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Political and Policy Repercussions of Japan's Nuclear and Natural Disasters in Germany　日本の天災核災にたいするドイツの反応

Andrew DeWit, Sven Saaler

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The Fukushima nuclear reactor accident has had an immense economic and political impact worldwide, leading many countries to rethink their nuclear policies and programmes. Germany is a striking case in point, as the two statements introduced here show. Published in mid-March by IG Metall (the German metal workers' union), and updated for this translated release, the documents are in reaction to the disasters in Japan. The first policy paper is an explicit declaration of the need to get completely out of nuclear and more fully into renewables, while the second expresses grave concern about the worldwide economic repercussions of Japan's multiple disasters.

Some background is in order. The German federal government under Chancellor Angela Merkel decided only a few days after Fukushima to shut down two especially aged nuclear reactors. The government then set up a formal council to explore ways towards forging a consensus on the future of nuclear energy. Germany's Red-Green coalition of 1998-2005, which grouped the Social Democrats and Greens in a governing coalition, had decided in 2000 to gradually phase out nuclear power in Germany. The target date for this "Nuclear Exit Law" cessation of all nuclear power production was 2021. But the Merkel-led Center-Right coalition that came into power in October of 2009 decided to reverse this course and prolong the operating life of nuclear reactors by an average of 12 years. The decision was justified as an essential "bridge" to a future of renewable energy, but was obviously due to the conservative CDU's close connections to energy companies with significant sunk costs in nuclear power. In the wake of Fukushima, the Merkel government declared a three-month moratorium on its decision to extend the lifetime of the nuclear capacity, which IG Metall suggests is waffling.

The Merkel regime is being driven by the German public's intensified anti-nuclear stance. Fukushima's impact hit particularly hard at the regional level, since it preceded key subnational elections. In the March 27 elections to the parliament of Baden-Württemberg, the CDU lost its absolute majority in this Land (state) for the first time in nearly 58 years. The Green Party took 25% of the vote while the CDU slumped from 44.2% in the 2006 state elections to 39% in this round. The Greens thus became the second-largest party in terms of support, and were able to form a coalition government with the Social Democratic Party (SPD), which received 23.1% of the vote. The result was also surprising in that the SDP is traditionally the second-largest party after the CDU on the national and regional level. The Green victory was strongly influenced by the events in Fukushima and Merkel's efforts to fudge on the nuclear issue. The Green party has its origins to a large degree in the anti-nuclear power movement of the 1970s and 1980s. The anti-nuclear movement is a powerful social force in Germany, particularly well known for its sometimes violent demonstrations against the transport of spent nuclear fuel to "temporary storage sites" (Zwischenlager), such as Gorleben.

The Green victory in Baden-Württemberg is clearly linked to strong and growing public support for the anti-nuclear movement. In the 2010 Eurobarometer survey of EU public opinion on nuclear power, 52% of Germans desired reduced reliance on nuclear power, much higher than the 34% average across the EU. But in the wake of Fukushima, polls showed that more than 80% of German respondents favoured a phase-out of nuclear energy. This anti-nuclear sentiment is also putting pressure on the SPD and the labour unions. These powerful actors in Germany's political economy have long emphasized a more traditional, more conservative approach in energy policies than the Greens. Having placed greater emphasis on "labour" than on "green" issues, they are now being forced to rethink their positions. IG Metall now clearly states that "nuclear energy has no future" and stresses the attractiveness of a "green economy" in terms of labour politics and as an expanding source of well-paid jobs. There is no doubt that Fukushima will continue to play a powerful, constructive role in German politics and energy policies. The economic and financial difficulties outlined in the second policy statement could spur Japan, Germany and other countries to more aggressively pursue green, sustainable growth.

IG Metall's Position on Nuclear Power and Energy Policy

As a result of the nuclear catastrophe in Japan, the debate on the future of nuclear energy in Germany has flared up once again. IG Metall supports the supply of energy without nuclear power and presents the cornerstones of its policy for a sustainable energy supply.

Nuclear energy has no future – the Federal government must cancel the extension of the operational life of nuclear power stations.

As a result of the nuclear catastrophe in Japan, the debate on nuclear power in Germany has flared up again. IG Metall supports the supply of energy without nuclear power. The majority of people in Germany reject the coalition's extension of the operational life of nuclear power stations.

IG Metall demands the following:

• The withdrawal of the 14-year (average) extension of the operational life of Germany's nuclear reactors, a policy announced by the federal government in November of 2010. The temporary moratorium on the decision, announced by Merkel and Westerwelle [in the wake of Fukushima], is simply not enough.

• That the so-called "nuclear consensus" formalized in 2000 between the then-Red-Green coalition government and energy companies should once more be made the basis of a planned withdrawal from nuclear energy by 2020.

• The immediate shutdown of the oldest nuclear power stations (including Neckarwestheim 1 and Biblis A and B. According to the 2000 consensus, these reactors should have been taken out of the network by 2010.)

• An energy mix without nuclear power. Nuclear energy is not needed as a medium-term bridging technology.

This year marks the twenty-fifth anniversary of the 1986 Chernobyl disaster. In 1979, there was a partial core meltdown at Three Mile Island near Harrisburg in the USA. There have also been serious accidents in Europe. These instances confirm that nuclear power is a high-risk technology, even when one is committed to the highest safety standards.

No level of safety can absolutely guarantee protection against natural catastrophes and accidents. The consequences for people are disastrous and impose a burden on the affected regions for an indeterminable period. And the radioactive waste accumulated from the use of nuclear energy imposes a burden on future generations.

Safety checks of the kind recently announced by the German government are insufficient. The speed with which calculations based on models can be invalidated has been shown all too tragically by the nuclear catastrophe still ongoing in Japan. In Germany, too, natural catastrophes, terrorist attacks or plane crashes cannot be ruled out. Human or technological errors can also lead to accidents.

Nuclear energy is not suitable as a bridging technology; on the contrary, it stands in the way of new and innovative solutions and a future-oriented restructuring of energy supply.

IG Metall: Cornerstones of sustainable energy generation

A strong infrastructure is indispensible for a modern industrial society. Energy is one of its pillars. A fully functional and climate- and resource-conserving energy supply is therefore assuming more and more importance. It is already clear that the generation and deployment of energy will undergo major technological transformation.

Nuclear Power in Germany				
Nuclear power station	**Came into operation**	**Planned shutdown (+extension)**	**Owner**	**Number of notifiable events since coming into operation**
Brunsbüttel	1976	2012 (+ 8 years)	Vattenfall/ Eon	462
Brokdorf	1986	2019 (+14 years)	Eon/ Vattenfall	210
Unterweser	1978	2012 (+ 8 years)	Eon	337
Krümmel	1984	2019 (+14 years)	Eon/ Vattenfall	321
Emsland	1988	2020 (+14 years)	RWE/ Eon	121
Grohnde	1984	2018 (+14 years)	Eon/ SW Bielefeld	221
Grafenrheinfeld	1981	2014 (+14 years)	Eon	220
Biblis A	1974	2010 (+ 8 years)	RWE	422
Biblis B	1976	2010 (+ 8 years)	RWE	417
Neckarwestheim 1	1976	2010 (+ 8 years)	EnBW	425
Neckarwestheim 2	1988	2022 (+ 14 years)	EnBW	80
Phillipsburg 1	1979	2012 (+ 8 years)	EnBW	337
Phillipsburg 2	1984	2018 (+ 14 years)	EnBW	181
Isar 1	1977	2011 (+ 8 years)	Eon	279
Isar 2	1988	2020 (+ 14 years)	Eon	72
Gundremmingen B	1984	2015 (+ 14 years)	RWE/ Eon	112
Gundremmingen C	1984	2016 (+14 years)	RWE/ Eon	99

Source: Handelsblatt

For IG Metall the following are the cornerstones of a future-oriented restructuring of the supply of energy:

1. Expansion of renewable energies has priority

IG Metall advocates an environmentally sustainable strategy of energy policy innovation. Renewable energies are the supporting pillars of the low-carbon energy supply of the future. The aim is a switch to 100 per cent renewable energy in electricity generation by 2050. Renewable energies must be the leading technology, and conventional energy sources must be measured by whether or not they support the expansion of renewable energies.

The expansion of renewable energies is an example of new green markets, and indicates their growing significance as future factors in the economy. Over the past 20 years, wind and photovoltaic power in particular have made the leap from niche markets to innovative arms of industry. In Germany, green has grown an entire industrial value creation chain. The state must continue to provide a stable development path for renewable energies in the future with the Renewable Energies Law. The political tug-of-war concerning the revision of the Renewable Energies Law due in 2011 is likely to bring another round of distributional conflicts among utilities in the energy industry. We saw this recently with regard to the prolongation of the working lives of nuclear power stations. IG Metall advocates maintaining the efficacy of the Renewable Energies Law with regard to the expansion of renewable energies.

2. Innovative, highly efficient power station technology instead of prolongation of nuclear power stations

Conventional electricity generation will likely be needed for several more decades. Yet it is not necessary to keep ageing coal-fired power stations in the network. New and more efficient technology is already available, to provide power more efficiently and with less harm to the environment.

IG Metall therefore advocates a fundamental modernisation of conventional power via new highly efficient coal-fired and gas power stations and the expansion of combined heat and power generation. The political decision to prolong the operations of nuclear power stations has contributed nothing to this aim. On the contrary, it has only cemented in place old plant and is thus detrimental to the modernisation of Germany's power stations. Prolonging the operations of nuclear power stations will act as a brake on innovation and investment.

3. Increasing energy efficiency has enormous potential – in terms of both environmental policy and employment policy

The dramatic increase in energy efficiency and the switch to low carbon energy generation are two sides of the same coin. IG Metall is calling for concrete policy measures so that our self-imposed goal of doubling energy efficiency can be achieved, such as the introduction of an energy efficiency fund and expansion of support for energy-related renovation of buildings. Raising energy efficiency also represents an economical path towards sustainable energy supply and would contribute to preserving workplaces. Many studies show that the potential for energy savings amounts to between 10 and 20 per cent of

energy costs for businesses across the board. The branches in which energy-efficient technologies and products are increasingly relevant include transport, building technology, mechanical and plant engineering, information technology, energy-intensive industries and the energy industry.

4. Investments in network and storage technologies

Further expansion of renewable energies will require expansion of existing grid networks and storage technologies. Further development of the electricity supply system and the building of new energy storage units will therefore be key to the sustainable restructuring of energy supply. That ranges from new high voltage transmission technology, through the feed-in management of decentralised energy generation units, to more flexible measurement and control technologies for electricity consumers. The expansion of grid networks and storage units represents one of the biggest challenges with regard to the structural transformation of energy generation.

5. Structural transformation of energy generation must be accompanied by a labour-oriented industrial policy

The restructuring of energy generation is not only a technological challenge; it also has a social dimension. There are economic and employment policy opportunities arising from renewable energies. But wherever workers are affected by cutbacks or closures, solutions must be offered by way of social collective agreements and a regional structural policy that bolsters the prospects for new employment. Structural transformation must be accompanied by an effective labour-oriented industrial policy on the part of the Federal government and at the European level, aimed at maintaining regional value creation and employment in energy generation.

Structural transformation must offer workers real prospects. So good wages and decent employment conditions must be a high priority in the new branches of renewable energy. IG Metall aims to secure worker participation and collective wage agreements in far more workplaces than at present.

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Catastrophe in Japan: First assessment of the economic consequences

The earthquake off the coast of Honshu and the ensuing tsunami are the biggest natural catastrophes in Japan's history. The extent of the damage, in particular a possible nuclear catastrophe, cannot yet be estimated with much precision. According to current information (evening, 16 March), there are 11,000 dead and missing [ca. 25,000 as of end of April 2011]. However, that is only a provisional figure and the number of victims is constantly being revised upwards. And it remains unclear what damage has occurred so far as a result of the nuclear catastrophe and what consequences a meltdown in one or more of the reactors could have.

Kobe's devastating 1995 earthquake left 6,432 dead. The region was responsible for 15 per cent of Japan's economic output, and the damage amounted to 100 billion euros or about 2 per cent of Japanese economic output. **In economic terms, the 1995 disaster was dealt with astonishingly well**. Reconstruction led to a clear and rapid revival of the economy (the 'Kobe effect'). Three months after the earthquake, industrial production in the affected region and in Japan as a whole had risen above its level before the earthquake. Reconstruction thus had the effect of a massive economic stimulus programme.

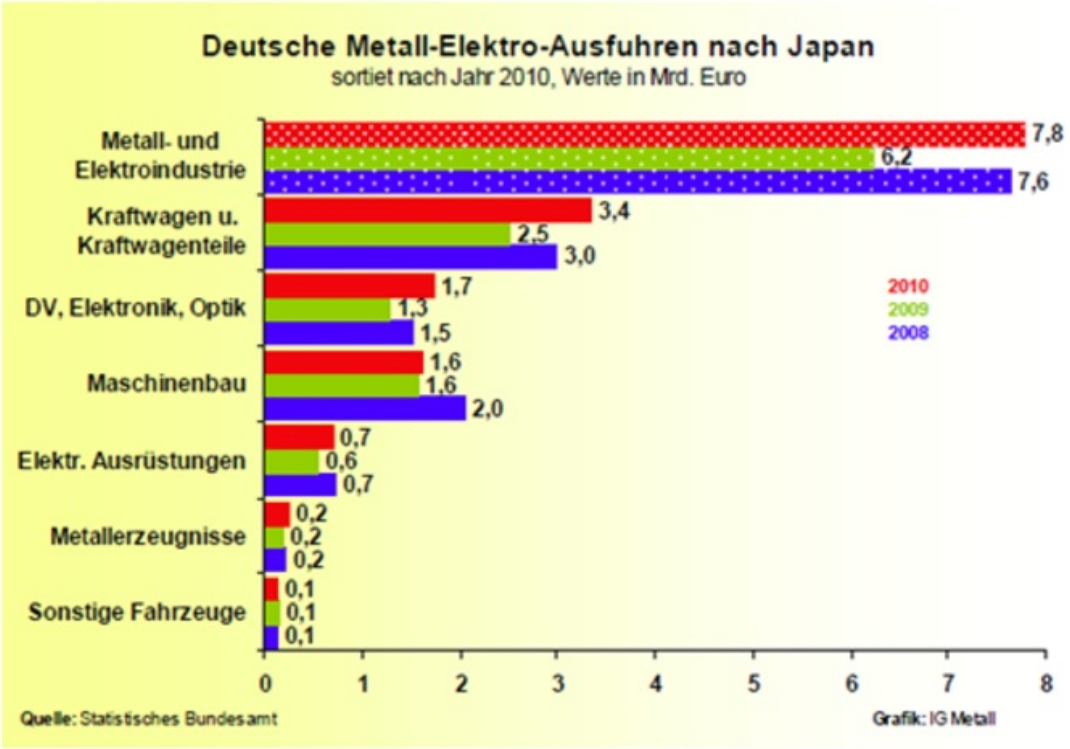
The damage arising from the latest earthquake and tsunami is still not fully known. **Barclays Capital estimates the damage at over 130 billion euros**, although that is only a first approximation. Assessments of the weight of the affected region as a part of Japan's overall economy vary between 2.5 and 15 per cent of total economic output. What is clear is the following: the affected region is geographically much larger than in 1995; more people have been affected; and the damage to buildings and infrastructure is much more significant.

Even though the heavily industrialised region of Kobe was comparable, in economic weight, with the region affected today, these other factors will hinder and prolong reconstruction. Reconstruction could also be hindered by problems with energy supply. **Eleven of the 54 nuclear power stations in Japan are currently shut down**, and some will remain so permanently.

Also still unforeseeable at this point is the further development of the collapsed Fukushima nuclear power station. If there is long-term radioactive contamination of the region or even of greater Tokyo, where 35 million people live and 16 per cent of Japanese economic output is produced, the consequences cannot be foreseen. **Such a catastrophe would be unparalleled**, and the economic repercussions could also seriously affect the world economy.

Consequences for Germany and the World

The consequences of the current disaster (if a total meltdown in the nuclear power station is averted) will be macroeconomically limited. **Japan accounts for 5.8 per cent of global economic output and 4.8 per cent of global trade**. A major collapse in Japan would not have dramatic consequences for the world economy. Furthermore, one-third of Japanese foreign trade is with the rest of Asia. Japan's quantitative significance as a trading partner of Germany is not great: 1.4 per cent of German exports go to Japan and 2.7 per cent of German imports come from Japan.



[Translation:] **German Metal-Electrical Exports to Japan**

2010, billion euros

Metal and electrical industry

Motor vehicles and motor vehicle parts

Dataprocessing, electronics, optics

Machine building

Electrical equipment

Metal products

Other vehicles

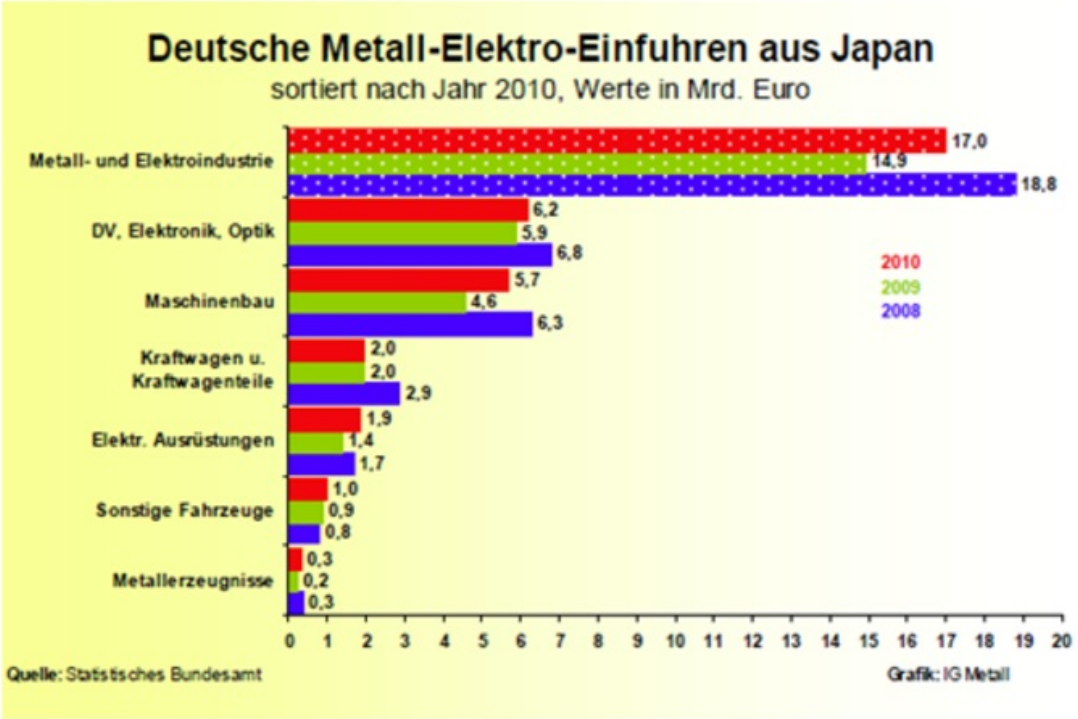
2010 - red

2009 - green

2008 - violet

Source: Statistisches Bundesamt Figure: IG Metall

At present, the effects on the second, third and other levels of the value chain cannot be measured. For example, delivery interruptions in third countries could lead to problems for German companies as a result of the deep integration of the international value chain.



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Source: Statistisches Bundesamt Figure: IG Metall

The exports of the metal and electrical industry – mostly cars – represent 1.5 per cent of total exports to Japan. Imports, at 5.4 per cent, are significantly greater. The main imports are office machinery (2.3 billion euros), electronic components (1.6 billion euros), measurement and control instruments (1.3 billion euros) and optical and photographic instruments (1.3 billion euros). Electronic components in particular include many vendor parts for German industry.

On the one hand, Japan has a very similar industrial structure to Germany (cars, machine building, chemicals) and is a direct competitor in the world market. At present, production in, for example, the car industry is at a standstill, at least temporarily. The temporary interruption of Japanese production improves the market opportunities of German goods. In addition, Japanese capital is expected to flow back from abroad in order to deal with the damage and finance construction. This will lead to a revaluation of the yen, which will improve the market opportunities of German products even more. This development has been anticipated by the financial markets; they are already betting on a rising yen.

On the other hand, Japan is a significant producer of electronic components: 21 per cent of global semiconductor production comes from Japan. There are also suppliers of electronic components in the devastated region. Their production could be limited for an extended period. Many German companies depend on these supplies. Bosch has a network of 350 suppliers in Japan. BMW also fears the consequences if semiconductors are not delivered. The situation is still not clear. BMW's head of procurement Diess expects – according to FT Germany 16 March – a prognosis concerning possible consequences in seven to ten days. Cuts in production cannot be ruled out.

A Strain on the Financial Markets

The events have led to uncertainties on world financial markets. In particular, the stock exchange in Tokyo has plunged. As of March 16, the Nikkei Index stands at around 15 per cent below pre-earthquake levels. But these are just snapshots.

Much more significant are the medium-term problems of financing. The Japanese state is highly indebted. The debt level is around 200 per cent of economic output, which is far higher than that of Greece. So far, the debt has been financed by the very high savings rate among the population. Many Japanese people

have sought to provide for their old age by purchasing government bonds. The catastrophe and reconstruction will lead to a fall in the savings rate, driving up foreign debt. First estimates assume a need for new borrowings in the amount of 10 per cent of economic output. This worries financial markets. These markets are yet to recover from the global financial crisis and are still trying to cope with the European debt crisis. Furthermore, investors remain very uncertain and risk averse.

Japanese capital will be brought back from abroad, especially from the USA. This could lead to tensions in those markets. Even before the earthquake, rating agencies had downgraded Japan's creditworthiness. **Doubts concerning the solvency of the Japanese state**, could undermine the Japanese banking sector. Such doubts could also lead to a **worldwide withdrawal of investors from shares and uncertain government bonds**. That would surely exacerbate the euro-crisis and lead to capital losses due to falling share prices. The consequence would put a significant strain on companies, consumers and banks, and thus on the entire global economy.

Summary

Current estimates assume that the consequences of the nuclear catastrophe will remain manageable with no major radioactive contamination of the region. **All prognoses will count for nothing if there is extensive and long-term radioactive contamination**. The economic consequences of such a catastrophe cannot be guessed. The reconstruction after the devastation wrought by the earthquake and the tsunami will have to be managed by the Japanese economy, even if it takes even longer than was the case after the earthquake in Kobe in 1995. The immediate repercussions for the world economy are expected to be low. **For German companies the lack of individual vendor parts could lead to problems**.

Since the Japanese state is already highly indebted and the financial markets have not yet got over the global financial crisis, **funding the rebuild and recovery from the catastrophe will impose a further heavy burden on markets in the future**.

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