

# Driving Efficient Ecological Transformation in Europe

## Recommendations for the review of EU State Aid Environment and Energy Guidelines

E3G Briefing Paper, August 2013<sup>1</sup>

### Summary

- The EU faces linked macro-economic challenges of climate change and resource scarcity. These are already increasing costs to European consumers and businesses, with rising oil prices increasing Europe's energy import bill by €200 billion per annum since 2010. Maintaining European competitiveness and affordable consumer prices requires an "ecological transformation" of the economy. This will involve major shifts of investment, innovation and market creation in the next decade increasing job creation and growth across all of Europe.
- Revisions to the State Aid Guidelines must reflect these realities. The transformation to a low carbon, resource efficient and resilient economy will require more government intervention to shape and stimulate private sector investment. If State Aids processes try to micro-manage the detailed design of these policies and support measures they will be overwhelmed, and become a drag on the delivery of Europe 2020 goals for decarbonisation, investment and growth.
- State Aids guidelines should rely more on pre-communication of baskets of measures. Approval procedures should be simplified, and in cases removed, for measures which are part of a coherent and long term economy-wide strategy as this will reduce the potential for ad hoc abuses. For example, new block exemptions should be given for all energy efficiency measures included in National Energy Efficiency Action Plans. State Aids should also not attempt to define the structure of national renewable energy support policies (e.g. specifying technology neutrality) as in some countries this approach can increase price and security risks to consumers.
- State Aids processes should help create efficient new markets for demand reduction, smart technologies and cross-border co-operation. In principle, all interventions must demonstrate that demand and supply side solutions to delivering any service will face a level-playing field. For example, requiring electricity capacity mechanisms to actively support demand reduction, smart grids and storage, and international transmission solutions.
- State Aids processes should take a more pro-active approach to examining measures which give support to inefficient incumbents and to fossil energy and resource intensive sectors. To avoid abuse of simplified rules more capacity should be put into ex-post investigation of whether support schemes are compliant with basic State Aids disciplines including non-discrimination.

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<sup>1</sup> E3G is an independent non-profit organisation working to accelerate the transition to sustainable development. E3G has offices in Brussels, London, Berlin and Washington. E3G acknowledges the support of the Greens/EFA Group in the European Parliament for the preparation of this paper. The views expressed are solely those of E3G.

## 1. The Economics of Ecological Transformation in Europe

The EU faces linked challenges of climate change and growing resource scarcity (e.g. food, water, energy, minerals) which will have fundamental impacts on productivity and competitiveness. These impacts will be driven by price rises and increased price volatility, as well as through the rising direct costs of climate change impacts (including the cost of adaptation to forecasts of future impacts)<sup>2</sup>.

Climate change and resource scarcity are already exerting macro-economic externalities on the European economy, increasing prices and costs to businesses and consumers, increasing investment risk and impacting competitiveness. In some cases markets will be able respond effectively to expectations of future prices and costs, but in many cases responses are characterised by large-scale market failures. For example, pervasive market failures have resulted in sub-optimal penetration of energy efficiency technologies despite large increases in global oil prices. Europe has seen its fossil energy import bill rise by €200 billion since 2010 despite gradual declines in the absolute quantities of energy consumed and relatively constant shares of imported energy over the same period.

Responding to these challenges requires a rapid shift to an essentially zero-carbon European economy by 2050, increases in resource efficiency (and potentially in domestic production) and investment in climate resilience across public and private infrastructure. Changes will occur across the whole economy affecting most areas of critical infrastructure investment. For example, 70% of the UK's £200 billion investment pipeline to 2020 is already low carbon or low carbon enabling<sup>3</sup> and all must become resilient to future climate stresses<sup>4</sup>.

Delivering this “ecological transformation” will require major shifts in business models and creation of new markets in areas like electricity demand-side services, resilient infrastructure and deep building efficiency retrofitting. The EU electric utility sector has already seen a radical shift in the viability of current business models in the past 3 years. The impacts of climate change and resource scarcity on global commodity markets will shift patterns of domestic production and drive investment in demand reduction to reduce exposure to global price shocks<sup>5</sup>.

The transition to a low carbon and climate resilient economy will drive markets far from any “equilibrium” point and endemic uncertainty will persist over market demand, technology, prices and business models for at least the next few decades. The pace of deployment of new low carbon energy technology will need to be more than twice as fast as historically seen in many of these sectors<sup>6</sup> and existing capital markets are not designed to support the scale of investment needed<sup>7</sup>.

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<sup>2</sup>For estimates of EU climate vulnerability see <http://www.eea.europa.eu/publications/climate-impacts-and-vulnerability-2012>

<sup>3</sup> For low carbon component of UK infrastructure pipeline see and [http://www.green-alliance.org.uk/grea\\_p.aspx?id=7136](http://www.green-alliance.org.uk/grea_p.aspx?id=7136)

<sup>4</sup> [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/69487/pb13698-climate-risk-assessment.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/69487/pb13698-climate-risk-assessment.pdf)

<sup>5</sup> For analysis of climate change impacts on global supply chains and prices see <http://www.pwc.co.uk/sustainability-climate-change/publications/international-threats-and-opportunities-of-climate-change-to-the-uk.jhtml> ; for analysis of resource scarcity and future price volatility see [http://www.chathamhouse.org/sites/default/files/public/Research/Energy,%20Environment%20and%20Development/1212r\\_resourcesfutures.pdf](http://www.chathamhouse.org/sites/default/files/public/Research/Energy,%20Environment%20and%20Development/1212r_resourcesfutures.pdf)

<sup>6</sup> <http://www.chathamhouse.org/publications/papers/view/109124>

In this context of economy-wide market failures and the need for transformational change there is no guarantee that marginal investment decisions by market actors in response to short term prices will deliver efficient long term investment patterns or maintain necessary levels of vital service provision. In fact, scenario modelling of investor decisions in the UK power sector to 2030 suggests that investments driven by short term price expectations can result in consumer exposure to very high price risks in the medium term under different demand, prices and technology scenarios. Under some scenarios where gas investment is high this can result in 90% price increases by 2030 for the same carbon emission reductions compared to investment mixes containing more renewable energy and energy efficiency<sup>8</sup>.

The ecological transformation presents three fundamental economic challenges for policy making:

- **Resilience:** maintaining service delivery and affordability to consumers through the transition.
- **Investment Scale-up:** incentivising increased financial volumes of investment including into new business models and technologies which are perceived as “risky” at a time when the effects of the economic crisis has decreased risk appetites and investor confidence.
- **Innovation and Competition:** delivering a clear direction for the public good provision while promoting more private sector innovation, market transformation and new entrants

Governments must therefore balance the necessity of maintaining basic service provision in energy, food, construction etc with the requirement to put their economies on a cost-effective path to a low carbon and resilient future. This is requiring European governments to take risk out of markets in order to ensure investment certainty (for example, through financial risk instruments deployed by the EIB and national public banks) and to provide targeted incentives and demand for innovative goods and services (for example, through feed-in tariffs or government procurement for renewable energy). All of these measures require State Aid clearance.

The need to deliver public goods, maintain service delivery (e.g. in electricity) and drive more investment can encourage governments to rely on specific private sector incumbents as delivery agents thus increasing barriers to competition (“low carbon corporatism”). However, this is self-defeating as a successful and competitive low transition requires technological and business model innovation and thus increased openness in markets and more new entrants. Governments need to find creative policy solutions which provide resilience, scale and innovation.

Delivering the ecological transformation cannot be achieved just through price incentives working through existing markets and business models, but it is also not about less competition or general re-regulation and public control of the economy.

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<sup>7</sup> An example of analysis of the low carbon “finance gap” can be seen at <http://www.transformuk.org/attachments/products/12/capitalisingthegreeninvestmentbank.pdf>

<sup>8</sup> [http://www.e3g.org/docs/E3G\\_Risk\\_managing\\_power\\_sector\\_decarbonisation\\_in\\_the\\_UK\\_-\\_Briefing\\_paper.pdf](http://www.e3g.org/docs/E3G_Risk_managing_power_sector_decarbonisation_in_the_UK_-_Briefing_paper.pdf)

**Efficient and effective ecological transformation requires a creative combination of enough government intervention to supply adequate direction for private investment to flow, and enough market openness to deliver innovation and creative disruption.**

## **2. Implications of Ecological Transformation for the EU State Aids Regime**

The pragmatic realities of policies needed to drive transformational shifts in real markets presents a systemic challenge to the application of State Aids across a wide section of the European economy. State Aid rules have been designed around a set of economic assumptions that imply that free, competitive markets are the best way of delivering low cost and high quality products to the consumer. Externalities are assumed to be relatively small and state intervention in market operation should be limited and temporary. While these assumptions have been a good approximation to reality in many situations in the past, they are not appropriate for the coming decades of ecological transformation.

The State Aids regime needs to allow the evolution of new appropriate public policy tools and interventions while controlling abuse. Principles such as proportionality must weigh the need to control climate risk and ensure economic resilience against short term impacts on “ideal” market structures. A pragmatic approach will be needed which focuses on minimising actual short, medium and long term societal costs rather than aiming to achieve theoretical equilibrium market solutions.

Given the large-scale shifts involved analysis of the proportionality or necessity of government interventions will become far more data intensive. For long lived infrastructure investments this will require examination of forward scenarios out to 2030-2050 to ensure an accurate examination of lifetime costs and benefits under different scenarios of technology cost and demand.

For example, public support to build “oversized” North Seas grid interconnections (strategic redundancy) may look proportionate under a scenario where offshore wind costs are low but inefficient if they remain high and solar power is cheaper. It could also be argued that this investment distorts the ability of CCS to compete in this region. Should this result in subsidies to CCS pipelines or a withdrawal of support for transmission which would raise energy security concerns in some demand scenarios?

It is beyond the capacity and authority of the State Aids process to determine the proportionality of specific investments in these cases. Risk managing the complex interactions between multiple investment and technological systems that have profound implications for cost and economic security is best achieved at the national and sub-regional level.

In these complex cases countries can be prevented from abusing State Aids by requiring stronger pre-communication of national plans for infrastructure, energy supply, demand reduction etc. Countries should have to show that specific measures fit into a coherent and empirically-underpinned strategy which is consistent with their EU obligations and national goals. Countries are already required to produce these types of strategy in many areas; for example, Energy Efficiency Action Plans for delivering the 20% EU energy efficiency goal.

As suggested in the Green Paper, the level of State Aids scrutiny of interventions should be better aligned with the potential scale of market distortions and costs to consumers. This would suggest that measures in areas with well-documented market failures and potential for cost-effective investment (e.g. energy and resource efficiency) should receive relatively lower levels of scrutiny and wider exemptions. This logic should also extend to strategic infrastructure such as electricity grids and storage which have long term pro-competitive impacts by enabling market coupling and enhanced use of renewable energy.

Though the prescriptive nature of State Aids rule should be lessened in some areas, these disciplines do have a vital role to play in delivering the ecological transformation by ensuring open markets and competition. The scale and speed of the transformation required in Europe will disrupt many incumbent companies and business models, some of which are locked into existing support schemes and regulations. For example, “supplier obligations” to deliver energy efficiency can reduce the ability of new entrant businesses to compete. Regulations on electricity distribution and supply make it very hard for businesses based on “smart technologies” to develop viable markets<sup>9</sup>. The structure of current construction markets makes it very hard to provide incentives for innovative low-resource use and low-embedded carbon designs and products. Targeted incentives on energy intensive industries, and conditionality on government infrastructure and building procurement, could make an important contribution to driving innovation in these markets.

State Aids processes could be vital in helping overcome incumbent resistant and restrictive regulations to the creation of efficient new markets for demand reduction, smart technologies and cross-border co-operation. For example, a new “equal value of demand savings” principle could be established that requires all government interventions seeking State Aid approval to demonstrate that demand and supply side solutions to delivering the relevant service will face a level-playing field of support. For example, requiring electricity capacity mechanisms to actively and equally support demand reduction, demand management, smart grids and storage solutions.

State Aids processes could also take a more pro-active approach to examining measures which give support to inefficient incumbents and to all support given to fossil energy and resource intensive sectors. This would be part of a broader trend to strengthen ex-post investigation of support schemes (including those for low carbon and resilient investment) to avoid abuse by assessing whether they are compliant with basic State Aids disciplines including non-discrimination.

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<sup>9</sup> For a discussion of demand side market evolution and barriers see [http://www.e3g.org/docs/E3G\\_Creating\\_New\\_Electricity\\_Markets\\_in\\_Europe\\_to\\_Meet\\_Energy\\_Policy\\_Challenges.pdf](http://www.e3g.org/docs/E3G_Creating_New_Electricity_Markets_in_Europe_to_Meet_Energy_Policy_Challenges.pdf)

### 3. Recommendations for Review of State Aids Guidelines

The review of the guidelines should recognise the following areas which are central to the ecological transformation when assessing State Aids measures:

- **Resilience:** A general provision to identify economic resilience and risk reduction as areas of common interest which should be assessed as reasons for intervention.
- **Lowest Cost:** A principle that lower societal cost can be a justification for State Aids even when this involves increased government intervention in markets.
- **Equal Value for Demand Reduction:** support schemes must be designed to equally reward reductions in demand as well as increase in supply as these are often more cost effective.
- **Long-term:** a principle that proportionality of costs and benefits should be considered over the long term with analysis up to 2030-50 for long term infrastructure investments.

The review should aim to achieve the following broad objectives:

- Focus on simplifying rules and block exemptions in areas of high-existing market failures.
- Use State Aid to address missing markets and incumbency issues and stimulate higher levels of competition and innovation.
- Ensure government support does not flow to fossil fuel investments which lock-in high future costs and economic vulnerability.
- Create limited exemptions and incentives for countries transition their energy intensive industries to a low carbon future.

Recommendations are given below for detailed changes to the guidance in three areas:

- Lowering the Costs of Decarbonisation and Resilience
- Driving Liberalisation and New Market Growth
- Ensuring Low Carbon Investment Flows

#### 3.1 Lowering the Costs of Decarbonisation and Resilience

##### 1. Energy Efficiency in Buildings

**Opportunity:** Energy efficiency markets suffer from multiple well known and quantified market failures which increase consumer bills and reduce European competitiveness. Effective exploitation of cost-effective energy efficiency potential in European buildings could save over €50 billion per year. Annual investment to reach the EU 2020 efficiency goals is estimated to be between €35-65 billion but is currently not on track to be delivered.

**Analysis:** Experience from existing programmes in UK, Germany, France and elsewhere shows that significant public funding and support is needed to motivate the level of retrofitting needed with

successful schemes requiring 20-40% upfront public support; though some of this is related to tackling fuel poverty issues and poorer consumers. Countries have experienced problems receiving State Aid clearance for larger schemes and delays where schemes have been combined with other social support programmes.

**Recommendation:** Create a Block Exemption for all energy efficiency schemes which have been notified to the European Commission as part of Member States' Energy Efficiency Action Plans.

Potential abuse of the Energy Efficiency Block Exemption should be monitored via stronger ex-post enforcement procedures.

## 2. Technology Specific Support for Renewable Energy Technologies

**Opportunity:** All analysis shows that Europe's decarbonisation path will require a continued rise in the use of renewable energy technologies as countries decarbonise their power sectors. Investment of €35-45 billion per annum is needed to 2020 to meet EU renewables targets. In the context of different levels of technological maturity and differences between countries, analysis suggests that technology-neutral and/or price driven instruments are not always efficient and may in fact result in large costs and risks to consumers. Countries must retain the ability to use the lowest cost mix of price and technology specific instruments which are designed around their national circumstances.

**Analysis:** A single Europe wide carbon price is not a sufficient or efficient instrument to drive the necessary investment to decarbonise national power sectors and maintain security of supply. The effective price needed to drive efficient decarbonisation trajectories at the national level differs markedly due to differences in countries' decarbonisation ambition levels, age of installed infrastructure and renewable resource availability. Even at the national level a single technology neutral price of carbon is not always an efficient instrument to drive investment even in mature technologies. Price driven instruments often produce excess windfall profits for existing generators and may drive excessive use of gas to meet short term CO2 targets. Price driven scenarios have been shown to be less resilient to demand, technology and price shocks in a range of European countries. Achieving a least cost outcome requires active national risk management of the transition to a decarbonised power sector, which includes using technology specific instruments to ensure a steady stream of renewable energy investment onto the system<sup>10</sup>.

**Recommendation:** The State Aids guidelines should include a presumption of compatibility for renewable energy support incentives which are justified as part of a least-cost long term national decarbonisation strategy.

Considerations of the State Aids compatibility of renewable energy support schemes must take into consideration the legitimate objective of ensuring acceptable levels of price stability under different decarbonisation, demand, technology availability and fuel price scenarios.

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<sup>10</sup> For detailed analysis of these dynamics in the UK, Germany and Poland see <http://www.e3g.org/programmes/climate-articles/risk-managing-european-power-sector-decarbonisation1/>

### 3. Support for Transformational Resource Efficiency

**Opportunity:** Europe faces rising resource import costs and economic impacts from volatile resource prices and availability. With continuing growth in emerging economies and impacts of climate change these stresses will rise. Incentives to promote more efficient use of resources in production and consumption are critical to improve economic efficiency and resilience to future trends.

**Analysis:** Delivering more resource efficient approaches often requires systemic change in the provision of goods and services; for example, to reduce material and water use through design, material substitution and service redefinition. To avoid future exposure to high costs resource efficient alternatives and substitutes need to be incentivised by creating market demand through direct public purchasing incentives, tax preferences and public support to transformational investments. These demand creation support mechanisms may require State Aid clearance as they will create preferences for specific sub-sections of markets and may not be open to all companies in the early phases.

**Recommendation:** Create a Block Exemption for support for incentives for transformational resource efficiency which are part of a clear National Policy or Plan for addressing long term economic risks from exposure to volatility to resource prices and supply.

These exemptions would only be available to interventions supporting very large reductions in resource usage for any particular activity (for example, above 50%) and the underlying plan would need to contain clear analysis of the future national economic impacts which these interventions aimed to tackle.

### 3.2 Driving Liberalisation and New Market Growth

#### 4. Electricity Grid Investment for Clean Energy

**Opportunity:** The European electricity system is under-connected creating higher costs for consumers than necessary. Delivering an optimal European grid would increase competition and allow the cheapest European renewable energy resources to be shared and could save consumers €425 billion to 2030<sup>11</sup>.

**Analysis:** The European power system is under-connected due to restrictions on national market entry, incumbent power, planning difficulties and incentives on regulators that undervalue interconnection and strategic infrastructure. Many of these problems have been remedied by the Third Energy Package and the Energy Infrastructure Regulation (for example, unbundling and benefit-sharing rules) but not all those needed to develop an optimal grid and an interconnected, competitive market. Estimates suggest that €180 billion will be needed for these investments to 2020 and far more beyond that.

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<sup>11</sup> See <http://www.roadmap2050.eu/>

Most transmission lines are regulated assets but the State Aid Green Paper suggests moving to a presumption of market funding for infrastructure. However, there are currently weak incentives for the major investments needed to integrate large-scale renewable energy into the grid to meet the EU's 2030 road map goals. Benefits from investments will often only pay back over 10-30 years and given uncertainty over future clean technology costs - and thus the optimal energy mix and location across Europe – securing commercial returns will be very risky. Recent analysis of transmission companies suggests that their balance sheets are also unable to support the scale of investment needed. Given long time scales and future uncertainties it will often be an optimal cost-reduction strategy to build extra capacity into some lines in order to facilitate access to potentially cheaper clean energy in the medium to long term (2025-2045). These investments will need to be approved in the next 5-10 years given the time needed to construct major grid infrastructure. Public support measures – including loans, project bonds, grants and risk sharing instruments – are being proposed across Europe to overcome these problems but risk being ruled out by overly prescriptive application of State Aid rules.

In contrast, some countries may aim to undermine EU decarbonisation objectives by importing high-carbon coal power from outside the area controlled by the EU Emission Trading System (ETS) this will create market distortions and undermine the EU common interest in reducing carbon emissions and should be explicitly ineligible for State Aids support.

**Recommendation:** Explicit State Aid exemption should be given for interconnection investments designed to access renewable energy resources and improve grid stability under higher renewable energy scenarios. Proportionality to be considered by looking at the importance of investments to deliver a range of decarbonisation and technology scenarios to 2050.

Clear presumption against any State Aids support for investment in electricity investment aimed at accessing coal power resources from outside the EU-ETS regulated zone.

## 5. Electricity Demand Side Markets

**Opportunity:** Traditional electricity markets have not valued demand reduction and flexibility as a way of managing system stability and reducing costs. Estimates suggest that even moderate exploitation of demand response opportunities could save 7% of system costs across Europe to 2030, and even partial exploitation of the potential for cost effective electricity savings could save 14% of system costs in the same period.

**Analysis:** The creation of effective demand side markets has been blocked by a combination of regulatory and market failures. Regulators have traditionally looked to electricity suppliers to provide system stability services by paying for flexible and additional generation. These markets have generally not been open or been too risky for most companies who could reduce demand or to suppliers from other countries. In contrast systems to promote cost-effective demand response and storage are common in the US on both liberalised and regulated systems. Many EU countries are developing new capacity market mechanisms in response to the extra demands placed on system stability by greater penetration of intermittent renewable energy sources. These mechanisms will be subject to state aid approval and it is critical that these *fairly and equally* incentivise the most cost-

effective provision from supply side, demand response, demand reduction and storage providers. This will require specific instruments which fit with the business models of demand side providers and cannot be left to a “one size fits all” approach designed around incumbent supply side providers.

Given the immaturity of markets and some technologies in these areas countries should be able to provide similar market creation and technology incentives as previously used on the supply-side, such as energy efficiency feed-in tariffs, capital and supply chain support grants in these areas.

**Recommendation:** Implement the recommendation in the Green Paper that approval of capacity market mechanisms be dependent on full incorporation of demand response, demand reduction and interconnection on a fair and equal basis, including through specific instruments.

State aids should recognise the immaturity of demand side sectors in approving a range of state support measures needed to establish new markets and bring technologies down the cost-curve.

## 6. Support for Transformation and Transition in Carbon Intensive Sectors

**Opportunity:** There is a need for active policy to manage the social impacts of transition, drive innovation in high carbon sectors and to maximise the industrial benefits gained by EU companies exporting into the €4 trillion low carbon global market for low carbon goods and services. While the transformation to a low carbon and resilient economy will on net generate jobs, several hundred thousand jobs will be lost in fossil fuel sectors. Energy intensive sectors (steel, cement, chemicals, glass etc) will see rising demand as the economy becomes capital intensive but will need to transform themselves into low carbon producers. These companies fear that they will lose market share during the transition through competition from low energy cost countries.

**Analysis:** To date competition concerns have meant that energy intensive industries have generally been fully or partially exempt from most carbon pricing schemes at national or EU level. These exemptions seem overly-generous as analysis suggests that competitive pressures are relatively small in most sectors (except, aluminium, steel, refineries and some chemicals). Moreover exemptions have restricted the level of technological innovation in these sectors, and removed incentives for alternatives and substitutes to energy intensive products down the supply chain. For example, replacing reinforced concrete with engineered timber and reducing high carbon material use through more sophisticated design methodologies.

Countries will continue to apply exemptions and support funding to these industries over the coming decades. There is also a legitimate need to manage the social costs of transition away from high carbon companies which will not be able survive and adapt in a low carbon world.

State Aid disciplines should ensure that transition support is not being used to prop-up unsustainable industries or delay the transition to low carbon processes, which increases costs to citizens and consumers by requiring more expensive reductions elsewhere in the economy.

However, well targeted incentives which stimulate transformational changes in products, processes and services towards low carbon and low resource use should be allowed when implemented as part of an overall decarbonisation plan – rather than as ad hoc interventions. Only incentives for

ambitious actions should be allowed and should be treated as transitional innovation support in a similar way as early renewable energy feed-in tariffs.

**Recommendation:** The Guidelines should contain a general presumption against state support for high carbon sectors and companies except where this is part of an overall plan to incentivise low carbon and resource efficient products, processes and services.

### 3.3 Ensuring Low Carbon Investment Flows

#### 7. Public Bank Support for Green Investment

**Opportunity:** The European low carbon transition will require cumulative investments of €1.4-2 trillion to 2020<sup>12</sup>. Even without the financial crisis this would require a doubling of investment capacity in the power sector. Given the current collapse of long term bank lending it is critical to develop new and innovative financial structure – including public bank instruments – which can drive low carbon investment at least cost to the consumer and taxpayer.

**Analysis:** Low carbon investment has reduced despite major interventions by public banks such as EIB, KfW and the UK Green Investment Bank. Banks are consolidating their balanced sheets and long term debt financing for infrastructure is not available at affordable costs in much of Europe. In addition and policy, technology and novelty risks around many low carbon investors have deterred institutional investors from making up this investment gap. The impact of financial regulation on institutional investor's ability to hold long dated assets will further reduce the attractiveness of long term investment in clean infrastructure.

Governments' have also realised that it is inefficient to pay a premium to private investors to offset their perception of policy risks around low carbon investments (e.g. on renewable energy in Spain). It is more cost efficient to cover these risks themselves through public risk instruments such as first lost debt or policy risk guarantees.

A wave of financial innovation is emerging to help overcome these problems including EU project bonds, the UK Green Investment Bank and discussions over a French green bank. However, current State Aids rules are highly restrictive on these institutions and fail to recognise the legitimate cost savings governments can make by providing direct financing and risk guarantees. Requiring extensive "proof" that public finance is not squeezing out the private sector is unnecessary as private sector leverage is the aim of these banks; especially in a time of austerity. State Aid requirements on each financing product to demonstrate a lack of available private financing adds additional transaction costs and inefficiencies on the project pipeline and slows investment growth.

**Recommendation:** A Block Exemption should be given to public financial institutions and products with a clear low carbon purpose inside a low carbon development plan. Access to lower cost finance should be a sufficient criteria for a public financial instrument even if private finance is available at a higher cost.

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<sup>12</sup> <http://www.e3g.org/programmes/europe-articles/financing-the-decarbonisation-of-european-infrastructure/>