year and now have an excellent opportunity to push further their positive achievements in energy efficiency and renewables while avoiding undermining these with fossil fuel investments.

Experience in the EU has shown that countries which are over-dependent on coal are likely to oppose policy moves to adequately address climate change. This has already been seen with Poland's persistent opposition to robust climate action, and other EU countries should be wary of supporting aspiring Member States in constructing new fossil fuel infrastructure now, as it will most likely come back to haunt them later.



Energy investments in the Western Balkans – what is needed versus what is planned

The current situation

The electricity sector in the Western Balkans has a legacy of large, ageing, centralised infrastructure, largely dependent on coal or lignite and large-scale hydropower. Kosovo generates around 97 percent of its domestically-produced electricity from lignite, and Serbia around 70 percent. Serbia, Bosnia and Herzegovina and Montenegro all rely almost exclusively on a mixture of lignite and hydropower, while Albania's electricity production depends almost entirely (around 97 percent) on hydropower.²⁰ Macedonia generates most of its electricity²¹ from lignite and the rest from gas, oil and hydropower, and Croatia generates up to 50 percent from hydropower, around 15 percent from coal and the rest from natural gas and fuel oil, along with additional imported electricity from the jointly owned Krsko nuclear power plant in Slovenia and elsewhere, which totals between 35 and 50 percent depending on the hydrological conditions.²²

Both coal and hydropower have serious negative impacts, with the former exacerbating climate

change and harming human health and the latter harming biodiversity and restricting water resources. Both energy sources at times result in the resettlement of local populations. In Serbia alone the health and social costs of coal combustion are estimated at up to EUR 4.99 billion annually,²³ while a World Bank study puts health costs in Kosovo due to air pollution – mainly from lignite combustion – at around EUR 100 million annually, with 835 early deaths per year.²⁴ Climate change is starting to affect fluctuations in energy production from hydropower in the region,²⁵ while agriculture-based communities downstream of new hydropower developments are affected by lower water levels, for example in Croatia's Neretva Delta as a result of the Upper Horizons project.

20 Energy Community: Regional Energy Strategy, adopted 18 October 2012, <http://www.energy-community.org/pls/portal/docs/1810178.PDF>

21 The amount varies by year but according to the Regulatory Commission's Annual Reports it has averaged around 70 percent in the period in question.

22 Energy Institute Hrvoje Pozar: Energy Balance Croatia 2011, http://www.eihp.hr/hrvatski/projekti/EUH_od_45/EUH11web.pdf

23 Health and Environment Alliance: The unpaid health bill: How coal is making us sick, March 2013, http://www.env-health.org/IMG/pdf/heal_report_the_unpaid_health_bill_-_how_coal_power_plants_make_us_sick_final.pdf

24 World Bank: Kosovo Country Environmental Analysis – Cost Assessment of Environmental Degradation, Institutional Review, and Public Environmental Expenditure Review 2011–2012 <http://siteresources.worldbank.org/INTKOSOVO/Resources/KosovoCEA.pdf>

25 See for example: World Bank: Albania's Energy Sector: Vulnerable to Climate Change, September 2010, http://siteresources.worldbank.org/INTECALEA/Resources/ECA_KB_29_Albania_Energy.pdf; Reuters: Drought lowers Bosnia's EPBiH hydro power output, 18 July, 2012, <http://www.reuters.com/article/2012/07/18/bosnia-epbih-output-idUSL6E8IID120120718>



The region overall is dependent on imported oil and natural gas – mostly for heating and transport needs – although gas infrastructure does not exist in Albania, Kosovo and Montenegro. The development of further gas infrastructure is promoted by the Energy Community among others,²⁶ who sees it as a way to diversify the region's energy supply.

Another common feature of the energy sector in the Western Balkans is the lack of transparency and wastefulness of the region's energy companies. Corruption allegations around Serbia's state electricity company EPS have resulted in arrests,²⁷ Croatia's former prime minister is in jail over corruption in the sale of oil company INA,²⁸ and perceived corruption in Kosovo and Montenegro's energy sectors has led to street protests.²⁹ There is substantial "smoking gun" evidence of high-level corruption in the energy sector in Albania and Bosnia and Herzegovina as well, but the higher up the political ladder the media or public investigations aim, the less likely they are to end in prosecutions.³⁰

Underinvestment and oversized plans

Energy infrastructure in the region has suffered from underinvestment for more than two decades, and huge investment sums are claimed to be necessary. Recent estimates from the countries participating in the Energy Community put the figure at EUR 28.8 billion by 2020 for the Western Balkans together with Moldova, which represents an increase in electricity generation capacity by approximately 64 percent from 2009.³¹ This figure is based on energy demand growth predictions that seem overstated given the economic context and the potential for energy efficiency and demand management. However, no reasonable up-to-date analysis of the real needs is available.

So far Western Balkans governments have not taken serious action to reduce GHG emissions and do not seem aware of the EU's long-term climate goals and decarbonisation agenda. Most of the region's countries were not included in Annex 1 of the Kyoto Protocol, except for Croatia, which has found that the Protocol's targets were not difficult to reach due to the de-industrialisation that followed the break-up of Yugoslavia and the ongoing economic crisis.³² The EU's target of reducing GHG emissions by 2020 compared to 1990 has been adopted only by Croatia, and no moves appear to be underway to ensure that the other Western Balkan countries adopt these targets under the Energy Community Treaty.³³ In any case, if the Western Balkan countries adopted the EU 2020 GHG reduction targets they would not be difficult to reach in view of the industrial decline that many of the countries have experienced since 1990.

26 See here for an explanation of the Regional Gas Ring concept, for example: http://www.energy-community.org/portal/page/portal/ENC_HOME/AREAS_OF_WORK/GAS/Regional_Market/Gas_Ring_Concept

27 B92: "Millions" syphoned off from coal mine, minister charges, 24 January 2013, http://www.b92.net/eng/news/business-article.php?yyyy=2013&mm=01&dd=24&nav_id=84324

28 BBC: Croatia jails ex-PM Ivo Sanader for taking bribes, 20 November 2012, <http://www.bbc.co.uk/news/world-europe-20407006>

29 Balkan Insight, Kosovo stages mass protest over corruption, 14 March 2013, <http://www.balkaninsight.com/en/article/kosovo-stages-mass-protest-against-thievery>; MANS press release: Zbog tajnih dilova crnogorske Vlade i italijanskih partnera od danas skuplja cijena struje, 01.08.2012, <http://www.mans.co.me/arhiva/2012/08/zbog-tajnih-dilova-crnogorske-vlade-i-italijanskih-partnera-od-danas-skuplja-cijena-struje/>

30 See for example, <http://www.balkaninsight.com/en/article/albania-video-corruption-scandal-heads-to-court>; <http://www.rai-see.org/news/south-eastern-europe/3139-bosnia-and-herzegovina-minister-of-energy-accused-of-corruption.html>

31 Energy Community Regional Energy Strategy, approved October 2012, <http://www.energy-community.org/pls/portal/docs/1810178.PDF>

32 European Environment Agency: Croatia Greenhouse Gas Profile, 24.10.2012, <http://www.eea.europa.eu/publications/ghg-trends-and-projections-2012>

33 According to discussions on 23 January 2013 held with the secretariat of the Energy Community by civil society groups SEE Change Net and Bankwatch

In this context, Western Balkan countries are planning infrastructure investments as if climate change did not exist. The need for investment is mainly being interpreted by regional governments as a need for more of the same infrastructure that currently exists – coal and hydropower – with inadequate attention paid to putting energy savings and energy efficiency first. This is evident in the projects proposed in late 2012 by the Energy Community Contracting Parties as potential Projects of Energy Community Interest, in which the generation projects are composed almost entirely of coal and hydropower.³⁴ Many are projects that have been planned for decades (the Vardar hydropower cascade in Macedonia may hold the record, having been planned since before 1932, when it was rejected as unacceptable). Their usefulness or acceptability in today's conditions is unproven, not least due to the changing climatic conditions in the region.

Coal or lignite projects account for 43.5 percent of the new energy generation capacity in the Western Balkans as submitted by governments to the Energy Community for its Regional Energy Strategy (6195 MW of a total new 14.234 MW),³⁵ and even the so-called 'sustainable scenario' within the strategy envisages GHG emissions increases until at least 2030.

With such plans, Western Balkan countries will find it impossible to decarbonise their economies and meet EU long-term climate goals, while creating a heavy financial burden for their populations. Coal thermal power plants, for example, operate for around 40 years, so what is built now will still be operating beyond 2050. This is a global problem: according to the 2011 International Energy Agency World Energy Outlook, the total energy-related CO₂ emissions

permissible to keep temperature rises below two degrees³⁶ is already "locked in" in existing capital stock. If stringent new action is not forthcoming by 2017, the energy-related infrastructure then in place will generate all the CO₂ emissions allowed up to 2035, leaving no room for additional power plants, factories and other infrastructure unless they are zero-carbon, which would be extremely costly.³⁷

Slovenia has realised this too late after planning and obtaining financing for the construction of its Sostanj lignite power plant, which will emit almost as much as the whole country is allowed to emit in 2050.³⁸ Other countries in the region need to learn from this mistake, and this example is all the more pertinent considering it was financed by both the EBRD and EIB, which failed to spot the project's clash with the need for drastic cuts in GHG emissions during its planned lifetime.

Where renewable energy is planned in the region, it often consists of hydropower plants with serious environmental impacts, or hydropower or wind installations that aim at exporting electricity to the EU rather than bridging local energy gaps.³⁹ Investments in other forms of renewable energy and in energy efficiency are mainly seen as a green garnish required to fulfil EU requirements rather than a huge potential for creating jobs, reducing energy poverty and eliminating the health impacts of lignite combustion.

34 See the list of proposed projects on the Energy Community's website at: http://www.energy-community.org/portal/page/portal/ENC_HOME/AREAS_OF_WORK/Consultation/PEClS

35 Calculated from the Energy Community Regional Energy Strategy, approved October 2012, <http://www.energy-community.org/pls/portal/docs/1810178.PDF>

36 Under the IEAs 450 scenario, which corresponds to the two degrees Celsius goal.

37 International Energy Agency, World Energy Outlook 2011.

38 For more details see <http://bankwatch.org/our-work/projects/sostanj-lignite-thermal-power-plant-unit-6-slovenia>

39 For an exploration of this issue see CEE Bankwatch Network: A Partnership of Unequals, 2011: <http://bankwatch.org/sites/default/files/partnership-of-unequals.pdf>



What kind of an energy future will serve the needs of the region's people and environment?

First, any serious energy policy has to be a climate-friendly one. Far from being a luxury to address later, without rapid action we can expect runaway climate change to exacerbate the increasingly chaotic weather patterns that the region is experiencing. All investments need to be in line with GHG emissions decreases of 80 to 95 percent by 2050 compared to 1990 levels.

From the point of view of an ordinary energy consumer in the region, the importance of investments in energy efficiency and savings – both for environmental and economic reasons – cannot be emphasised enough. Any investment needs to contribute to keeping energy bills at a reasonable level while still incentivising the efficient and careful use of energy. Electricity prices in the region have mostly been kept lower than the cost of production, but even without incorporating external costs such as health damage or a carbon price, high bills due to wasteful energy systems and usage still place a serious burden on large sections of the population. Energy or fuel poverty is defined in many different ways, however in the Western Balkans it refers not to a lack of access to infrastructure per se, but to difficulty in maintaining sufficient warmth at an affordable cost. Eurostat data shows that 8.3 percent of households in Croatia were unable to keep their home adequately warm in 2010,⁴⁰ while the Macedonia statistical office offers the alarming finding that in 2010 only 52.6 percent of households reported being able to keep their home adequately warm.⁴¹ In addition, in those countries which have district heating, many households connected to the systems can keep their home (excessively) warm but have no thermostat or meters and have to pay

very high bills because of this, and thus under some definitions would qualify as fuel poor.

Given the difficult economic circumstances in the region and high unemployment, one of the main reasons for the serious impact of energy prices on the population is the fact that wasted energy in the region is so high. Kosovo represents an extreme example with nearly 17 percent transmission and technical losses for electricity plus nearly 20 percent in commercial losses,⁴² but all countries are highly energy-intensive, with only Croatia coming close to the EU average. Croatian energy use is 1.2 times the EU average for total primary energy supply intensity, while others in the region are around twice as energy-intensive as the EU average.⁴³ In some countries like Montenegro and Macedonia, it is common to use electricity for space heating, an extremely inefficient way to use energy, not to mention the trend of heating outdoor cafe terraces with electricity or gas in winter.

Price rises per unit are also gradually taking place across the region due to market liberalisation and commercialisation processes. Combined with already high bills resulting from wasted energy, this has drawn an angry reaction from the public, resulting in protests in Montenegro, Macedonia and Kosovo. Protests in Bulgaria in January and February 2013 triggered by increases in electricity bills led to the resignation of the government and early elections – a scenario which could easily be repeated in the Western Balkans. The suggestion here is not to freeze electricity prices for all but to find an acceptable medium in which more well-off customers are incentivised to use energy more efficiently (and are technically able to do so through metering, insulation and so on) while vulnerable customers are adequately protected and enabled to undertake energy savings and efficiency measures.

22

40 Eurostat: SILC: ilc_mdcs01

41 Republic of Macedonia State Statistical Office: Household Consumption in the Republic of Macedonia 2010 – Statistical Review: Incomes, Expenditures and Prices, Skopje, May 2011, <http://www.stat.gov.mk/publikacii/4.4.11.01.pdf>

42 2010 figures. Kosovo Energy Regulatory Office: Statement of Security of Supply for Kosovo (Electricity, Natural Gas and Oil), 2011, <http://www.energy-community.org/pls/portal/docs/1218181.PDF>

43 Energy Institute Hrvoje Pozar: Annual Energy Report: Energy in Croatia 2011, p.39 http://www.eihp.hr/hrvatski/projekti/EUH_od_45/EUH11web.pdf

Energy efficiency and energy saving measures are an affordable yet overlooked method to address climate change. It has been estimated that it is between 1,000 and 10,000 times more cost effective to save a unit of energy than to generate a new unit.⁴⁴

The region's high energy intensity costs heavily and places the countries at a disadvantage, compromising the ability to provide essential public services such as health, education, and public safety while straining household budgets. Without an emphasis on energy efficiency, energy demand in the Western Balkans will increase over the next two decades by 140 percent in the commercial and public sector; 100 percent in the industrial sector; and 60 percent in the residential sector.⁴⁵

With the help of the Energy Community, regional governments have committed to a risible energy efficiency target of nine percent improvement by 2020 compared to 2011, in line with the EU's Energy Efficiency and Energy Services Directive.⁴⁶ However they have not adopted the EU target of 20 percent energy savings by 2020 compared to a business as usual scenario included in the EU's 20–20–20 targets. The nine percent target is inadequate given the urgent need to increase energy efficiency and energy savings in the region, and although there has been some interest in the topic in recent years, the target is not ambitious enough to stimulate the serious investments needed and other incentive structures.

While demand-side energy efficiency and energy savings should in our view be the absolute priority for investments in the region, some new generation capacity is certainly needed. But what kind?

The first question that usually arises is about the role of natural gas. Given that most gas in the region is imported, with the exception of some production

in Croatia, it is not clear whether it is an option that will prove cost-efficient or reliable.⁴⁷ Many countries try to address this simply by diversifying the sources of gas supply, however such moves serve to delay the necessary energy transition and at the same time often support undemocratic regimes in the gas-exporting countries. The disadvantages of this approach are already clear in the oil sector, in which western countries have supported or tolerated undemocratic regimes in order to maintain a more secure supply of fuel. While gas may be cleaner than coal or heavy oil, it is still a fossil fuel with significant GHG emissions and thus will need to be phased out in the EU energy sector by 2050. In this regard, it has some immediate advantages but is not the most far-sighted choice.

While natural gas may have a continued role to play in the short to medium term, public resources should not be used for its expansion. For those countries in the Western Balkans that do not currently have significant gas infrastructure, it should be examined more carefully whether efforts should be put into developing it, considering the huge expense and the potential for crowding out investments into new renewables and energy efficiency. While this is a question that needs to be examined in more detail by experts and governments, IFIs should make their priorities clear: they have limited funds and they need to encourage new kinds of projects which are difficult to finance. Given the limited amount of public financing available and the fact that natural gas is a mature technology, if it is to be expanded at all, this should be financed from commercial sources. No support should come from the IFIs for the expansion of natural gas infrastructure.

44 Bernard Laponche, Bernard Jamet, Michel Colombier and Sophie Attali (Eds): *Energy Efficiency for a Sustainable World*, 1997

45 World Bank: *Status of Energy Efficiency in the Western Balkans*, A stocktaking report, 2010, <http://www.energy-community.org/pls/portal/docs/664179.PDF>

46 Directive 2006/32/EC of the European Parliament and of the Council of 5 April 2006 on energy end-use efficiency and energy services and repealing Council Directive 93/76/EEC

47 Studies on this topic tend to point to various uncertainties which make it difficult to predict future trends in the gas sector, including demand from other parts of the world. See eg. Howard V. Rogers: *The Impact of a Globalising Market on Future European Gas Supply and Pricing: the Importance of Asian Demand and North American Supply*, Oxford Energy Group, January 2012 http://www.oxfordenergy.org/wpcms/wp-content/uploads/2012/01/NG_59.pdf. The presentation by Philip Lowe of DG Energy at the 2013 Sedigas annual meeting on 29 May gives a good overview of the factors influencing the future of gas in the EU – see http://www.sedigas.es/reunionannual2013/ponencia/Philip_Lowe.pdf



On the other hand, biogas resources in the region need to be developed and can represent a useful contribution by the IFIs.

Renewable energy must be the priority in terms of generation, including wind, solar thermal and photovoltaic, locally – and sustainably-sourced biomass, biogas from agricultural waste and sewage sludge, and geothermal. Run-of-river hydropower plants can also play a role, but like all renewable energy projects, they must be approached with a great deal of caution and careful planning. A very large number of hydropower plants are planned in the region, often on rivers with high ecological quality, and governments have not shown an adequately precautionary approach to selecting projects, tending instead towards the development of hydropower on any river where it is technically feasible. This has led to significant opposition to some particularly environmentally-damaging projects.

Regulatory and grid connection barriers to renewables development still exist in the region, and only a few non-hydropower investments have been made so far. Croatia is by far the leader in this respect, with 193.75 MW of wind turbines in operation at the end of 2012.⁴⁸ Most of these had been installed by foreign investors, which although important in piloting renewable energy in the country, do not maximise the jobs and other local benefits potential that could be gained by locally manufacturing components or developing community-owned renewable energy installations.

Renewable energy needs to be aimed at bridging gaps in local energy needs rather than exports. Why does this matter when the energy is non-polluting and does not represent carbon leakage from the EU? Indeed the EU's Renewable Energy Directive does allow the import of renewably-generated energy from third countries – an opportunity which Italy's Renewable Energy Action Plan shows its intention

of maximising.⁴⁹ However, each country has only a limited potential for renewable energy, especially once sites that cannot be utilised for environmental reasons are discounted. Thus, if a site is developed for export and the producer is contractually obliged to export, this limits the ability of the host country to develop its own renewables capacity and leaves only the less favourable sites open.

In addition, export-oriented renewable electricity projects are not being restricted to environmentally-acceptable sites, with the Moraca Canyon hydropower plants in Montenegro, the Upper Drina cascade in Bosnia-Herzegovina and the Dajc-Velipoje wind farm in Albania all threatening valuable areas for the sake of energy exports. Such examples show that in order to promote renewable energy and ensure its widespread acceptance among local people, civil society, decision-makers and experts, it is important that installations are subject to strict sustainability criteria.

It is often objected that investing in renewable energy and energy efficiency are expensive. However, according to the International Energy Agency, if countries fail to make the necessary investments before 2020, they will pay dearly later. For every dollar of investments in the power sector that are not made before 2020, an additional USD 4.30 will have to be spent to compensate for higher emissions after 2020. "Delaying action is a false economy" concludes the report.⁵⁰ The authors of a study by the EBRD and London School of Economics also confirm this, stating that "Although mitigation may be costly, particularly for the energy exporters in the [EBRD] region, it is in the best interests of these countries to undertake mitigation policies, in order to adapt production and exports to the lower future global demand for fossil fuels and to maintain economic competitiveness. The sooner this occurs, the lower the costs of mitigation."⁵¹

48 Acciona press release, ACCIONA Energy continues its international expansion by putting its first wind farm in Croatia into service, 23.01.2013, <http://www.acciona.com/news/acciona-energy-continues-its-international-expansion-by-putting-its-first-wind-farm-in-croatia-into-service>

49 See http://ec.europa.eu/energy/renewables/action_plan_en.htm for Renewable Energy Action Plans for EU countries

50 International Energy Agency, World Energy Outlook 2011.

51 The Low Carbon Transition, The Grantham Research Institute on Climate Change at London School of Economics and the EBRD, April 2011.

IFI energy investments in the Western Balkans 2006–2012

For the purposes of the analysis below we have included investments into the power and energy sector and energy-related natural resources ie. oil and gas. Given their prominence in the EBRD's support for sustainable energy in the region and after checking with the EBRD that they have indeed been used as planned, energy efficiency and renewable energy credit lines are also included, even though these are not necessarily supporting what is traditionally seen as the energy sector. However we did not extend this approach to larger direct loans for industrial-scale energy efficiency projects as these are in some cases combined with different elements such as capacity expansion which make analysis more difficult.

We have used data from the EBRD, EU, EIB and IFC and compiled our own database of loans, equity investments and loan guarantees. IPA grants were only included in the statistical analysis in cases where they contributed to actual infrastructure works, rather than technical assistance or policy advice. In some of the country profiles we have highlighted cases of technical assistance from IFIs as positive or negative examples, however they are not included in the statistics because it is difficult to obtain a full list and description of the projects, and they are relatively insignificant from a financial perspective.

As different institutions use different project categorisations, some of which we find misleading, we have used our own categorisation. A full explanation of the methodology used is provided in annex 1 of this report.

It is worth noting that it is very complicated to follow the plethora of funds set up to promote sustainable energy investments of various kinds in the region. In 2011 the EU even found it necessary to fund a study by consultants PM Group to figure out what funds exist in this sector in the region, and unsurprisingly many of the recommendations of the study were aimed at increasing the funds' visibility.⁵²

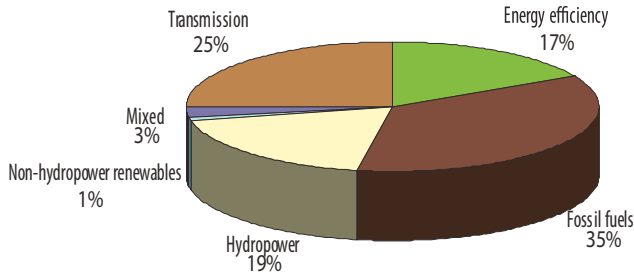
From 2006–2012, the EBRD, EIB, World Bank Group and EU-IPA invested a total of EUR 1.68 billion in energy infrastructure in the Western Balkans. By far the largest investor of these was the EBRD, with a total of EUR 1.09 billion, followed by the World Bank Group with EUR 416.5 million, then the EIB with EUR 93 million and EU-IPA with EUR 77.9 million.

Of these collective investments, the largest amount – EUR 597.3 million or 36 percent – financed fossil fuels. Energy efficiency received

52 PM Group: Review of Financial Support Facilities Available for Energy Efficiency and Renewable Energy in the Western Balkans, June 2011, <http://www.energy-community.org/pls/portal/docs/1204194.PDF>



EBRD, World Bank Group, EIB and EU-IPA energy financing W. Balkans 2006–2012



17 percent or EUR 288.8 million, while renewable energy excluding hydropower received only 1 percent or EUR 18.5 million. In other words, fossil fuels received over 32 times more financing than non-hydropower renewables. If hydropower is included fossil fuels still received 1.8 times as much financing as all renewable forms of energy. However in environmental terms it is misleading to see the hydropower projects among the more sustainable investments as two larger hydropower projects signed by the EBRD – Ombla⁵³ in Croatia and Boskov Most in Macedonia – are located in future Natura 2000 sites and have been seriously challenged by civil society groups and independent experts.

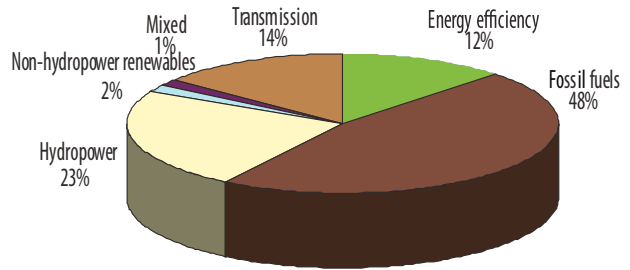
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Taking a closer look at the EBRD’s investments, as the largest lender, the picture looks similar but leans more towards fossil fuels. Almost half of lending went to fossil fuels – more than 27 times the financing signed for non-hydropower renewables. This support consisted of eight projects – four in oil (albeit one very small), three in gas and one in coal. While one coal project does not sound like much, it should be noted that the bank is currently considering support for at least two new coal thermal power plants in the region, in Kosovo and Serbia (see country profiles).

A look at the EBRD’s Western Balkan energy investments – unlike the examination of the

53 Shortly before going to press the contract between the EBRD and HEP for the Ombla hydropower plant was cancelled, however it is still included in the calculations, which are based on signed, not disbursed, EBRD projects, as full information about the value of disbursed EBRD projects is not readily publicly available.

EBRD Western Balkans energy investments 2006–2012

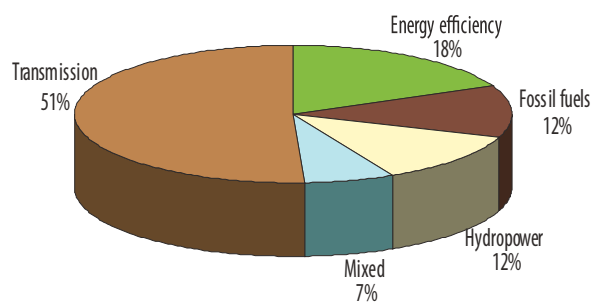


bank’s overall energy investments carried out by CEE Bankwatch Network in 2012⁵⁴ – does not show any consistent trend towards increasing renewable energy and energy efficiency over time. Energy efficiency experienced a peak in 2010, hydropower experienced a peak in 2011, and non-hydropower renewables investments were at too low a level to see any clear trends. It remains to be seen what the longer-term pattern will be.

The World Bank, in contrast, has mainly supported transmission, with over half of its support going to this sub-sector. While the bank has invested EUR 76.6 million in energy efficiency, by the end of 2012 it had not invested anything in non-hydropower renewables. Its support for fossil fuels was ten times smaller than the EBRD’s (EUR 50.2 million compared to 509.1).

The EIB has lent a surprisingly small amount to the energy sector (EUR 93 million) considering

World Bank Group W. Balkans energy investments 2006–2012



54 CEE Bankwatch Network: Tug of War – Fossil Fuels vs Green Energy at the EBRD, 2012, <http://bankwatch.org/publications/tug-of-war-ebrd-energy>

that the countries of the region all aspire to EU membership and need to bring their energy systems in line with EU requirements. It carried out only four projects during the period. Nearly 70 percent of its lending was for energy efficiency – a praiseworthy figure, although it is not clear whether it was mainly a result of policy choices or simply a statistical blip caused by the small total number of projects. Considering that the bank is limited mainly to providing loans of more than EUR 25 million and the poor quality of many of the planned energy projects in the region, perhaps it is unsurprising that it has not financed many projects and that none of them have been for generation capacity. However the inability of the region’s governments and investors to make use of the EU’s house bank with its low-interest loans may be a worrying indicator of the region’s difficulties in attracting financing.

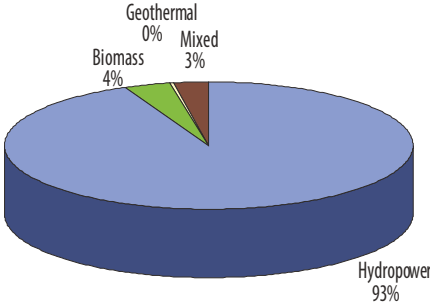
The IPA funds are not as heavily involved in energy infrastructure construction in the region as they are in environmental and transport infrastructure. However eight grants totalling EUR 77.9 million have been made with an energy infrastructure component during the period in question. Of this EUR 38 million has been provided in three grants for environmental improvements in Serbia’s coal plants – investments that would typically be made using loans, meaning that Serbia’s coal sector has received preferential treatment. The remainder has been used for transmission upgrades in Kosovo and a hydropower plant under 10 MW in Bosnia and Herzegovina.

A closer look at the EBRD’s investments into renewable forms of energy reveals a huge bias towards hydropower in the region.⁵⁵ This is presumably because it is available for most of the time (though weather-dependent), relatively

low-tech and financially viable. Energy planners and policy makers in the region are also already accustomed to hydropower projects. Solar does not feature at all – photovoltaic power is still considered expensive, however the region has vast potential and the IFIs could have real added value in helping to develop appropriately-sited pilot projects. The choice of this technology and the sequencing of its deployment needs to be closely monitored in order to ensure that it follows adequate energy savings and energy efficiency measures.

The overall situation is therefore contradictory. On one hand, the EBRD is clearly doing the most of the institutions examined to improve energy efficiency and boost renewable energy in the region in absolute terms. As a proportion of their regional energy lending, the World Bank and EIB are doing more to promote energy efficiency. The EIB dedicated nearly 70 percent of investments to energy efficiency and the World Bank Group 18 percent, compared to the EBRD’s 12 percent. The EBRD is also financing the most fossil fuels, which will ultimately hinder the transition to an energy-efficient, low-carbon economy. It is also the donor that appears least willing to bring an end to financing of coal projects – it has plans to finance at least two coal power plants in the region – and thus threatens the region’s countries and EU climate policy.

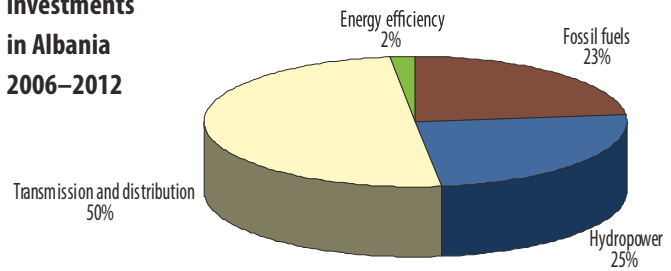
EBRD Western Balkans hydropower vs. other renewables investments 2006–2012



⁵⁵ The ‘mixed’ investments are those credit lines or investment funds where we were not able to obtain more details from the EBRD about what exactly has been supported or where no sub-projects have yet been financed.



EBRD energy investments in Albania 2006–2012



Albania

Between 2006 and 2012 the EBRD lent EUR 132.2 million for energy-related projects in Albania, while the World Bank Group provided EUR 213.3 million in loans and guarantees. Neither of these figures includes technical assistance, which was an important component of the banks' work in the country. The EIB, like the EBRD, invested in the Green for Growth Fund in 2009, with an allocation of EUR 3 million for Albania, but this means little in terms of the fund's actual activities in the country – there are so far none listed on GGF's website. IPA does not appear to have engaged with the sector through its grants during this period.

28

Similar patterns appear with EBRD and World Bank Group lending – an emphasis on transmission and distribution, with just under a quarter of lending provided for fossil fuels (in both cases Bankers' Petroleum Ltd.). Loans for hydropower focused on the rehabilitation of large existing hydropower plants – an important and necessary investment in hydropower-dependent Albania – and the construction of small hydropower plants (<10 MW). Although small hydropower can make a useful contribution in electricity generation, the sheer number of investments in the country – not only by IFIs – means that significant cumulative impacts are highly likely and that strategic environmental assessments are crucial to assess them.

The banks' support for oil production in Albania is a cause for concern, not only in principle because it supports an industry that is by definition unsustainable but also because the project itself has caused significant controversy.

Patos-Marinza environmental remediation and development project

The Patos Marinza oilfield is located near Fier, approximately 20 kilometres inland from the Adriatic coast and is one of the biggest on-shore oil fields in Europe. In June 2004, the Canadian-based exploration and production company Bankers Petroleum Ltd. signed an agreement with Albpetrol Sh.A., to evaluate and redevelop the Patos-Marinza oilfield. The following month, Bankers took over the operation of 28 wells, a disposal well and associated equipment and facilities.⁵⁶

In 2009 the EBRD signed a EUR 23 million loan with Bankers Petroleum and took a EUR 7.7 million equity stake in the company. The IFC also co-financed the project with a loan of USD 65.4 million. The project was supposed to bring environmental improvements, with Bankers touted as having much higher standards than the former operator Albpetrol. However it combined this worthy objective with an expansion of production that has seen accidents, damage to local infrastructure apparently due to company operations and regular earth tremors that have affected the area since 2008.⁵⁷

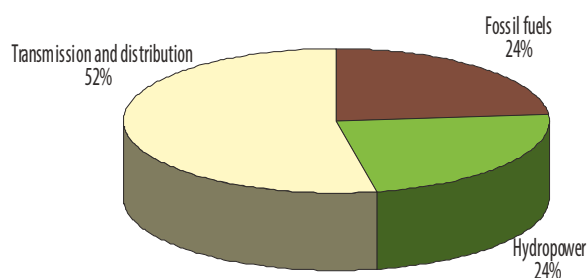
Three strong tremors were felt in the cities of Fier, Patos, Roskovec and in the nearby areas in April 2013,⁵⁸ terrifying local inhabitants. Residents link the phenomenon to explosions in various oil wells operated by the company. Later that day they blocked the national road and protested

56 http://www.bankerspetroleum.com/index.php?page=patos_marinza

57 <http://www.energija.al/component/content/article/34-news/7559-kerkimi-i-naftes-dhe-termetetne-marines>

58 <http://gazeta-shqip.com/lajme/2012/06/18/bie-termet-fshataret-sulmojne-bankers/>

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against the continuous temblors and cracks in their houses.⁵⁹

A similar situation occurred in June 2012, when villagers blocked roads after earth tremors, and two people were arrested for causing almost EUR 800,000 worth of damage by releasing oil from storage tanks⁶⁰ – an act of questionable wisdom, but nevertheless an indicator of local anger. Meanwhile the company states that the tremors are not caused by explosions carried out by the company but rather a natural phenomenon. While there are still uncertainties around the cause of the earth tremors, in 2013 both the IFC and the EBRD approved new loans for Bankers, with the EBRD even failing to disclose basic project information to the public before doing so.

Bankers Petroleum is supposed to be improving the poor safety situation with abandoned wells. However, a serious accident in August 2011 caused the death of a 60 year man.⁶¹ The man was accidentally trapped in an oil well on his way home and was found the following morning by oil workers.

Due in part the above issues, in March 2013 a complaint was submitted to the IFC's grievance mechanism by a local representative.⁶²

Bankers claims it has introduced significant community engagement practices, however, local

59 <http://www.energija.al/component/content/article/34-news/7341-zharresmarinze-ta-besh-gjumin-mbi-termet>

60 Reuters: Albanian villagers blame Bankers for earthquakes, 18 June 2012, <http://in.reuters.com/article/2012/06/18/albania-bankers-attack-idINL5E8HIHN720120618>

61 <http://www.balkanweb.com/shqiperi/2685/fier-gjendet-i-vdekur-ne-pusin-e-naftes-68848.html>http://www.cao-ombudsman.org/cases/document-links/documents/CAOBankersSazanComplaintredacted_March13_2013.pdf

62 See complaint at: http://www.cao-ombudsman.org/cases/document-links/documents/CAOBankersSazanComplaintredacted_March13_2013.pdf

people allege that the company does not take their views into account. In the village of Kallm, part of the affected areas, community members communicated their need for clean drinking water and rehabilitation of a building that houses a school and health care centre. However, Bankers insisted on building a sports field even though the community was against it.

With poor community engagement practices such as the above, the company is not likely to endear itself to the local people and the IFIs should not disburse any more financing to the company until the above issues are resolved.

This was not the first time the IFIs had supported oil projects in Albania. While the Vlora thermal power plant was approved before the period covered in this study, it deserves special attention as a lesson to be learned.

Vlora Thermal Power Plant

In February 2003 the Albanian Council of Territorial Adjustment approved the construction of an energy and industrial park in the coastal city of Vlora. The park was to consist of 97MW oil and gas-fired combined cycle thermal power plant, a hydrocarbon terminal and the outflow for the Albanian Macedonian Bulgarian oil (AMBO) pipeline.

The power plant, promoted by the Albanian Energy Corporation KESH, was financed by the EBRD (EUR 40 million), the European Investment Bank (EUR 40 million) and the World Bank (EUR 20.5 million). The construction of a fossil-fuelled power plant built in a tourism-dependent city and only 100 metres from the protected Narta lagoon, compounded by a lack of proper public consultation, attracted strong opposition.



Several complaints were filed to international institutions by a group of Albanian environmentalists and intellectuals – the Civic Alliance for the Protection of Vlora Bay. In 2007 the Aarhus Convention Compliance Committee found that the environmental impact assessment process did not offer sufficient opportunities for the public of Vlora to participate.⁶³

In April 2008 the EBRD's Independent Recourse Mechanism concluded that the bank had failed to ensure full compliance with its obligations on public consultations related to the location of the power plant and that it warranted remedial changes to the bank's practices and procedures.⁶⁴ These findings were backed up in August 2009 by a report from the World Bank's Inspection Panel concluding that the bank did not comply with several provisions of its policies on Project Appraisal, Environmental Assessment, Management of Cultural Property, and Economic Assessment. The Panel also found significant shortcomings in compliance with the bank's consultation policy requirements.⁶⁵

Technical problems have also plagued the plant's construction, and the construction deadline has had to be extended several times. At the time of the World Bank's completion report for the project in September 2012, a repeated problem with the cooling intake water pipe had not been fully resolved and the plant was not yet commercially

operating, although some test production had taken place in 2011.

With frequent increases in the price for oil and gas, in addition to sporadic changes of plans for the development of the industrial zone in the Vlora gulf, it is unclear whether the plant will ever operate fully on a regular basis and make a significant contribution to Albania's energy supply.

In principle transmission and distribution is an area with a great need for investment. However, most of the IFI efforts in this sub-sector involved support for the privatisation of OSSH, a project which cannot be regarded as successful considering that the company was again taken into public hands in early 2013.

Unsuccessful privatisation of the Electricity Distribution System Operator (OSSH)

In 2008, the IFC offered technical assistance to help with privatisation and reforms in the energy sector and the privatisation legal framework. USAID and the World Bank also assisted with tariffs, the regulatory body and the legal framework in this process. CEZ Group from the Czech Republic was selected as the winning bidder for OSSH in October 2008 and bought 76 percent of OSSH's shares in March 2009. The project was financed by the IFC (USD 69 million), the EBRD (EUR 50 million), with a partial risk guarantee for USD 78 million from the World Bank.

CEZ group was expected to invest around EUR 154 million in several modernisation measures such as network rehabilitation, meter installation, connection of new customers and modernisation of management systems.

The project would have been considered successful if the privatisation transaction was closed and if the new regulatory framework was

63 Addendum to the report (ECE/MP.PP/C.1/2007/4/Add.1): Findings and recommendations with regards to communication ACCC/C/2006/12 (Albania). UNECE Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters Compliance Committee. 31 July 2007

64 Independent Recourse Mechanism Annual Report for 2008, <http://www.ebrd.com/pages/about/principles/integrity/irm.shtml>

65 The Inspection Panel Investigative Report – Power Sector Generation and Restructuring Project (IDA Credit No. 3872-ALB) August 7, 2009

implemented as agreed for the period of the guarantee coverage. The project should have had significant energy efficiency effects due to the reduction of distribution losses.

However, problems arose between CEZ and the government, leading to CEZ's license being withdrawn in January 2013. CEZ was not allowed to raise electricity prices for end buyers.⁶⁶ The company was also penalised by ERE, the Albanian energy regulator, with a fine of EUR 3 million due to its failure to cover grid losses with imports and a warning by the government of legal action for what it called intentional power cuts, stirring up public unrest. CEZ claims its financial situation has been affected by the unfavourable business climate and arbitrary decisions by ERE and the Albanian government.

Meanwhile, the Albanian government claims that CEZ failed to fulfill its contractual obligations over imports, investments and reducing grid losses that caused the state USD 1 billion in damages.⁶⁷ CEZ's license was officially revoked on 20 January 2013.

CEZ and the Albanian government are now awaiting an arbitration decision. CEZ has left the country and closed relations with the energy company, which is now again public. OSSH is now back where it started, suggesting that it may have been a better idea to support improvements in the public company from the beginning instead.

The emphasis on privatisation by the banks has also led to controversial results in one hydro-

power project. The IFC's ongoing role in a sell-off of hydropower plants to a private company in a country which suffers from an electricity shortage has been heavily debated in Albania.

Privatisation of Ulez, Shkopet, Bistrica 1 and 2 hydropower plants

The privatisation of four hydropower plants by the Albanian government for a private Turkish steel company (KURUM) operating in the Elbasan municipality has been much debated as KURUM is one of the most polluting industries in Albania. The Albanian government is being assisted by the IFC with this privatisation, both through technical assistance (not published on the IFC's website) and with a loan to the company approved in May 2013. According to Albanian energy expert Mr. Pajtim Bello,⁶⁸ the privatisation will bring instability to the state budget and make energy prices more unpredictable.

Together the four hydropower plants produce just over six percent of the total energy produced in Albania in 2010.⁶⁹ Two plants Bistrica 1 and 2 are in very good condition after the German state bank KfW previously provided a EUR 30 million loan for their rehabilitation. The Bistrica plants are also very important for the Albanian energy system because they are located in the southern part of the country where there are fewer hydro plants and thus fewer sources of energy.

With the sale of these plants – the largest after those on the Drini River (Fierza, Komani dhe Vau i Dejës) – it will be harder to ensure that energy

66 Prague Post: CEZ weighs exit from Albania, 7 November 2012, <http://www.praguepost.com/business/14734-cez-weighs-exit-from-albania.html>

67 Tirana Times: CEZ announces sale of Albania unit, gov't warns it will block process, 18 December 2012, <http://www.tiranatimes.com/news.php?id=14607&cat=1>

68 http://www.shekulli.com.al/website/index.php?option=com_content&view=article&id=12407:shitja-e-4-hec-ve-demi-30-mln-euro-nevit&catid=100&Itemid=531

69 <http://www.energija.al/component/content/article/34-news/4423-kriza-qeveria-po-shet-hidrocentralet-profil-i-hidrocentraleve-ne-privatizim-ps-kunder-update>



prices stay at an affordable level, protecting the public interest. Less energy produced for consumption by the public will increase imports by KESH, resulting in even further financial problems for the company.

The privatisation of the four hydropower plants unduly favors KURUM, because two of the plants have been recently rehabilitated, meaning that a public company took on the debt which is now benefiting the private buyer of the plants.

In January 2013 employees at the Ulez hydropower plant organised a protest against privatisation. More than 800 inhabitants are dependent on this plant for their livelihoods and are strongly against the privatisation, which will not only affect employment but also the local economy and the quality of life for the local communities. An official complaint was sent by the NGO EDEN Center to the IFC's Compliance Advisor Ombudsman on this case, which is currently being assessed at the time of writing.

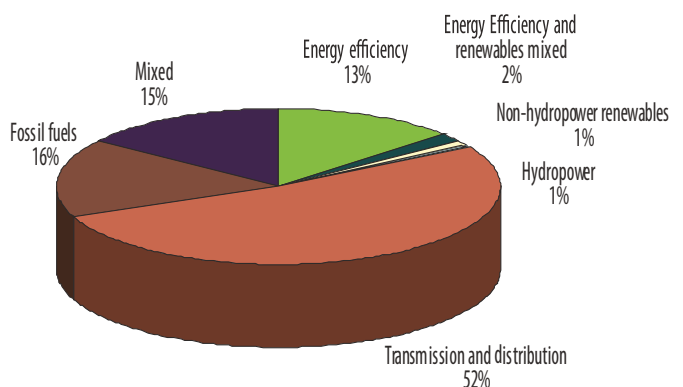
While there are some positive IFI energy initiatives to report in Albania, such as the dam safety and small hydropower projects mentioned above, along with newer operations such as a EUR 10 million credit line through Credins Bank from March 2013 that are not included in the statistical analysis,⁷⁰ it is fair to say that the quality of IFI energy projects in Albania needs to be improved. Projects like the Bankers Petroleum example are undermining a sustainable energy future by expanding oil production, while others like the Kurum hydropower privatisation and OSSH projects, are trying to address real problems but doing so in a way that is failing to bring positive results for the people of Albania.

70 IFC press release, 12 March 2013, <http://www.ifc.org/ifcext/Pressroom/IFCPressRoom.nsf/0/64F002DC895C606885257B2C004E2DCB?OpenDocument>

Bosnia and Herzegovina

From 2006–2012 the EBRD provided EUR 102.6 for the energy sector in Bosnia and Herzegovina (BiH). Unlike in Albania, the World Bank Group was a relatively minor player, financing only one project at EUR 27.6 million encompassing a range of topics from dam safety, reducing adverse environmental impacts at thermal power stations and distribution improvements and financial management systems. The EIB did not sign any loans in the period⁷¹ but approved a EUR 57 million project for the electricity distribution network in BiH.⁷² The EIB invested in the regional Green for Growth Fund with an allocation of EUR 3 million,⁷³ as did the EBRD with EUR 2.5 million. However this does not reflect how GGF later invested, since so far there are two credit line projects in BiH worth a total of EUR 6.6 million. IPA, along with its usual more structural grants, allocated EUR 5.5 million in 2009 for the construction of the Cijevna III hydropower plant.

EBRD energy investments in BiH 2006–2012

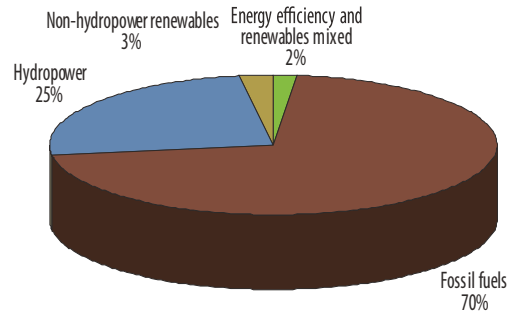


71 The EIB also approved a group of projects near Mostar, comprising three wind farms and four small hydropower plants, however the project appears to have subsequently been split up into parts, with Germany's KfW financing one of the wind farms instead, and there is no record that the EIB ever signed the loan.

72 <http://www.eib.org/projects/pipeline/2010/20100562.htm>

73 <http://www.eib.org/attachments/general/reports/st2009en.pdf>

EBRD energy investments Croatia 2006–2012



Croatia

The EBRD invested EUR 321.8 million in energy-related projects in Croatia during the period of study, surpassing by far the other IFIs active in the sector. The World Bank financed one district heating project in Osijek and Zagreb in 2007 with a loan of EUR 29.8 million, while the EIB allocated EUR 5 million of its investment in the Green for Growth Fund to Croatia. Both the EBRD and EIB however have been involved in developing biogas energy at food production and retail giant Agrokor – the EBRD under its 2011 Agribusiness Sustainable Investment Facility and the EIB as part of a loan approved in late 2012.⁷⁴ The development of biogas projects is welcomed, although it is questionable whether a large company with a dominant market position such as Agrokor really needs public financing. Germany's KfW also lent EUR 50 million to Hrvatska Elektroprivreda in 2009 for HEP ESCO (EUR 10 million, used for district heating improvements and retrofitting of a hotel) and HEP Renewables (EUR 40 million, that was planned to be used for a wind farm near Knin and a biomass plant near Glina, however it is not clear how the projects are progressing).⁷⁵

Over two-thirds of EBRD energy investments were represented by just two large projects – for gas company Plinacro's acquisition of a gas storage company and for environmental improvements at the refineries of oil company INA. These, along with a loan for the Central European Oil Company and a very small loan for oil spill responses, made

Renewables played a very small part in the EBRD's energy portfolio in BiH but were more varied than in Albania, including geothermal, biomass and hydropower projects under 10 MW. Also of note is an industry loan that was not included in the statistics but promoted renewables: a 2012 EUR 10 million loan to Natron Hayat, a pulp and paper mill in Maglaj, to use its wood waste for biomass energy.

There has not been significant public attention to any of the energy projects in BiH, most likely because the bank did not finance the construction of any coal power or unsustainable hydro-power plants during the period. The fossil fuel loan was for the gasification of the Central Bosnia canton, and part of the mixed loan involved environmental protection at existing coal plants.

To summarise, as in other countries the IFIs need to do much more to support energy efficiency and renewable energy in Bosnia and Herzegovina. The current balance of IFI energy project types in BiH is enough to keep the banks away from attracting major controversies in the short term. However not enough has been done to truly support the country in making serious steps towards an energy efficient, new renewables-based society, in spite of its potential.

74 Neither of these are included in the calculations, because the EBRD project is considered to be an industry sector project rather than an energy sector one, while the EIB one was not signed in 2012 so did not fit the timeframe.

75 Banka.hr: HEP od njemačke vlade dobio 50 mil. eura kredita, 03.02.2009, <http://www.banka.hr/hep-od-njemacke-vlade-dobio-50-mil-eura-kredita/print>



up the total fossil fuel lending that dominated the portfolio. The bank's attempt to balance this with an investment in the Ombla hydropower plant near Dubrovnik was not successful, as the loan for the project was signed in November 2011 but subsequently cancelled in May 2013 after a biodiversity impact study showed that the underground site where the plant was to be located is home to no less than 68 identified cave species, of which most are endemic to the Southern Dinaric region of southern Croatia and Western Bosnia and Herzegovina.

The renewables investments included a loan to Pelet Grupa for biomass energy and two investments into funds that will invest in renewable energy in the region, EnerCap and Crescent Clean Energy Fund. While EnerCap is investing in the Obrovac wind farm in Croatia, the Crescent Fund has not yet disbursed any funds in Croatia.⁷⁶

Overall the graph shows an emphasis on fossil fuels during the period, though this is largely dependent on two large projects and is unlikely to be repeated. Discussions with bank staff show that the bank is actively looking for renewable energy and efficiency projects, however wind farms, which are the most common kind of investment currently, are mainly being financed by other investors. Biomass projects are of interest, however they need to be situated in a location where the heat can also be used, which is not always the case. Croatia does not have major potential for small hydropower, especially after excluding areas that cannot be used due to biodiversity or cultural heritage reasons. In terms of larger hydropower projects, the bank has

financed a pre-feasibility study for a hydropower project on the River Sava.

The EU structural funds are expected to be the most important potential source for EE and RES financing in the upcoming period. Croatia will become a full EU member on 1 July 2013 and in the rest of 2013 the five IPA components will be transformed into operational plans. The situation in for the next EU budget period 2014–2020 is not yet clear, as the budget is yet to be defined. The Croatian authorities have begun the preparations for the structural funding, however not in a completely transparent manner.

Numerous NGOs have approached the Council for Civil Society Development of the Government's Office for Cooperation with NGOs with a request to be involved in the programming for the next financial period, which led to the inclusion of one CSO representative in each thematic work group. The government has formed seven work groups which are expected to deal with all 11 EU thematic goals. In the meantime, the EC has proposed four funding priorities for Croatia.⁷⁷ Although renewables and energy efficiency funding is an EU wide priority and is also explicitly stipulated within the proposed priorities for Croatia, it is questionable whether sufficient opportunities for renewables and energy efficiency will be envisaged in the Partnership Agreement between the European Commission and Croatia, due to the thematic segmentation of the working groups and unclear procedures for their work.

76 The amount invested by the EBRD is only an estimated allocation for the country and does not necessarily represent any real investments in Croatia

77 1) Strengthening the competitiveness of the economy, 2) Increasing labour market participation, ensure better education and skills and reduce poverty taking into account regional differences, 3) Preserving and maintaining a healthy environment and protecting natural resources and heritage, and adapting to climate change and 4) Strengthening administrative capacity, enhancing an efficient public administration and increasing the involvement of civil society and social partners.

Kosovo*

Kosovo became a member of the EBRD in December 2012, and at the time of writing only one investment project has been approved – a EUR 12 million credit line project for energy efficiency improvements in homes and SMEs. IPA has however been engaged in Kosovo's energy sector since 2007 and has provided EUR 34.4 million for infrastructure projects, in addition to several capacity-building projects.

The World Bank has been involved since 2006 in Kosovo's energy sector when it commenced a technical assistance project for the preparation of a new lignite power plant to replace the ageing Kosovo A plant and an accompanying lignite mine. Having started in this direction, the bank seems determined to continue, even as it shows less and less enthusiasm for supporting lignite and coal in other parts of the world. It is considering a USD 50 million partial risk guarantee for the construction of the 600 MW Kosova e Re plant, while the IFC is expected to provide a loan. No sooner had Kosovo joined the EBRD, than the bank also expressed its interest in the new power plant.

Kosova e Re lignite power plant

The 600 MW Kosovo e Re project to build a new lignite plant close to Prishtina has been heavily promoted by the World Bank and the US, and now also looks set for funding by the EBRD. Many civil society groups in Kosovo, led by the Kosovo Civil Society Consortium for Sustainable Development (KOSID), oppose the construction of the new power plant for the following reasons:

* According to the UN, Kosovo is "under the United Nations Interim Administration Mission in Kosovo (UNMIK) established pursuant to Security Council Resolution 1244." In this study it is referred to as "Kosovo".

1. It is unnecessary. Reducing electricity losses and investing in efficiency and alternatives are cheaper and create more jobs

While the plant is depicted as necessary to ensure the country's energy security, Kosovo currently wastes up to 37 percent of its available electricity, according to official data (of which around 17 percent is technical and a result of an old grid, while the other are commercial losses i.e. theft). Another 30 percent of energy could be saved with simple energy efficiency programmes.

Daniel Kammen, Professor at the University of California in Berkeley and former World Bank 'Clean Energy Czar', has shown that Kosovo has renewable energy capacities that could deliver 34 percent of energy demand by 2025, while providing over 60 percent more jobs than a business as usual path, with estimated cost savings of 5 to 50 percent relative to a scenario that includes a new coal power plant. If energy efficiency programmes are put in place, losses are curbed, renewable energy is developed, and the existing Kosovo B plant is rehabilitated, the study finds, there is no need for a costly new plant.⁷⁸

2. Kosovo needs to increase renewables and energy efficiency and cut CO₂ emissions if it is to join the EU

By 2020, Kosovo has committed through the Energy Community to source 25 percent of overall energy from renewable sources and improve energy efficiency by nine percent.⁷⁹ In addition,

78 Daniel M. Kammen, Maryam Mozafari and Daniel Prull: Sustainable Energy Options for Kosovo An analysis of resource availability and cost, Version 2, Renewable & Appropriate Energy Laboratory Energy & Resources Group University of California, Berkeley, May 20, 2012, <http://coolclimate.berkeley.edu/sites/all/files/Kosovo20May2012.pdf>

79 Energy Community press release, 18 October 2012, <http://www.>



as an aspiring EU member, it will need to follow the EU's GHG emissions reductions targets and decarbonisation agenda, yet this would be nearly impossible with the new plant in place. This one coal power plant alone will likely swallow up most of the country's carbon budget by 2050, leaving a choice between closing the plant early or paying penalties.

3. High costs

Building Kosova e Re would require Kosovo consumers and taxpayers to service over one billion euros in debt at a time when they are also servicing debt for improvements to the Sibovc mine, Kosovo's wasteful transmission and distribution systems, and the refurbishment of Kosovo B.⁸⁰ In recent months there have already been several protests in Kosovo about rising electricity prices, and a new coal plant would only increase prices further.

4. Continued damage to health

Kosovo currently has 835 early deaths per year and an estimated cost of around EUR 100 million annually due to air pollution, of which the lignite plants are responsible for a substantial portion.⁸¹ However, far from solving this problem, a new lignite plant would perpetuate the health risks from coal for several more decades. Due to its location, the Kosova e Re plant is likely to generate emissions that will exceed EU ambient air quality standards, even if Kosovo B and Kosova e Re meet EU emission standards. No reliable air

quality monitoring is taking place, so it is difficult to prove that air quality would be acceptable with a new plant.

5. Water shortage

Kosovo is already water-stressed and its water polluted, and a new plant would add to the problem. A recent paper by the Bank Information Center and KOSID⁸² shows that the water modelling for the project misses several factors including water use by the expanded open pit coal mining operations and conveyance of coal from the mine to the power plant, as well as the impact of a new plant on water pollution.

6. Resettlement and agricultural land shortages

A new power plant would require a new mine, and this will require resettlement, the scope of which is to be defined in a new study. However this is complicated by the fact that many of the people that would be resettled are farmers and would need to be provided with adequate land to compensate for their lost livelihoods, while agricultural land is in very short supply in Kosovo. The resettlement that has occurred so far has been in breach of any known international standards for resettlement. KOSID is currently reviewing the resettlement process related to the Kosova e Re plant.

Considering Kosovo's dire need to promote energy savings and energy efficiency, this, along with the development of sustainable renewable energy sources, must be the number one priority for the IFIs.

energy-community.org/portal/page/portal/ENC_HOME/NEWS/News_Details?p_new_id=6342

80 Bruce C. Buckheit: Reevaluating Kosovo's Least Cost Electricity Option, January 2012, http://action.sierraclub.org/site/DocServer/Reevaluating_Kosovo_s_Least_Cost_Options_for_Electricity.pdf?docID=8861

81 World Bank: Kosovo Country Environmental Analysis, 2012, <http://siteresources.worldbank.org/INTKOSOVO/Resources/KosovoCEA.pdf>

82 Heike Meinhardt and Nezir Sinani: World Bank Kosovo Power Project Environmental and Social Impact Assessment: Comments on the Kosovo Ibër Lepenc Water System Study, January 2013 <http://www.kosid.org/wp-content/uploads/2012/09/Kosovo-Water-Study-final-Jan-8.pdf>

Macedonia*

Of the countries examined, Macedonia is one of only two not to have had any IFI-financed fossil fuel investments during the period in question. The EBRD has invested most of its EUR 131.7 million country portfolio in hydropower, while the World Bank has invested almost EUR 120 million in transmission and distribution improvements. The EIB's only energy project has been a EUR 3 million allocation for the Green for Growth Fund, and IPA has not carried out any energy infrastructure-related projects in the country. In addition to the IFIs it is useful to note that Germany's KfW is currently supporting a 50 MW pilot wind power project in the country with a loan of almost EUR 33 million.⁸³

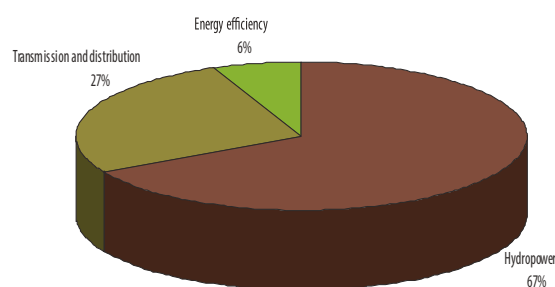
One major issue with IFI investments in the energy sector in Macedonia is the impacts of hydropower plants. The EBRD in November 2011 approved financing for a 68 MW plant at Boskov Most in the Mavrovo National Park, while the World Bank is currently considering financing another plant at Lukovo Pole in the same park. Alongside these, no less than 29 hydropower plants under 10 MW are planned within the national park, and there is already an existing hydropower complex with three dams there. In September 2012 the International Union for the Conservation of Nature (IUCN) adopted a resolution calling on the Macedonian authorities to abandon plans to construct hydropower plants in the Mavrovo National Park.⁸⁴

* According to the UN, the official name for Macedonia is "The former Yugoslav Republic of Macedonia". In this study it is referred to as "Macedonia".

83 http://www.elem.com.mk/images/stories/objekti/1_Windpark_Ang.pdf, <https://www.kfw-entwicklungsbank.de/International-financing/KfW-Entwicklungsbank/Countries-and-programmes/Europa/Mazedonien/Foerderschwerpunkte/>

84 IUCN motion M061, September 2012, <https://portals.iucn.org/docs/2012congress/motions/en/M-061-2012-EN.pdf>

EBRD energy investments Macedonia 2006–2012



Boškov Most hydropower plant

The plant will consist of a 33 metre high dam with a reservoir and a hydropower plant of a total capacity of 68 MW. The total project cost is EUR 84 million, and the EBRD approved and signed a loan of EUR 65 million for the project in November 2011. The remaining EUR 19 million are provided by the project promoter, the state-owned ELEM (Macedonian Power Plants).

Around 70 percent of the project will be located in the Mavrovo National Park, one of the oldest and most valuable parks in the country. The park is one of the richest biodiversity areas in the country, home to 50 mammal species, including the wolf, brown bear, fox, wild cat and lynx, 129 bird species, 11 species of amphibians (out of total 15 species found in the entire country), 24 species of reptiles (out of 32 in the country) and 924 species of invertebrates.

Of these, 11 mammal species, 45 bird species, two amphibian and 13 reptile species found in the national park are found in Appendix II of the Bern Convention, thus signifying the importance of the site for biodiversity protection. Moreover, Mavrovo is an emerald site and future Natura 2000 site.

The area where the Boškov Most project is to be sited is recognised as one of the core areas of the Balkan lynx (*Lynx lynx balcanicus*). It is estimated that there are around 25 individuals of this species in the park. The area is also distinctive due to the presence of endemic and relict Horse



Chestnut trees (*Aesculus hippocastanum*) and Hop Hornbeam trees (*Ostrya caprinifolia*). The village of Tresonce is also very near the reservoir site and several houses, barns and a small church will be completely flooded.

The Boškov Most project is only one of several hydropower projects planned in the Mavrovo park, and CSOs are calling for an assessment of the cumulative effect of all the planned plants. Without this, Mavrovo could lose its national park status and Natura 2000 designation. Macedonia would not be able to preserve its valuable species and maintain their favourable conservation status, which will significantly risk decreasing their population and possibly lead to extinction. As Macedonia aspires to join the EU, it needs to pay more attention to biodiversity protection as Natura 2000 sites are of value to the entire EU.

As the Environmental Impact Assessment study lacks significant data on the flora and fauna present in the specific area, a new biomonitoring programme was developed after the EBRD approved the project and is being implemented. It should finish around the time of publication of this report and provide more information and data on the species as well as prepare better mitigation measures for the construction phase. However, if the biomonitoring process confirms that the area of the Boškov Most project is actually a core area for the reproduction of the Balkan lynx – a sub-species considered by the IUCN as critically endangered⁸⁵ – the EBRD should, in line with its Environmental and Social Policy, withdraw from the project in order to prevent destruction of the area and species.

Lukovo Pole hydropower plant

The Lukovo Pole project is to be located in the Mavrovo National Park at an altitude of 1500 metres upstream from the existing Mavrovo cascade, which includes three hydropower power plants. The project comprises the construction of a 20-km long feeder channel from the Korab catchment to the Lukovo Pole reservoir and the Crn Kamen river; a dam about 70 metres high at Lukovo Pole and a small 5 MW hydropower project at Crn Kamen, downstream of Lukovo Pole. The project promoter is the state-owned ELEM (Macedonian Power Plants). Total project costs are USD 83 million, and the World Bank is planning to commit USD 70 million. At the time of writing, the project is in the bank's pipeline.⁸⁶

The project is to be dispersed across several areas, most of which are strictly protected zones within the Mavrovo National Park. Construction in such a location is contrary to existing Macedonian legislation on nature protection, the national biodiversity strategy, as well as international conventions like the Bern, Bonn and Rio conventions that Macedonia has ratified.

In order to 'solve' this problem, the Ministry of Environment and Spatial Planning initiated a process to re-evaluate the national park's value, which resulted in proposals for changes to the existing zoning. The proposed zoning clearly allows for the Lukovo Pole project to be carried out, as it erases the strictly protected zones from the planned project areas.

The most recent research done by the Macedonian Ecological Society, which has followed the movement and reproduction of the Balkan lynx (*Lynx lynx balcanicus* – a species not officially

85 According to a letter from IUCN, available at <http://www.ekosvest.com.mk/docs/NGO%20dokumenti/Assessment%20lynx%20IUCN.pdf>

86 <http://www.worldbank.org/projects/P112730/lukovo-pole-water-regulation-renewable-energy-project?lang=en>

registered as a sub-species of the Lynx lynx, but recognised by the IUCN as a critically endangered sub-species)⁸⁷ shows that the Lynx is present in the forests near Dlaboka reka, the most beautiful intact river in the national park. The waters from the Dlaboka reka are planned to be diverted and channelled for the Lukovo Pole reservoir.

The World Bank must carefully investigate the circumstances under which changes are proposed to the zoning of the park. Macedonian CSOs say that the changes proposed are against the national legislation and international conventions and should not take place. The bank should strictly follow its procedures and not allow for the devastation of the most pristine area in the Mavrovo National Park by supporting the Lukovo Pole project. Going ahead with the project will compromise the protection of valuable species and ecosystems and lead to irreversible loss of important ecological resources.

Montenegro

Montenegro has ambitious but controversial plans to turn the country from a net energy importer to an energy exporter. However during the period in question few of the planned projects came to fruition and the IFIs' engagement in Montenegro's energy sector has been modest. The EBRD provided EUR 40.25 million in financing during this period for three projects – a metering project with Montenegrin electricity company EPCG, a biomass plant in Pljevlja and an equity investment in the Green for Growth Fund, in which the EIB also allocated EUR 3 million for Montenegro. The only other EIB project was a small component of a power sector reconstruction project that had originally been approved

87 According to a letter from IUCN, available at <http://www.ekosvest.com.mk/docs/NGO%20dokumenti/Assessment%20lynx%20IUCN.pdf>

for Serbia and Montenegro in 2002. The World Bank Group financed two projects for a total of EUR 25.4 million – an energy efficiency project for public buildings and a project primarily focusing on transmission upgrades. It is worth mentioning that the German state bank KfW was more active in Montenegro during this period than any of the multilateral banks, with loans totalling EUR 51.4 million for hydropower reconstruction, thermal power plant reconstruction, energy efficiency and distribution improvements.⁸⁸

While the loans to the energy sector may not have been particularly large, the IFIs have been engaged in technical assistance projects, with the EBRD alone carrying out seven in the energy sector since 2009. Such projects relate to various aspects of renewable energy development such as legislation, feed-in tariffs and power purchase agreements. The IFC has also been involved in a technical assistance project to prepare hydro-power plant construction on the River Moraca, a project which has been subject to strong opposition and which currently appears to be on hold. The Moraca project is part of the infrastructure planned to export electricity to Italy through an underwater cable. A EUR 65 million loan for another controversial component of the export infrastructure – the Lastva-Pljevlja transmission line – was approved for financing by the EBRD in April 2013.

Lastva-Pljevlja transmission line and the underwater cable to Italy

The underwater cable project between Montenegro and Italy comprises the construction of a cable under the Adriatic Sea and a transmission line from Lastva to Pljevlja in Montenegro, which will then be connected with Bosnia and

88 <http://www.scmn.me/fajlovi/EPCG201212R.pdf>



Herzegovina and Serbia. The main objective of this project is to export electricity from the Balkan region to Italy. The EUR 500 million underwater cable and converter plant on the coast is to be carried out by the Italian company Terna. The basic contract between Terna and the Ministry of Economy of Montenegro was signed in November 2010. The Lastva-Pljevlja transmission line will cost about EUR 100 million, which will be financed by the EBRD, KfW and funds from the project promoter Crnogorski Elektroprenosni Sistem (CGES), part-owned by Terna.

The projects are controversial both because of the environmental impacts of the transmission line and converter station and because of the sources of electricity. An additional issue is that Terna was able to obtain shares in CGES without any tender, thanks to a special law on the under-sea cable.

The planned transmission cable will go through the Durmitor (a UNESCO site) and Lovćen national parks, as well as the Tara river and Komarnica Emerald and future Natura 2000 sites. The planned route of the transmission line would also pass close to lakes Slano and Krupac – Important Bird Areas also designated as future Natura 2000 areas. The promoter claims that the impact will not be serious on the proposed route through the Durmitor and Tara River canyon because it will use the existing route of the 110 kV Žabljak –Pljevlja line. However the disruption and noise from the construction work will doubtless have a significant impact within the protected areas and there will be serious visual impact due to the new pylons being much higher than the existing ones.

The coastal area where the substation and converter plant is planned is a habitat type (*Juncetalia maritima*) listed in Annex 1 of the Habitats Directive, indicating its vulnerability not only in

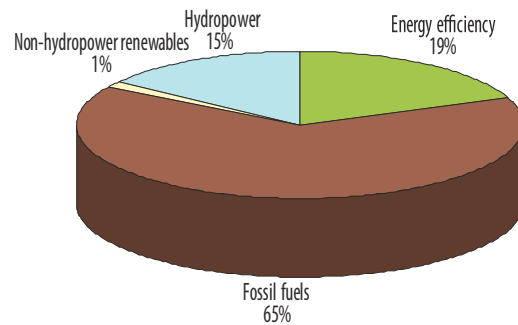
Montenegro but Europe-wide. Alternative routings have not been adequately considered, nor have alternative energy supply scenarios in which the line is not constructed at all.

There would be severe impacts from the associated generation facilities if they are ever built. According to the detailed spatial plan, the transmission line would serve the Moraca HPPs, Komarnica HPP, Berane TPP, a wind farm at Krnovo, as well as a group of hydropower plants in the Šavnik area. It also mentions Buk Bijela HPP on the River Drina, an older version of which has already been halted once on the national level. Fossil fuel electricity is also expected to be exported, from the Pljevlja 2 and Maoce lignite power plants. At least some of these projects are very likely not to go ahead, especially the Morača HPPs, while others such as the Komarnica and Buk Bijela HPPs should not be built due to their serious impacts on areas of biodiversity and outstanding natural beauty.

It appears that this project will benefit Italy's security of supply more than Montenegro's, if indeed the associated generation infrastructure is constructed. Problems may be caused by contracts requiring the Italian market to be supplied with electricity even at times when that electricity may be needed in the Balkan region.

It is laudable that the IFIs refrained from financing fossil fuel infrastructure in Montenegro during the period of study and that the main focus has been on energy efficiency and renewable energy, and such efforts should continue. However the IFC's involvement in the Moraca plant and the EBRD's 2013 loan for the Lastva-Pljevlja transmission line show that the banks still need to examine more carefully whether the projects they are supporting are in the interest of Montenegro's people and the environment.

EBRD energy investments Serbia 2006–2012



EBRD turns a blind eye to rising carbon emissions and resettlement failures, Serbia

In 2011 the EBRD provided an EUR 80 million loan for the Kolubara environmental improvement project, which is presented in terms of CO₂ reduction from using more uniform lignite, but in fact represents one in a series of loans since 2001 supporting Kolubara's lignite production. Far from making a transition to an energy-efficient, renewables-based society, Serbia has been producing record amounts of lignite and electricity from lignite power plants in the last two to three years.⁹² With about 30 million tonnes of lignite per year produced, 30 million tonnes of CO₂ are emitted when the lignite is burned⁹³ – more than 50 percent of all Serbian emissions. In spite of this and Serbia's need to align itself with EU climate and decarbonisation policies, the EBRD looks set to finance the Kolubara B lignite power plant.

The EBRD's support for Serbian lignite production started with an emergency power reconstruction loan⁹⁴ in 2001, which included rehabilitation and upgrades to thermal and hydropower plants and the transmission system. As a result of the project, EPS thermal capacities had their lifetime prolonged by up to 20 years, however they are not in compliance with the EU Large Combustion Plants Directive and should be closed by 2017.⁹⁵

Serbia

Serbia has been the largest recipient of financing from the EBRD in the region, with EUR 353.9 million. However the World Bank Group has played a very limited role, with only one project of EUR 28 million for energy efficiency in public buildings. The EIB has financed three projects totalling EUR 68 million for metering, substations and energy efficiency, the latter through the Green for Growth Fund. IPA has played an unusual role, providing EUR 38 million in grants for environmental improvements at coal power plants. Usually such improvements would be carried out using loans or companies' own resources and it raises the question of whether such support for one company is appropriate, albeit that competition issues in the Serbian energy sector did not exist at the time the grants were made, due to EPS's monopoly.

A closer look at the EBRD's financing shows that its efforts in relation to energy efficiency (EUR 67.3 million for SME credit lines and metering) and non-hydropower renewable energy (EUR 4.9 million, mostly biomass), as well as hydropower rehabilitation (EUR 52.7 million), have been heavily outweighed by its investments into just two very large fossil fuel projects, for gas storage⁸⁹ and lignite mining in the Kolubara coal mine.⁹⁰ The energy efficiency and renewables investments in Serbia will be further dwarfed if the bank goes ahead with plans to provide up to EUR 400 million for the Kolubara B lignite power plant.⁹¹

89 <http://www.ebrd.com/pages/project/psd/2009/40760.shtml>

90 <http://www.ebrd.com/pages/project/psd/2011/41923.shtml>

91 <http://www.ebrd.com/english/pages/project/psd/2012/43763.shtml>

92 <http://serbia-energy.com/2013/03/bergleute-vom-kolubara-schon-am-jahresanfang-rekord-in-kohlenproduktion/>

93 http://simterm.masfak.ni.ac.rs/proceedings/14-2009/PAPERS_AND_SESSIONS/1-ENERGY_SOURCES_AND_POTENTIALS/1.1.MilislavljivicV.pdf, p. 4

94 <http://www.ebrd.com/english/pages/project/psd/2001/17829.shtml>

95 <http://www.drustvo-termicara.com/resources/files/153a90d.pdf>



In 2003 the EBRD-financed EPS Power II⁹⁶ project involved the modernisation of mine management at the existing Tamnava West mining field to increase lignite production and upgrade the power system communications in order to increase efficiency of the power supply. The aim was to increase production of lignite by more than seven million tonnes per annum.⁹⁷ It has recently been reported⁹⁸ that Tamnava West is producing nearly 1.5 million tonnes per month, which makes it the top field in the Kolubara basin, considerably surpassing planned quantities.

Lignite from the Tamnava West field is below the calorific value necessary for utilisation in modern power plants, and therefore this lignite has to be improved with better quality lignite from the C and D fields.⁹⁹ The EBRD has attempted to avoid assessing the impact of the operations outside of the fields it feels responsible for. However as the lignite mine is owned by one company and as the lignite from various fields has to be combined in order to be usable, the impacts should be considered cumulatively. Therefore the resettlement of around 3000 people in local communities near these fields is also connected with the project: Kalenić, Radljevo, Brgule, Skobalj and so on. The resettlement process still hasn't started in most of the communities and people are living very close to mining operations. Most houses are within 200 to 500 metres of the complex which is not in line with national standards on noise,¹⁰⁰ meaning that the inhabitants' health is seriously

threatened.¹⁰¹ Residents are in a state of limbo, unable to sell their property and not being able to invest it, but not knowing exactly if and when they will be resettled. These families should be resettled as soon as possible. In several cases cracks are occurring due to land slides and vibration from operations in the Tamnava West field. Underground water is polluted and mostly not usable for agriculture and inhabitants have drinking water only from shops or from tankers, which they claim is not suitable for drinking.

The euphemistically titled Kolubara environmental improvement project¹⁰² approved in 2011, has similar goals to the previous EPS II loan, and consists of purchasing:

- a coal excavator, conveyor and spreader system for Field C of the Kolubara mining basin,
- a spreader system for the Tamnava West field and
- a coal management system for the whole of the Kolubara mining operations.

The equipment is supposed to improve the efficiency of EPS' mining operations at the Kolubara basin and improve the quality and uniformity of the lignite it delivers to its power stations. The coal excavator will enable EPS to mine from the C field towards the South and D fields, again to produce coal to combine with that from Tamnava West. Local communities near the C, B, D and South fields are again impacted, in Baroševac, Zeoke, Medoševac, Vreoci, Radljevo, Brgule, Kalenić, and Mali Borak – more than 2000 families altogether. A number of families moved in 2003–2005 will be again moved due to EPS II or the Kolubara improvement project, however it is unclear when. The Vreoci and Baroševac communities have already submitted complaints to the EBRD's complaint mechanism regarding the project's impact on their lives.

101 Informal discussions with inhabitants of Radljevo, one of the closest villages to Tamnava West, suggest that almost every household has suffered a cancer case in the last 5 years.

102 <http://www.ebrd.com/english/pages/project/psd/2011/41923.shtml>

96 <http://www.ebrd.com/english/pages/project/psd/2002/27005.shtml>

97 <http://www.ebrd.com/english/pages/project/eia/27005e.pdf> p. 1

98 <http://serbia-energy.com/2013/03/bergleute-vom-kolubara-schon-am-jahresanfang-rekord-in-kohlenproduktion/>, <http://www.rbkolubara.rs/list-kolubara/>

99 http://simterm.masfak.ni.ac.rs/proceedings/14-2009/PAPERS_AND_SESSIONS/1-ENERGY_SOURCES_AND_POTENTIALS/I.1.MilislavJevicV.pdf p. 3

100 Standard JUS 3.J6 205/1992 and Standard of Society of Organizations for Protection of Air from 1987 quoted in Strategic Environmental Assessment spatial plan of Kolubara mining complex, p.90

Conclusions and recommendations

The countries of the Western Balkans all aspire to join the EU, meaning that they need to orientate their legislation and policy towards EU goals. In the energy sector, the most fundamental long-term goals are those laid out in the Low Carbon and Energy 2050 Roadmaps, which stipulate that by 2050 the EU's energy sector must be decarbonised and GHG emissions decreased by 80–95 percent.

The countries need to start now with changing their energy infrastructure to reduce wastage and meet EU goals. This is particularly important given the very high estimated energy infrastructure investment needs in the region. The next few years will be critical for defining the future shape of the region's energy sector. Much of the infrastructure built now will still be operating in 2050 and beyond, creating a lock-in effect for fossil-fuel facilities.

Rather than pushing decades-old coal and hydropower projects – the latter often for export purposes and threatening natural areas – without real analysis of whether they are still relevant, useful, and environmentally acceptable, the first step must be to drastically step up action on energy efficiency and energy savings. The residential sector and district heating offer huge opportunities, as do transmission and distribution networks, and saving energy is inherently much more cost effective than generating it. The region's governments need to seize this potential to reduce energy poverty and tackle climate change, and to do so urgently.

Ultimately it is the public who will pay for the failure to address the multiple challenges facing the Western Balkan countries, and the region's future social stability depends in part on governments' ability to ensure the efficient use of energy. At the same time, governments need to steer their economies away from fossil fuels, with their very high social and climate costs.

Renewable energy sources need to be strategically developed with public participation to ensure widespread acceptance and careful site selection, so that only environmentally sustainable projects are promoted. The excessive emphasis on hydropower needs to be balanced with more investments in wind, solar, biomass, geothermal and biogas.

Civil society groups are doing their best to promote savings in energy use and sustainable renewables. However, in order to make change at the rapid pace needed, and ensure that the countries align themselves with EU policies and legislation, firm action is needed by the EU. As well as strengthening the adoption of EU legislation through direct negotiations and through the Energy Community, the main tools that the EU can use to directly influence investments are the financing institutions in which it or its Member States participate: the EIB, the EBRD, the EU's own IPA fund, and, to a lesser extent, the World Bank Group. All of these institutions play a role in financing projects to promote EU goals in the Western Balkans.



The analysis shows that from 2006–2012, these institutions did not make sufficient investments to orient the region towards an energy-efficient, renewables-based energy system, and this needs to change urgently. While the World Bank and the EIB invested a greater proportion of their lending into energy efficiency than the EBRD, they invested nothing at all in renewable energy other than hydropower, and the EBRD was still the largest supporter of energy efficiency in absolute terms. At the same time the EBRD was the largest supporter of fossil fuels by far, thus undermining the value of its work on energy efficiency and renewable energy.

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Investments in energy efficiency need to be stepped up by all IFIs in the region, particularly in residential energy efficiency and public buildings, as do investments in non-hydropower renewable energy. However the IFIs need to be careful with their interpretation of renewable energy, as both hydropower plant construction projects over 10 MW the EBRD has supported in the period are located in future Natura 2000 areas and threaten to conflict with the EU's Habitats Directive. With a plethora of hydropower projects planned in the region, as well as some other renewables projects like biomass and wind farms that can have serious environmental impacts if poorly sited, the IFIs need to pay particular attention to adopting and publicising sustainability criteria for renewable energy.

Overall, the figures show that no decisive move towards energy savings, energy efficiency and sustainable renewable energy is taking place so far, with investments varying from year to year. Yet such a decisive move is exactly what is needed if the Western Balkans want to tackle energy poverty and meet EU requirements, and it is up to the region's public, the EU and IFIs to push governments and municipal authorities to make sure that this happens.

Recommendations

To the European Commission

- Strengthen the EU's climate action by continuing efforts for the adoption of binding 2030 targets and other binding targets on energy efficiency and energy savings;
- Bring climate into the Energy Community by including the 2020 EU GHG and energy efficiency targets, as well as the remainder of the environmental acquis, in the Energy Community's work, as well as 2030 targets once adopted in the EU;
- Require the earliest possible revision of the Energy Community's Regional Energy Strategy to ensure compatibility with 2050 goals and ensure that Projects of Community Interest are compatible with the EU's 2050 goals and environmental legislation;
- Adopt a formal position on the EU's voting within IFIs to prevent support for projects causing carbon lock-in and conflicts with 2050 GHG emissions reductions requirements;
- Play an active role in the revision of IFI policies with relevance to EU climate and energy policy to ensure that EU policy – including non-binding policies – is duly incorporated; and stipulate that IPA funds are available only for energy efficiency and renewable energy, not for fossil fuel infrastructure.

To the international financial institutions

- Cease funding fossil fuel projects in prospective EU Member States, especially coal. Investments in these sectors must be limited only to energy efficiency or safety projects that neither increase the lifetime nor the capacity of the energy or mining facility.
- Rapidly increase the share of energy savings, energy efficiency and sustainable renewables in the lending;
- Adopt a zero tolerance approach to indicators of corruption or breaches of environmental standards for all projects;
- Make residential energy efficiency the number one priority in the region to reduce energy poverty and promote social stability;
- Prepare funds and programmes to assist the countries of the region to meet the 20 percent energy efficiency targets by 2020, especially in instances which will help tackle energy poverty;
- Promote efficient heating systems including user-controlled district heating from non-fossil heat sources;
- Adopt strict sustainability criteria for renewable energy and contribute to careful planning of these technologies with national and local authorities;
- Support the diversification of renewables and de-emphasise support for damaging hydropower projects, especially those being built as energy export vehicles;
- Seek opportunities to support producers of renewable technologies and municipal-level new renewables and energy efficiency;
- Greatly simplify IFIs' project disclosure for funds and intermediaries so that it is clearer which money ends up where; and
- Publish at least on demand information on the results actually achieved – and not only expected – through energy efficiency and renewables projects (including through credit lines) in terms of CO₂ emissions reduced.



Annex: Methodology

For the purpose of this analysis, the EBRD's database of projects available publicly on its webpage was used to compile our own database of EBRD energy projects 2006–2011, supplemented with information for 2012 and additional project information obtained through information requests to the bank and through websites of regional funds and facilities such as the Green for Growth Fund or Enercap. For the World Bank and IFC their online database was used, together with some information requests to clarify on individual projects. For the EIB annual reports were used together with online descriptions of projects.

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In order to categorise projects, project profiles on the bank and fund websites were used, supplemented by information requests where it was not sufficiently clear, as in the case of most financial intermediary projects. This approach is impractical for larger numbers of projects as it would be highly time-consuming to obtain the data for all intermediary projects from the banks, however in this case when the number of projects was limited it was decided to do so. The quality of the answers provided by the banks varied, and there may therefore be some small inaccuracies in categorisation, for example in credit lines for energy efficiency in which a small component may have been used for renewables or funds marked as mixed non-hydropower renewables which may contain small hydropower projects.

All projects were categorised according to the methodology for energy projects which is presented below, thus differences appear between our categorisation and the banks' own categories, which also differ between the institutions.

If a project clearly causes increased overall energy use despite an energy efficiency component, its energy efficiency component is categorised in the same way as the main component. So, for example, if an energy efficiency project involves increasing the efficiency of a coal mine but leads to the increased use of fossil fuels through an increase in the capacity of the installation or an extension of its lifetime it is also not categorised as an energy efficiency project.

Greenfield electricity and heat power plants (co-generation plants) are not classified as energy efficiency projects but depending on the energy source used they are classified under renewable energy or fossil fuels.

For electricity transmission and distribution projects, although they may have an energy efficiency component this is often impossible to quantify unless the whole project involves metering or another obviously energy efficiency-related measure. Therefore we have used transmission and distribution.

Hydropower plants are categorised separately from other forms of renewable energy, because they skew the investment figures, especially when they are larger projects. Governments and companies use the relatively large sums invested in hydropower to make it look like they are investing in renewables, while in fact they may be doing very little in wind, biomass, solar etc.

I. Boundaries of the energy sector in this research

Investments in energy sector are operations related to:

- Heat and electricity generation: thermal power plants, non-hydropower renewable energy, hydropower, nuclear power plants (though the latter was not financed by the IFIs during the period concerned)
- Energy storage, including pumped storage plants
- Fossil fuel extraction
- Electricity transmission lines
- Fossil fuel transportation and storage: pipelines, LNG terminals, gas and oil storage
- Production of fuels: refineries, biofuel refineries, uranium enrichment facilities, biogas production
- Production of equipment for energy generation: wind turbines, solar panels, gas/oil equipment
- Energy efficiency projects, rehabilitations and improvements in the energy sector
- Energy efficiency projects through financial intermediaries (we often do not include these due to the impracticality of obtaining detailed information about their results, but in most cases this time it was possible to conclude that the investments really have been disbursed and used for energy efficiency and small renewable energy projects). Other industrial energy efficiency projects are not included as they would need to be analysed against expansions and greenfield investments to gain a true picture, which is beyond the scope of this study.
- Equity investments in energy companies
- Projects in research and development in the sectors above.

II. Division of energy projects into categories and subcategories

Categories

- Hydropower, Non-hydropower renewable energy (subcategories: wind, solar, biomass, biogas, biofuel, geothermal, mixed), Energy efficiency, Fossil fuel, Transmission, Mixed

III. Conditions determining categorisation of projects

Fossil fuels: Oil, gas, LNG, coal: extraction, storage, transportation infrastructure and combustion, refineries, research. Transmission lines, if they are clearly constructed due to a fossil fuel generation project and will mainly serve to transmit electricity from this project. Environmental and safety improvements in fossil fuel projects are classified as fossil fuel.

Hydropower: Includes all sizes of hydropower, construction or rehabilitation.

Transmission: Construction of electricity transmission and distribution projects, unless they are clearly constructed because of a given electricity generation project and will mainly serve to transmit electricity from this project.

Energy efficiency:

- Projects which lead to an increase in the degree in which the installation or process transforms the energy supplied in one form to energy in another form (for example energy from the sun to energy in a form of electricity), provided that this does not lead to an increase of lifetime or capacity of fossil fuel power plants.
- Projects aimed at increasing the ratio of the obtained results, services or goods to the energy input (energy used to obtain those results, services or goods) (examples: industrial energy efficiency – producing more shoes with the same or less energy; buildings – eg. insulation or better lighting). However only credit lines for SMEs are included here, as larger industrial energy efficiency investments must be analysed against expansions and greenfield investments, which is beyond the scope of this study.
- Investments in improved measurement of energy use, e.g. electricity meters and associated infrastructure and software.



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