

Competitive low carbon economy in 2050

European Parliament resolution of 15 March 2012 on a Roadmap for moving to a competitive low carbon economy in 2050 (2011/2095(INI))

The European Parliament,

- having regard to the Commission Communication ‘A Roadmap for moving to a competitive low carbon economy in 2050’ (COM(2011)0112) and the accompanying working documents (SEC(2011)0288) and (SEC(2011)0289),
 - having regard to the Commission Communication ‘Analysis of options to move beyond 20% greenhouse gas emission reductions and assessing the risk of carbon leakage’ (COM(2010)0265) and the accompanying document (SEC(2010)0650),
 - having regard to the proposals to recast (COM(2011)0656) and amend the Markets in Financial Instruments Directive (MiFID) (COM(2011)0652) and the Market Abuse Directive (MAD) (COM(2011)0651) with regard to emission allowances under the EU’s ETS,
 - having regard to the conclusions of the European Council meeting of 23 October 2011,
 - having regard to the EU climate and energy package,
 - having regard to Article 9 TFEU (the ‘social clause’),
 - having regard to Rule 48 of its Rules of Procedure,
 - having regard to the report of the Committee on the Environment, Public Health and Food Safety and the opinions of the Committee on Industry, Research and Energy and the Committee on Agriculture and Rural Development (A7-0033/2012),
- A. Whereas some 90 parties to the United Nations Framework Convention on Climate Change, including emerging economies, which are collectively responsible for more than 80 % of global emissions, have made unilateral declarations of quantified economy-wide emission reduction objectives, albeit not legally binding;
- B. whereas the European Parliament and the European Council have declared their ambition to secure an 80 to 95 % level of reduction in greenhouse gas emissions by 2050;
- C. whereas the European Union must agree specific targets for emission reductions to provide the basis and framework for the necessary legislative acts and other measures;
- D. whereas the Roadmap demonstrates that the current 20 % climate target, of which more than half could be achieved through non-domestic offsets, is not on a cost-effective pathway towards a 80 % reduction in 2050 as compared to 1990; whereas 80 % is on the low end of the 80-95 % range which the IPCC considered necessary for industrialised countries, and which the European Council adopted as the EU target for 2050;

- E. whereas industry needs to have a clear picture of the EU's low-carbon strategy, which must also be backed up by regulatory certainty, ambitious targets and well-designed funding mechanisms, with a view to making long-term green investments;
 - F. whereas it is in the interests of Member States to reduce their dependence on foreign energy suppliers, especially from politically problematic countries;
 - G. whereas the International Energy Agency has calculated that four-fifths of the total energy-related CO₂ emissions permitted up to 2035 by the 450 Scenario are already locked in by existing capital stocks;
 - H. whereas it is necessary to assess and act against the risk that, in the absence of sufficient global efforts, domestic action will lead to a shift in market share towards less efficient installations elsewhere, thereby resulting in increased emissions globally, i.e. in carbon leakage;
 - I. whereas the Stern report estimates that the costs of non-action in climate protection will be equivalent to losing at least 5 % of global GDP per annum;
 - J. whereas the production and consumption of biomass as an energy source are not, by definition, carbon-neutral;
 - K. whereas the social aspects need to be taken into account, by means of the 'social impact assessment' instrument,
1. Recognises the benefits to Member States, and, where appropriate, to their regions, of developing a low carbon economy; therefore endorses the Commission's Roadmap to a competitive low carbon economy in 2050, together with its trajectory, the specific milestones for domestic emission reductions of 40 %, 60 % and 80 % for 2030, 2040 and 2050 respectively, and the ranges for sector-specific milestones, as the basis for proposing legislative and other initiatives on economic and climate policy; recognises that the trajectory and milestones are based on PRIMES modelling with a view to preparing the necessary legislative and regulatory instruments;
 2. Calls on the Commission to set interim greenhouse gas emission reduction for 2030 and 2040, including concrete objectives for each sector, together with an ambitious timetable;
 3. Invites the Commission to bring forward within the next two years the measures necessary to achieve the 2030 objectives, taking into account particular national capacities and potentials, as well as international progress on climate action;
 4. Considers that measures should be implemented in a coordinated, cost-efficient and effective way, allowing for the specific characteristics of Member States;
 5. Calls for greater consistency among Community programmes and policies in order to achieve the Roadmap's objectives and ensure that its priorities are fully integrated in the new 2014-2020 Multiannual Financial Framework; acknowledges that delivering the 20 % energy efficiency target would allow the EU to reduce its internal CO₂ emissions by 25 % or more by 2020, and that this reduction would still be on a cost-effective path towards the long-term 2050 target of reducing greenhouse gas emissions by 80-95 % from 1990 levels; notes that, according to the Roadmap, a less ambitious approach would result in

significantly higher costs over the entire period; recalls, however, that the cost-effectiveness of investments should always be measured in the light of Member State budgets;

6. Recalls that in the run-up to the Durban Climate Conference, the European Parliament called for the CO₂ reduction target to be increased above 20 % by 2020;
7. Stresses that clear emissions targets will stimulate the early investments needed in R&D, demonstration and deployment for low-emitting technologies, and that defining a long-term strategy is paramount to ensuring that the EU is on track to achieve its agreed objective of reducing emissions by 2050;
8. Calls on the Commission to present a cost-benefit analysis of meeting the proposed pathway at Member State level, taking into account national circumstances stemming from different technological development, as well as the necessary investments (and the attendant social acceptability) and the existence of a wider range of possible global conditions;
9. Underlines that moving to a low carbon economy would have significant potential for creating additional jobs, while securing economic growth and providing a competitive advantage for European industry;
10. Recalls that the transition to clean technologies would drastically reduce air pollution and thus ensure significant health and environmental benefits

The international dimension

11. Notes that the worldwide development and application of low carbon technologies is increasing rapidly, and that it is essential for Europe's future competitiveness to increase levels of investment in research, development and application in relation to these technologies;
12. Notes the shift in sustainable scientific and technological innovation away from Europe to other parts of the world, which may lead to the EU losing its technological leadership in the field and turn it into a net importer of these technologies and the related finished products; emphasises, therefore, the importance of European added value for the development and domestic production of technologies and products, in particular for energy efficiency and renewables;
13. Emphasises that China is the world leader in terms of installed wind farm capacity, that Chinese and Indian producers are among the top ten wind turbine producers, and that China and Taiwan currently manufacture most of the world's photovoltaic panels; calls on the Commission and the Member States to take steps to promote the eco-efficient development and production in the EU of these technologies and of the new and innovative technologies that are needed to achieve the ambitious targets for the reduction of greenhouse gas emissions;
14. Calls on the EU to continue to play an active role in the international negotiations to finalise an ambitious, comprehensive and legally binding agreement; notes the importance of the EU demonstrating its convictions and acting as a role model in demonstrating the benefits and viability of the low carbon economy; welcomes the outcome of the Durban conference in agreeing a clear timeline for drafting an international post-2012 agreement and the acceptance that large emitters, whether they be developed or developing economies, must

adopt ambitious and sufficient targets for the reduction of greenhouse gas emissions;

15. Stresses that the EU must continue to act constructively in global climate negotiations, and that European climate diplomacy needs to be further developed under the umbrella of the EEAS;
16. Points out that the main challenge for a sustainable low carbon economy is to ensure that climate change policies are integrated into all key fields of activity relating to energy, transport, agriculture, education, innovation, etc;
17. Stresses that delaying global and European climate action would result in higher costs, not only for achieving the 2050 target due to stranded investment in high-carbon capital stock and slower technological learning, but also in terms of losing an innovative leading role for the EU in research, job creation and guidance for a greener sustainable economy; points out, furthermore, that delayed action for 2020 will result in reduced abatement potential for 2030 and beyond;
18. Reiterates that cumulative emissions are decisive for the climate system; notes that even with a pathway of 30 % reductions in 2020, 55 % in 2030, 75 % in 2040 and 90 % in 2050, the EU would still be responsible for approximately double its per capita share of the global 2°C compatible carbon budget, and that delaying emissions reductions increases the cumulative share significantly;
19. Recalls that limiting the raise of global temperature to an average of 2°C does not guarantee avoiding significant adverse climate impacts;

The Emissions Trading System

20. Recognises that the EU Emissions Trading System (ETS) is the principal instrument, although not the only one, for reducing industrial emissions and promoting investment in low carbon technologies; notes that further improvement of the ETS is necessary; calls on the Commission and the Member States to complement the EU ETS with a technology- and innovation-based approach in order to secure the significant reductions needed;
21. Notes that the EU ETS is functioning as designed, and that the lower carbon price is a result of reduced economic activity and available allowances far exceeding demand; expresses concern that the lack of stimulus for low carbon investments and greater energy efficiency risks putting the EU at a disadvantage towards its industrial competitors; acknowledges reports that the carbon price is not expected to increase in the absence of much higher growth or adjustment to the ETS;
22. Recognises the fact that current carbon price will not incentivise investments in low carbon technologies and thus will have a very limited role in driving emission reductions, while risking to lock the EU into carbon-intensive infrastructures for the decades to come;
23. Stresses that climate change mitigation and adaptation policies cannot rely solely upon market-based mechanisms;
24. Recognises that the ETS is experiencing problems not originally anticipated, and that the accumulating surplus of allowances will depress the incentive to promote low carbon investments for many years to come; notes that this endangers the effectiveness of the ETS

as the EU's principal mechanism to reduce emissions in a manner that creates a level playing field for competing technologies, gives companies flexibility to develop their own mitigation strategy, and provides for specific measures to combat carbon leakage.
Calls on the Commission to adopt measures to correct the failings of the ETS and to allow it to function as originally envisaged. These measures may include:

- (a) presenting as soon as possible a report to Parliament and the Council which shall examine, amongst others, the impacts on incentives for investments in low carbon technologies and the risk of carbon leakage. Before the start of the third phase, the Commission shall, if appropriate, amend the regulation referred to in article 10(4) of Directive 2003/87/EC in order to implement appropriate measures which may include withholding the necessary amount of allowances;
- (b) proposing legislation at the earliest appropriate date to modify the 1.74 % annual linear reduction requirement so as to meet the requirements of the 2050 CO₂ reduction target;
- (c) undertaking and publishing an assessment of the value of establishing a reserve price for the auction of allowances;
- (d) taking steps to increase the input of relevant information and the transparency of the ETS registry, so as to enable more effective monitoring and evaluation;
- (e) further improving the use of offset mechanisms, for example by limiting access to offsets that subsidise Europe's industrial competitors, as in the area of HFCs;
- (f) ensuring nonetheless that none of these measures have the effect of reducing the level of allowances for sectors that may be prone to carbon leakage according to the Benchmark-Decision (Commission Decision 2011/278/EU);

25. Notes that these measures will increase the auctioning revenue for Member States, reminds governments that there is no limit on the proportion of such money that can be spent on climate-related purposes, and recommends that the sums concerned be used to spur low-carbon investment in industry or to encourage other means of job creation, e.g. reducing taxes on labour;

26. Calls on the Commission to put forward proposals by the end of 2013 for extending, to those energy-intensive industries that face only minimal threat from overseas competition, the requirement that allowances be purchased through auction;

27. Acknowledges that, in order to achieve the targets of the Low Carbon Roadmap, the Effort Sharing Decision (Decision No 406/2009/EC of the European Parliament and of the Council) will have to be adjusted;

Carbon leakage

28. Calls on the Commission to publish details of the EU's real contribution to reducing global CO₂ emissions since 1990, taking into account its consumption of products now manufactured elsewhere;

29. Insists that the transition to a low-carbon economy should be underpinned by a reasonable and measured regulatory approach; affirms that administratively and financially

burdensome environmental compliance has a significant impact on employment and output in energy-intensive sectors, and increases the risk of carbon leakage, while also forcing businesses and therefore jobs out of the EU;

30. Concurs with the Commission's view that border adjustment measures or measures including imports in the ETS would need to be combined with full auctioning to the sectors concerned; calls on the Commission to produce an analysis of sectors for which free allocation of allowances fails to prevent carbon leakage;
31. Calls on the Commission to provide Member States with guidance for the adoption of any measures intended to compensate industries proven to be exposed to a significant risk of carbon leakage for indirect costs relating to greenhouse gas emissions as foreseen in the directive as soon as possible;
32. Calls on the Commission to produce an analysis of the absence of the geographical criterion in the carbon leakage assessment for the electricity market in south-east Europe;
33. Notes the roadmap's conclusion that the power sector should decarbonise almost completely by 2050 (93-99 % emissions reduction); recognises that, from an EU industrial perspective, first movers on low-emission technologies have a competitive advantage in today's and tomorrow's low-carbon world; notes that emissions reductions should therefore be achieved in a way which does not harm the EU's competitiveness and addresses the risk of carbon leakage, especially in energy-intensive sectors;

Energy efficiency

34. Recalls the existing assessments which indicate that improving energy efficiency and reducing energy use by 20 % compared to 2020 projections is not currently on track; calls for rapid action, greater ambition and stronger political commitment in terms of achieving the 2020 targets and looking beyond 2020, thus attracting appropriate investment; endorses the conclusion in the Commission's roadmap that energy efficiency policies are key to further reducing carbon emissions; considers, therefore, that binding targets should not be excluded; stresses that energy efficiency measures lead to job creation, economic savings, and increased security of supply and competitiveness; welcomes in this regard the priorities set by the proposed Energy Efficiency Directive for increasing energy efficiency in all sectors, and particularly in buildings through the renovation of existing building stock, focusing on a target for the renovation of public buildings; calls for an increase in resources and measures to mobilise new sources of funding at European and national level, including through new financing instruments; highlights the importance of private investment in order to overcome the current budgetary constraints in the public sector;
35. Deplores the lack of measures to capture the negative-cost greenhouse gas reduction potential in energy and resource efficiency, and calls for acceleration of the work under the Ecodesign Directive (2009/125/EC), for strict application of the least life-cycle cost principle or for implementing measures to be set at the level of the best performers, as well as for minimum requirements also to be set for non-electrical products;
36. Calls for work under the Eco Design Directive to include heating equipment, boilers and insulating materials that can facilitate reductions in energy and resource use while enabling greater recycling, as well as for the extension and development of labelling requirements that can assist consumers in making informed decisions;

37. Stresses the need to update the Energy Efficiency Action Plan with binding targets including a full range of genuine, quantified measures across the energy supply chain;
38. Considers that energy efficiency is the most effective instrument for upgrading industrial technological innovation and contributing to overall emissions reduction in an economically efficient way while stimulating job growth; calls on the Commission, therefore, to support efforts made by Member States to promote energy efficiency by putting in place stable long-term incentives schemes to promote technologies which are most effective from a cost-benefit perspective; believes that in order to achieve the 2020 energy efficiency objective an adequate degree of harmonisation of European efficiency standards should be guaranteed;
39. Reiterates the importance of providing incentives for public and private investments geared to designing and developing easily replicable technologies so as to improve the quality of energy saving and efficiency;
40. Calls on the Commission, when promoting energy efficiency, to establish specific measures in order to tackle the reverse incentives that occur between the consumers and the distributors of energy;
41. Calls on the Commission to introduce a long-term target for the reduction of energy consumption of the EU building stock by 2050;
42. Draws attention to the fact that the EU and the Member States have not invested sufficiently in measures to reduce CO₂ emissions or to increase energy efficiency in the fields of construction and transport; calls on the Commission and the Member States to allocate increased funding to measures to increase the energy efficiency of buildings and of centralised urban heating and cooling networks, both in the context of the review of the current Financial Perspective and under future Multiannual Financial Frameworks;

Renewable energy

43. Calls on the Commission to develop a biomass supply policy to encourage sustainable biomass production and use; emphasises that this should include sustainability criteria for different biomass taking into account lifecycle carbon profiles of different sources, with priority being given to securing first value from biomass raw materials rather than their use for energy; insists that meeting the EU's biofuels target must not adversely affect food and feed production or lead to a loss of biodiversity;
44. Calls, therefore, on the Commission to follow a broader approach on the issue of ILUC and to promote adequate protection of the environment in third countries affected by land use change bilaterally and multilaterally in order to take account of the greenhouse gas emissions attributable to changes in land use patterns; this could be achieved through the introduction of additional sustainability requirements on certain categories of biofuels imported from third countries;
45. Emphasises the importance of new technologies in the development of renewable energies and the production of bioenergy, and stresses that the EU needs to harness every available innovation in order to achieve its objectives for the reduction of CO₂ emissions;
46. Underlines the important role of renewable energy, including innovative developments in

this field, and the urgent need for better solutions as regards storage, increasing energy efficiency and ensuring efficient energy transmission, including appropriate infrastructure measures; recognises the significant progress achieved by Member States in the development of renewable sources of energy since binding targets were set for 2020; draws attention to the importance of continuing this approach and setting further binding renewable energy targets for 2030, taking into account the possibility and macroeconomic impact of doing so; points out that such action will help achieve the 2050 objectives, give industry the investment certainty it requires, significantly reduce greenhouse gas emissions, create employment, promote the EU's energy independence, and foster technological leadership and industrial innovation; stresses that meeting the targets set in the national renewable energy action plans is crucial for the achievement of the overall EU targets for 2050; considers that the Commission should take measures if national targets are not met;

47. Stresses the need for the Commission to ensure that adoption of such targets does not reduce the incentives for investment in other forms of low-carbon power generation;
48. Calls on the Commission, when publishing by the end of 2012 its required report on the progress being made by all Member States towards meeting their legal requirements regarding renewable energy production, together with an assessment of whether the 2020 targets will be met, to propose a programme of actions that will be undertaken in order to promote compliance by Member States not presently on course to fulfil the requirements;
49. Recalls that electricity grids will have to be upgraded and developed, in particular to transport renewable energy produced in areas with major potential, such as offshore wind energy in the North Sea and solar energy in southern Europe, and to accommodate the decentralised production of renewable energy;
50. Stresses that increasing resource efficiency through, for instance, waste recycling, better waste management and behavioural change plays a very important role in the pursuit of the EU's strategic objectives for CO₂ emissions reduction;
51. Notes that, with the knowledge and techniques available today, agricultural holdings can already become self-sufficient in energy, with the possibility of both increasing profitability and creating environmental gains through the local production of bioenergy from organic waste;
52. Notes that, for reasons of resource efficiency, farmers should be encouraged to make better use of the potential of biogas and biogas byproducts in terms of replacing fertilisers;
53. Emphasises, to this end, the importance of manure processing, which not only provides renewable energy but also reduces environmental pressure and is a substitute for artificial fertiliser in the form of mineral concentrates; emphasises in this respect that if manure is to be considered as an energy source, it is essential that processed manure be recognised as a substitute for artificial fertiliser in the Nitrates Directive;
54. Stresses the need to improve energy self-sufficiency on farms, through incentives for on-farm renewable energy, such as wind turbines, solar panels and biofermentation technology, which would reduce production costs and increase economic viability by providing an alternative income stream for farmers;

Research

55. Calls on the Commission to ensure that Horizon 2020 and the European Innovation Partnerships under the Innovation Union prioritise the need to develop all kinds of sustainable low carbon technologies, in order to spur EU competitiveness, promote green job opportunities and bring about a change in consumer behaviour;
56. Stresses that increased research efforts and funding are urgently needed to develop and mainstream climate-efficient agricultural practices, less energy-intensive and less polluting agricultural methods and more efficient energy production; notes, furthermore, that low-pollution and energy-efficient alternatives already exist; considers research and development in this area to be an essential part of full implementation of the strategic energy technology plan, and that this calls for additional investment; emphasises that it is necessary to ensure, in this connection, that the results of research are translated into practice at the level of holdings; welcomes the Commission's proposal to establish a new research framework (Horizon 2020);
57. Calls for budgetary support to be consistent with the €50 billion needed from public and private sources to fully implement the SET plan;
58. Underlines the importance of R&D for the development of low-emission and energy-efficient technologies; calls on the EU to take a leading role in research into climate-friendly and energy-efficient technologies, and to develop close scientific cooperation with its international partners, with a special emphasis on clean and sustainable technologies which will deliver for 2020 under the SET-Plan (the EU's flagship initiative for low-carbon technologies); emphasises that funds for all types of energy research under the Horizon 2020 initiative must be increased, particularly those for renewable energy; recalls that current financial allocations in the energy area represent only 0.5 % of the EU budget for 2007-2013, and that this is not in line with the EU's political priorities;

Carbon capture and storage

59. Recognises the importance of applying CCS technology, where feasible, if the carbon emission reduction goals are to be achieved at the least possible cost, and acknowledges that procedural delays and financial shortfalls, as well as lack of commitment on the part of certain Member States, are likely to delay achievement of the European Council's ambition of having up to 12 CCS demonstration projects in operation by 2015; calls on the Commission to publish a CCS Action Plan; recognises that CCS will not be appropriate in all circumstances, even by 2050, and may well be limited to large installations and the avoidance of industrial process emissions; calls for support on breakthrough technologies in other areas in order to increase energy efficiency and lower energy consumption, and provide solutions outside the CCS framework;
60. Calls on the Commission to propose that unspent funds for CCS projects within the European Economic Recovery Programme be reallocated towards alternative CCS demonstration projects;

National and sector-specific roadmaps

61. Notes that the Cancún agreement foresees that all developed countries shall develop low-carbon strategies;
62. Welcomes the production of low-carbon strategies by some EU Member States, but calls on

all to produce such strategies no later than July 2013; insists that the Commission should introduce legislative proposals to require their preparation if by the end of 2012 all Member States have not made such a commitment;

63. Calls on the Commission to evaluate the adequacy of such plans with regard to contributing to the Cancún objective of holding the increase in global average temperatures below 2 deg C above pre-industrial levels;
64. Calls on the Commission to ensure that national and sector-specific roadmaps are subjected to independent scrutiny in order to assess whether full account has been taken of the potential use of best available technology, and that proposed costs accord with understood practice;
65. Expects the Commission to take roadmaps fully into account when preparing policy initiatives, and also to highlight instances where industry sectors have not prepared such action plans;
66. Calls on the relevant industry groups to prepare sector-specific roadmaps that will set out how EU low-carbon objectives can best be realised, including the levels of investment required and the sources of funding to be utilised;
67. Expects the Commission and the Member States to support those sectors that have made roadmaps to further develop the initiatives and partnerships that follow from them, for the development of breakthrough technologies to decarbonise the energy-intensive industries concerned;
68. Calls on the Commission to update the 2050 roadmap and forecasting every 3-5 years, and to integrate the sectoral, regional and Member State roadmaps into the updated version of its own roadmaps, the models and methodologies used for that purpose being fully transparent;
69. Stresses that a much more efficient use of resources is essential for achieving a low-carbon economy; therefore urges Member States to develop or strengthen existing resource efficiency strategies and mainstream these into national policies for growth and jobs by 2013;

Power generation

70. Recalls that world primary energy demand will increase by more than 30 % up to 2035, thereby increasing global competition for energy resources;
71. Maintains that Member States should have the widest possible means of achieving low-carbon electricity generation (including renewable energy sources, nuclear power, use of carbon capture and storage technology, and sustainably produced biomass), and that none should be excluded from the range of options available to meet the requirements;
72. Calls on the Commission to be particularly vigilant as regards any leakage of energy production outside the EU ETS, paying attention to Member States with interconnections to countries outside the EU;
73. Calls on the Commission to assess the effectiveness of mechanisms that enable sound

operation of the electricity market in a low carbon economy, and if necessary to submit legislative proposals for the closer integration of crossborder electricity markets and for other measures to address the need to determine the balance and availability of generation capacity;

74. Calls on the EU to commit itself to the decarbonisation of the energy sector by 2050;
75. Invites the Member States and the Commission to invest more in the energy infrastructure necessary for the transition to a sustainable economy; emphasises that Europe should be at the cutting edge in the development of standards and interoperable energy-related Internet technologies and energy-efficient ICT applications, in particular smart grids, the full and timely deployment of smart home systems such as smart meters designed to benefit the consumer, and modernising and developing an interconnected European electricity supergrid and LNG infrastructures; emphasises, with regard to interregional connections, the need to launch an investment plan based notably on the European Energy Infrastructure Package, so as to secure the diversification of energy supply sources; calls on the Commission to propose practical solutions for the efficient integration of large amounts of renewables by promoting market rules that allow for efficient and transparent international power exchange; calls, therefore, for the swift integration and uptake of crossborder electricity markets; recognises the urgent need for a long-term vision, given the many years required to build energy infrastructure with a long lifetime; welcomes the focus on energy infrastructure in the proposed Connecting Europe Facility;
76. Draws attention to the fact that the current 20 % target is based on the contribution made by nuclear power to the energy mix in number of Member States; notes that the IEA's World Energy Outlook 2011 includes a 'lower-nuclear' case according to which the projected increase in worldwide CO₂ emissions from the power sector would be substantially higher in the medium term due to an increased use of fossil fuels; reiterates that the decision by some Member States to shut down some existing nuclear reactors must not serve to justify reducing the level of ambition of their current climate policies; points out that, according to the IEA, achieving the 2°C goal would require faster development and deployment of CCS technologies in both coal- and gas-fired power plants; notes, however, that CCS technology is still at the testing and pre-commercial stage, so alternative scenarios also need to be considered, such as high renewables and energy efficiency scenarios; thus calls for increased support for the development and application of breakthrough technologies in order to increase energy efficiency and decouple economic growth from energy consumption;
77. Considers that the achievement of these objectives by 2050, without prejudging Member States' own energy mixes, could lead to a reduction in consumption, increased security and reliability of energy supply and the containment of energy price volatility, thus providing fair and competitive energy prices for consumers and businesses and improving the EU's competitiveness and employment growth;

Industry

78. Insists that EU support for the 'green economy' should recognise the importance of investment by existing industries used to significantly improve the efficiency of resource use and reduce CO₂ emissions and to reach the EU 2020 Strategy targets on green jobs creation; underlines that a greener economy should support competitiveness and innovation in all sectors by focusing on areas where improvements are more economically efficient and

more environmentally effective;

79. Calls on the Commission to explore innovative financial instruments for investment in a low-carbon economy;
80. Calls on the Member States and the Commission to support the creation of innovation clusters in order to develop regional and national solutions;

Transport

81. Endorses the requirement of the Commission Roadmap to a Single European Transport Area to reduce greenhouse gas emissions from transport by 60 % by 2050 compared to 1990 levels in the EU; furthermore, calls on the Commission to come forward with interim emissions reduction targets for the sector in order to ensure that sufficient action is taken at an early stage;
82. Welcomes the progress made by vehicle manufacturers in reducing CO₂ emissions from passenger cars since 2007, and stresses the importance of accelerating further fuel efficiency improvements; affirms that in preparing its forthcoming review the Commission should be proposing ways of ensuring that average CO₂ emissions by new cars meet the agreed 2020 target of not more than 95g/km by 2020; calls on the Commission to increase dialogue and cooperation with the International Maritime Organisation so as to ensure inclusion of the shipping sector in CO₂ reduction commitments;
83. Recalls that the Commission was required to evaluate the progress of the IMO on emissions from shipping by 31 December 2011, pursuant to Directive 2009/29/EC; calls on the Commission to include maritime transport in its roadmap and, in the absence of an international agreement to reduce emissions from shipping, to propose legislation so that these emissions are included in the Community reduction commitment with the aim of the proposed act entering into force by 2013;
84. Calls on the Commission to put forward proposals to improve the fuel efficiency of heavy goods vehicles, and, in its 2013 review of legislation on emissions from light commercial vehicles, to take greater account of the need to improve fuel efficiency so as to reduce the cost to business of increased fuel prices;
85. Calls on the Commission to provide purchasers of all types of passenger and freight vehicles with greater clarity regarding their fuel efficiency, and to put forward the long-delayed proposals for reform of the Labelling Directive, which should encompass all forms of sales promotion;
86. Calls on the Commission to take immediate steps to ensure that the test cycles used to evaluate emissions from new cars accurately reflect the realities of the use of such vehicles in normal driving conditions;
87. Acknowledges the efforts being made by some Member States to establish recharging/refuelling infrastructures to promote the use of electric and ultra-low carbon vehicles, and calls on the Commission to bring forward proposals to set minimum requirements in each Member State in order to establish a Europe-wide network;
88. Calls on the Commission and the Member States to consider it a priority, with a view to

reducing transport pollutant emissions, to invest in developing a pan-European intelligent energy network that can harness energy generated at local and regional level, including from renewable sources, and which helps to develop the necessary infrastructure for the use of electric vehicles;

89. Considers that a cultural shift towards more sustainable modes of transport is needed; therefore calls on the Commission and the Member States to encourage new forms of investment, so as to facilitate the modal shift to more environmentally friendly modes of transport and to reduce the need for transport, inter alia by applying IT and through spatial planning;
90. Stresses that the internalisation into transport prices of the external costs of transport, graduated by level of pollution, is a key challenge for stimulating energy savings and energy efficiency, and that increased performance will lead to an environmentally friendly choice of transport mode;
91. Calls for consistency with the Roadmap priorities to be ensured for the envisaged new transport infrastructure investments, recalling that the 1,5 trillion EUR over the next two decades between 2010-2030 requested by the Commission risk not to be channelled into adequate low-carbon priorities; stresses, therefore, the need to 'green' the EU's infrastructure budget, especially in relation to the Structural Funds and the Cohesion Fund;
92. Welcomes the proposed new guidelines for the Trans-European Transport Networks and the importance given to the development of rail corridors for passengers and freight; calls on the Commission to present, as soon as possible, a strategy for the use of alternative fuels and new technologies in transport; encourages the Member States to urgently implement the measures of the Single European Sky and thus improve the efficiency of aircraft and traffic management operations;
93. Calls on the Commission and the Member States to implement in full the legislation on aviation in the ETS;

Agriculture

94. Calls on the Commission to propose specific measures to reduce greenhouse gas emissions and promote efficiency gains from the use of agricultural land and reduce the use of fossil fuel based fertilisers, taking particular account of the role of agriculture as producer of food (rather than fuel); is also of the view that smaller-scale farmers may require training and technical assistance in this area; also calls on the Commission to step up research on the functioning of different kinds of agriculture and effective agri-environmental practices, with due respect for prevailing climatic conditions;
95. Believes that agriculture is well placed to make a major contribution to tackling climate change and creating new jobs through green growth; notes that greenhouse gas emission reductions in the agricultural sector are a win-win option that can increase farmers' long-term economic and agronomic viability; calls for the CAP to include targets for the use of sustainable energy;
96. Stresses that the CAP post-2013 is expected to enhance the above contribution; recognises that agriculture has already substantially reduced its emissions through improved production efficiency; notes, however, that, in the long run, the emission-reduction potential of

agriculture is substantial (by 2050 the agricultural sector will be able to reduce non-CO₂ emissions by between 42 % and 49 % compared to 1990 levels), but could be considered rather limited compared to other sectors; stresses that all the countries that are the main emitters must make an appropriate contribution;

97. Supports the greening component of the CAP to operate as an EU-wide incentive scheme targeted on enhancing nutrient, energy and climate efficiency by focusing on increasing carbon soil sequestration, further reducing GHG emissions, and improving nutrient management; the aims of this scheme would be to ensure the competitiveness of farms and long-term food security through a more effective management of limited natural resources
98. Calls for the necessary measures, including research funding, education efforts, investment aid and other incentive-based initiatives, to be implemented under the CAP in order to support and enable the use of agricultural and forestry residue in the production of sustainable energy;
99. Recalls that improved agricultural and forestry practices should increase the sector's capacity to preserve and sequester carbon in soils and forests; stresses at the same time that most forest owners are also farmers; stresses, furthermore, the EU's goal of curbing the deforestation occurring worldwide, in particular in developing countries, and of halting global forest cover loss by 2030 at the latest;
100. Emphasises the importance of developing suitable measures and/or mechanisms that enable real financial recognition of the role played by agriculture and forestry in conserving carbon;
101. Stresses that sustainable use of forests contributes to reducing CO₂ emissions, and that it is therefore necessary to take measures under the second agricultural policy pillar to enable forests to be managed even in difficult locations;
102. Stresses that special attention has to be paid to afforestation, as the only natural means of increasing the carbon sink and sources of wood for bioenergy;
103. Calls for a strategy for EU land use, land use change and forestry (LULUCF), ensuring permanence and the environmental integrity of the sector's contribution to emissions reduction, encourages Member States to develop their national policies in order to deliver the mitigation potential of their respective LULUCF sectors, with regard to the principle of subsidiarity, since this could help to obtain valuable experience; underlines the need to invest in scientific research on storage capacity and emissions from LULUCF activities;
104. Considers that long-term competitiveness can only be achieved by having healthy, biologically diverse agro-ecosystems that are climate-resilient and by taking due care of limited and finite natural resources, such as soil, water and land;
105. Stresses that protecting, valuing and restoring biodiversity and ecosystem services is key in order to achieve a low-carbon economy;
106. Stresses that the Commission should emphasise climate mainstreaming in order to create coherence between policies including industry, research, energy, biodiversity, trade, development, agriculture, innovation, transport, animal welfare and the Europe 2020 strategy; believes that sound strategic management of the agricultural sector's potential

would put Europe well on its way to becoming a competitive player in tomorrow's low-carbon global economy;

107. Stresses that the food chain should be shorter and more transparent and that the consumption of locally produced food should be encouraged, including support for local and regional markets, in order to reduce agricultural production's transport-related emissions; stresses that relocating European multifunctional production and processing to non-EU countries would have a negative impact on European added value and on climate goals;
108. Believes that better livestock feed management, including protein crops in arable rotations and increasing the diversity of protein crops in permanent pasture mixes, in order to grow more animal feed on-farm, would reduce dependence on animal feed imports with a high carbon cost; believes that this would also reduce animal feed costs for farmers, and result in better soil management, by increasing soil water retention and also reducing susceptibility to pests;

Financing

109. Supports the proposals made by the Commission for the Multiannual Financial Framework 2014-2020 to provide dedicated funding to increase investment and promote the development and application of low-carbon technologies; endorses the intention to mainstream climate-related funding of the total MFF and earmark 20 % of the European Regional Development Fund (ERDF) for renewable energy and energy-efficient investment, while insisting that this must be effectively monitored; recommends that the Commission should ensure that particular use is made of this funding to assist Member States which have a high potential for reducing emissions below the existing targets but lack the capacity to make the necessary investment;
110. Points out that the current financial and economic crisis must be borne in mind when designing policies to ensure and support upfront investments which contribute to increased renewable energy sources, in order to reduce energy costs in the long term and improve energy efficiency in the fields of energy provision and transport;
111. Recalls that the long-term economic costs of not taking action to prevent climate change far outweigh the short-term costs of taking strong and decisive action now;
112. Hopes that concrete and measurable targets will swiftly be established for each sector, in order to encourage private investors and inspire confidence and cooperation among them, while promoting the better use of European funds; stresses that renewable energy, innovation and the development and deployment of breakthrough technologies can contribute to the fight against climate change and, at the same time, help convince the EU's partners worldwide that emissions reductions are feasible without losing competitiveness or putting job creation at risk; considers it essential that the EU and its Member States should set an example in establishing a system for investment in new, energy-efficient and low-carbon technologies; calls for the reinforcement of existing financing schemes in order to achieve the roadmap objectives, as well as for discussions to be promptly launched on the financial instruments that need to be deployed, and for the facilitation of better synergies between national and European financing schemes; believes that multi-source financing schemes can be an effective tool; stresses the key role of regional and cohesion policy funding as the main instrument for cofinancing regional measures for the transition to a

low-carbon economy; considers that a significant proportion of financing for the 2014-2020 programming period should be allocated to meeting the objectives of the 2050 roadmap;

113. Notes that owing to low carbon prices the auction of ETS allowances will not mobilise resources for climate investment as expected; recalls that at least 50 % of auctioning revenues must be reinvested in climate action both in the EU and in developing countries, and urges the Commission to actively monitor the spending of such revenues by Member States, and report on this on an annual basis to Parliament; calls on the Member States to make effective use of the auction revenues in order to promote R&D and innovation with a view to achieving long-term reductions in greenhouse gas emissions;
114. Calls on the Commission, from 2013, to collate information relating to the use of funds derived from the auction of ETS allowances, and to publish an annual report comparing the extent to which each Member State makes use of such funds to promote the development of low-carbon technologies and other means of curbing greenhouse gas emissions;
115. Calls on the Commission to propose that Member States provide a proportion of auctioning funds in order to provide additional EU funding to support innovation, through the SET plan or equivalent initiatives;
116. Calls on the Commission to explore and consider complementary and innovative funding sources, including the potential use of regional development funds, in order to further promote the development and application of low-carbon technologies;
117. Stresses the urgent need to tackle environmentally harmful subsidies within the framework of the Roadmap; calls for coordinated action aimed at identifying and phasing out all environmentally harmful subsidies by 2020, in order to support budget consolidation and the transition towards a sustainable economy; calls on the Commission to publish, by the end of 2013, a communication indicating all means by which the EU budget is used to justify financial support, directly or through Member States, to activities that contradict the objectives of its Low-Carbon Roadmap;
118. Calls on the Commission and the Member States to push for a more rapid implementation of the G-20 agreement on removing fossil fuel subsidies; stresses that, in order to achieve the desired impact, implementation has to be internationally coordinated;

Additional measures

119. Calls on the Commission to put forward, by the end of 2012, ambitious proposals to reduce emissions of methane, black carbon and F-gases;
120. Recalls the potential of wood for replacing the most carbon-intensive materials, inter alia in the construction sector, and calls for a clear hierarchy of use of sustainably harvested wood to be established, so as to ensure consistency with climate as well as resource-efficiency objectives; considers that sustainable bioenergy can be sourced from waste, certain residues and industrial byproducts, provided sufficient safeguards are set against loss of soil carbon and biodiversity as well as indirect emissions due to displacement of other uses of the same material;
121. Recalls that construction has a big ecological footprint, as it consumes large quantities of

non-renewable natural resources and energy and is responsible for substantial carbon dioxide emissions; recalls that the use of renewable building materials reduces the consumption of natural resources and environmental damage; urges the Commission, therefore, to take better account of the low-emission character and energy efficiency of building materials over the whole of their life cycle, and to promote the use of ecologically sustainable, renewable and low-emission materials such as wood in construction; recalls that wood binds carbon as it grows, so that it is a carbon-neutral material;

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122. Instructs its President to forward this resolution to the Council and Commission.