EU building blocks for a successful energy transition

Where we are:

In 2016, the European Commission will set out most of its Energy Union strategy. As part of the strategy, the European Council has agreed on targets, based on Commission analysis, for at least 40% emissions reductions, 27% renewables and 27% energy efficiency* by 2030[i].

These targets have been widely criticised, including by civil society, many of Europe's cities and regions[ii] and the European Parliament[iii], for their lack of ambition and their inconsistency with the global Paris Agreement of holding the increase in temperature to well below 2°C and pursuing efforts to limit the rise to 1.5°C.

Environmental NGOs have collectively called for at least 55% greenhouse gas reductions, 45% renewables and 40% energy savings for 2030. Despite this, the European Council and the European Commission[iv] have up to now resisted calls to do more.

European Commission proposals and communications in 2016 expected on:

June/July:
The Effort Sharing Decision; role of land use, land-use change and forestry (LULUCF) in decarbonisation; decarbonisation of transport.
September:
Reviews of the Energy Efficiency Directive and Energy Performance of Buildings Directive.
December:
The Renewable Energy Directive; a bioenergy sustainability policy for 2030; a new deal for energy consumers; proposals on energy market design (including electricity markets and regional cooperation); proposals on electricity security of supply; Energy Union governance; new environmental performance standards for large combustion plants (all fuel types).

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* The European Commission has since indicated its preference for increasing the energy efficiency target to 30%, though no official proposals have yet been tabled.
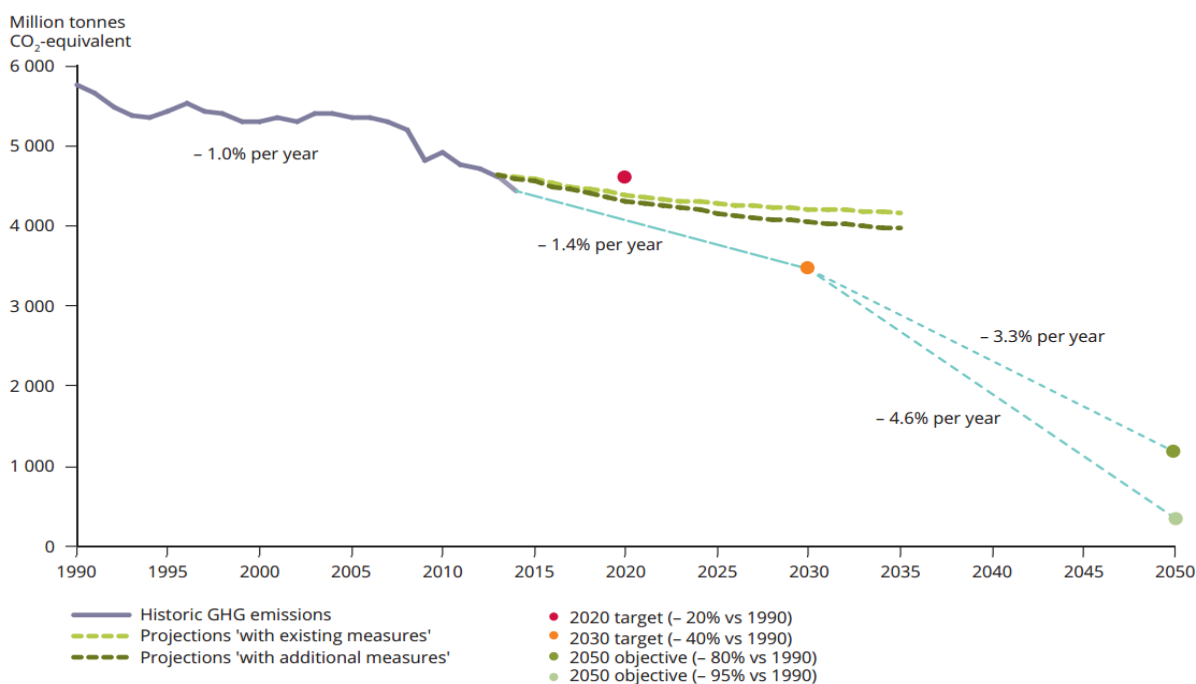
Where we need to be:

In the light of the strongest and most concerning climate science yet[v], and new commitments from other nations to act[vi], the EU must do more. The EU pushed for ambition in the Paris Agreement on tackling climate change. However, its current efforts will not deliver its own long-term goal of cutting emissions by 80-95% by 2050[vii], let alone the deeper cuts needed to limit temperature increases to 1.5 °C as agreed in Paris.

All the evidence supports more ambition. The International Renewable Energy Agency has found that doubling the global share of renewables, to reach 36% in total final energy consumption, by 2030 would bring a range of positive impacts including an increase in global gross domestic product of up to 1.1 percent, improvement of global welfare by 3.7 percent and over 24 million people working in the renewable energy sector[viii]. The OECD has confirmed that countries that implement stringent environmental policies do not lose export competitiveness when compared against countries with more moderate regulations[ix]. It is already as cheap to produce electricity from onshore wind farms as it is from coal[x] and clean energy (renewables and energy efficiency) attracted a record $329bn of global investment in 2015[xi]. However, Europe saw a decrease in clean energy investment in 2015, which at $58.5bn was down 18% on 2014 and its weakest figure since 2006[xii].

For the wellbeing of its citizens, the strength of its economy, and the sustainability of its environment, the EU must clarify when and how it will ratchet up delivery on greenhouse gas reduction, energy efficiency, and renewables deployment.

Figure ES.3   EU greenhouse gas emission trends, projections and reduction targets

Million tonnes CO₂-equivalent

Legend:
- Historic GHG emissions
- Projections 'with existing measures'
- Projections 'with additional measures'
- 2020 target (– 20% vs 1990)
- 2030 target (– 40% vs 1990)
- 2050 objective (– 80% vs 1990)
- 2050 objective (– 95% vs 1990)

– 1.0% per year
– 1.4% per year
– 3.3% per year
– 4.6% per year

Source: EEA, 2015.

The building blocks of a successful energy transition:

"We cannot pretend to be the leader as far as climate change policy is concerned if we do not become more credible when it comes to energy efficiency." – Jean-Claude Juncker, Strasbourg, 15 July 2014

EU policy will be a key driver for the transition to an efficient energy system, 100% powered by sustainable renewables, by 2050. The policies we need can be grouped under five key objectives, namely:

1. Target dirty power
2. Centre-stage for citizens
3. The right markets
4. Infrastructure we need
5. Good governance for 2030 and 2050

Objective #1: Target dirty power

Protect and enhance our environments, societies, and economies by rapidly reducing the 762 million tonnes of greenhouse gas emissions from coal/lignite-fired energy generation[xiii] (18% of the EU total).

Policies:

- Fully assess the extent to which Europe has an overcapacity of old, high-carbon, inflexible power plants. Implement and strictly enforce environmental performance standards in line with true Best Available Techniques (BAT) through a review of the Industrial Emissions Directive and/or the introduction of an EPS. Introduce a **programme of smart retirement** for coal power which provides an acceptable exit strategy for investors.

- Build on the European Investment Bank's policy of only supporting power plants that emit less than 550g of CO_2 per kilowatt hour of power produced, by **introducing an Emissions Performance Standard (EPS)** which becomes stricter over time and removes the most CO_2 intensive power plants from the energy mix as it goes.

- Undertake, in Market Design Initiative related legislation, **regional or even European assessments of the security of electricity supplies and generation adequacy** in order to identify where Member States could make more efficient investments and reduce the cost of electricity by cooperating. Such regional efforts could learn from the Pentalateral Energy Forum between Germany, France, Switzerland, Austria, The Netherlands, Belgium, and Luxembourg. This process should be closely aligned with Scenario Outlook & Adequacy Forecasts from ENTSO-E.

- **Significantly strengthen the EU Emissions Trading System** by taking 2021 emissions levels as the starting point for 2020-2030 emissions reduction targets, permanently cancelling surplus allowances, raising the linear reduction factor, raising ETS targets every five years, and blocking the use of international offsets to meet ETS targets. Ensure a meaningful carbon price

signal which increases over time and supports synergies with measures to deliver energy efficiency and renewable energy.

- Challenge the case for new fossil-fuelled power generation by **ensuring that all assessments of energy system adequacy give full weight** to energy efficiency, demand response, interconnections between Member States, electricity storage, and power generation from renewable sources by revising the Infrastructure & Security of Supply Regulations. These assessments should be the basis of a smart retirement plan (see above) and any capacity mechanisms (and their state aid approval)

- **Ensure that assessments of future energy systems** by bodies such as the European Network of Transmission System Operators for Electricity (ENTSO-E) and the European Network of Transmission System Operators for Gas (ENTSO-G), as well as those used for Projects of Common Interest, **are in line with proposed and adopted climate and energy policies for the relevant period** as well as the broader EU environmental protection acquis, particularly, so as to ensure they do not overestimate energy demand or fossil fuel use.

- Accelerate the move away from fossil fuels in transport and towards sustainable renewable energy, primarily through **vehicle electrification with support for the wider availability of dedicated charging points**.

Objective #2: Centre-stage for citizens

Put citizens at the heart of Europe's energy transition by enabling them to choose how to consume power and to choose to produce that power themselves, individually or collectively.

Policies:

- **Ensure that energy efficiency can compete on an equal footing with power generation** in all energy markets, including retail markets, by clearly defining the roles and responsibilities of market participants and by ensuring effective competition in all parts of the energy market.

- Empower citizens to benefit from using less energy, and/or changing when they use energy, by **ensuring clear retail price signals that accurately and transparently reflect the state of the power system** at both system and local level. This will require more effective market monitoring to ensure healthy competition as prices fluctuate more and more quickly between conditions of scarcity and of oversupply.

- Make the Electricity Market Design work for consumers by **introducing the right of renewable energy self-production and consumption** into the Renewable Energy Directive.

- **Strengthening EU and Member State policies on public procurement of energy-related goods and services** so that citizens see their taxes being used to advance the energy transition, and so that the new

value chains and social norms that innovative energy goods need are supported.

Objective #3: The right markets

Deliver the goals of making the EU 'world leader' in renewables and putting 'energy efficiency first' by ensuring they are properly sustained by market arrangements.

Policies:

- **Continue dedicated policies to incentivise efficiency and renewables beyond 2020**. The EU should also develop energy markets that mean such support could be replaced by more market-based instruments – but only once the necessary conditions are in place. Such conditions would include a market with demand for new generation, an adequate carbon price through a reformed EU Emissions Trading System, the removal of all direct and indirect subsidies for fossil fuels, markets that are flexible enough to integrate high levels of variable electricity supply, and markets that increase energy efficiency investment by removing regulatory barriers and recognising efficiency as a resource in its own right, thereby putting energy efficiency first.

- **Ensure that the Internal Energy Market is aligned with climate and energy goals** as well as the broader EU environmental protection acquis. This can be done by enforcing the requirement that those who participate in the running and oversight of markets (European Network of Transmission System Operators for Electricity, National Transmission System Operators, Distribution System Operators, the Agency for the Cooperation of Energy Regulators, and National Regulatory Authorities) should consider and promote the effective delivery of the 2030 and 2050 climate and energy targets in their planning.

- **Strengthen regional cooperation through a stronger role for ENTSO-E and ACER** (Agency for the Cooperation of Energy Regulators). These bodies could promote the optimal use of resources in pan-national markets by regularly assessing resource adequacy on a regional level – placing demand, supply and infrastructure on equal terms.

- **Ensure that the EU regains its leadership in the markets for developing, manufacturing, and sales of electric vehicles** through the application of increasingly stringent standards on vehicle emissions.

- **Strengthen the EU's proposed Circular Economy Package** in order to achieve the full potential of 244 million tonnes of greenhouse gas reductions by 2030. This should include setting specific targets and measures on waste prevention, introducing preparation for reuse targets, introducing stronger targets on recycling, introducing a dedicated resource efficiency target, and setting clear landfill and incineration restrictions for untreated residual waste. Each of these measures would lead to the development of important new markets.

Objective #4: Infrastructure we need

The EU must act now to secure the energy infrastructure we need to support an integrated, efficient and flexible system run on renewables alone.

Policies:

- **Putting energy efficiency first means treating it in at least the same way as other energy infrastructure by**
  - giving investments in energy efficiency and demand-side management parity with other forms of infrastructure for energy security and treating it as a deployable option;
  - reviewing rules on how energy efficiency investment is accounted for by European agencies;
  - reviewing state aid rules related to energy efficiency to facilitate the streamlining of public-private financing;
  - requiring anyone applying for state aid approval for a capacity remuneration mechanisms market to demonstrate a full and robust consideration of alternatives, such as a dedicated demand response mechanism.

- **Require network developers to foresee energy infrastructure planning that respects climate and energy goals**, as well as the broader EU environmental protection acquis, and that includes independent, integrated and transparent assessments of the security of supplies. This requirement should be supported by sufficient EU funding, such as the Connecting Europe Facility, for prioritised projects that facilitate the integration of renewable energy.

- **Accelerate smart grid development and investment** through a revenue setting regulation under which utilities' revenues are decoupled from sales and the bias towards capital investment is removed. Both transmission and distribution system operators should be incentivised to cost effectively promote and integrate distributed renewable energy, energy efficiency, demand reduction and management, and power storage.

- **Phase out EU funding for new gas infrastructure by the time of the next European budget in 2020**. Europe's current gas infrastructure is highly resilient to supply shocks in the event of a gas cut off by major suppliers. Integrated gas and electricity systems deliver supply security at a lower cost than gas infrastructure alone and meeting the EU's 2030 targets will lead to much lower gas imports. By 2050 all gas infrastructure will be superfluous, leaving those which have not reached the end of their economic lives as stranded assets.

- **Support the development of power interconnections between EU Member States**, including by adding interconnectors into the group of measures that should be prioritised over coal or gas power plants and by building the 2030 interconnection targets into grid infrastructure planning scenarios and evaluation of Projects of Common Interest.

- **Produce a European clean energy investment strategy** to ensure the Capital Markets Union, Investment Plan for Europe and other EU funds are

designed to deliver the investment needed to meet the EU's 2030 and 2050 climate and energy objectives, and to ensure that public investment does not go to projects that undermine these objectives.

Objective #5: Good governance for 2030 and 2050

Effectiveness and accountability, transparency, legitimacy, and policy coherence must be the defining features of European energy governance that ensure the delivery of ambitious EU goals for both 2030 and 2050.

Policies

- **EU governance related to the delivery of post-2020 climate and energy targets, as well as planning and reporting of climate and energy policies and measures to both 2030 and 2050, must be embedded into a binding legal instrument.** The Monitoring Mechanism Regulation could serve this purpose. Such laws should be appropriately cross-referenced with other relevant legal files to ensure full coherence with all objectives of the EU environmental protection acquis. Member States should be obliged to both produce plans and reports in line with binding guidance/a template, and to file those reports on those plans at regular intervals. The EU's post-2020 climate and energy targets, measures, and policies should be subject to a five-yearly review mechanism. Such a mechanism should only allow for increasing ambition, and should be in line with the Paris Agreement's review cycles.

- **Member State planning and reporting must incorporate stakeholder engagement** in order to ensure wide and sustainable support for an energy transition up to 2050. Only if citizens are informed, involved and convinced will they fully engage with new markets and technologies. Such consultation should include Member State Parliaments, business representatives, consumer groups, regions and cities, trade unions and NGOs.

- **The EU's climate and energy planning and reporting architecture should be centred on national plans that are both sufficiently detailed and manageable to produce and to understand.** These plans should operate at three mutually reinforcing modules:
  - *Module 1.* Political commitments: including binding national targets on renewable energy, energy efficiency, greenhouse gas emissions reductions, and other objectives of the EU environmental protection acquis;
  - *Module 2.* Detailed 2030 projections, policies, and measures: covering the national climate and energy plans that EU Member States will put in place in order to both deliver and also to monitor progress towards their 2030 targets;
  - *Module 3.* Energy transition plans: setting out credible and concrete energy transition plans that are consistent with both the policies to deliver the 2030 targets and the EU's 2050 climate and energy goals.

These modules are show in the figure below:

Possible 2030 P&R architecture: three modules

P&R = planning & reporting
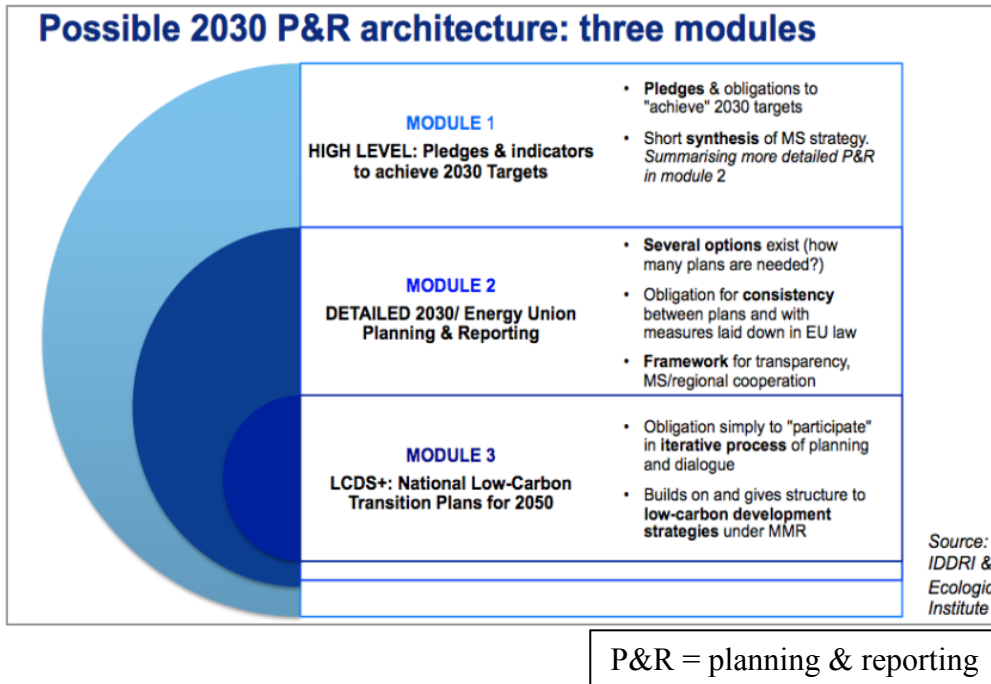
Why we need to act now:

The 2030 climate and energy package is a vital opportunity for the EU to protect its citizens, help fight climate change, and boost the green economy. To succeed, the EU must work from a more ambitious set of principles, and translate them into the detailed policies the Union needs.

The Paris climate agreement showed that the world's governments are responding to global support for a comprehensive energy transition away from fossil fuels and towards renewables and efficiency.

The EU must accelerate its action and harness, rather than squander, its first-mover advantage in renewables and energy efficiency. Only by turning its climate rhetoric into reality and putting consumers first can the EU use its 2030 package to drive real change, and reap the benefits for its citizens and the environment.

Bibliography (listed by date published):

These policy demands build on the latest relevant thinking by Agora Energiewende, ClientEarth, E3G, the Regulatory Assistance Project, Ecologic, IDDRI, the European Climate Foundation, WWF, Greenpeace, Climate Action Network Europe, Friends of the Earth, and the Coalition for Energy Savings.

European Environmental Bureau position paper on the EU circular economy package, European Environmental Bureau, April 2016, http://www.eeb.org/index.cfm/library/eeb-position-paper-on-the-circular-economy-package/

Energy Transition in the Power Sector in Europe: State of Affairs in 2015, Agora Energiewende, April 2016, http://goo.gl/7NTtIf

The Power Market Pentagon: A Pragmatic Power Market Design for Europe's Energy Transition, Agora Energiewende, April 2016, http://goo.gl/A3Bvta

Progress on Energy Efficiency First, Coalition for Energy Savings, March 2016, http://energycoalition.eu/sites/default/files/201603%20EE1%20Progress%20-%20Coalition%20Briefing.pdf

A Perspective on Infrastructure and Energy Security In the Transition, Energy Union Choices, March 2016, http://www.energyunionchoices.eu/files/EUC_Report-WEB.pdf

MORE SECURITY, LOWER COST - A SMARTER APPROACH TO GAS INFRASTRUCTURE IN EUROPE, E3G, March 2016, https://www.e3g.org/library/more-security-lower-cost-a-smarter-approach-to-gas-infrastructure-in-europe

Priorities for the Market Design Initiative: What's Missing? What's Most Important?, Regulatory Assistance Project et al., March 2016, http://www.raponline.org/document/download/id/8058

The Market Design Initiative: Enabling Demand-Side Markets, Regulatory Assistance Project et al., March 2016, http://www.raponline.org/document/download/id/8055

ENERGY EFFICIENCY AS INFRASTRUCTURE LEAPING THE INVESTMENT GAP, E3G, March 2016, https://www.e3g.org/library/energy-efficiency-as-infrastructure-leaping-the-investment-gap

Measuring World Leadership in Renewable Energy, WWF, Feb 2016, http://www.wwf.eu/what_we_do/climate/publications_climate/?262790/Measuring-World-Leadership-in-Renewable-Energy

Supporting delivery of climate ambition through the Energy Union – What is needed from Member States' National Energy Plans?, IDDRI, Ecologic, ClientEarth, Nov 2015, http://www.clientearth.org/climate-energy/climate-energy-publications/supporting-delivery-of-climate-ambition-through-the-energy-union-

what-is-needed-from-member-states-national-energy-plans-3045

EU ENERGY UNION ASSESSMENT 2015 TOWARDS A RESILIENT ENERGY UNION WITH A FORWARD-LOOKING CLIMATE POLICY, E3G, University of Cambridge Institute for Sustainability Leadership, European Climate Foundation, Nov 2015, https://www.e3g.org/docs/Energy_Union_Assessment_2015.pdf

The market design initiative: Towards better governance of EU energy markets, ClientEarth, Regulatory Assistance Project, E3G, Nov 2015, http://www.clientearth.org/climate-energy/climate-energy-publications/the-market-design-initiative-towards-better-governance-of-eu-energy-markets-3044

The Market Design Initiative and Path Dependency: Smart retirement of old, high-carbon, inflexible capacity as a prerequisite for a successful market design, Agora, Regulatory Assistance Project, et al., Nov 2015, http://www.agora-energiewende.de/fileadmin/Projekte/2015/Smart-Retirement/Agora_RAP_Smart-Retirement-and-MDI-Background.pdf

What Gas Strategy for a European Energy System in Transition? Investment Choices Under Uncertainty, E3G, Nov 2015, https://www.e3g.org/docs/E3G_Gas_strategy_brief_Nov_2015.pdf

Coal – Problem, not solution, WWF, Nov 2015, http://www.wwf.eu/?256455/WWF%20briefing%3A%20Coal%20-%20Problem%2C%20not%20solution

One year gone, but a long road ahead for EU Energy Union, Greenpeace, Nov 2015, http://www.greenpeace.org/eu-unit/Global/eu-unit/reports-briefings/2015/State%20of%20the%20energy%20union%20briefing%20FINAL%2016112015.pdf

Why gas stinks — and why the EU must prioritise efficiency and renewables Friends of the Earth, Nov 2015, https://www.foeeurope.org/sites/default/files/energy_savings/2015/foe_-_gas_stinks_-_briefing_171115.pdf

The active role of buildings in a transforming energy market, Buildings Performance Institute Europe (BPIE), October 2015, http://bpie.eu/wp-content/uploads/2015/10/BPIE_discussion_paper_buildings_in_the_energy-market_2015.pdf

Resource Adequacy, Regionalisation, and Demand Response, Regulatory Assistance Project, Oct 2015, http://www.raponline.org/document/download/id/7798

The links between reporting requirements under the UNFCCC and EU governance of 2030 targets, Ecologic Institute, October 2015, http://ecologic.eu/12529

Market Design in Context: The Transition to a Decarbonised Power Sector, Regulatory Assistance Project, Oct 2015,

www.raponline.org/document/download/id/7805

Designing planning and reporting for good governance of the EU's post-2020 climate and energy goals, IDDRI, Oct 2015, http://www.iddri.org/Publications/Designing-planning-and-reporting-for-good-governance-of-the-EU-s-post-2020-climate-and-energy-goals

Energy Efficiency First: How to make it happen, Coalition for Energy Savings, May 2015, http://energycoalition.eu/sites/default/files/20150504%20Energy%20Efficiency%20First%20-%20making%20it%20happen%20FINAL_0.pdf

Streamlining planning and reporting requirements in the EU Energy Union framework, Ecologic Institute, Sept 2015, http://www.ecologic.eu/12445

Streamlining Climate and Energy Planning and Reporting: Understanding the options, risks and opportunities, ClientEarth, Aug 2015, http://documents.clientearth.org/download/4256/

Low Carbon Transport Fuel Policy for Europe Post 2020, A report for Transport and Environment, July 2015, https://www.transportenvironment.org/sites/te/files/publications/2015_07_Low_carbon_transport_fuel_policy_for_Europe_post-2020.pdf

FOUR KEY MESSAGES FOR THE GOVERNANCE OF EUROPEAN CLIMATE AND ENERGY POLICIES AFTER 2020, WWF, ClientEarth, E3G, July 2015, http://www.wwf.eu/what_we_do/climate/publications_climate/?248971/Joint-NGO-briefing-Four-key-messages-for-the-governance-of-European-climate-and-energy-policies-after

Building a consumer-centric Energy Union, BEUC – The European Consumer Organisation, July 2015, http://www.beuc.eu/publications/beuc-x-2015-068_mst_building_a_consumer-centric_energy_union.pdf

EFFECTIVE GOVERNANCE FOR THE EU 2030 RENEWABLE ENERGY TARGET; NGO POLICY RECOMMENDATIONS, Climate Action Network Europe, WWF, Greenpeace, June 2015, http://www.caneurope.org/docman/position-papers-and-research/renewable-energy-1/2643-effective-governance-for-the-eu-2030-renewable-energy-target-ngo-policy-recommendations

An Effective Governance System for 2030 EU Climate and Energy Policy: Design and Requirements, Ecologic Institute, June 2015, http://ecologic.eu/sites/files/publication/2015/meyer-ohlendorf-15-effective-governance-syystem-2030.pdf

Putting energy efficiency first: Reframing the European Investment Bank's action in times of transition and uncertainty, CEE – BankWatch Network, March 2015, http://bankwatch.org/sites/default/files/energyefficiencyfirst-EIB.pdf

i   European Council, Conclusions supporting the European Commission's 2030 climate and energy proposals, October 2014, https://www.consilium.europa.eu/uedocs/cms_data/docs/pressdata/en/ec/145397.pdf **and** European Commission, COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS: A policy framework for climate and energy in the period from 2020 to 2030, 22.1.2014 (COM(2014) 15 final) http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52014DC0015&from=EN **and** COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT AND THE COUNCIL Energy Efficiency and its contribution to energy security and the 2030 Framework for climate and energy policy, 23.7.2014 (COM(2014) 520 final) https://ec.europa.eu/energy/sites/ener/files/documents/2014_eec_communication_adopted_0.pdf (proposes 25% energy efficiency target – raised to 27% in the European Council).

ii   ICLEI – European cities and regions, Statement on the 2030 climate and energy framework, March 2014, http://awsassets.panda.org/downloads/call_for_action_iclei_wwf_finale.pdf

iii   European Parliament, news release following agreement of own initiative report on the 2030 climate and energy framework, February 2014, http://www.europarl.europa.eu/news/en/news-room/20140203IPR34510/MEPs-want-binding-2030-goals-for-CO2-emissions-renewables-and-energy-efficiency

iv   European Commission, Climate and Energy proposals (the Energy Union), January 2015, http://europa.eu/rapid/press-release_MEMO-15-4485_en.htm

v   UN Intergovernmental Panel on Climate Change, 5th Assessment Report, 2014, http://www.ipcc.ch/report/ar5/index.shtml

vi   UN Conference of Parties, The Paris Agreement, 21st UN conference on Climate Change – December 2015, https://unfccc.int/resource/docs/2015/cop21/eng/l09r01.pdf

vii   The European Environment Agency, Trends and projections in Europe 2015 — Tracking progress towards Europe's climate and energy targets, October 2015, http://www.eea.europa.eu/publications/trends-and-projections-in-europe-2015

viii The International Renewable Energy Agency (an intergovernmental organisation that supports countries in their transition to a sustainable energy future), RENEWABLE ENERGY BENEFITS: MEASURING THE ECONOMICS, February 2016, http://www.irena.org/DocumentDownloads/Publications/IRENA_Measuring-the-Economics_2016.pdf

ix   The Organisation for Economic Co-operation and Development (OECD), Environment and trade: Do stricter environmental policies hurt export competitiveness?, 10th March 2013, https://www.oecd.org/newsroom/tougher-environmental-laws-do-not-hurt-export-competitiveness.htm

x   Clean Technica Magazine, IRENA Considers Onshore Wind As Cheap As Coal, January 26th, 2016, http://cleantechnica.com/2016/01/26/irena-consider-onshore-wind-cheap-coal/

xi   Bloomberg New Energy Finance, CLEAN ENERGY DEFIES FOSSIL FUEL PRICE CRASH TO ATTRACT RECORD $329BN GLOBAL INVESTMENT IN 2015, Jan 14 2016, http://about.bnef.com/press-releases/clean-energy-defies-fossil-fuel-price-crash-to-attract-record-329bn-global-investment-in-2015/?utm_medium=microsite&utm_campaign=BNEF2015&utm_source=PRlink&utm_content=link&utm_term=

xii   Ibid.

xiii Climate Action Network European and Greenpeace, End of an Era - Why Every European Country Needs A Coal Phase-out Plan, 2015, http://www.caneurope.org/attachments/article/930/End%20of%20an%20Era%20report%20single%20pages%20final.pdf

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Why we are here
To stop the degradation of the planet's natural environment and to build a future in which humans live in harmony with nature.

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