



After Fukushima: The Rise of Resistance to Nuclear Energy in Indonesia

Achmad Uzair Fauzan/Jim Schiller



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Achmad Uzair Fauzan
Jim Schiller



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German Asia Foundation
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Phone: + 49-201-8303838
E-Mail: asienstiftung@asienhaus.de
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Foreword

The Fukushima nuclear meltdown has had great political impact world wide and especially in Germany, where it led to a dramatic change in nuclear power policies of the current conservative government: an opt out of nuclear energy by 2022. But it also generated discussions in other countries having nuclear power programmes or in which such programmes are being developed.

In Asia there are a number of countries with nuclear power plants: 13 in China (and a huge number under construction), 6 in India and 20 in South Korea. And there are plans and/or discussions about using nuclear power in Bangladesh, Indonesia, Malaysia, Pakistan, Singapur, Sri Lanka, Thailand and Vietnam. And, in some of these countries there is strong resistance against nuclear energy – especially from the potentially affected local communities.

So far, the cooperation and joint activities between civil society organisations in Europe and Asia is weak, partly because not much is known about the anti-nuclear-power activities on both sides.

Therefore we set up a section on our website to provide information about nuclear power issues in Asian countries (www.asienhaus.de/atomenergie), published articles dealing with the issue such as the backgrounder on “Nuclear Energy in China”. Moreover we commissioned the study about the resistance against nuclear-power in Indonesia we are presenting here. The authors provide a deep insight into the resistance movement. Readers will benefit from the fact, that one of the authors was an active member of the movement.

I would like to thank not only the authors but all friends of the German Asia Foundation and Asia House who helped to make this publication possible.

I am sure that this article will contribute to a better understanding of the dynamics of the anti-nuclear-power movement in Indonesia – in Europe as well as in other parts of the world.

Essen, 5 July 2011

Klaus Fritsche

Director, German Asia Foundation/Asia House

After Fukushima: The Rise of Resistance to Nuclear Energy in Indonesia¹

Achmad Uzair Fauzan*/Jim Schiller**

Introduction

The earthquake that hit Japan on 11 March 2011 shocked the world. The disaster not only resulted in casualties on a massive scale, but also produced outpourings of fear as people around the world followed news of radiation released by a nuclear meltdown in Fukushima. The crisis began when the earthquake and ensuing tsunami gravely hampered the management of cooling systems in three reactors at the Fukushima Daichi plant after a sudden loss of external power.² On April 12, roughly one month into Tepco's failed attempts to contain the accident, the Japanese government raised the event level of the nuclear disaster to a seven – equivalent to that of Chernobyl, the worst nuclear accident ever recorded. It is widely reported that the radiation has spread not only to neighbouring countries, but also across continents.

The meltdown of nuclear reactors in Japan – a nation known for its technological discipline and savvy – soon triggered a rush of concern over the safety of nuclear energy around the world. Many believe that if such an accident could occur in Japan, then the possibility of a similar disaster occurring elsewhere is equally, if not more, likely. Public protests erupted globally as the disaster unfolded. In countries like Germany, where nuclear power is already a major provider of domestic energy supplies, citizens came forth to emphatically demand a review of nuclear energy policy. In other countries, particu-

* Achmad Uzair Fauzan is a researcher at the Yogyakarta-based Association of Lafadl Initiatives which concerns with democracy issues and environmental justice (www.lafadl.org). He can be contacted at uzerlagi@gmail.com.

** Jim Schiller is adjunct senior lecturer at Flinders University, South Australia. He can be contacted at jim.schiller@flinders.edu.au.

1 The authors would like to thank Rayna Rusenko for editing this article, Heru Prasetya for collecting information and Andre Borgerhoff and Klaus Fritsche for their valuable comments on the draft.

2 <http://www.yomiuri.co.jp/dy/national/T110524005786.htm> (accessed on June 24, 2011).

larly those looking to bring nuclear power into domestic energy policy, it is likely that the meltdowns at Fukushima have thrown a wrench in the smooth adoption of such plans. Global coverage of the disaster has provided anti-nuclear advocates and organizations worldwide with both abundant opportunity to highlight their concerns, and powerful ammunition against arguments presented by nuclear energy proponents.

As one of the many nations now looking to acquire nuclear energy capability, Indonesia has undoubtedly been affected by Fukushima. Nuclear energy proponents had faced resistance from civil society groups since even before the fall of the authoritarian New Order. Now Fukushima stands as another test for their agenda. To a considerable degree, continuing press coverage of Fukushima has facilitated the spread of critical anti-nuclear messages to many grassroots communities. At the same time, Fukushima has also spurred deep cleavages of opinion among national policy makers.

This article aims to assess how the Fukushima disaster has affected the rise of resistance to nuclear energy plans in Indonesia. It will give particular attention to the dynamics of resistance at the national as well as local levels. A close look at social movements at the local level is important because of how decentralization – introduced in 2000 – has largely shaped local politics in post-authoritarian Indonesia. By comparing the nature of social movements before and after Fukushima, we shall attempt to analyse the extent to which opportunity structures for resistance have been shaped and changed by the accident.

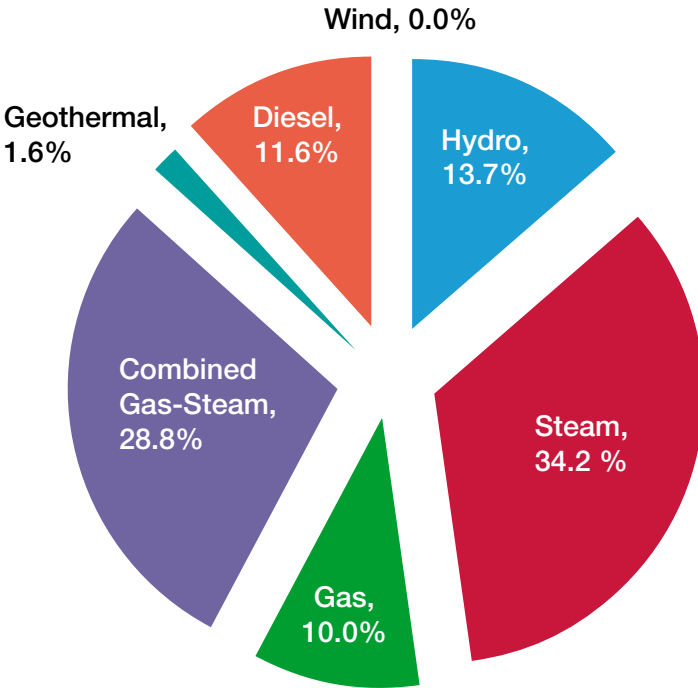
The Country's Energy Policy

Indonesia is the largest economy in Southeast Asia. Worth US \$1.03 trillion (in purchasing power parity terms) in 2009, Indonesia's GDP has grown at an average annual rate of 5.2 % in the last 10 years.³ Currently ranked 16th in the world, the Indonesian economy is expected to grow even further. Many leading global economic institutions predict that by 2025⁴ Indonesia will be among the five largest national economies.

3 *Indonesia at a glance*. http://devdata.worldbank.org/AAG/idn_aag.pdf (accessed June 8, 2011)

4 Many global financial institutions are in agreement about Indonesia's estimated growth based on various sets of terms indicating the rise of Indonesia as an emerging economic power (Chindonesia, BRICI, the next eleven). Among these institutions are Goldman Sachs, Morgan Stanley, and Standard Chartered Bank (<http://us.bisnis.vivanews.com/news/read/198865-ramalan--chatib-basri-soal-indonesia-2025>, accessed May 30, 2011). The World Bank also issued a special report which put Indonesia as one of the top 5 growing national economies.

Graphic 1: Contribution of Various Power Plants within the State-Owned Electricity Company, PLN; 2009



Data Source from Ministry of ESDM website (accessed June 10, 2011)

Energy will certainly play a major role in supporting this growth. However, it is also widely believed to be one of Indonesia's greatest potential problems. While, as a whole, Indonesia is currently a net energy producer⁵, more than one-third of its population is still without access to electricity. A net importer since 2004, Indonesia has been in a heavy reliance on oil, which contributes more than 40 % to domestic energy generation. In terms of energy security, the fluctuating price of oil alone has repeatedly proven to be a legitimate cause for worry but, with the nation's estimated 7 % annual growth rate in electricity demand, many fear that Indonesia will additionally

Multipolarity: the new global economy, World Bank, 2011. http://www.iberglobal.com/Archivos/multipolarity_wb.pdf (accessed May 30, 2011)

5 It is estimated that in 2008, Indonesia generated 129 billion kWh with consumption rated at 119.3 billion kWh in 2007 (CIA World Factbook, <https://www.cia.gov/library/publications/the-world-factbook/geos/id.html> accessed June 1, 2011).

face difficulty in meeting its projected demand of 100 gigawatts (GW) by 2025. It is widely believed that Indonesia, which now has an installed electrical generating capacity of 30GW⁶, must take immediate action to ensure more efficient demand-side energy use, as well as to boost its energy supply.

Apart from the recent implementation of several important demand-side policies⁷, government priorities visibly lie on the supply-side – with a focus on boosting electricity-generating capacity. At *Perusahaan Listrik Negara (PLN)*, a state-owned electricity company with a current installed capacity of 25.6 GW (83 % of Indonesia's total capacity), the biggest contributors are steam power plants and combined gas-steam power plants, while the smallest contributors are geothermal and wind (see graphic 1). In 2006, the government launched the 10,000 MW Acceleration Program to increase overall capacity – a capacity which has already grown 22.8 % in the last 10 years⁸. The first phase of this program included plans to build eleven *Pembangkit Listrik Tenaga Uap (PLTU)*, or coal-fired power plants, in Java and 25 others in Outer Islands and is expected to reach completion by 2013.⁹ Unlike the predominantly coal-fired first phase, the second phase is dominated by geothermal energy with a larger role given to independent power producers.

The accelerated promotion of such programs reflects the Indonesian government's shift away from oil towards more abundant energy sources. With 92 billion tonnes of coal reserves, Indonesia is currently the largest coal exporter in the world (2009).¹⁰ Construction of coal-fired power plants will absorb more coal production for domestic use which otherwise will be predominantly exported.¹¹ Meanwhile, it is estimated that Indonesia owns

6 This capacity is unequally distributed. 4,948 MW in Sumatra, 23,009 MW in Java-Madura-Bali, 1,175 MW in Kalimantan, 1,195 MW in Sulawesi, 265 MW in Nusa Tenggara, 182 MW in Maluku and 168 MW in Papua (<http://www.jakartaupdates.com/217-04/indonesian-government-is-resolute-in-fixing-its-broken-electricity-system> accessed June 1, 2011)

7 Among such policies were the withdrawal of oil subsidies and the distribution of millions of LPG stoves and small cylinders to eliminate the use of kerosene for household needs.

8 In 2000, PLN's electricity generating capacity was 20.8GW. Data from State's Statistical Agency, downloadable at http://www.bps.go.id/tab_sub/view.php?tabel=1&daftar=1&id_subyek=07¬ab=4 (accessed on June 2, 2011).

9 More than half of funding for this program is provided by China (Kompas, December 15, 2009). In return, Indonesia was expected to buy 15 Chinese-made airplanes worth USD \$232 million. Recently, one of the planes purchased crashed in Papua killing all crew and passengers (<http://us.detikfinance.com/read/2011/06/08/122414/1655737/4/pembelian-pesawat-china-untuk-muluskan-proyek-listrik-10-ribu-mw> accessed on May 15, 2011).

10 World Energy Outlook 2009, International Energy Agency.

11 The US embassy in Jakarta suggests that the growth in coal production in Indonesia has been export-oriented, owing to high international prices yielded by coal producers (IEA country analysis briefs 2007). Many Indonesian billionaires listed in the 2010 Forbes' Top 40 owe their fortune to this, "the other black gold" (<http://www.forbes.com/lists/2010/80/>

40 % of global geothermal resources, which may potentially contribute up to 27GW in electricity generation. Currently ranking third after the United States and the Philippines, Indonesia's installed geothermal capacity stands at only 4.2 % of its total potential.¹²

These shifts have taken place under a larger policy directive – one which aims to diversify domestic energy resources by 2025 in the interest of national energy security. Firstly introduced in 2004 by the Energy Minister, the policy was reinforced by Presidential Regulation No 5/2006 which formulated the so-called energy mix consisting of oil (20 %), natural gas (30 %), coal (33 %), and other new and renewable energy sources (17 %). Included in the latter category are biofuel (5 %), geothermal (5 %), coal liquefaction (2 %), biomass, solar, hydro, wind, and nuclear (5 %). Largely drafted based on the CADES¹³ (Comprehensive Assessment of Different Energy Sources) report (Amir 2010a), the policy is the first written recognition of nuclear power as part of Indonesia's national energy strategy.

History of Nuclear Proposal

Nuclear power is hardly a new proposal for Indonesia. Its story began more than 50 years ago, approximately one decade after national independence was established and just as the race for nuclear weapons became a backdrop for post-World War II politics.

The nuclear arms race, characterized by an increasing number of nuclear weapon tests, encouraged President Sukarno to establish a Commission of Radioactivity in 1954 – particularly in response to the worrying effects of radioactive fallout originating from the tests. Before long, the government developed a serious national interest in nuclear energy capacity, motivating Sukarno to then elevate the Commission's status to *Dewan Energi Atom* (Council for Atomic Energy) in 1958 and establish the *Lembaga Tenaga Atom* (Institute of Atomic Energy, or LTA) a year later. In line with this interest, the LTA actively sought to engage with the United States and Soviet Union in knowledge transfers and cooperative exchanges, fruitful efforts which ultimately

indonesia-billionaires-10_rank.html accessed May 25, 2011). Government-issued Ministerial Regulation No. 34/2009 requires that companies supply coal for domestic use before being allowed to export.

- 12 Website Energy Department (<http://www.esdm.go.id/berita/artikel/56-artikel/4019-geliat-pengembangan-panas-bumi-nasional.html> accessed May 25, 2011).
- 13 The CADES report was prepared under technical cooperation project INS/0/016 by a team of experts from Indonesia with the guidance of the IAEA (International Atomic Energy Agency) (Sulfikar Amir, 2010a).

translated into the construction of research nuclear reactors in Bandung and Yogyakarta.¹⁴ Nuclear interests were given even more attention during the height of the ‘Cold War’ and increased conflict with neighbouring Malaysia. The Institute was elevated to ministerial level status in 1964, thereby becoming the *Badan Tenaga Nuklir Nasional* (National Nuclear Power Agency, BATAN).¹⁵ On July 24, 1965, Sukarno publicly announced that Indonesia would have its own atom bomb in short time (Cornejo 2000).

The bomb was never realized, primarily because Sukarno stepped down from power a few months later. Aspirations for nuclear weapons ended with the Suharto¹⁶ administration’s agreement to comply with international safeguards of sensitive nuclear materials in 1967.¹⁷ However, dreams of nuclear attainment carried on in different forms. In 1968, BATAN and PLN started to develop the idea of having *Pembangkit Listrik Tenaga Nuklir* (PLTN), or nuclear power plants, in Java. In the 1970s, numerous activities were implemented in order to bolster the idea. Such activities ranged from the establishment of a preparatory committee for nuclear power construction in 1972 to the opening of a nuclear engineering department at Gadjah Mada University in 1977, as well as the formulation of proposed sites for nuclear power in 1979 (Amir 2010b). In 1983, BATAN and Italy’s Nucleari Italiani Reattori Avanzati (NIRA) concluded in a joint study of nuclear feasibility that the Muria Peninsula, owing to its geological stability, is the best site for a nuclear reactor.¹⁸

During Suharto’s New Order era, at least three serious attempts to advance nuclear goals were made. In order to more effectively make their case, Government appointed the New Japan Engineering Consultants (NEWJEC) to conduct a 4-year comprehensive feasibility study, completed in 1995. However, despite their rigorous efforts, BATAN saw its proposals turned down by Suharto. Amir attributed this failure to two factors, namely, the oil bonanza that lasted through the mid-1990s and the techno-political regime in power,

- 14 LTA was given a US \$350,000 grant from the United States’ ‘Atoms for Peace’ program designated for the Triga Mark II research reactor in Bandung. With assistance from the Soviet Union, construction of the Kartini research reactor in Yogyakarta began in 1964. <http://www.siaonline.org/?q=research/nuclear-power-asia-a-timeline> (accessed May 25, 2011)
- 15 Act No. 31/1964.
- 16 Suharto became President in 1967. To differentiate his administration from that of Sukarno’s, he referred to his government as the New Order.
- 17 The Treaty on the Non-Proliferation of Nuclear Weapons was signed by the Indonesian government in 1970 and ratified by the parliament in 1978.
- 18 A study by McBirnet et al suggests that, even though Mt Muria has not erupted for 2000 years, the volcanic complex on Muria peninsula must be considered capable of future volcanic and seismic activity (McBirnet et al., 2003)

which focused more on hi-tech industries than on energy security (Amir 2010b). BATAN's only achievement during this period was the passage of the Nuclear Power Act of 1997, just a few months prior to the Asian monetary crisis that swiftly pushed the dream off of the national agenda.

During the reform era¹⁹, the dream slowly reappeared in policy. The nuclear option was put forward again when President Wahid²⁰, formerly known as a strong nuclear opponent, agreed to work with IAEA on the issue of diversifying energy sources. The IAEA submitted the 2003 CADES report, which included the nuclear option. In the same year, President Megawati signed an agreement with Russia which, among other things, stipulated bilateral cooperation in the development, design, construction and operation of nuclear power plants.²¹ The most notable development took place when Energy Minister Yusgiantoro formally adopted in the *Kebijakan Energi Nasional* (KEN), or National Energy Policy, recommendations from a CADES report in 2004. The Minister's document represented the first legal recognition of nuclear energy and, as such, paved the way for the adoption of nuclear options in subsequent energy-related regulations.²²

Anti-Nuclear Energy Resistance

Despite the strength of authoritarianism under the New Order, there were constant – though limited – challenges to the regime (Heryanto and Hadiz 2005). In 1991, a nuclear energy seminar organized to gather anti-nuclear activists could not be held when it was denied security permission. In 1993, a seminar planned by an NGO critical of nuclear energy was cancelled after nuclear proponents from within the government withdrew their participation and the event's security permission was thereby annulled (Laksono, Mundayat et al. 1995). Stronger opposition came to light immediately after NEWJEC's announcement that the Muria Peninsula was best suited for a nuclear power

- 19 Suharto's New Order fell in 1998, and the term "reform" is widely used to refer to the Post-Suharto era.
- 20 Wahid became president in 1999, and impeached in 2001. After he left, the People's consultative assembly inaugurated vice-president Megawati as his replacement. Megawati acted as president until the end of her term in 2004.
- 21 The agreement was signed by Megawati during her official visit to Russia on April 21, 2003. The Government of the Russian Federation issued Decree no. 592 of August 16, 2003 to approve the draft intergovernmental cooperative agreement between Russia and Indonesia on the peaceful uses of atomic energy (http://bellona.no/bellona.org/english_import_area/international/russia/nuke_industry/co-operation/31260 accessed May 10, 2011).
- 22 These subsequent regulations, among others, are Presidential Regulation No 5/2006 on National Energy Policy, Act No. 17/2007 on Long-Term National Development Plan, and Act No. 30/2007 on Energy.

plant. Abdurrahman Wahid, the national chairman of Nahdlatul Ulama (NU), threatened to launch a hunger strike if a nuclear power plant was built in Muria (Trihusodo 1994). Wahid's opposition was deemed serious by the government considering that the local population largely aligned themselves with NU; the government understood that NU, Indonesia's largest Islamic organization, was capable of roundly shaping local politics as it had already demonstrated in Jepara (Schiller 1996).²³ The Muria Peninsula is home to religious landmarks highly meaningful to NU, especially as it holds the graves of saints (*wali*) who brought Islam to Java five centuries ago and whose teachings deeply influence the organization (Tanter 2007).

During the mid-1990s, popular resistance against nuclear power began to find its soul. Several anti-nuclear organizations were founded following the government's work with NEWJEC. These included *Badan Koordinasi Anti Nuklir* (Institute for Anti-Nuclear Coordination, BKAN), *Sekretariat Kerjasama untuk Informasi Anti Nuklir* (Secretariat for Anti-Nuclear Information Exchange, SEKIAN), and *Masyarakat Anti Nuklir Indonesia* (Indonesia Anti-Nuclear Society, MANI) (Subahianto, Wiyata et al. 2004). With the support of many leading intellectuals, NGOs began publishing books outlining critical opposition to plans to construct nuclear power plants (Laksono, Mundayat et al. 1995; Prasetyo, Anung et al. 1996).²⁴ However, this rising movement proved to be short-lived as a crackdown launched by the New Order on July 27, 1996 against student activists dealt it a blow from which it never recovered (Amir 2010b). During its heyday, though, the core of the resistance was comprised of NGOs and activists from cities with long histories of social movements²⁵ yet with limited engagement of the local population around the proposed site²⁶. Even though some protests still emerged against the passage

23 Jepara was one of two districts in Central Java where PPP defeated Golkar, the ruling party at the time, in the 1984 general election.

24 At least two books presenting arguments against nuclear power plants (PLTN) were published in the mid-1990s, both by Yayasan Obor. They were *Rencana pembangunan PLTN di Indonesia* (1994) and *Pembangunan PLTN: Demi Kemajuan Peradaban?* (1996).

25 Geni Foundation (Salatiga), Gita Pertiwi (Solo), Pelangi Foundation (Jakarta), Walhi (Jakarta), SKEPHI (Jakarta) were involved in anti-nuclear discourse.

26 Public resistance was hardly expressed by local population during the height of New Order rule. Among little public resistance was expressed by party leader of PPP Jepara branch (<http://www.alpensteel.com/article/54-111-energi-nuklir-pltn/876--dpr-ri-menyetujui-energi-nuklir.html> accessed May 16, 2011).

of the Nuclear Power Act in the following year²⁷, anti-nuclear activism was largely absent afterwards.²⁸

The nature of anti-nuclear resistance was transformed after the end of the reform era. Following the fall of the New Order in 1998, the number of NGOs in Indonesia skyrocketed to over 70,000 – with 12 % of them working in environmental issues (Ichihara 2010). Decentralization, which had been introduced in 1999, also shaped this development. Apart from the widespread corruption and elite capture that accompanied it (Hadiz 2004), decentralization created more space for civil society groups to actively engage in local development issues since it inherently drove decision-making to the local level. This political change provided opportunities for broad-based networking and greater public involvement in anti-nuclear civil society groups.

Once the government began to revisit the idea of the nuclear option in national energy policy, anti-nuclear groups took to reorganizing. At the national level, three civil society groups have stood on the frontlines of organized resistance (Amir 2009). The first group is *Wahana Lingkungan Hidup Indonesia*, or Walhi,²⁹ which has involved itself in the anti-nuclear movement since its inception. As the largest environmental NGO in Indonesia, Walhi has representatives in 25 out of 33 provinces. With representatives in nearly every region across the country, Walhi is equally capable of bringing national environmental issues to the attention of local communities as it is of bringing local issues to the attention of national authorities in Jakarta. The second group is Greenpeace Indonesia which is part of Greenpeace International.³⁰ Although it was only recently founded and does not have representatives available nationwide like Walhi, Greenpeace has garnered recognition for its multitude of effective and innovative approaches to anti-nuclear campaigning. In line with methods frequently used by its mother organization, Greenpeace Indonesia has ‘taken the offensive’ by sneaking into the corporate offices of PT Medco Energi Internasional in an effort to unfurl a giant banner urging the company to stop investing in nuclear power plants. Greenpeace

27 Forda Walhi, LBH Yogyakarta, Forum LSM, and Laperia Indonesia – all located in Yogyakarta – expressed their opposition to the passage of a 1997 Act on nuclear energy. The Act regulated the establishment of the *Badan Pengawas Tenaga Nuklir* (Nuclear Regulatory Agency, BAPETEN) and endowed it with the authority to oversee the use of nuclear power at a variety of stages, such as in permission, inspection and law enforcement.

28 Amir also noted this decline came as a result of internal conflicts within circles of anti-nuclear activists (Amir 2010b, p. 127).

29 <http://www.walhi.or.id/Walhi> was founded in 1980 and works in relation to various environmental issues (e. g. forests, mining, disaster management, etc).

30 Greenpeace Indonesia was formally founded in 2005. <http://www.greenpeace.org/seasia/id/>

has also begun publishing a comic summarizing its campaign to attract the support of younger generations (Amir 2009).³¹ The third group, MANUSIA, is dedicated to bringing the 1997 Nuclear Power Act before the Constitutional Court for judicial review citing its lack of democratic principles and out-dated regulations as highly problematic (Amir 2010b).³²

More dynamic resistance took place in districts proposed as sites for nuclear power plants. Following a government decision to set 2016 as its start date for nuclear plant operations (see graphic 2), BATAN launched an intensive series of programs designed to win the support of local stakeholders. In 2003, local groups and leaders on Madura Island voiced clear opposition to BATAN's promotion³³ of the nuclear power agenda and plans to construct nuclear power plants in the region³⁴ (Subaharianto, Wiyata et al. 2004). In October 2003, *Aliansi Masyarakat Madura Pemerhati Nuklir* (Alliance of Nuclear Concerned Communities in Madura, AM2PN) was founded as a means to counteract BATAN's intensifying nuclear socialization programs. AM2PN soon became an umbrella organization for anti-nuclear groups throughout Madura, most of which hailed from traditional NU communities.³⁵

In Jepara, a more 'complete'³⁶ alliance against nuclear power plants emerged. This time, nuclear experts, mass-based organizations, and religious groups worked hand-in-hand to highlight their opposition. Lilo Sunaryo, a hotel-owner in Jepara with a doctoral degree in electrical engineering, founded and led *Masyarakat Rekso Bumi* (World Caring Society, MAREM),

31 The comic is available at http://www.greenpeace.org/seasia/id/campaigns/akhir-dari-zaman-nuklir/Komik_anti-nuklir/

32 Like Greenpeace, Walhi and MANUSIA have both developed their own strong international networks. The former is closely associated with Friends of the Earth International, while the latter is regularly involved in the No Nuke Asia Forum.

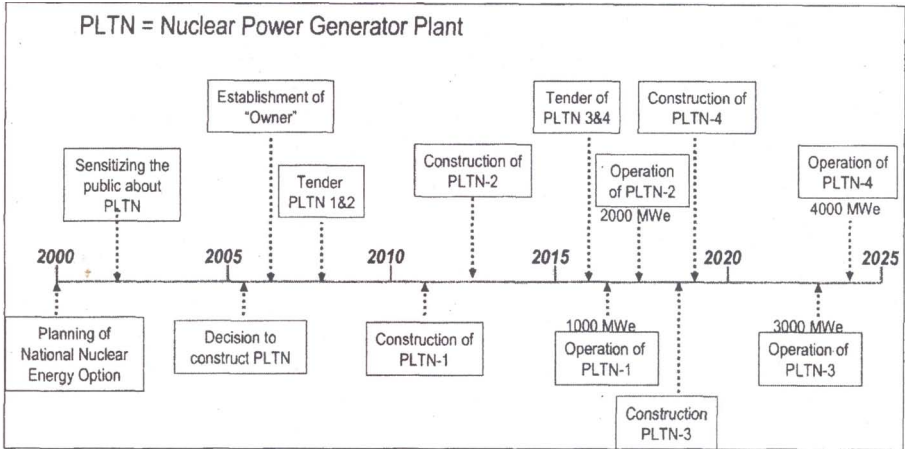
33 These activities ranged from meeting with persons of distinction, such as local religious leaders and East Java's former governor Mohammad Noer, well-respected by the Madurese people, to sending local universities invitations to collaborate in nuclear-related research.

34 The proposed sites for nuclear power plants in Madura are located in Sokobanah and Ketapang, both part of the Sampang district.

35 This alliance draws its support from NU's mass organizations, such as Ansor (the youth wing of NU), IPNU (NU's organization for male students), and An-Nuqayah, the largest and oldest traditional Islamic boarding school in Madura. Apart from a wide alumni network spanning the island, An-Nuqayah was well-known for its involvement in community development. In 1981, the boarding school won the Kalpataru award, the Indonesian government's highest award for those involved in environmental issues.

36 "With its nuclear experts, religious leaders, and mass-based groups working together, Jepara is the perfect example of a complete anti-nuclear resistance movement," said Lilo Sunaryo (interview June 6, 2011).

Graphic 2: Chronological map of the PLTN program



Source: excerpt from Amir (2010b)

an organization representing nuclear experts. Lilo's background helped him to succeed in gathering the support of highly knowledgeable experts from numerous intellectual circles. *Persatuan Masyarakat Balong* (The Union of Balong residents, PMB) is representative of participating mass-based organizations and was founded with the help of *Koalisi Rakyat Tolak PLTN* (People's anti-PLTN Coalition, KRATON³⁷). Muria Peninsula's nuclear power plant was slated to be built in the village of Balong.³⁸ Knowing the problems caused by the coal-fired power plant of Tanjung Jati³⁹ in the neighbouring villages, Balong's villagers came to the conclusion that big projects like the nuclear plant would threaten their livelihood (Kompas, 28 Maret 2008). Much like

37 <http://tolakpltn.info/>This organization is run mostly by university students from Yogyakarta. They use different media to organize villagers, such as by screening movies on the dangers of nuclear radiation.

38 The proposed site is located in Ujung Lemah Abang, Balong village, subdistrict of Kembang.

39 This coal-fired power plant is part of Phase 1 of the 10,000 MW Acceleration Program. Its operation started in 2006 and contributed about 9 % of the nation's electricity. Fishermen in *Forum Nelayan Jepara Utara* (Forum for Fishermen in North Jepara, FORNEL) believe that the presence of the plant has largely affected their livelihood. They point to not only the destruction of coral reefs and warming water temperatures, but also to the narrowing of their fishing grounds due to regulations preventing them from fishing along the path taken by coal-carrying ships into the plant's harbor. Moreover, these fishermen also decry the fact that the large ships often destroy their fishing nets.

what had happened in Madura, the leader⁴⁰ of *Pimpinan Cabang NU* (NU's Jepara branch, PCNU) played a significant role in shaping the local movement together with the NU's sub-organization *Lembaga Kajian dan Pengembangan Sumber Daya Manusia* (Institute for Human Resource Studies and Development, LAKPESDAM)⁴¹. Moreover, this resistance also drew support from many business groups including the Djarum Corporation, one of Indonesia's biggest cigarette companies based in neighbouring Kudus (Amir 2010b).

In 2007, this broad-based civil society alliance posed a serious challenge to BATAN and its attempts to propagate nuclear power plants in Jepara. Indonesia's National Parliament⁴², through the Ministry for Research and Technology⁴³, approved the allocation of 25 billion rupiahs (US \$2.5 million) for nuclear socialization programs under BATAN – a budget set to increase annually until the start of plant operations in 2016 (Suara Pembaruan, 9 December 2005). Flatly rejecting BATAN's promotional campaigns⁴⁴ aimed at winning community approval, local groups started to organize and strengthen networks by establishing links with both national and international groups (Suara Merdeka, 12 July 2007; Suara Merdeka, 30 November 2007).⁴⁵ In

- 40 Before being elected leader of PCNU, Nuruddin Amin was affiliated with *Lembaga Kajian Islam dan Sosial* (Institute for Islamic and Social Studies, LKiS), a leading left-wing Islamic group based in Yogyakarta.
- 41 Mirroring its mother organization, LAKPESDAM has representatives posted broadly, from the local to national levels. LAKPESDAM has involved itself in many community development-related issues, including conflict resolution between local fishing communities and the Tanjung Jati coal-fired power plant in northern Jepara.
- 42 The National Parliament's support for nuclear plans is given by its Commission VII, in charge of policies relating to the science, technology, environment and energy sectors. The Commission's opinion is distinctly shaped by parliament members from the Prosperity and Justice Party (Partai Keadilan Sejahtera, PKS), a party well-known for its Islamist and technology-minded bent. Many of its cadres and supporters hold degrees in nuclear engineering. For a more detailed account, see Sulfikar Amin (2010b).
- 43 Presidential Regulations No. 64/2005 places BATAN under the authority of this ministry.
- 44 This program included, among other things, 10 scholarship awards to students from Balong and neighbouring villages to continue their study at the *Sekolah Tinggi Teknologi Nuklir* (Academy for Nuclear Technology) which belongs to BATAN.
- 45 Upon invitation by the 'Muri-Muri' committee and together with a representative from Greenpeace Indonesia, Nuruddin Amin visited Japan and South Korea on 3–12 July 2007 for a no-nuclear campaign. The 'Muri-Muri' committee is comprised of Friends of the Earth Japan, Citizens' Nuclear Information Center, Japan Congress Against A- and H-Bombs, Greenpeace Japan, No Nukes Asia Forum Japan, and NINDJA (Network for Indonesian Democracy, Japan). On 12 July 2007, Nuruddin Amin held a one-person protest in front of the Korean Electric Power Company (KEPCo) to bring attention to the involvement of its subsidiary group, Korean Hydro Nuclear Power (KHNP), in plans to develop a nuclear power plant in Muria. In December 2007, Greenpeace's ship, the Rainbow Warrior, docked in Jepara to lend its support to the local anti-nuclear campaign as well as protest the Tan-



Mass protest in Jepara, September 2007 (authors' picture)

June 2007, several massive protests comprised of thousands of participants erupted not only in Balong village and Jepara's capital, but also in neighbouring Kudus and Pati.⁴⁶ En masse, people gave voice to public distrust of the nuclear power agenda as well as the geological, technological, environmental and institutional soundness supposedly underlying it (Amir 2010b, p. 128).⁴⁷ A program organized by Technology Ministry, which would use funds from the nuclear socialization budget to send pro-nuclear Commission VII mem-

jung Jati coal-fired power plant for its carbon emissions. In order to frighten activists from the plant, security officers went so far as to fire a warning shot.

- 46 Anti-nuclear networks widened as numerous local groups from neighbouring districts stepped up to take part. Such groups included *Serikat Petani Pati* (Pati Farmer Union), LBH Yaphi (Kudus), and Orkes Sampak Gusuran, while several leading Indonesian artists such as Franky Sahilatua and Iwan Fals also became involved.
- 47 Quoting a geological study by researchers from the Ministry for Energy and Mineral Resources, Lilo argued that Muria is not an earthquake-safe territory, as predicted. Referring to Chernobyl and other nuclear disasters, these anti-nuclear groups argued that nuclear power plants are a disaster-prone technology. Their scepticism was further heightened by the fact that several serious disasters took place in Indonesia between 2006 and 2007, namely, the Sidoarjo mud flow of May 2006, the sinking of the Senopati ferry in northern Jepara waters in December 2006, and an airplane crash in Sulawesi waters on January 1, 2007. Owing to these disasters, many people were not convinced that Indonesia was sufficiently capable of dealing with complex technology like nuclear power.

bers and local religious leaders (*kyai*) to Japan and South Korea⁴⁸, triggered even wider protest and anger (Suara Merdeka, 25 Juli 2007; Suara Merdeka, 26 Juli 2007).⁴⁹

This anger culminated in a demonstration in early September 2007. Marching 30 km from their village to the district capital, thousands of Balong villagers demanded that Kusmayanto Kadiman, the Technology Minister, sign a statement against plans for the development of nuclear energy in the Muria Peninsula. Men and women, young and old, all walked with enthusiasm throughout the night.⁵⁰ Although the Minister refused to sign, the protesters later managed to win the support of NU clerics who issued a *fatwa haram* (strictly forbidden) regarding plans to bring a nuclear power plant to Muria.⁵¹ This event not only marked the emergence of mass mobilization against nuclear power in Indonesia, but also set a precedent for the involvement of Islamic law in contemporary nuclear politics (for more information on this fatwa, see Tanter 2007 and Amir 2009).

However, this important victory still did not affect decisions made in Jakarta, even among the NU national board (Aditjondro 2008).⁵² As a result, anti-nuclear groups began cultivating an awareness of political settings and built wider networks with politicians. Eager to bring their aspirations into government circles, these groups presented candidates seeking their votes in local elections with anti-nuclear political contracts.⁵³ Broad anti-nuclear net-

48 These two countries were chosen because they were among the most likely prospective investors in the Muria nuclear power plant project.

49 The visit took place on 22 July-2 August 2007. The ministry also invited activists from MANI and Greenpeace, but they declined the invitation. Two local *kyai* joined the visit, but without any approval from the board of NU local branch.

50 “We learned a lot from anti-nuclear movements in Europe. We screened movies showing women laying themselves down on railways to stop trains carrying uranium from passing. This was really touching for local women, and they became eagerly involved in the movement,” said Lilo Sunaryo (interview via telephone on June 6, 2011). Although MAREM and other local anti-nuclear groups do not have formal links with their European counterparts, Lilo acknowledged that local groups frequently used anti-nuclear materials produced in Europe to mobilize people.

51 Former president Abdurrahman Wahid fully supported this movement. In front of thousands of anti-nuclear protesters, he inaugurated the establishment of the *Garda Muria* (Muria Guards) whose task, among other things, is to secure the graveyards of Moslem saints in Muria from possible nuclear radiation. There are three such historical sites in the area, namely, the graveyard of *Sunan Kudus* (Saint Kudus), *Sunan Muria* (Saint Muria), and the sacred site of *Syeh Siti Jenar* located in Balong village.

52 On the one hand, Aditjondro praised PCNU for their anti-nuclear stance, which he attributed to a long-history of activism among NU’s younger generation. On the other hand, he attributed the NU national board’s rejection of the fatwa haram to its strong business links to Medco Energy Company, widely known for its interest in nuclear power plant projects.

53 Following this mass demonstration, political contracts became common practice in Balong. In late 2008, all village head candidates signed contracts before a solicitor promising to



Former President Abdurrahman Wahin at the opening ceremony of the clerics' meeting, September 2007

works that had emerged in 2007 were also strengthened by the establishment of *Jaringan Alam Lestari Muria* (Network for Sustainable Muria, Jalamuria) in December 2008. Functioning as an umbrella organization for more than 50 anti-nuclear groups in three districts around the Muria Peninsula, Jalamuria continues to bolster the resistance movement and bring it to national-level decision-makers.⁵⁴

Widespread opposition unfolding at the local level posed a serious challenge to BATAN and its plans for nuclear energy development. As its operations target date of 2016 seemed increasingly unachievable, BATAN began to

support the anti-nuclear movement should they win office. In the 2009 election, villagers also required party candidates running for district or provincial parliaments to sign a similar political contract for their votes.

54 A few days before Japan's earthquake, Jalamuria coordinated a tour from Muria to Jakarta, bringing participants to meet with leading anti-nuclear figures. In the capital, Jalamuria not only visited the chairpersons of NU, Muhammadiyah, and several other mass organizations in an effort to gain their support, but also had a hearing with Andi Arief, the president's expert advisor on social and disaster-related affairs.

turn to a variety of places for support in the hopes of keeping the master plan on track.⁵⁵ Some provincial governments interested in the prospect of sizeable investment⁵⁶ expressed interest in hosting nuclear power plants should plans for the Muria Peninsula be cancelled (Sindo, 9 April 2010).⁵⁷ By offering themselves as alternative sites, these provinces appeared determined to secure project approval with minimal local resistance.⁵⁸ However, the Fukushima disaster fuelled the growth of the anti-nuclear movement farther and wider than anyone would have expected.

Fukushima Strikes

The Tohoku earthquake and tsunami of March 11, 2011 was widely covered by the Indonesian media. The press, both national and local, were eager to cover events, especially after the meltdown of the Fukushima nuclear reac-

- 55 To counter grassroots anti-nuclear campaigns, BATAN's website actively published information on the support it gained from parties such as *Pemuda Pancasila* of Jepara and *Masyarakat Energi Terbarukan Indonesia* (METI). The first group is widely known as a paramilitary wing supportive of the New Order regime (for more details, see Ryter 1998). The second group is led by Hilmi Panigoro, who is now serving as President Commissioner of Medco Energy Company. As noted earlier, Medco has shown an interest in nuclear energy investment.
- 56 According to the head of BATAN, several provincial governments have already shown interest in nuclear power plant feasibility studies. They are West Kalimantan, East Kalimantan, and Bangka Belitung. Gorontalo has also shown interest in a floating nuclear plant. (<http://www.endonesia.com/mod.php?mod=publisher&op=viewarticle&cid=48&artid=5203> accessed June 1, 2011).
- 57 Foreign companies successfully managed to shape this interest by actively approaching provincial governments. The *Sindo* newspaper reported that two South Korean companies visited the office of the governor of Bangka Belitung offering to establish a nuclear energy-based partnership (*Sindo*, 9 April 2010). The Korean government, aiming to sell its nuclear technology to Indonesia, also exerted a highly persuasive influence as President Lee Myung-bak provided his own presidential airplane to give Indonesia's Coordinating Minister Hatta Rajasa an unscheduled trip to the Kori Nuclear Power Plant. Incidentally, the Kori plant is operated by KHNP (Kompas March 21, 2011).
- 58 In general, each province says that it would serve as an ideal site because of its geological position. The presence of uranium reserves in West Kalimantan is also given as a key reason to support the construction of a nuclear power plant there. It is believed that 25,000 tonnes of uranium reserves in the Melawi district would be enough to fuel a nuclear plant for 150 years (<http://berita.kapanlagi.com/teknopltn-solusi-krisis-energi-kalbar.html> accessed June 1, 2011). This assertion is specifically meant to counter opponents' concerns by suggesting that nuclear fuel supplies are self-sufficient and, by extension, nuclear power plants sustainable. Meanwhile, the Bangka Belitung local government has also spoken of rich thorium resources in the province which can be used as a nuclear power plant fuel supply. Thorium is still largely considered 'waste' in the tin mining industry, the biggest contributor to the local economy (<http://www.rakyatpos.com/babel-kaya-bahan-bakar-pltn.html> accessed June 1, 2011).

tors. A number of issues were raised, ranging anywhere from the possibility of radiation spreading to Indonesia to nuclear policy reviews of nuclear-producing countries. The media's coverage of Fukushima brought the nuclear debate back to the fore. Attention was given not only to parties previously involved in the debate, but also to new parties who had never been given much space in public forums before.

One of these new parties was a set of local actors from Bangka Belitung (Babel) province. They were given particular attention because, just a couple weeks prior to Japan's earthquake, BATAN had announced that it would allocate a budget of 159 billion rupiahs (US \$15.9 million) for socialization⁵⁹ in the province (Kompas March 1, 2011). Facing wide rejection in the Muria Peninsula, BATAN anticipated that Babel would serve as a prime alternate candidate for Indonesia's first nuclear power plant. Before Fukushima, Babel was often depicted as being unanimously supportive of the project. The local media was largely responsible for this portrayal as it ran series of reports illustrating nuclear energy-friendly developments, such as endorsements from local figures, project approval from the chair of provincial assembly (*Dewan Perwakilan Rakyat Daerah*, DPRD), visits by Governor Eko Maulana Ali to nuclear-producing countries⁶⁰, and the district government's readiness to 'clean' specific areas for the site⁶¹.

Nuclear energy proponents in Babel have used nationalist sentiment as well as the promise of economic advantage to beckon local support for the project.⁶² While portraying opponents as traitors to the nation, Ismiryadi,

59 As evidenced by the term 'socialization' and general discourse within agency programs, BATAN clearly viewed popular resistance to nuclear energy as based in a lack of public knowledge and understanding. Therefore, as a target for its socialization program, BATAN aimed to boost 'understanding' of nuclear technology among populations in Java, Madura and Bali to a total of 55 % by 2014 (Renstra BATAN 2010–2014)

60 Apart from visiting Korea and Japan, Eko Maulana Ali also has reportedly visited Slovakia and Slovenia to study nuclear technology in December 2010 (<http://nasional.kompas.com/read/2010/12/23/13194831/Bangka.Belitung.Siap.Bangun.2.PLTN-5> accessed 15 May 2011). Indonesian ambassador to Slovenia and Slovakia has repeatedly informed the two countries' interest in cooperating with the Indonesian government on nuclear projects. Meanwhile, members of DPRD Babel reportedly went to Jepara early this year with a single agenda: making a visit to the proposed site for Balong's nuclear power plant (<http://suaramerdeka.com/v1/index.php/read/cetak/2011/03/21/140714/Gedung-Batan-Diserahkan-Desa> accessed May 14, 2011).

61 Zuhri Muhammad Syazali, the regent of Bangka Barat district, is reportedly ready to clear all land of settlements within a 20 km radius of the plant (<http://bangka.tribunnews.com/2011/03/15/pltn-babel-jalan-terus> accessed May 14, 2011).

62 The hunt for investment and increased local revenue (*Pendapatan Asli Daerah*, PAD) has been a dominant concern among local governments since the start of decentralization – and it often takes priority at the expense of environmental concerns. This tendency, in

the assembly chairperson, reportedly said that it is better for Indonesia to have its own nuclear power plant – before it should fall victim to radiation from Malaysia or Vietnam.⁶³ Eko, on the other hand, known as a figure eager to increase local revenue through natural mineral reserves (Erman 2007)⁶⁴, stated that the electricity surplus from two nuclear reactors⁶⁵ in Babel could be exported to other provinces, and even to Singapore.⁶⁶ Many leading figures hoped that a growing nuclear energy industry would drive the future of a post-tin local economy.

Coverage on Fukushima provided a platform from which a diverse array of voices could be heard. Communities living around the proposed site in Bangka South started to question the local government's decision. They were unhappy with socialization programs taking place in their villages, and also remained unconvinced that Bangka was geologically safe for a nuclear power plant (*Kompas*, 19 March 2011). Among NGOs, Walhi Babel stepped to the fore as a leading group in the fight against nuclear energy plans. In particular, Walhi stood opposed to a proposal by the West Bangka local government offering 850 hectares of forest reserve in the Teluk Manggeris Muntok sub-

my opinion, is another key factor characterizing pro-nuclear discourse along with the four other factors already identified by Amir (i. e. geological, environmental, technological, and institutional) (see Amir 2010b).

- 63 <http://us.detiknews.com/read/2011/03/17/172407/1594748/10/walhi-babel-tolak-pltn-di-bangka-belitung?9911032> accessed May 14, 2011. Along with Indonesia, Vietnam is also mentioned by IAEA as one of three countries ready to embark on nuclear power plant construction. Considering that Malaysia and Singapore have also shown interest in building nuclear power plants of their own, it seems that a race for nuclear energy in the Southeast Asia region may be underway.
- 64 During his term as the district head of Bangka, Eko demanded that the national government allow his district to hold stakes in PT Timah, a public tin mining company. After he was denied, Eko issued two regional ordinances that later contributed to the mushrooming of TI, or *Tambang Inkonvensional*, a form of informal mining that essentially wrested the tin mining monopoly from PT Timah and PT Kobatin. Just one year from the passage of the ordinances, an estimated 130,000 miners using approximately 10,000 units of informal mining machinery were contributing 9 billion rupiahs to district revenue – far greater than what PT Timah had contributed annually to the regional government. (For more information, see Erwiza Erman). This growth in the tin mining industry has caused considerable environmental problems (see also FinnWatch, 2009).
- 65 Babel's two proposed sites are Teluk Manggeris in the West Bangka district and Permis in the South Bangka district, each with a projected capacity of 10,000MW and 600MW, respectively. This capacity is far greater than the 90MW of electricity currently needed in the province.
- 66 Located about 400 km from Bangka Island, Singapore is presently a primary destination for tin smuggling.

district for the site (Kompas, 5 April 2011).⁶⁷ Apart from Walhi, the recently founded *Laskar Bangka Belitung Tolak Nuklir* (Bangka Belitung Anti-Nuclear Army, BETON) which sought to collect 10,000 signatures opposing the establishment of a nuclear power plant in Babel. The rapid rise of opposition has, in fact, led Ismiryadi to publicly conceal his support for nuclear energy.⁶⁸

Events at Fukushima have lent powerful momentum to local activists highlighting public opposition. Continuing reportage by the press has provided people everywhere with the disastrous and true-to-life images of the consequences of nuclear power. Organizing resistance to nuclear energy, once difficult, has now suddenly grown easier. However, it is still not easy for groups in Babel to mobilize masses on a scale similar to what organizers achieved in the Muria Peninsula. Even though histories of local resistance over mining-related land issues exist (Hanim 2004), mobilizing communities around nuclear issues has proven to be complex due to the topic's relative 'newness'. Local resistance in Muntok, West Bangka is also nearly absent since the proposed site is far from human settlement.⁶⁹ In addition, local social movements still seem somewhat fragmented. Even though they work in coalition, the pressing nature of local political issues has created a rift between anti-nuclear groups – mostly because next year's gubernatorial election is fast approaching.⁷⁰

Meanwhile, friction among decision-makers at the national level has also become more apparent in recent weeks and months. Whereas the state had once been seen as relatively monolithic (Amir 2009, Amir 2010a, Amir 2000b), it now appears more pluralistic in a post-Fukushima world. Different state institutions have responded to Fukushima in various ways regarding the domestic future of nuclear energy. Although none have yet outrightly dismissed the nuclear option, Fukushima has made a marked difference in their expressed world views.

67 Forests cover only 39.85 % of the province's total land area. Moreover, 50.5 % of this forest is in critical condition chiefly due to tin mining practices.

68 While most district heads and the governor have not changed their minds regarding this issue, Ismiryadi no longer shows support for nuclear energy as publicly, or as freely, as before. This can be attributed to both rising opposition and the fact that he received a *tegu-ran* ('yellow card') from his PDIP Party which stands opposed to the nuclear option (<http://bangka.tribunnews.com/2011/04/05/dodot-jilat-ludah-sikap-pdip-tolak-pltn>, accessed May 14, 2011).

69 Interview via telephone with Ratno Budi, coordinator of Walhi Babel, 6 June 2011.

70 Eko Maulana Ali's term will end in 2012, and his deputy, Samsudin Basari, has already publicly announced that he will run for governor next year. After Fukushima, Basari stated that he is opposed to the nuclear option. BETON is allegedly linked to Basari and founded to support his candidacy.

BATAN still stands as Indonesia's leading institutional proponent of nuclear energy. In response to growing fear of nuclear technology, BATAN officials have insisted that only the latest technology will be used for forthcoming projects in order to prevent similar nuclear disasters from happening (Suara Merdeka, 17 March 2011). Together with *Badan Pengawas Tenaga Nuklir* (Nuclear Regulatory Agency, BAPETEN⁷¹), BATAN has been busy trying to dispel fears about radiation from Fukushima – which easily threaten to ruin the image of nuclear energy. BATAN has also occupied itself with meeting members of the press in an effort to shape the news in favour of its agenda (Media Indonesia, 8 April 2011). Technology Ministry, the national ministry behind these two agencies, has thrown its weight behind the creation of nuclear power plants. Apart from using nationalist jargon placing Indonesia in a nuclear race against Malaysia and Vietnam, current Technology Minister Suharna understands the nuclear energy as an honourable task (*amanah*) assigned by the national regulations.⁷²

Outside the ministry and its two underlying agencies, other government institutions have also suggested that delays in plans for nuclear power are likely to take place. While nuclear power is still being reserved as an option, government officials now explain that it would only serve as a last resort – to be used once all renewable energy sources had been spent (Media Indonesia 20 March 2011, Jakarta Globe 31 March 2011, Kompas 17 March 2011).⁷³ This change in posturing has given rise to increased public discourse on renewable energy, a field which is now officially recognized with the establishment of its own Directorate General for New Renewable Energy and Energy Conservation in the Ministry for Energy Affairs.⁷⁴ Events at Fukushima have

71 BAPETEN is led by Asnatio Lasman who, according to Amir (2010b), is a supporter of PKS.

72 Minister Suharna Surapranata stated, "*PLTN itu amanah Undang-Undang*" (http://www.pksbandung.org/index.php?option=com_content&view=article&id=1193:pltn-amanah-undang-undang&catid=26:ekuintek&Itemid=4 accessed June 10, 2011). Suharna was a BATAN official before being appointed minister. He was nominated by PKS for the position, and from 2005 to 2010 he served as the head of the party's syariah council. For BATAN officials, the total elimination of the nuclear option would mean a violating certain Acts. Meanwhile, for anti-nuclear activists, BATAN's attachment to legal regulations and the way it understands them as sacred and unchangeable appears to be little more than an excuse to keep pushing a nuclear agenda. "*Our Constitution has been changed several times. So why not the Acts?*" said Lilo (interview via telephone June 6, 2011).

73 Indonesia's renewable energy potential includes 450MW of small hydropower, 50GW of biomass, 4.80kWh per square meter per day of solar power, and good wind resources with speeds of 3–6 m/s (World Energy Outlook, 2009).

74 Founded in August 2010, the establishment of this Directorate General was widely praised by many activists as a path towards finding energy alternatives to nuclear power. The Directorate General leads the implementation of Vision 25/25, which aims to increase the tar-

given this office occasion to stimulate discussion of energy sources, and lead a review of the state's previously single-track, nuclear-focused approach to energy policy so that future strategies include aspects of non-nuclear energy. According to the Directorate General, excluding nuclear power from present options would require an increase in generation from other energy resources, particularly geothermal (Investor Daily Indonesia, 31 March 2011).⁷⁵ This development certainly provides an opportunity to scale-up what NGOs⁷⁶ have been doing in renewable energy and what PLN has recently done in its solar projects in the Eastern part of Indonesia (Koran Kontan, 14 March 2011).

Among most interesting development is a great deal of friction happening in the rank of *Dewan Energi Nasional* (National Energy Council, DEN).⁷⁷ When comparing pre-and post-Fukushima statements, it becomes clear that an internal rift has developed--especially among Council members hailing from non-government/stakeholder positions.⁷⁸ These nine members stand

geted contribution of new and renewable energy from its previous total of 17 % (Presidential Regulation No 5/2006) to a new total of 25 % by 2025.

- 75 The Directorate General has prepared two energy strategies – one with and one without nuclear energy. Whereas both strategies set their new and renewable energy (NRE) contribution target at 25 %, the strategy inclusive of nuclear power breaks this down into the following non-fossil fuel contributions: biofuel (6.73 %), waste (2.3 %), geothermal (2.24 %), hydro (5.26 %), sea energy (0.26 %), solar (1.97 %), wind (0.79 %), coal bed methane (3.53 %) and nuclear (1.84 %). The strategy exclusive of nuclear power, on the other hand, designates contributions from non-fossil fuels as: biofuel (6.7 %), waste (2.4 %), geothermal (3.9 %), hydro (5.3 %), sea energy (0.3 %), solar (2 %), wind (0.8 %), and coal bed methane (3.7 %). However, where the NRE contribution target is not achieved, the contribution from coal is set to increase to 33.4 % from its previous 31.58 %.
- 76 Several NGOs have tackled renewable energy issues at a practical level. The IBEKA Foundation (*Institut Bisnis dan Ekonomi Kerakyatan*, People Centered Economic and Business Institute) is an organization that has been actively involved in promoting micro-hydro energy across the country. For more information, visit <http://ibeka.netsains.com/>
- 77 This council was established based on Act No. 30/2007 on Energy. The Act stipulates that the National Energy Council, or DEN, is responsible for designing and formulating national energy policy in addition to making decisions regarding general plans for national energy, among other tasks. Headed by the ESDM Minister, DEN is composed of seven members (all ministers) from the government and nine members from non-government stakeholder agencies.
- 78 These nine members are Agusman Effendi, former chair of Commission VII at the national House of Representatives); Herman Agustawan, former high-ranking official at *Badan Pengkajian dan Penerapan Teknologi* (BPPT), or the Agency for the Study and Application of Technology; Mukhtasor, professor at the Surabaya Institute of Technology's post-graduate program in Environmental Engineering; Eddie Widiono, former PLN CEO; Rinaldy Dalimi, former dean at the University of Indonesia's Faculty of Engineering; Tumiran, a former member of the Bill on Energy's drafting team; Widjajono Partowidagdo, a professor at the Bandung Institute of Technology's Faculty of Geology; and Herman Darnel Ibrahim, a former director of Transmission and Distribution at PLN.

almost equally divided on matters relating to nuclear energy.⁷⁹ Where other nuclear proponents exploit nationalist sentiment, pro-nuclear Council members point to ‘energy security urgency’ and assert that renewable energy sources – locally-based and small scale in nature – could never supply Indonesia with enough energy (Media Indonesia, 20 March 2011). Meanwhile, anti-nuclear members attribute their opposition to the high risk and high cost of nuclear technology, as well as the nation’s lack of capacity for managing it (Koran Jakarta, 20 March 2011; Media Indonesia, 20 March 2011). Serving as an expert panel, Council members certainly play an important role in shaping the nation’s energy policy. The fact that President Yudhoyono has expressed his preference not to go nuclear⁸⁰ may provide a strong message that nuclear will likely be, once again, at halt. However, since government’s written energy policy does not go under change and the Council’s recommendation is widely awaited for further policy⁸¹, it still remains important to see where this development will lead us.

Conclusion

While the tragedy of Fukushima has brought Japan into a maelstrom of economic, social and political turbulence, it provides a lesson that relates to nuclear energy policy for many other countries. At the time of this writing, Germany had just set 2020 as a stop date for operation of all its nuclear power plants. The Italian people, through a popular referendum, chose to follow suit and bring an end to their country’s nuclear plans. What is not yet known, however, is the future of other countries, namely, those still looking to utilise nuclear energy as a means to attaining energy security. Whether or

79 When looking at press documentation of the Council members’ views on nuclear energy, official statements indicate that – both pre-and post-Fukushima – four members have stood in favour and four have been opposed. In the days since Fukushima, however, the remaining ninth member appears to have shifted from a pro-nuclear position to one opposed. Such a dividing opinion is also happening in online media and social networks, yet in much more open and straightforward expression. As if giving public support to the continuation of nuclear power plant project, *Republika* published an article titled ‘*Publik Setuju PLTN*’ (public supports nuclear power plant) which was about its readers poll with majority of votes are in favour of nuclear power plant (*Republika*, 28 March 2011). *Republika* is a daily newspaper known for its technocrat and bureaucrat reader basis. To our best knowledge, there have been no other polls held recently on similar issue.

80 He expressed this during his official visit to Japan on June 17, 2011. <http://us.headlines.vivanews.com/news/read/228368-greenpeace--sby-di-jalur-yang-tepat> (accessed June 25, 2011).

81 <http://m.inilah.com/read/detail/1364942/pemerintah-akan-tunggu-ijin-den-dpr-gunakan-pltn/> (accessed on June 10, 2011)

not such countries will ultimately incorporate nuclear power likely depends on how well the anti-nuclear movement can harness the momentum of events at Fukushima to contest national energy policy.

In Indonesia, resistance to nuclear power has emerged since New Order though limited. During the New Order, demand for nuclear energy was minimised owing to external factors such as the 1970s oil boom and the Asian financial crisis. However, in post-authoritarian Indonesia, external factors began to amplify, rather than contain, demand. Discourse on national energy security and the influx of capital from the energy industry have helped to drive energy policy in a nuclear direction. Politics surrounding nuclear energy in this post-authoritarian setting require that the anti-nuclear movement not only successfully mobilize people and resources at the community level, but also earnestly challenge the state's energy policy. As the state is being transformed by decentralization, the challenge lies in how to engage the public in local decision-making as well as how to break into policy-making processes at the national level. In this context, Fukushima provides a golden opportunity for the movement to successfully fulfil those challenges.

Jepara stands as a good example of how a local movement can organize and build networks with national and international NGOs. Its success not only saved the district from its place at the top of potential locations for Indonesia's first nuclear power plant, but also helped local civil society maintain its vibrancy as the people served as their own watchdog – empowered with the practice of local democracy.⁸² On the other hand, Babel stands as an example of an anti-nuclear movement in the making. With the help of Fukushima, anti-nuclear resistance is growing – but not yet strongly organized. Local anti-nuclear groups must still grapple with the eagerness of local government to host nuclear power plants. Despite their different strengths and weaknesses, these two local movements have one thing in common: the fact that each is still at a NIMBY (“Not In My Back Yard”) stage in its development. National energy policy still lies ahead, unchanged.

Now that the post-Fukushima Indonesian state is more fragmented than before, civil society has an unparalleled opportunity to challenge policy. As events continue to unfold, it remains to be seen whether or not such fragmentation will help to stir in policy change.

82 Recent reports indicate that community demands for the removal of an allegedly pro-nuclear article within local bylaws have been met by the local assembly (interview with Mayadina, a local activist, by telephone on June 5, 2011).

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The Fukushima nuclear meltdown has had great political impact world wide and especially in Germany, where it led to a dramatical change in nuclear power policies of the Christian Democrats and Liberals. But it also generated discussions in other countries having nuclear power programmes or in which such programmes are being developed.

Indonesia belongs to the group of these countries. But local resistance has led to the cancellation of the plan to construct a nuclear power plant in Muria, Jepara, Central Java. Although the Indonesian Government had hoped to relocate the site to another place, the events in Fukushima led to a stillstand – at least temporarily.

The authors of this study gives an overview over the development of nuclear power planning over the last decades and describes in detail the emerging resistance on the national and the local level. It shows the dynamics which finally led to the stop of planning. It makes clear that this result was only possible because a broad coalition from different sectors of society could be formed.

Although this article is scholarly written it benefits a lot from the experience of one of the authors, who was part of the anti-nuclear-movement.

So this article can contribute to a better understanding of the anti-nuclear-power movement dynamics in Indonesia and informs about a successful anti-nuclear-power struggle in South-East Asia.

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