THE EU'S 2030 ENERGY AND CLIMATE CHANGE PACKAGE

Fit for a food and energy-secure world?

The EU is facing an energy wake-up call as a food and fuel crisis looms – caused by political instability playing out with Russia over Ukraine and climate vulnerability in Europe's key exporters. Big decisions are being taken now about Europe's energy future as the EU negotiates a new set of climate and energy targets for 2030. The only way to guarantee secure and affordable energy and to climate-proof its food, is for the EU to urgently increase climate action and wean itself off fossil fuels, rather than opt for a dead-end route of more coal extraction and fracking. The EU must agree targets to reduce energy demand by 2030, and to boost sustainable renewable energy to help reduce emissions by at least 55 percent by 2030 – keeping energy affordable for Europe and tackling climate change, which stands to devastate the poorest and reverse the fight against hunger.

GROW
FOOD. LIFE. PLANET.

OXFAM

SUMMARY

Climate change is exacerbating poverty and hunger around the world, and scientists warned this year that the planet is warming faster than previously thought.[1] The impacts of this can be seen today across the developed and the developing world, nowhere more clearly than in the food we all eat.[2] Farmers in rich and poor countries alike warn that changing weather is wreaking havoc on their crops. Those in the poorest countries are being hardest hit. Rising food prices caused by an increasingly volatile climate threaten to roll back decades of progress in the fight against hunger.[3] But the EU will not be immune. As the world's biggest food importer, dependent on exports from regions that are highly vulnerable to climate change, European consumers and food companies will increasingly feel the pinch of higher and more volatile prices for their food.

This year, the European Union will agree its 2030 framework for climate and energy policies—a suite of commitments to tackle climate change. The decisions taken by the heads of the 28 EU governments over the next few months will determine how much or how little they will do to contain global warming, and the kind of energy choices they will make for the next 15 years. This package matters not just for Europe, but for the world, as it will determine the EU's offer for the global climate talks.

These weighty decisions are being made in the shadow of the current crisis in Ukraine. The threat to Europe's energy supply posed by the tense geopolitics on its eastern border is forcing governments to reassess their energy mix. Leaders should seize this opportunity to take a 'climate-compatible' route to a clean and secure energy future for all, by reducing energy demand and moving from reliance on increasingly expensive and insecure fossil fuel imports towards clean, home-grown renewable energy. Leaders must resist the 'climate-blind' route of simply shifting suppliers, or exploiting new and unsustainable fossil fuels within Europe.

Without such ambitious climate action, Europe risks being caught between rising energy import bills and increasingly volatile food import prices—an energy and food import price 'pincer'. This would be bad news for the fifty million people in Europe who cannot afford to heat their homes adequately,[4] and for those who struggle to put a proper meal on the table—including half of the low-income households in the newer member states.[5] People on low incomes in many European countries may increasingly face the choice between heating and eating.[6] The implications are several times worse for small-scale farmers and those at risk of hunger in developing countries.

The 2015 UN Climate Change Conference in Paris could represent a critical turning point for global action on climate change. An ambitious EU target will help to lever stronger commitments from the rest of the world, which are desperately needed to prevent climate change devastating the lives of the world's poorest and making even more people go hungry.

Oxfam is calling for the EU to commit to the following binding targets at national level:

- **achieving energy savings of 40 percent;**
- **boosting sustainable renewable energy use by 45 percent;**
- **helping to reduce emissions by at least 55 percent by 2030.**

Box 1: Climate change and its impacts on global food security

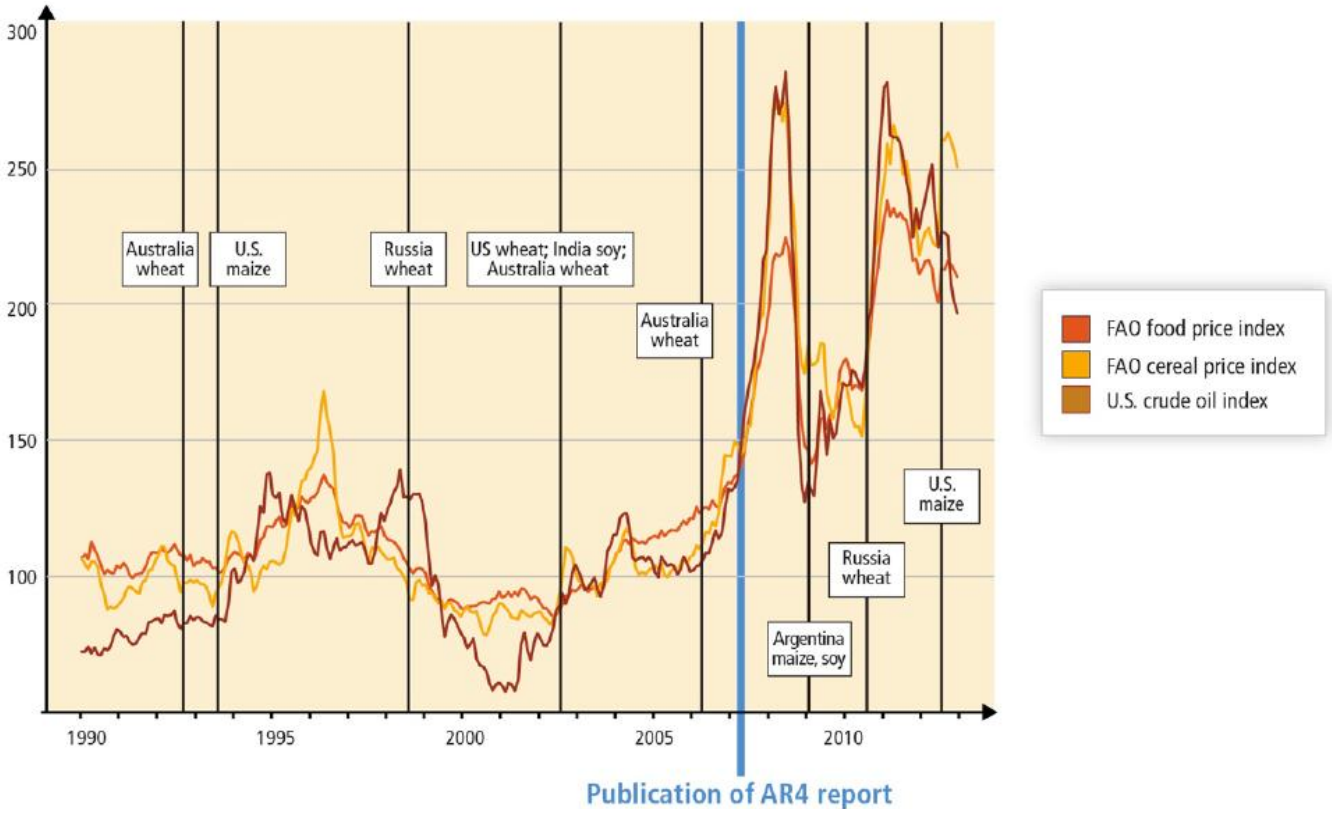
Gradually increasing temperatures and shifting rainfall patterns damage crops and livestock, leading to productivity declines and rising food prices. Increasingly extreme weather, such as floods and droughts, can wipe out entire harvests and livestock herds and lead to further dramatic food price hikes, putting food beyond the reach of millions of people living in poverty. The landmark Intergovernmental Panel on Climate Change (IPCC) 5th assessment report shows that the impacts on global food security are worse and are happening sooner than previously estimated:

1. **Climate change is already impacting on global crop yields.** The IPCC finds that climate change has already meant significant declines in yield growth, not just in some areas in developing countries, but globally. Gains in some areas have not offset declines elsewhere; rather global yields of staple crops like wheat and maize have been up to two percent per decade lower due to climate change since the 1960s.
2. **Projected future impacts will mean yields will struggle to keep pace with rising demand.** Global crop yields for the major staple crops—corn, wheat and rice—will likely decline by up to two percent per decade from around 2030. This will act as a significant break on the yield growth required to meet food demand, projected to grow by 14 percent per decade over the same period.
3. **Climate change has already contributed to food price spikes, and will lead to long-term price rises.** The IPCC estimates long-run food price rises of up to 84 percent by 2050, and demonstrates the contribution that extreme weather has made to food price spikes in recent years (see Figure 1):

- **Argentina in 2009,** when the worst drought in 50 years hit wheat, corn, soy and cattle farming. The Food and Agriculture Organization of the UN (FAO) food price index rose about 17 percent.
- **Russia in 2010,** when a heat wave and associated wildfires substantially cut wheat production and the government banned exports. The FAO food price index rose by about 30 percent.
- **The US Midwest in 2012,** when the worst drought and extreme heat in decades forced global maize prices up by 40 percent. The FAO food price index rose by about 3 percent.

4. **Climate change threatens to put back the fight against hunger.** The IPCC cites studies which find that, by 2050, an extra 50 million people—equivalent to the population of Spain—could be pushed into hunger because of climate change. The number of malnourished children under the age of five could increase by 25 million, roughly the number of under-fives in the EU.

Figure 1: Weather-related food price increases,[7] 1990–2013



Source: IPCC (2014) 'Chapter 7: Food Security and Food Production System', WGII AR5

EUROPE'S ENERGY AND FOOD IMPORT PRICE CRUNCH

Volatile food prices, rocketing fossil fuel prices, increased competition, and disrupted supplies are the hallmarks of our resource-constrained world under pressure from climate change. As the world's largest food and energy importer,[8] Europe's food and energy systems depend on increasingly unsustainable imports (see figure 2).

Over 50 percent of the EU's energy is imported—and its top supplier for both oil and gas is Russia.[9] The scale of this dependency is alarming; it leaves the EU vulnerable at times of regional conflicts or stand-offs, and makes it more susceptible to fuel price shocks that hit the poorest the hardest. The EU's dependency on fossil fuel imports is also a ticking time-bomb for the climate.

Last year, the EU spent €400bn on importing fossil fuels,[10] equivalent to €790 per person.[11] Considering oil and gas imports from Russia alone, each EU citizen paid Russian energy giants about €250 in 2013.[12] The European Commission estimates that the price of Europe's oil and gas imports will rise substantially over the next few decades.[13] Even if governments meet all of their 2020 climate and energy commitments, and therefore import less energy, models show that the EU's overall import bill will nonetheless increase to €500bn by 2030 because of fuel price rises.[14] However, an ambitious 2030 package could bring the EU's fossil fuel import bill down by up to €200bn a year by 2030. This would

Last year, the EU spent €400bn on importing fossil fuels, equivalent to €790 per person. Considering oil and gas imports from Russia alone, each EU citizen paid Russian energy giants about €250 in 2013.

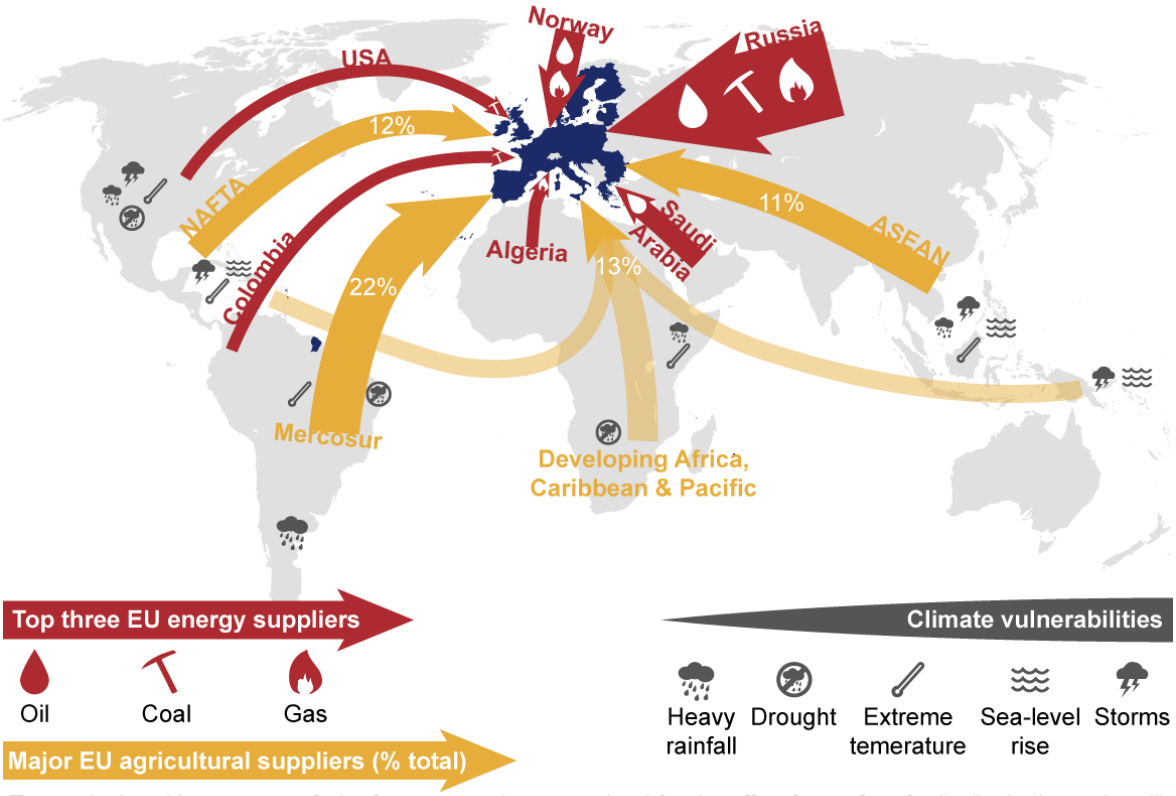
equate to savings of €400 per person by 2030.[15]

The EU is also the world's biggest importer of food, and highly dependent on regions which are particularly vulnerable to the impacts of climate change. If climate change continues unchecked due to limited global ambition, the EU's food import bill—currently around €100bn a year[16]—is also set to increase, possibly in the order of several billion euro by 2030, and more in the decades thereafter.[17]

An ambitious 2030 package could bring the EU's fossil fuel import bill down by up to €200bn a year by 2030.

Up to 72 percent of the EU's imports come from the developing world and areas that are particularly vulnerable to climate change. Even the EU's own meat and dairy farming depends on such imports, as 70 percent of the EU's animal feed comes from the Global South.[18]

Figure 2: The EU's food and energy import dependency[19]



Top agricultural imports are: fruits & nuts, soyabeans, animal feed, coffee & tea, fats & oils (including palm oil)

Box 2: Climate vulnerability in key agricultural exporting regions

NAFTA: most agricultural imports come from the USA, which is particularly vulnerable to climate extremes. The USA is already experiencing more frequent hot weather events, heavy rainfall and storms. Warming of just 2 degrees will make this worse, and is expected to combine with sea-level rises, storm surges, more intense drought and volatile rainfall to put pressure on agriculture.

MERCOSUR: Main suppliers Brazil and Argentina are already experiencing more extreme temperatures. More frequent extreme rainfall in the south east is linked to landslides and flash floods, while increased temperature and decreased rainfall in northeast Brazil threatens food production by 2030. Projections show an increase in dry spells throughout tropical South America by the end of the century.

ASEAN: South-East Asia is expected to be hit by rising sea levels of over a meter by the end of the century. Coupled with storm surges, more extreme monsoons, tropical cyclones, and rapidly increasingly heat extremes, this increase is projected to have devastating impacts.

ACP (African, Caribbean and Pacific Group): In sub-Saharan Africa, the annual average temperature is already above optimal levels for wheat, and is starting to affect corn. Large regional risks to food production emerge even with under 2 degrees of warming. Aridity is projected to spread due to changes in temperature and precipitation, most notably in southern Africa. There is likely to be less rainfall in many areas, with the exception of the Horn of Africa, where wet spells may become more intense, increasing the risk of floods. Current and future climate risks for small island states in the Caribbean and Pacific include rising sea levels, cyclones, increasing temperatures, and changing rainfall patterns.

Source: IPCC WG2 AR5 regional chapters 22, 26, 27 and 29; and the World Bank (2013), 'Turn down the Heat: climate extremes, regional impacts, and the case for resilience'.

Modelling by the Institute of Development Studies shows that, by 2030, European consumers could face prices for rice, wheat and corn that are 50–60 percent higher than the trend in 2010, around half of which due to the effects of climate change.[20] On top of these projected long-run price increases for staples, we can expect consequences for processed foods and further short-term price spikes due to extreme weather, as shown in Box 2.

The rising costs of imported fossil fuels combined with increasingly volatile food import prices threaten to trap Europe in an energy and food import price pincer. Food and energy prices paid by EU citizens have been increasing far faster than the cost of other items, helping to drive increased costs of living in Europe.[21] The poorest will be squeezed the most, because low-income households spend a much larger proportion of their income on food and keeping warm.[22] At a time when austerity is already making life tough for many Europeans on low incomes, climate change will add further burdens and may force people to choose between heating and eating.

If climate change continues unchecked due to limited global ambition, the EU's food import bill – currently around €100bn a year – could increase by up to several billion euro by 2030.

The only sane way out of this pincer attack is for Europe to pursue an ambitious path of climate action at home and abroad, shifting away from reliance on costly imported fossil fuels towards sustainable, renewable energy in Europe.

Box 3: The impacts of climate change on Europe's food industry

European food multinational Unilever loses €300m every year due to extreme weather events such as storms, flooding and extreme cold.[23]

UK supermarket chain Asda, which is owned by US giant Walmart, estimates that 95 percent of its fresh produce is already at risk from climate change; one of the few products not vulnerable is fresh herbs.[24]

EUROPE AT AN ENERGY CROSSROADS

The crisis in Ukraine has been a wake-up call for Europe to reassess its energy mix. Facing the very real threat of energy supplies being held hostage for political ends, governments are hurriedly considering contingency plans. Energy security is top of the G7 agenda this year, and there is a new sense of urgency for the discussions around the EU 2030 climate and energy package.

The EU is at a crossroads for energy policy, which presents a valuable opportunity to realign its energy mix to fit its climate and poverty reduction goals, reduce energy dependency, create more and better jobs, and improve food security and health. However, EU leaders seem divided over how to make Europe more energy-secure. The two potential directions are:

1. The climate-compatible route:

- diversify away from both imported and domestic fossil fuels;
- save more energy, and so reduce demand;
- create a bigger and better-connected renewable energy capacity to improve supply.

2. The climate-blind route:

- diversify towards different fossil fuels and suppliers;
- exploit indigenous shale gas reserves and coal;
- import expensive Liquified Natural Gas (LNG) from the USA, dirty tar sands from Canada, or unsustainable bioenergy.

The climate-compatible route

A climate-compatible route would signal commitment to an urgent and radical shift to a low-carbon future—something that the EU and the world's rich countries need to lead—in order to fight climate change and avert potentially catastrophic impacts on our ability to grow and access food.

The climate-compatible route is also cost-effective. There are still too many people paying too much money to heat leaky, draughty homes. Studies show that improving energy efficiency by 40 percent by 2030 could save households and industry over €239bn annually on energy bills.[25] Each household would enjoy an average saving of over €300 every year by 2030.[26] Prioritising energy efficiency is also fairer to those with limited means. Measures like insulating roofs, or installing more efficient boilers, bring real and immediate benefits to low-income households, of which one in four cannot currently afford to adequately heat their homes. Investment in renewable energy will also lead to savings in the future due to a reduced dependency on imported fuel. European renewable energy projects—such as onshore and offshore wind, and solar power—have already saved as much money in avoided fossil fuel imports as the sector has been awarded in subsidies.[27]

Improving energy efficiency by 40 percent by 2030 could save households and industry in Europe over €239bn annually on energy bills. Each household would enjoy an average saving of more than €300 every year by 2030

Action on energy efficiency and renewable energy also creates jobs: the European Commission estimates that even a modest 30 percent renewable-energy target flanked with energy efficiency measures would create 568,000 additional jobs in the EU by 2030.[28]

The climate-blind route

A climate-blind route is a dead end that would do nothing to avoid runaway climate change; two-thirds of listed fossil fuel reserves around the world need to remain underground to give humanity a chance to avoid a dangerous 2ºC increase in global temperatures.[29] The IPCC calls for investment in fossil fuels to start falling by tens of billions of dollars a year.[30] This action must be urgently led by industrialised countries. According to the International Energy Agency, the longer we wait, the more expensive it will get: every year of delayed investment in low-carbon energy sources costs €300bn to €400bn globally, partly because new carbon intensive infrastructures will have to have their lifespans cut artificially short.[31]

A climate-blind 2030 package would lock Europe into a high-carbon, fossil-fuel future, and postpone investment in low-carbon options for more than a decade. Commercialisation of shale gas in the few member states which have given the green light to exploration is still years away and is fraught with environmental problems. Importing US shale gas in the form of LNG would not solve the EU's energy problems, as liquidisation, re-gasification and shipping costs annihilate any savings and the infrastructure to receive it does not yet exist in many Eastern European member states.[32] Nuclear power comes at a high price too, and leaving aside safety risks and waste treatment problems, increased dependence upon nuclear power would only swap one energy-security problem for another, due to the need for uranium imports.[33]

Redirect distorting subsidies

Achieving a climate-compatible transition will require upfront investment too – but with many more immediate benefits for citizens and the climate alike. Funds for this level of investment can be released through shifting dirty fossil fuel subsidies, such as tax breaks for offshore oil drilling in the UK, or support for coal mining in Germany. Socially and environmentally harmful fossil-fuel subsidies hinder progress towards the EU's climate goals and need to be urgently redirected.

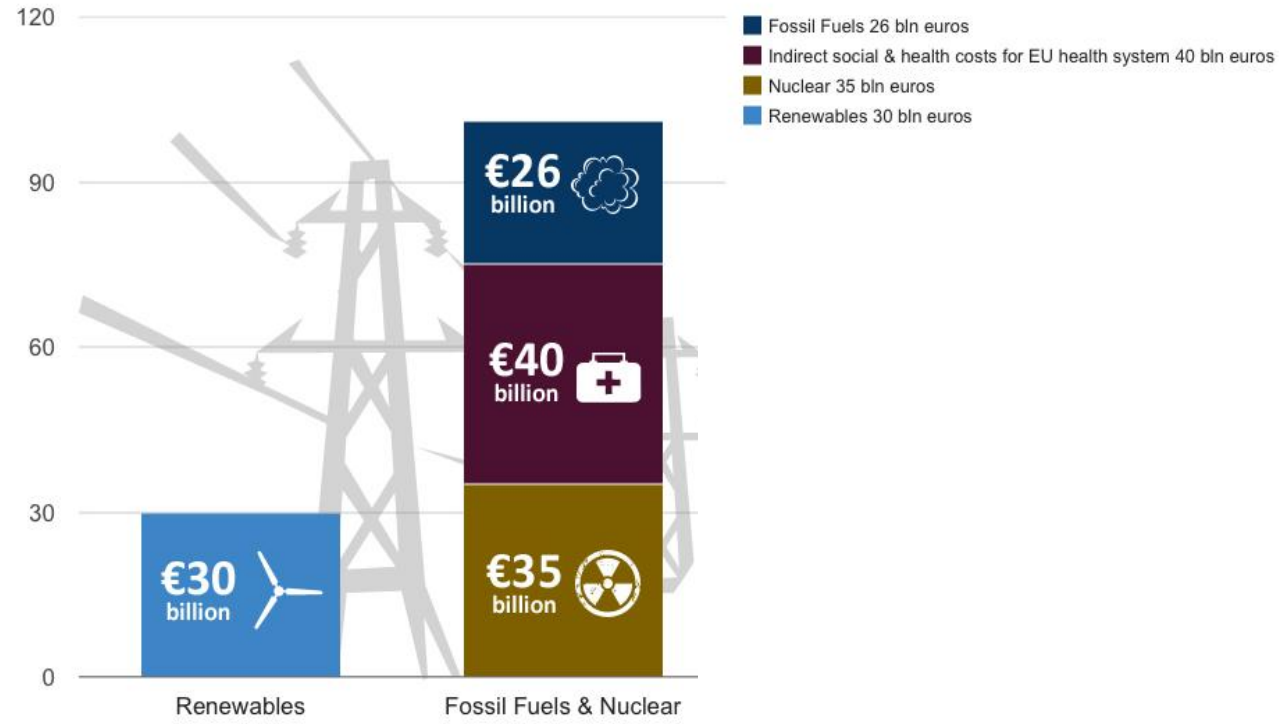
All members of the G20 have committed to phase out fossil-fuel subsidies by 2020, while providing targeted support for the poorest. The G7 and the EU could lead the way at UN Secretary-General Ban Ki-Moon's Climate Summit in September 2014 by pledging to immediately remove socially and environmentally harmful incentives and subsidies (in particular, production-subsidised) that support the fossil fuel industry, to redirect the savings to support a low-carbon transition in Europe, and to provide finance to developing countries for tackling climate change.

Box 4: The cost of subsidies and externalities

Worldwide, subsidies for oil, coal and gas far outweigh subsidies for renewables: for every €1 spent in support of renewable energy, another €6 promotes carbon-intensive fuels. The OECD estimates that the G7 spent €29bn on subsidizing fossil fuels in 2012, making them some of the worst offenders among developed countries. The EU spent €24bn. This includes both subsidies paid to producers, and subsidies that lower prices for consumers. However, it does not include externalities such as costs to healthcare systems of diseases caused by air pollution from burning coal; such 'social costs' of carbon cost the EU another €40bn.

Source: OECD (2014) 'OECD-IEA Fossil Fuel Subsidies and Other Support', http://www.oecd.org/site/tadffss/, supplemented by European Commission data for non-OECD Member State; and S. Whitley (2013) 'Time to change the game: Fossil fuel subsidies and climate' (ODI), p 8–9

Figure 3: The full cost of energy subsidies in the EU, 2011



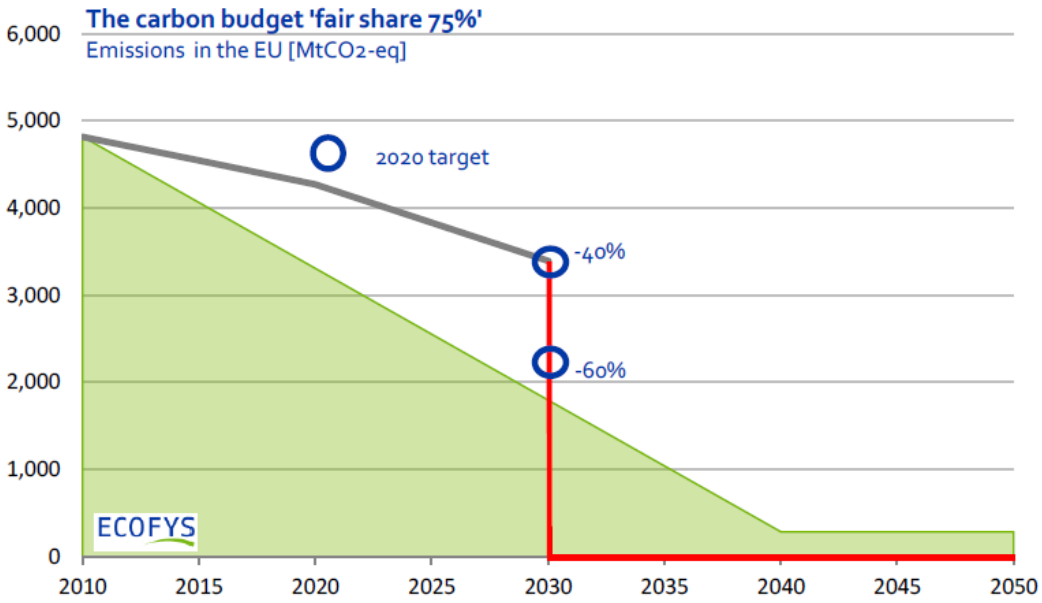
Source: CAN Europe

While some consumer subsidies, such as lower energy taxes for households, do help to keep bills down, there are better and more direct ways of helping the poor. Measures to reduce energy demand, such as improving draughty homes, would help to reduce consumption in a pro-poor way, and pave the way for the elimination of these subsidies.

A 2030 CLIMATE AND ENERGY PACKAGE FOR FOOD AND ENERGY SECURITY

Home to many of the world's richest countries, and historically among the world's biggest greenhouse-gas emitters, the EU should commit to its fair share of the global effort against climate change. By any indicator of 'fair share'—capability, historical responsibility, and population—the EU needs to deliver more than is currently proposed.

Figure 4: One option for a fair carbon budget for the EU (based on population and a 75% chance of meeting the 2 degrees objective)



Source: ECOFYS (2014) 'Assessing the EU 2030 Climate and Energy targets: A Briefing Paper'

The green area in Figure 3 shows what a fair share of the EU's global carbon budget would look like if it corresponded to the EU's share of the global population alone (i.e. leaving aside the issue of historical emissions, or capability), and was consistent with the effort required to have a 75 percent chance of meeting the 2 degree target. It would require emissions reductions upwards of 60 percent by 2030. With a 40 percent emissions reduction pathway as proposed by the European Commission, the EU would consume its entire carbon budget by 2030.

An ambitious target that matches what is urgently needed to keep global warming at least below the internationally agreed 2ºC increase (and keep open the option of staying below 1.5ºC)[34] will help galvanise global momentum to cut emissions and lever similar commitments from the rest of the world. If the EU does not lead on climate action, no one else will: the USA needs to find a way out of deadlock in its political system, and other rich countries such as Australia, Japan and Canada have recently backtracked on climate commitments.

Last year, for the first time, Europe was overtaken by China in renewable investments.[35] Rather than scale back its ambition after 2020, Europe needs to approach the transition to a low-carbon economy as a race to the top—and show that the transition to a low-carbon economy is in its interests. EU leaders must:

1. Commit to a binding energy savings target of at least 40 percent

At the March EU Summit, Heads of State agreed that improving energy efficiency should be the first step in efforts to reduce Europe's high fossil fuel dependency. Now is the time to follow through with action: EU leaders should set a binding energy savings target to reduce energy use by at least 40 percent, which reflects the most cost-effective potential that

exists.[36] Prioritising the saving of energy is also the best way to make the transition to clean energy work for the EU's poorest people.

Experience shows that households and companies do not take action to reduce energy use by themselves—even if the economic case is clear—because of initial barriers to investment. For example, property owners do not have an incentive to pay for roof insulation because tenants are the ones who would benefit from reduced heating bills; and banks are not giving loans easily enough for energy efficiency improvements. Therefore, the EU must make a clear political commitment to taking energy savings seriously, by setting a binding target that means governments will have to create financial and other policy incentives to overcome such barriers and unlock potential savings.

2. Increase the renewable energy target to 45 percent

EU leaders should increase the target for renewables in its energy mix to 45 percent, ensuring that adequate guarantees are adopted to prevent the use of unsustainable bioenergy. It is crucial that there are no specific sub-targets for renewable energy in the transport sector in the 2030 package, and Oxfam welcomes the Commission's proposal not to set a sub-target for this beyond 2020.

The currently proposed 27 percent renewables target is only marginally more ambitious than what is projected to happen anyway, under business-as-usual. The European Commission expects that under current policies, renewable energy is projected to increase to 24.4 percent of the energy mix by 2030.[37] A target to increase this by merely a couple of percent is not a strong enough policy signal to investors, whose confidence has already been shaken recently by mixed signals from some member states about their commitment to renewable energy.[38] A higher—and legally binding—target is needed, in order to give investors long-term certainty, and so make investment cheaper by reducing risk.

Binding targets matter—and experience shows that they work. Member states that had almost no renewable energy seven years ago, such as the UK, Belgium and the Netherlands, would never have come so far without the current 2020 renewable energy targets being binding at the national level.[39]

However, a binding 2030 renewable energy target of 45 percent must be accompanied by guarantees that prevent the use of land-based biofuels (from food crops and dedicated energy crops), and the unsustainable use of biomass.[40] These guarantees must include:

- full carbon accounting to ensure bioenergy delivers real emission savings compared with the fossil fuels they are meant to replace;
- comprehensive social and environmental sustainability criteria;
- consideration of a cap on the use of biomass, set at a level which broadly reflects sustainable supply capacity.

3. Increase the overall greenhouse gas emission reduction target to at least 55 percent

A target to cut emissions by at least 55 percent, supported by a reformed Emissions Trading System, would allow the EU to reach its cost-efficient energy savings potential, and enjoy the associated benefits of an increased share of renewable energy. The currently proposed 40 percent target might actually hinder ambition in these areas. It sells Europe short and also fails to fulfil global expectations.

As part of the UN Climate Change Conference in Paris in 2015, all countries' commitments on emission reductions will need to be reviewed to ensure they are adequate and fair. The EU should indicate already in 2014 that it is willing to increase ambition as a result of such a review. In preparation, the Commission should undertake an impact assessment looking at higher-range scenarios than they have been assessed to date,[41] to ensure the EU is ready to increase ambition domestically in the context of an international deal. Any recourse to international offsets negotiated as part of a global deal should not constitute the majority of an increased offer, and should ensure both benefits to developing countries and real emissions cuts.

4. Complement the mitigation pledge with a substantial climate finance offer

Oxfam believes that a fair offer from the EU for the global talks in Paris in 2015 would be an unconditional pledge to mitigate at least 55 percent of emissions domestically, complemented by financial support for climate action in developing countries, especially the poorest, after 2020.

Providing finance to help developing countries develop low-carbon policies and adapt to climate impacts is an essential part of the EU's contribution to meet its overall fair share of the global climate effort. The EU needs to come to the global talks with a bold vision of how to disburse substantial amounts of climate finance from 2020 onwards. Without the dramatic growth of finance from public and private sources, it will not be possible to achieve the necessary transition and keep within the 2ºC target.

There is still much to be done in the short term to fulfil existing pledges. EU countries remain worryingly vague on how they will scale up public climate finance between now and 2020 to meet their share of the $100bn per year promised at Copenhagen. This lack of certainty about climate finance is a major issue for developing countries, and puts progress towards a global agreement at risk.

Therefore, the EU must prepare a clear roadmap for scaling up public climate finance between now and 2020. This must include intermediate targets, with clarity on the 2014/2015 contribution; ensure finance does not dip below fast-start climate finance levels; and outline how the money will be provided through a combination of budgetary contributions and innovative sources of public finance, such as the auctioning of allowances in the EU's Emissions Trading System or financial transaction taxes.

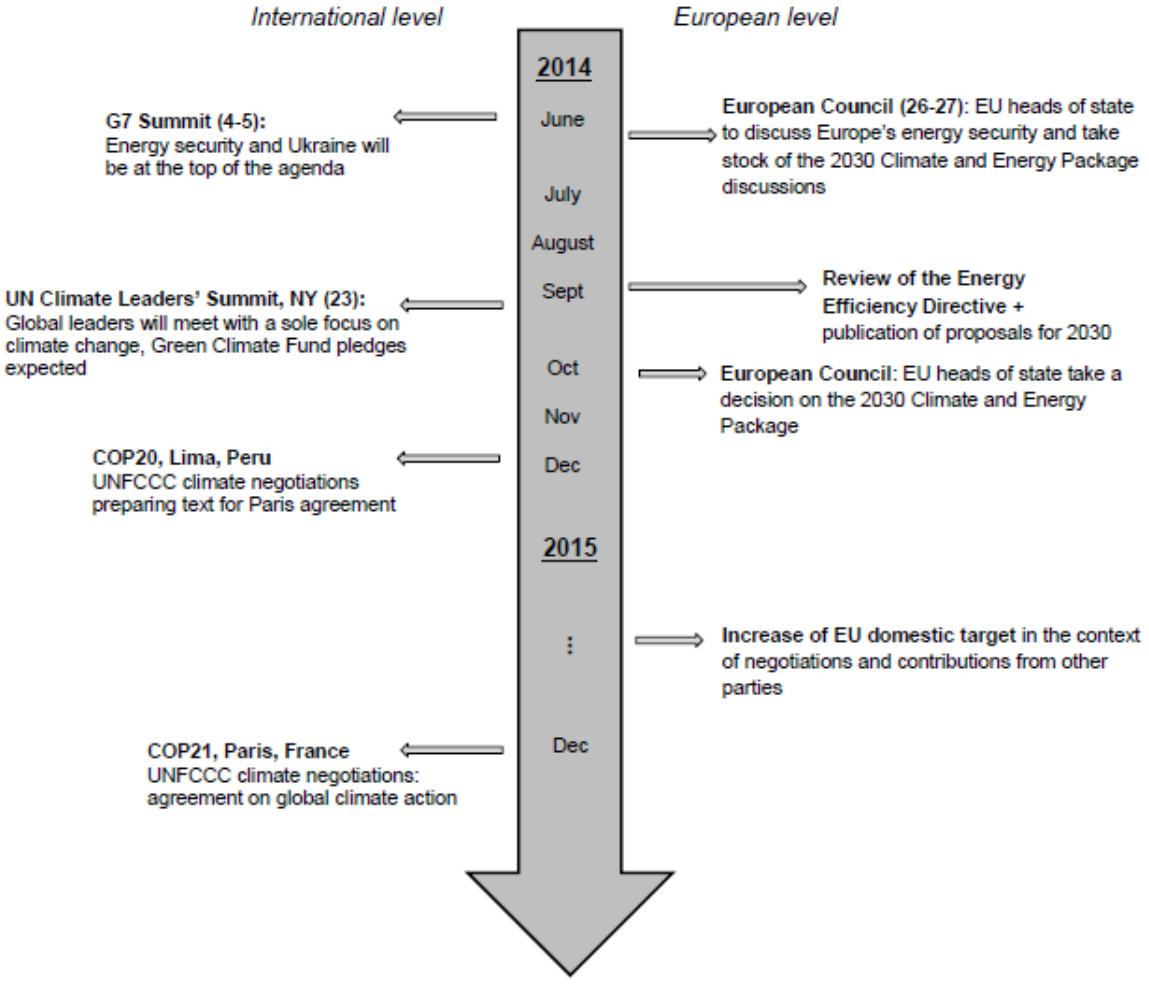
One immediate step in the right direction would be for the EU to announce an ambitious financial pledge to the Green Climate Fund at Ban Ki-Moon's Climate Leaders' Summit in September 2014. This should correspond to the EU's share of the overall $10–15bn required for its initial capitalisation.

CONCLUSION

Climate change adds yet more burdens for poor men, women and children at risk of hunger in developing countries. But it is also threatening low-income households closer to home, who face being squeezed between higher energy bills and rising prices for imported food.

The climate and energy commitments made in the EU's 2030 package matter—not just for Europe, but for the world. The Ukraine crisis has focused minds on the need to reform Europe's energy systems, and EU leaders must be visionary and bold in their response.

Figure 5: Key future milestones



ANNEX: Energy mix breakdown by EU and G7 countries, 2011

Country	Fossil Fuels				Nuclear	Renewable			Total energy use*
	Coal/Peat	Oil	Natural Gas	TOTAL Fossil Fuels		Hydro, geothermal, solar	Biofuels & Waste	TOTAL Renewable	
Austria	10.70%	35.50	24%	70%	0%	10.50%	19.50%	30.00%	33 019 ktoe
Beligium	4.90%	38.40	25.70%	69.00%	21.40%	1%	9%	9.70%	59 094 ktoe
Bulgaria	40.20%	18.40	13.10%	71.70%	21.20%	2.20%	4.90%	7.10%	252 Mtoe
Canada	7.70%	32.10	32.80%	72.60%	9.60%	13.10%	4.80%	17.90%	43 429 ktoe
Croatia	9.00%	46.50	33.00%	88.50%	0%	5.40%	6.10%	11.50%	17 997 ktoe
Cyprus	0.30%	94.60	0%	95%	0%	3%	2%	5.10%	5 603 ktoe
Czech Rep	40.80%	19.40	16.10%	76.30%	16.50%	1.00%	6.30%	7.30%	34 749 ktoe
Denmark	18.10%	36.50	20.80%	75.40%	0	0.049	19.80%	24.70%	253 Mtoe
Estonia	68.90%	8.60%	8.50%	86.00%	0%	1%	13.50%	14.00%	312 Mtoe
EU 27	17.30%	33.10	24.30%	74.70%	14.30%	3.30%	7.80%	11.10%	26 723 ktoe
Finland	17.00%	27.30	10.00%	54.30%	18.00%	3.60%	24.10%	27.70%	24 964 ktoe
France	4.00%	29.30	14.40%	47.70%	44.70%	2.10%	5.50%	7.60%	13 216 ktoe
Germany	24.80%	32.70	22.30%	79.80%	9.00%	2.70%	8.50%	11.20%	167 Mtoe
Greece	29.80%	47%	15%	92%	0%	3.40%	4.80%	8.20%	4171 ktoe
Hungary	11.30%	25.40	38.30%	75.00%	16.80%	0.80%	7.40%	8.20%	77419 ktoe
Ireland	15.40%	47.00	31.20%	93.60%	0%	3.40%	2.90%	6.30%	101 Mtoe
Italy	9.70%	38.40	39%	87%	0.00%	6.60%	6.20%	12.80%	23 084 ktoe
Japan	23.30%	44.70	21.70%	89.70%	21.70%	2.40%	2.30%	4.70%	17349 ktoe
Latvia	2.80%	32.30	30.20%	65.30%	0%	5.90%	28.70%	34.60%	7249 ktoe
Lithuania	3.60%	36.50	40.50%	80.60%	0%	4.90%	14.50%	19.40%	126 Mtoe
Luxembourg	1.50%	67.20	27.30%	96.00%	0%	0.30%	3.70%	4.00%	49045 ktoe
Malta		94.50		95%		0.002	5.30%	5.50%	188 Mtoe
Netherlands	9.80%	38.90	44.60%	93.30%	1.40%	1%	4.70%	5.30%	2191 Mtoe
Poland	53.70%	25.10	12.60%	91.40%	0%	0.50%	8.10%	8.60%	19216 ktoe
Portugal	9.70%	47.60	19.50%	76.80%	0%	9.00%	14.10%	23.10%	8439 ktoe
Slovakia	21.40%	20.50	26.80%	68.70%	23.50%	2.20%	5.60%	7.80%	2 368 ktoe
Slovenia	19.90%	34.80	10%	65%	22.00%	4.90%	8.40%	13.30%	4371 ktoe
Spain	9.90%	43.50	23.00%	76.40%	11.90%	6.10%	5.70%	11.80%	7287 ktoe
Sweden	5%	27.70	2.30%	35.00%	31.70%	13.10%	20.20%	33.30%	857 ktoe
UK	16.30%	32.30	37.40%	86.00%	9.60%	1.10%	3.30%	4.40%	461 Mtoe
USA	21.90%	35.90	26.00%	83.80%	9.80%	2.30%	4.20%	6.50%	1654 Mtoe

Source: IEA

NOTES

Web links last checked in May 2014, unless otherwise specified

1 UN Intergovernmental Panel on Climate Change (2014) 'Climate Change 2014: Impacts, Adaptation, and Vulnerability', IPCC Working Group II Contribution to AR5, http://www.ipcc-wg2.gov/AR5/

2 Ibid

3 Oxfam (2014a) 'Hot and hungry – how to stop climate change derailing the fight against hunger', Oxfam Media Briefing, http://www.oxfam.org/sites/www.oxfam.org/files/mb-hot-hungry-food-climate-change-250314-en.pdf

4 54 million individuals live in energy poverty in Europe (defined as spending more than 10 percent of their income on energy). Eurostat (2012) 'EU-Statistics on Income and Living Conditions (EU-SILC)', http://epp.eurostat.ec.europa.eu/portal/page/portal/income_social_inclusion_living_conditions/introduction

5 Ibid.

6 As two of the largest items of household expenditure in the EU, rising prices for food and energy place increasing strains on household budgets, particularly among households on lower incomes. EU-27 households spent approximately 17% of their total expenditure on food and energy (not including transport) in 2011, and in excess of 20% in southern and eastern member states. http://epp.eurostat.ec.europa.eu/cache/ITY_OFFPUB/KS-SF-13-002/EN/KS-SF-13-002-EN.PDF

7 The FAO food price index measures the international prices of a weighted basket of commodities including meat, dairy, sugar, vegetable oil and cereals. FAO (2014) 'World Food Situation', http://www.fao.org/worldfoodsituation/foodpricesindex/en/

8 European Commission (2013) "Agricultural trade in 2012: A good story to tell in a difficult year?" http://ec.europa.eu/agriculture/trade-analysis/map/2013-1_en.pdf and http://europa.eu/pol/ener/index_en.htm

9 European Commission (2014a) 'Energy: Market observatory & Statistics, Energy figures by country', http://ec.europa.eu/energy/observatory/countries/countries_en.htm

10 European Commission (2014), 'Staff Working Document, In-depth Study of European Energy Security', http://ec.europa.eu/energy/doc/20140528_energy_security_study.pdf. Only a small percentage of this was biomass.

11 The latest Eurostat population figure is 506 billion: Eurostat (2014) 'Population on 1 January', http://epp.eurostat.ec.europa.eu/tgm/table.do?tab=table&language=en&pcode=tps00001&tableSelection=1&footnotes=yes&labeling=labels&plugin=1

12 Total oil imports from Russia in 2013 amounted to $122 billion. European Commission (2014b) 'Energy: Market observatory & Statistics, EU Crude oil imports', http://ec.europa.eu/energy/observatory/oil/import_export_en.htm With an EU population of 506 million, this works out at about €176 per capita. Total gas imports from Russia amounted to 41% of the overall 2013 €87 billion import bill, European Commission, 'Staff Working Document, In-depth Study of European Energy Security', http://ec.europa.eu/energy/doc/20140528_energy_security_study.pdf. This works out at about €70 per person. Total = €246 per person for 2013.

13 Gas import prices will increase by 68 percent and oil imports by 45 percent between 2010 and 2025. P. Capros, A. De Vita, N. Tasios, D. Papadopooulos, P. Siskos, E. Apostolaki, M. Zampara, L. Paroussos, K. Fragiadakis, N. Kouvaritakis, L. Höglund-Isaksson, W. Winiwarter, P. Purohit, H. Böttcher, S. Frank, P. Havlík, M. Gusti and H.P. Witzke (2013) 'EU Energy, Transport and GHG Emissions Trends to 2050: Reference Scenario 2013', http://ec.europa.eu/transport/media/publications/doc/trends-to-2050-update-2013.pdf, p17; European Commission (2014c) 'Energy prices and costs report ', Commission staff working document, http://ec.europa.eu/energy/doc/2030/20140122_swd_prices.pdf, p210.

14 P. Capros et al (2013) op. cit., p 50

15 Ecofys research indicates that savings of €200 billion per year by 2030 could be achieved through a 45 percent renewables mix and 40 percent energy efficiency target, which would also lead to an approximately 60 percent cut in emissions. R. de Vos, P. van Breevoort, N. Höhne, T. Winkel and C. Sachweh (2014) 'Assessing the EU 2030 Climate and Energy targets: A Briefing Paper', Ecofys,

http://www.ecofys.com/files/files/ecofys-2014-assessing-the-eu-2030-targets.pdf, p13

16 European Commission (2014d) 'EU28 Agricultural Trade With:' [sic], http://ec.europa.eu/agriculture/trade-analysis/statistics/outside-eu/extra-eu28-factsheet_en.pdf; European Commission (2014e) 'Agriculture and Rural Development: Agricultural trade statistics 2004–2013', http://ec.europa.eu/agriculture/statistics/trade/2013/index_en.htm

17 This estimate is based on an Institute for Development Studies model which projects baseline EU net imports from three crops – wheat, maize and rice – alone to be in the order of 3 billion USD in 2030, and world market price rises due to climate change in the order of 50% by 2030. Given the EU's dependence on climate vulnerable suppliers, it is reasonable to expect that the EU will likely face an annual food import bill that is several billion euro higher per year by 2030 due to the effects of climate change. See: D. Willenbockel (2011) 'Exploring food price scenarios towards 2030 with a global multi-region model', Oxfam Research Report, http://www.oxfam.org/sites/www.oxfam.org/files/rr-exploring-food-price-scenarios-010611-en.pdf..

18 R. Maynard (2008) 'An inconvenient truth about food – Neither secure nor resilient', Soil Association, http://www.soilassociation.org/LinkClick.aspx?fileticket=EttWlupviYA%3D&tabid=387

19 Figures for the EU's top energy suppliers are taken from: http://ec.europa.eu/energy/doc/20140528_energy_security_study.pdf (figures for 2013). Figures for the EU's agricultural supplying regions are from: http://ec.europa.eu/agriculture/statistics/agricultural/2012/pdf/c7-1-37_en.pdf (figures for 2011).

20 This estimate is based on an Institute for Development Studies model from: D. Willenbockel (2011) op. cit. Please note that the 'European' region used in the model is larger than the EU.

21 Oxfam analysis of annual rate of change of Harmonised Indices of Consumer Prices for 'Energy and unprocessed food' and for 'Overall index excluding energy and unprocessed food', see http://appsso.eurostat.ec.europa.eu/nui/show.do

22 As two of the largest items of household expenditure in the EU, rising prices for food and energy place increasing strains on household budgets, particularly amongst households on lower incomes. EU-27 households spent approximately 17% of their total expenditure on food and energy (not including transport) in 2011, and in excess of 20% in southern and eastern member states. http://epp.eurostat.ec.europa.eu/cache/ITY_OFFPUB/KS-SF-13-002/EN/KS-SF-13-002-EN.PDF

23 S. Yeo (2014) "Climate action is „only way" to grow economy – Unilever CEO", Responding to Climate Change, http://www.rtcc.org/2014/04/08/climate-action-is-only-way-to-grow-economy-unilever-ceo/

24 Oxfam 2014a, op. cit.

25 T. Boβmann, W. Eichhammer and R. Elsland (2012) 'Concrete Paths of the European Union to the 2ºC Scenario: Achieving the Climate Protection Targets of the EU by 2050 through Structural Change, Energy Savings and Energy Efficiency Technologies', Fraunhofer Institute for Systems and Innovation Research ISI, http://www.isi.fraunhofer.de/isi-media/docs/e/de/publikationen/Begleitbericht_Contribution-to-climate-protection_final.pdf, p202.

26 Ibid. The Fraunhofer Institute estimates that households alone would save €68 billion a year. Divided by the 214 million households in the EU, that is a saving of €318 per household every year by 2030.

27 European Commission (2014f) 'Energy Economic Developments in Europe', http://ec.europa.eu/economy_finance/publications/european_economy/2014/pdf/ee1_en.pdf, p117

28 European Commission 2030 package Impact Assessment http://ec.europa.eu/clima/policies/2030/docs/swd_2014_xxx_en.pdf

29 Carbon Tracker (2014) 'Wasted capital', http://www.carbontracker.org/wastedcapital

30 Intergovernmental Panel on Climate Change (2014) 'Climate Change 2014: Mitigation of Climate Change', IPCC Working Group III Contribution to AR5. Figure SPM.9: http://mitigation2014.org/report/spm-graphics

31 Oxfam (2014b) 'Oxfam and climate change', http://www.oxfam.org/en/grow/oxfam-and-climate-change

32 Member states closest to the Russian border do not currently have the capacity or infrastructure to cope with increased Liquid Natural Gas (LNG) imports. H. Gloystein (2014) 'EU gas imports from Russia could drop a quarter by 2020', Reuters, 9 April,

http://www.reuters.com/article/2014/04/09/us-ukraine-crisis-gas-idUSBREA3818J20140409

33 The EU's biggest supplier of uranium is Russia, with whom relations are currently strained. European Commission (2013) 'Natural uranium contracts concluded by, or notified to ESA, 2000 – 2012', http://ec.europa.eu/euratom/docs/Nat_u_Contracts.xls

34 While the political agreement is to stay below 2ºC global warming, Oxfam is campaigning for a lower threshold of 1.5ºC, to keep low-positioned island states above water and to limit dangerous effects of climate change in developing countries.

35 International Energy Agency (2014) 'Tracking Clean Energy Progress 2014: Energy Technology Perspectives 2014 Excerpt IEA Input to the Clean Energy Ministerial', http://www.iea.org/publications/freepublications/publication/Tracking_clean_energy_progress_2014.pdf

36 Frauhofer (2012), Fraunhofer estimated that 33% energy savings (compared to a slightly different 2009 baseline projection) could be implemented at no or negative cost. The costs savings from these measures could then be spent on additional energy efficiency options, amounting to a 41% cost-effective potential from a system perspective.

37 Under business as usual projections, renewable energy share will be 24.4% by 2030. European Commission 2030 package impact assessment, p39

38 Policy uncertainty was one reason for the fall in renewables investment in Europe last year. IEA (2014)

39 Eurostat (n.d.) 'File:T RENEWABLES RES 2012.png', 'http://epp.eurostat.ec.europa.eu/statistics_explained/index.php/File:T_RENEWABLES_RES_2012.png

40 Aside from the much-needed reform in the 2030 package , we cannot wait until 2020 to reverse flawed policies: Oxfam demands an immediate end to the EU's current biofuels mandates. Governments and MEPs must introduce a cap on land-based biofuels in the current revision of the Renewable Energy Directive, and prevent public funding for fuels with greenhouse gas emissions that are no better—or are even worse—than the fossil fuels they are meant to replace. Global food prices will continue to rise the longer we wait; by 2020, the EU's policies alone could push up global oilseed prices by up to 33 percent, maize by up to 22 percent, sugar by up to 21 percent and wheat by up to 10 percent. IEEP (2014) 'Re-examining EU biofuels policy: A 2030 perspective'

41 The highest emissions reduction target that the European Commission has assessed in its 2030 package impact assessment is 45 percent.

This paper was written by Kiri Hanks and Lies Craeynest. Oxfam acknowledges the assistance of Hannah Stoddart, Timothy Gore and Aislinn McCauley in its production. It is part of a series of papers written to inform public debate on development and humanitarian policy issues.

For further information on the issues raised in this paper please e-mail advocacy@oxfaminternational.org

Published by Oxfam GB for Oxfam International under ISBN 978-1-78077-643-9 in June 2014.
Oxfam GB, Oxfam House, John Smith Drive, Cowley, Oxford, OX4 2JY, UK.

OXFAM

Oxfam is an international confederation of 17 organizations networked together in more than 90 countries, as part of a global movement for change, to build a future free from the injustice of poverty. Please write to any of the agencies for further information, or visit www.oxfam.org.

GROW
FOOD. LIFE. PLANET.

OXFAM