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Claudia Kemfert

## Green Deal for Europe: More Climate Protection and Fewer Fossil Fuel Wars

To mitigate climate change and meet the commitments made in the Paris Agreement, global greenhouse gas emissions must be reduced by up to 90% by 2050 to keep the average global temperature increase below two degrees Celsius by 2100. The European goal of being greenhouse gas neutral by 2050 is an important step towards meeting these targets. A Green Deal for Europe can set standards for ambitious climate protection, for an investment programme in future markets and for strengthening the European economy and European and non-European security. Climate protection and a sustainable energy transition not only create economic opportunities but also reduce geopolitical disputes, thus securing peace within and outside Europe.

In order to meet the emission reduction targets of the Paris climate agreement and the EU deal, the share of renewable energy sources would have to increase significantly faster.<sup>12</sup>

- 1 C. von Hirschhausen, C. Kemfert, F. Kunz, R. Mendel- evitch: Europäische Stromerzeugung nach 2020: Beitrag erneuer- barer Energien nicht unterschätzen, in: Erneuerbare Energien für Eu- ropa, DIW Wochenbericht No. 29, 2013.
- 2 N. Dieckmann: Vom Schatten ins Licht – Umweltzeichen in Ver- gabeverfahren, in: Neue Zeitschrift für Verwaltungsrecht, Vol. 35, No. 19, 2016, pp. 1369-1374.

**Claudia Kemfert**, German Institute for Economic Research (DIW Berlin), Germany.

Moreover, future energy systems should be characterised by a high degree of security of supply and preserve all plan- etary boundaries. Renewable energy sources are an alter- native to fossil and nuclear energy. Taking environmental costs (i.e. external costs) into account, they are by far the most economically efficient form of energy supply.<sup>3</sup>

### Europe's energy supply still too dependent on fossil fuel interests

Europe's energy supply is still largely based on fossil fuels and 90% of its oil and over 60% of its gas needs are imports. A substantial part of the fossil fuels comes from Russia. Some EU countries source all of their energy needs from Russia. Europe is currently in a difficult period of disintegration. On the one hand, it is busy with itself, with difficult developments still to come. The global finan- cial crisis has only just passed and the European debt cri- sis is halfway under control while Brexit threatens in the north and disputes over borders or non-frontiers arise in the southeast. On the other hand, international geopoliti- cal disputes and fossil fuel wars are growing. The United States blatantly advocates a policy of 'America First' with all of the security consequences for the energy supply in the EU. Russia, on the other hand, has its own political interests and wants to continue supplying fossil fuels to

- 3 German Environment Agency: Gesellschaftliche Kosten von Um- weltbelastungen, 2019, available at [https://www.umweltbundesamt. de/daten/umwelt-wirtschaft/gesellschaftliche-kosten-von-umweltb- elastungen](https://www.umweltbundesamt.de/daten/umwelt-wirtschaft/gesellschaftliche-kosten-von-umweltb- elastungen).

Europe on good terms. The geopolitical disputes endanger the EU's energy supply security yet again.

Nothing would currently put the European economy at greater risk than a serious disruption of energy supplies. Volatile, rising oil and gas prices are affecting the local economy. Due to low prices, there seems to be no great danger of this at the moment. In reality, however, we are moving in a worrying direction in terms of energy security. There is currently a ruthless global competition for interests in the oil and gas business with two simple objectives.

On the supply side, competition from exporting countries is to be weakened economically. The trigger for the sell-out of fossil fuels was the expansion of oil and gas production in the US by fracking. This led to massive oversupply and resulting price reductions. As a consequence, there are considerable economic distortions in almost all oil-producing countries. This 'battle for fossil fuels' would intensify if demand for fossil fuels were to fall. To ensure that the sales market does not become smaller, the importing countries should be kept as customers. The second goal on the supply side is therefore to make it as difficult as possible for the importing countries to save energy and switch to alternative energies. The strategy is also to make the buyer countries feel secure. Should an interruption occur, however, sufficient supplies on the international markets and also a strategic oil reserve will secure supplies for a few weeks. But such developments would result in considerable price increases, which would have negative economic consequences in oil-based economies.

Current US policy is also threatening to Europe. The US withdrew not only from the climate treaty but also from the Iran treaty, claiming it is a "bad deal" that "damages America". A trade war that was proclaimed by the announcement of import tariffs escalated when the US threatened to impose sanctions if Germany continued with the Nord Stream 2 project, which supplies Russian gas to Germany. For the US, this is only about one thing: selling American oil or gas at the highest price and banning competitors. This calculation appears to work: at least for oil, prices are currently rising continuously, thereby benefiting oil-producing countries – first and foremost Saudi Arabia and the US. The fact that Russia is also benefiting from high oil prices is hardly cause to rejoice. The US wants to gain higher shares in the gas market and is openly intervening against the planned gas pipeline. Admittedly, the Nord Stream 2 pipeline is certainly to be criticised: it is economically questionable, its energy efficiency is dubious and, above all, it is politically nonsensical. Even the first leg of the pipeline

was very expensive and, to a large extent, underutilised. There are numerous routes that can be used such as the pipeline through Ukraine for the transport of liquefied gas. Contrary to the predictions of the proponents of the pipeline, there will be no 'gas gap'. As previously mentioned, fracking in the US has led to an oversupply of gas on the international markets. Many European countries are diversifying their gas imports and using liquefied natural gas (LNG), which can be transported flexibly by ship. Only Germany has decided not to build an LNG terminal but to expand the Nord Stream pipeline. This is an expensive strategy and will drive up consumer prices, even if the pipeline operators claim the opposite.

Europe's demand for gas will decrease if climate targets are met. It is true that gas will play a role in the transition period both for electricity generation and for heat production and as a fuel in mobility. However, gas will be increasingly replaced by climate-neutral energies. Natural gas is already competing with renewable energy sources. Renewable energy sources are becoming cheaper and cheaper, and their share of the energy mix will continue to increase, so that the 'bridging function' of gas is not given. The Nord Stream pipeline reduces market flexibility, increases dependency on gas supplies from Russia and has been tied to relatively expensive gas imports for decades. This contradicts the objectives of the European Energy Union. The construction of such a pipeline prevents the switch to renewable energy sources and causes expensive login effects and stranded investments. Such costly construction will only pay off if the pipeline is used in its full capacity for many decades to come. There are numerous other pipelines that can also be used to meet the declining gas demand in Europe. The pipeline is not only expensive, it also contradicts the EU's energy goals. Nord Stream 2 is therefore unnecessary both economically and politically.<sup>4</sup>

### Europe's Energy Union to strengthen security of supply

With the initiative of an Energy Union, Europe has established the goal of strengthening the security of the energy supply and jointly implementing climate protection and the efficient use of energy. Common targets for the expansion of renewable energy sources and the efficient and affordable use of energy and climate protection should help to implement the European energy system transformation. Ultimately, the energy supply in Europe can

<sup>4</sup> A. Neumann, L. Göke, F. Holz, C. Kemfert, C. von Hirschhausen: Erdgasversorgung: Weitere Ostsee-Pipeline ist überflüssig, DIW Wochenbericht No. 27, 2018.

be secured by reducing the energy import dependency, strengthening the domestic energy supply, diversifying energy supplies and making efficient and optimised use of energy infrastructure and strategic storage facilities. The Energy Union is to be the foundation and the driver of a European energy system transformation. Numerous European countries such as Germany, Austria, Denmark and Scandinavian countries rely on a consistent expansion of renewable energy sources. At the same time, caution is being used to ensure that the conversion and promotion of renewable energy sources do not conflict with the European Union's state aid directives. Many EU countries, including Germany, have often had their aid examined and can only promote innovative new technologies under strict conditions: They must first assert themselves in the market and they must have cost-cutting potential.

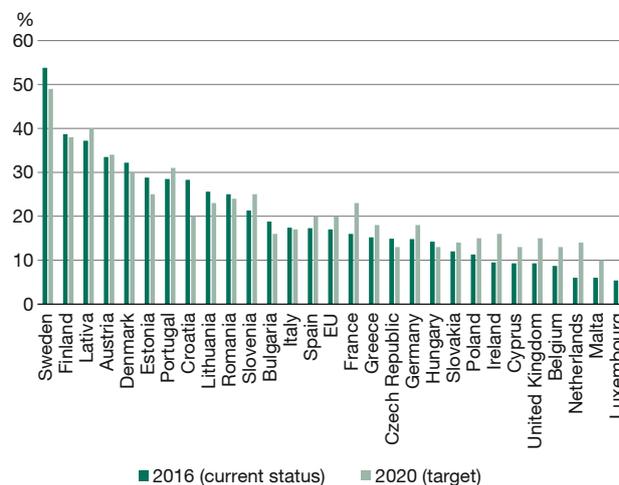
As soon as the market is established, assistance should be phased out or only play a supporting role. In the case of renewable energy sources, for example, it is now increasingly necessary to switch from a pay-as-you-go system to one of tenders. The fact that this prioritises more expensive and less efficient systems – and above all large suppliers – has been observed in many EU countries such as the UK as well as Germany recently during the first tests of solar free-field systems. It is particularly surprising that Europe is now allowing financial aid that does not meet all these conditions: For an old, particularly high-risk technology, aid is allowed that is not expected to diminish due to technological progress or economies of scale and is granted over a period of 35 years.

This, in particular, applies to the financial aid that the UK wants to introduce for the construction of nuclear power stations. As this is tremendously expensive, they intend to finance it with a pay-as-you-go system on electricity: 11 cents/kWh will be paid for the construction for a period of 35 years. Only the costs of the construction – not the final disposal or dismantling or other financial risks – are included in the price. By way of comparison, wind energy currently costs nine cents/kWh and is decreasing. There is plenty of potential for wind energy in the UK – or for water or tidal power plants.

It is astonishing that Germany has not joined these complaints. Even more astonishing, however, is the fact that Europe allows all of this, even though it is a step in the wrong direction and, above all, contradicts the criteria of the EU subsidies in many respects. Europe should advocate a consistent energy future without nuclear and fossil fuels.

The EU Clean Energy package continues to open the competition for the fastest future target achievements,

**Figure 1**  
Share of renewable energies in gross energy consumption in the EU in 2016 and 2020



Source: Eurostat, 2018.

technological innovations and market leadership in the field of climate-friendly technologies.<sup>5</sup> In addition to energy efficiency, emission reduction, research and innovation, Europe's objectives are also and especially about security of supply and a fully integrated internal energy market. It is clear to all those responsible that energy supply is a core element of the European economy. All the more alarming is the great dependence on energy imports. Overall, the countries of the Union import more than half of the energy they need. The great dependence on non-European producers is not only expensive, but also politically sensitive.

As long as the European energy market remains fragmented, it is easy for the dominant gas supplier, Russia, to exploit the dependencies of small EU countries monopolistically and, on top of that, to interfere in European domestic policy. It is time for Europe to grow together and invest in a promising energy future.

### Europe's Green New Deal for 100% renewable energies

Europe has set itself the target of increasing the share of renewable energy sources in its total final energy consumption to 20% by 2020. Many EU countries already meet the EU targets for the expansion of renewable energy sources (see Figure 1).

<sup>5</sup> European Commission: Clean energy for all Europeans, 2019, available at <https://ec.europa.eu/energy/en/topics/energy-strategy-and-energy-union/clean-energy-all-europeans>.

The EU has already increased its share of renewable energy sources to 17%, mainly thanks to the Scandinavian countries and some Eastern European countries. Eleven countries already meet the EU's expansion targets for renewable energy sources in which not only electricity generation but also heat energy and fuels for mobility must come from renewable energy sources. In 2017, 85% of all power plant capacity was accounted for by the expansion of renewable energy sources, above all wind energy. Germany, France, the UK, Belgium and the Netherlands are unlikely to meet their expansion targets by 2020.<sup>6</sup>

The costs of renewable energy sources are lower than those of conventional energy sources.<sup>7</sup> The energy system must become more flexible, intelligent and holistic. Intelligent grids and, in the medium term, storage facilities will be much more urgently needed than fossil fuels and old structures. Achieving the EU energy system transformation will require not only significantly increasing the use of renewable energy sources, but also reducing energy consumption through targeted promotion of energy-saving measures and the use of climate-friendly drive technologies.<sup>8</sup> The EU Clean Energy package has initiated a competition to tackle these challenges and establish future market leadership in the field of climate-friendly technologies.

Initial approaches to modelling electricity and energy systems with a full supply of renewable energy sources point to their technical and economic feasibility.<sup>9</sup> Model results show that a transition to a 100% renewable energy system is both feasible and economically viable.<sup>10</sup> Previous studies show that the switch to a full supply of renewable energy sources would strengthen the economy and gen-

erate innovations and technological advantages.<sup>11</sup> Cost reductions will be achieved primarily through increased power generation from renewable energy sources, in particular for wind power and solar photovoltaics. Falling storage costs continue to promote competitiveness. Further cost reductions will result from the networking of Europe's regions and the sector coupling between electricity, heat and transport.

If Europe is to succeed in turning its energy system around, the share of conventional energy sources such as coal and nuclear power must continue to fall. Coal-fired power plants not only produce climate-hazardous greenhouse gases, thereby hindering the achievement of climate protection goals, they also produce detrimental mercury and particulate matter emissions. Even coal mining causes considerable damage to the environment. Nuclear power plants are very risky and very expensive due to the high costs associated with the construction and the dismantling of plants and the disposal of nuclear waste. These negative external effects far outweigh those of renewable energy sources.

Globally, a turning point has been reached and more and more investments are being made in renewable energy sources than in fossil fuels for electricity production.<sup>12</sup> Substantial investments will be made in sustainable climate protection technologies and infrastructures. Global transformation and the transformation of energy systems offer enormous economic opportunities and investment will lead to massive innovations and the opening of interesting future markets. Investments in renewable and climate-friendly technologies today do not need to flow into fossil or nuclear technologies. In turn, a sustainable financial system for canalisation is inevitable. Green finance architecture should be at the centre of the Green Deal.

### A sustainable financial system to finance the Green New Deal

A sustainable financial system requires multi-faceted action at the European level, which currently faces far-reaching challenges. The state plays a special role in the development of this: On the one hand, high levels of investment are required; on the other, the development of

6 Federal Ministry for the Environment, Nature Conservation and Nuclear Safety: Klimaschutzplan 2050, second edition, Berlin 2019, available at [http://www.bmub.bund.de/fileadmin/Daten\\_BMU/Download\\_PDF/Klimaschutz/klimaschutzplan\\_2050\\_bf.pdf](http://www.bmub.bund.de/fileadmin/Daten_BMU/Download_PDF/Klimaschutz/klimaschutzplan_2050_bf.pdf).

7 C. von Hirschhausen, C. Kemfert, F. Kunz, R. Mendel- evitch: Europäische Stromerzeugung nach 2020, op. cit.

8 J. Blazejczak, J. Diekmann, D. Edler, C. Kemfert, K. Neuhoff, W.-P. Schill: Energy Transition Calls for High Investment, in: DIW Economic Bulletin, Vol. 3, No. 9, 2013, pp. 3-14.

9 These include earlier work by the German Council of Environmental Experts, see German Advisory Council on the Environment: Climate-friendly, reliable, affordable: 100% renewable electricity supply by 2050, Statement No. 15, 2010; and German Advisory Council on the Environment: Environmental Report 2016 – An integrated approach to environmental policy, Berlin 2016, Erich Schmidt. For more recent work, see M. Child, C. Kemfert, D. Bogdanov, C. Breyer: Flexible electricity generation, grid exchange and storage for the transition to a 100% renewable energy system in Europe, in: Renewable Energy, Vol. 139, 2019, pp. 80-101, available at <https://doi.org/10.1016/j.renene.2019.02.077>.

10 W.-P. Schill, A. Zerrahn, C. Kemfert, C. von Hirschhausen: Die Energiewende wird nicht an Stromspeichern scheitern, DIW aktuell No. 11, 2018.

11 K. Hainsch, T. Burandt, C. Kemfert, K. Löffler, P.-Y. Oei, C. von Hirschhausen: Emission Pathways Towards a Low-Carbon Energy System for Europe – A Model-Based Analysis of Decarbonization Scenarios, DIW Discussion Paper No. 1745, 2018; A. Eidsens, H.-K. Bartholdtsen, F. Seehaus, F. Wejda, K. Löffler: Pathways for Germany's Energy Transformation Towards 2050 – A Model-based Analysis on a Federal Level, presented at the IEWT 2019, Vienna.

12 IEA: World Investment Report 2016, available at [http://www.bmwi-energiwende.de/EWD/Redaktion/EN/Newsletter/2017/05/Meldung/direkt\\_answers\\_infografik.html](http://www.bmwi-energiwende.de/EWD/Redaktion/EN/Newsletter/2017/05/Meldung/direkt_answers_infografik.html).

political framework conditions for a transformation of the financial system goes far beyond individual investment sums.<sup>13</sup>

Sustainable finance aims to promote sustainable investments while providing the necessary resources for a transformation of our society. Sustainable investment is the general term for sustainable products and investment vehicles that take into account environmental, social and governance (ESG) aspects in their investment conditions.<sup>14</sup> One of the biggest challenges in a green financial world is a uniform definition of 'sustainable'. An imprecise and inconsistent definition can result in misleading incentives and make greenwashing – i.e. a particularly environmentally friendly presentation of a company – possible without there being a sufficient basis for it. There are currently more than 400 different standards for green bonds. Industry standards, such as the Green Bond Principles or the Climate Bonds Initiative, have become de facto market standards, but are voluntary in nature. Standards for financial market products are being developed on the basis of a sustainability classification system that is currently being defined at the EU level.<sup>15</sup> In order to simplify the correct certification of the various financial products, it is necessary to first verify that the information on the sustainability of the companies is sufficient. Thus, in parallel with the creation of standards, the companies' disclosure of obligations must be greatly expanded or extended to include sustainability aspects.<sup>16</sup>

In March 2018, the European Commission presented an action plan for financing sustainable growth.<sup>17</sup> It is based on the above-mentioned recommendations of the group of experts on the development of an EU strategy for sustainable finance. The proposals were largely taken up in

the development of legislative implementation measures. The objective of the action plan – to strengthen the contribution of the financial sector towards sustainable growth, thereby enhancing financial stability by taking environmental factors into account – is to be achieved by 1) redirecting financial market flows towards sustainable investment and growth; 2) reducing the financial risks arising from climate change (financial market stability) and; 3) promoting the transparency and long-term nature of financial and economic activities. In order to close the investment gap of around €180 billion per year and meet the EU's energy and climate goals by 2030, it is essential that companies report on their sustainability and long-term risks in a transparent manner.

The action plan proposes a total of ten actions. The first measure is the introduction of an EU classification system for sustainable economic activities, which should lead to a uniform EU taxonomy. A group of experts (Technical Expert Group on Sustainable Finance) will be responsible for the concrete design of the taxonomy. In April 2019, the European Parliament presented a draft of the taxonomy of sustainable investments, which will be further developed with the Council of Ministers and the EU Commission to include standards and labels for green financial products as part of the second measure.<sup>18</sup> In this context, the fifth measure, which provides for the development of two sustainability benchmarks, is also important. The aim is to improve the comparability of the performance of green financial products. In addition to a low-carbon benchmark (less strictly sustainable or a benchmark that includes stocks with a CO<sub>2</sub> footprint below the industry average), a positive-carbon impact benchmark (more strictly sustainable and in line with the Paris two degrees Celsius target or a benchmark that includes stocks with a positive CO<sub>2</sub> footprint) is to be developed.<sup>19</sup>

The seventh measure provides for clarification of the obligations of institutional investors and asset managers, although to date this has focused solely on pension funds.<sup>20</sup> In order to be able to successfully label investments as sustainable, the ninth measure strengthens the regula-

13 It is estimated that at European level alone, an additional investment of 180 billion euro annually is needed to achieve the European climate and energy targets by 2030. See European Commission: Communication from the Commission to the European Parliament, the European Council, the Council, the European Central Bank, the European Economic and Social Committee and the Committee of the Regions. Action plan: Financing sustainable growth, COM(2018) 97 final, 8 March 2018.

14 K. Berensmann, N. Lindenberg: Green Finance: Akteure, Herausforderungen und Politikempfehlungen, German Development Institute, Analysen und Stellungnahmen, available at [https://www.die-gdi.de/uploads/media/AuS\\_14.2016.pdf](https://www.die-gdi.de/uploads/media/AuS_14.2016.pdf).

15 WWF (World Wide Fund for Nature), Germanwatch e.V., Klima-Allianz Deutschland, Fair Finance Institute, Südwind-Institut für Ökonomie und Ökumene, Fossil Free Berlin: Statement on the Final Report of the EU Expert Group on Sustainable Finance (HLEG), Berlin, Bonn and others 2018.

16 Task Force on Climate-related Financial Disclosures: Recommendation of the Task Force on Climate-related Financial Disclosures, final report, June 2017, available at <https://www.fsb-tcfd.org/wp-content/uploads/2017/06/FINAL-TCFD-Report-062817.pdf>.

17 European Commission: Communication from the Commission to the European Parliament, op. cit.

18 European Commission: Commission action plan on financing sustainable growth, Factsheet, 2018, available at [https://ec.europa.eu/info/publications/180308-action-plan-sustainable-growth\\_en](https://ec.europa.eu/info/publications/180308-action-plan-sustainable-growth_en).

19 European Parliament: Draft Report on the proposal for a regulation of the European Parliament and of the Council amending Regulation (EU) 2016/1011 on low carbon benchmarks and positive carbon impact benchmarks, Brüssel, Europäisches Parlament, 2018/0180(COD), 27 September 2018, available at [http://www.europarl.europa.eu/sides/getDoc.do?pubRef=-%2F%2FEP%2F%2FNONSGML%2BCOMPARL%2BPE-628.440%2B01%2BDOC%2BPDF%2B0%2F%2FEN\(22.2.2019\)](http://www.europarl.europa.eu/sides/getDoc.do?pubRef=-%2F%2FEP%2F%2FNONSGML%2BCOMPARL%2BPE-628.440%2B01%2BDOC%2BPDF%2B0%2F%2FEN(22.2.2019))

20 See Divestment case study.

tions on the disclosure of sustainability information.<sup>21</sup> The disclosure of sustainability risks by financial market players is not yet mandatory, which may lead to voluntary disclosure and embezzlement of risks.<sup>22</sup> Nevertheless, the action plan implements recommendations made by a previous group of experts that could create an important basis for a shift towards a sustainable financial system.<sup>23</sup> The proposed introduction of a classification system, standards and labels at the EU level is an important element for the development of a sustainable financial system – particularly given that there is no single taxonomy or uniform standards, which is an important precondition for redirecting financial flows. Current regulatory projects at the EU level, such as the disclosure of sustainability risks by asset managers and asset owners contained in the sustainable finance regulatory package proposal or in the EU banking package are also an important prerequisite for creating greater transparency.

However, as it currently stands, the EU action plan does not provide a clear framework for the widespread use of the instruments needed to redirect financial flows and create a sustainable financial economy. For example, the EU Commission's first measure, a proposal for a classification system that should only be applied to already sustainable financial products, has been put forward. Due to the unclear wording, there is a risk that the planned measures will not be applied directly to the mainstream financial sector. In order for the taxonomy – and the standards and labels based on it – to be used to label all business activities, the criteria must extend to the overall market and the business activities to which the instruments may apply should be clarified. On the one hand, this is necessary to be able to check the sustainability of the operations of conventional providers in terms of increased transparency, which is a prerequisite for advising and evaluating the asset-owner side. On the other hand, this could counteract the danger of a unilaterally increased reporting obligation for business activities that already offer sustainable financial products. The Technical Expert Group, which was founded to implement the legislative proposals and in which German financial actors such as the public sector *Kreditanstalt für Wiederaufbau* are represented, was set up to develop clear formulations that introduce a taxonomy and standards that can apply not

only to already sustainable financial products but to all business activities.<sup>24</sup>

Furthermore, the European Parliament's April 2019 draft taxonomy does not include a sufficient definition of sustainable investment, as an investment need only contribute to one of six environmental objectives (climate change mitigation, climate change adaptation, sustainable use of water and marine resources, a healthy ecosystem, closed cycle management, pollution prevention) in order to be considered sustainable.<sup>25</sup> The social and governance aspects of the ESG criteria have so far not been taken into account.

## Conclusion

European countries have the ideal starting conditions to increase the share of renewable energy sources significantly and even achieve a full supply of them that strengthens the economy, the environment and the competitiveness of each country. Europe must set the framework conditions that will enable the sharing of renewable energy sources to grow rapidly and not be slowed down further. The orientation of the financial system towards sustainability and climate protection plays a fundamental role in this context. In the future, investments should no longer be directed towards fossil or nuclear energies but towards renewable energy sources. The EU Green New Deal should definitely establish a strictly sustainable financial system in order to channel the necessary financial flows.

The goal should be to significantly increase the share of renewable energy sources as rapidly as possible, to dismantle the advantages for fossil fuels and nuclear energy, to give priority to renewable energy sources and to massively accelerate their expansion. Only in this way will Europe succeed in leveraging the advantages for national economies and technological leadership through innovations and competitive advantages.

Europe's framework conditions should enable renewable energy sources to grow rapidly. Every country should attempt to achieve a full renewable energy supply as quickly as possible and the European Green New Deal should facilitate this.

21 European Commission: Communication from the Commission to the European Parliament, op. cit.

22 WWF (World Wide Fund for Nature) et al., op. cit.

23 High-Level Expert Group on Sustainable Finance: Financing a European Economy, Final Report 2018, available at [https://ec.europa.eu/info/sites/info/files/180131-sustainable-finance-final-report\\_en.pdf](https://ec.europa.eu/info/sites/info/files/180131-sustainable-finance-final-report_en.pdf).

24 European Commission: Communication from the Commission to the European Parliament, op. cit.

25 European Commission: Factsheet: Financing sustainable growth. COM(2019), Brussels 2019, European Commission.