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Timetable for phasing out nuclear energy

The Green roadmap for a switchover to a life-friendly energy supply and a fast nuclear power phase-out

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The Fukushima nuclear disaster is a critical moment in the history of energy policy.

Warning about the dangers of nuclear power has been a driving force in the founding of Green movements worldwide. For the Greens in Germany, phasing out nuclear energy has been one of the party's goals since its inception. With the "nuclear consensus" in 2000/2001 we Greens – in government for the first time – secured a political commitment to phase out nuclear power and impose restrictions on the hitherto unlimited nuclear power plant lifetimes.

We have always fought to have nuclear power phased out before such an accident occurred. Nevertheless: The Fukushima nuclear disaster is a crucial moment for us Greens as well. We openly admit it: The prospect that meltdowns could begin in several reactor blocks simultaneously in a high-tech country such as Japan – that the world could be faced with parallel maximum credible accidents (MCAs) – was inconceivable to us.

For us Greens, the message is clear: We must phase out nuclear energy as soon as possible, and that means even more quickly than the timetable envisaged as part of the SPD-Green nuclear phase-out. By contrast, the CDU/CSU-FDP Government has made a momentous error by extending the lifetimes of Germany's nuclear power plants. This decision must be reversed – and we must now speed up the process of restructuring our energy industry.

The Greens' aim is to put an end the nuclear age in Germany once and for all during the next legislative term. This is achievable if swift action is taken now to establish the requisite legal and financial conditions. First and foremost, that means faster expansion of renewable energies, investment in energy efficiency, energy saving, and energy storage, and the modernisation of power grids. Every day of hesitation and delay is another day lost for the accelerated energy turnaround that is needed and the fastest possible phase-out of nuclear power.

In this paper, the Green parliamentary group presents a roadmap for phasing out nuclear power. With it we not only show the Federal Government that a complete switchover to a climate- and life-friendly energy supply and that the transition to the age of renewable energies are possible. We also show how this process can immediately be launched. For only if we take resolute action now will we succeed in shutting down nuclear power completely within just a few years. The Federal Environment Agency has reinforced us in our conviction, calculating that a complete nuclear phase-out is possible by 2017 without compromising energy security and climate protection targets.

The events in Fukushima remind us that we alter our course even more resolutely, even more energetically and even more realistically. Time is too precious to waste with symbolic moratoria.

Pausing for reflection is a thing of the past. Today calls for action. Our roadmap shows what can be done – and how it can be done.

Just as there was a consensus within society for our "old" nuclear power phase-out agreed in the year 2000, a broad majority of society today favours an accelerated nuclear phase-out and the fastest possible switchover of energy supply to renewable energies, energy efficiency and energy savings. Our roadmap will also help strengthen this consensus and facilitate the now necessary process of agreement within society on concrete steps and measures to achieve this fast phase-out.

I. Green milestones for shutdown

1. The Bundestag adopts a **13th amendment to the Atomic Energy Act** reversing the extension of nuclear power plant lifetimes and reinstating the legal status quo under the SPD-Green phase-out. This is the immediate – and indeed the only logical – consequence of Fukushima. It is also the prerequisite for an accelerated phase-out of deadly nuclear power and for a new social consensus on the switch to renewables.
Time horizon: immediately (bill has already been introduced by the Greens)
2. With a **14th amendment to the Atomic Energy Act**, the Bundestag revokes the operating licences of the seven oldest nuclear power plants and the Krümmel nuclear power plant. The extremely dangerous operation of these reactors is terminated.
Time horizon: immediately

3. The Federal Environment Minister publishes the revised **Nuclear Regulatory Framework** in the Federal Law Gazette and thus makes their application binding.
Time horizon: immediately

4. The remaining nuclear power plants are subjected to a strict **safety review** on the basis of the revised Nuclear Regulatory Framework. Nuclear power plants that do not meet current scientific and technical standards are shut down.
Time horizon: starting immediately

5. The German Bundestag amends the **Atomic Energy Act** to curtail the residual electricity production rights of the remaining nuclear power plants in line with the expansion of renewable energy sources and make it possible to shut down the last German nuclear power plant for good within the next legislative term.
Time horizon: in the course of the year 2011

6. The Bundestag adopts a **Final Disposal Site Search Act** on the basis of the criteria elaborated by the task force on the selection criteria and identification of a final disposal site established during the SPD-Green Government's term of office. This lays the foundation for at last beginning an open-ended search for a final disposal site.
Time horizon: first half of 2011

II. Green milestones for expansion of renewable energy sources

1. The Bundestag adopts an amendment to the **Renewable Energy Sources Act** (EEG) with the aim to further spur development and expansion of all renewable energy sources and, in particular, to secure and – through additional repowering – boost utilisation of onshore wind energy, create additional incentives for expansion of offshore wind power and safe use of geothermic potential, further stimulate development and expansion of photovoltaic systems and promote demand-oriented production of electricity from sustainably produced biomass.
Time horizon: summer 2011

2. The Bundestag adopts amendments to the relevant **specialist statutes** with the aim to introduce early **public participation** and promote the greatest possible transparency in all planning processes and thus realise important infrastructure planning – especially in the energy sector – with widespread acceptance and far more quickly than hitherto.
Time horizon: in the course of the year 2011

3. The Bundestag adopts **amendments to the Federal Building Code** and the Federal Land Utilization Ordinance with the aim to eliminate restrictions on new construction or replacement of renewable energy installations, such as height limitations for existing wind turbines, while according due consideration to nature conservation interests and public participation.
Time horizon: in the course of the year 2011

4. The Federal Government, together with the federal states (*Länder*), adopts a joint programme to **eliminate obstacles under planning law** to expansion of renewable energies and investment in energy efficiency, for instance with regard to construction of wind turbine installations and designation of priority areas with high power generation potential in all of the *Länder*.
Time horizon: fall 2011

5. The Bundestag amends legal specifications in the field of **aviation** with the aim to end the Bundeswehr's blockage of new wind park construction and increase public acceptance of wind power through less obtrusive obstacle lighting on wind turbines.
Time horizon: spring 2011

6. The Federal Government submits a **supplementary 2011 budget** to the Bundestag to increase funding for the Market Incentive Programme for Renewable Energies and broaden its scope to include an innovation programme for new technologies in the fields of power production and storage – such as marine energies, thermoelectric generation and innovative hydroelectric installations – that do not adversely affect species protection.
Time horizon: spring 2011

III. Green milestones for greater energy efficiency in power consumption

1. The Bundestag resolves to **amend the Energy Efficiency Act** to set a binding electricity reduction target for 2020 that is 20 percent below the 2007 consumption figure, prescribe savings quotas for power producers and mandate energy audits for energy-intensive companies.
Time horizon: spring 2011

2. The Federal Government submits a **supplementary 2011 budget** to establish an Energy Savings Fund from which EUR 1 billion in funding will be made available annually to improve information and advice on energy savings and to promote the introduction of particularly energy-efficient appliances and machines as well as the replacement of inefficient electric heating systems, especially through incentives targeted towards low-income households.
Time horizon: immediately

3. The Federal Government submits a proposal for the implementation of dynamic **efficiency standards** in the European Union so that in future the most energy-efficient products set the standard (top-runner approach).
Time horizon: immediately

4. The Federal Government launches a proposal at European Union level to set a **binding** EU-wide **energy savings target** of 20 percent by 2020 and to design more consumer-friendly energy consumption labels for electrical appliances.
Time horizon: spring 2011

IV. Green milestones for better power plants

1. The Bundestag adopts an **amendment to the Federal Immission Control Act** with the aim to increase the efficiency of existing fossil fuel-fired power plants and put a stop to the construction of new coal-fired power plants. To this end, flexibility standards will be introduced as well as a minimum electrical efficiency standard of 58 percent for new fossil fuel power plants or, in the case of combined heat and power (CHP) plants, an annual overall efficiency of 75 percent.
Time horizon: spring 2011

2. With the same **amendmen**t, the Bundestag introduces a **dynamic minimum efficiency standard** for existing fossil fuel power plants, starting with 38 percent in the case of hard coal, 36 percent in the case of lignite and 40 percent in the case of other fossil fuels as from 2015.
Time horizon: spring 2011

3. The Bundestag adopts an **amendment to the Combined Heat and Power Act** providing for considerable improvements in support, such as eliminating the funding cap of € 750 million per year, increasing the amount and duration of funding for CHP plants, dismantling administrative barriers to the construction of plants and heat networks as well as improving the share of CHP plants in the conventional electricity market.
Time horizon: spring 2011

4. The Federal Government re-introduces the **promotion programme for small-scale combined heat and power systems (CHPS)** that had been discontinued in 2009.
Time horizon: spring 2011

V. Green milestones for new and better energy networks and reservoirs

1. The Federal Government resolves to draw up a **federal sectoral plan** for **electricity transmission networks** that is geared to the swiftest possible power supply switchover to renewable energy sources. In order to increase acceptance, the requisite network data and load flows are to be published and the public is to be involved in plan development.
Time horizon: immediately

2. The Bundestag adopts an amendment to the **Power Grid Expansion Act** with the aim to increase acceptance of new construction projects through the use of underground cabling for power lines in the voltage range up to 110 kV and partial undergrounding of high-voltage power lines in sensitive areas.
Time horizon: spring 2011

3. The Federal Government invites tenders for a **pilot high-voltage direct current (HVDC) transmission route** as a north-south axis and, in parallel, launches pilot projects to test underground cabling of high-voltage transmission lines over longer distances.
Time horizon: summer 2011

4. The Federal Government, together with the *Länder*, launches an initiative to review and **speed up the planning and approval procedure** for new power grid routes and to **involve citizens** at an early stage.
Time horizon: immediately

5. The Federal Government enters into negotiations with the governments of the neighbouring and Scandinavian states with the aim to link the **hydroelectric power reservoirs** there with the German

electricity market and actively move forward with the construction of the necessary transmission lines.
Time horizon: immediately

6. The Federal Government submits a conversion programme for the provision of system services through photovoltaic installations at distribution network level and launches a **funding programme** to promote the development and construction of innovative power storage systems such as pumped-storage power plants in abandoned mines, flywheel power storage systems, lift storage power plants, and regenerative methane in natural gas networks, to mention but a few.
Time horizon: summer 2011

VI. Green milestones for innovation and competition

1. The Federal Government adopts a new **Energy Research Programme** to significantly step up research endeavours to promote technological innovations in the areas of smart grids, power transmission technologies and power storage and to increase the research funding made available under the Energy Research Programme for renewable energy sources and energy savings to € 500 million per year.
Time horizon: starting immediately

2. The Federal Government fundamentally restructures the research funding under the **6th Energy Research Programme** to concentrate on renewable energy sources and energy savings and launches an initiative at EU level to revamp the EU's 8th Framework Programme for Research with the aim to also end funding under that programme for the unsuccessful and unpromising research on nuclear fusion and nuclear fission concepts. At the same time, Germany withdraws from the EURATOM Treaty.
Time horizon: starting immediately

3. The Federal Government establishes a **Market Transparency Office** to prevent abuse and excessively high electricity prices and to enforce free competition in the electricity market.
Time horizon: immediately

VII. Green milestones for parallel climate protection measures

In order to be able to implement necessary ambitious climate protection measures even in the event of an accelerated nuclear power phase-out, efforts outside the electricity sector must be significantly stepped up as well. The Federal Government must therefore, inter alia,

1. in a supplementary budget, reverse the cuts in the **carbon dioxide-oriented building modernisation programme** and make € 2 billion available again in the short and medium term. In addition, € 2 billion from the Energy Savings Fund are to be made available for the buildings sector;
Time horizon: spring 2011
2. in a supplementary budget, reverse the cuts in the **Market Incentive Programme for Renewable Energies** and increase the budget in the medium term to approximately € 1 billion.
Time horizon: spring 2011