

# UNCOVERING NORTH KOREA'S ENERGY SECURITY DILEMMA: PAST POLICIES, PRESENT CHOICES, FUTURE OPPORTUNITIES

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*ABSTRACT: Over the past two decades, the Democratic People's Republic of Korea has allegedly developed nuclear energy while suffering near collapse caused by catastrophic economic policies. This article presents an evaluation of North Korea's contemporary energy policies and suggests that despite retaining communist ideals and "Chu'che" policies, North Korea has slowly started to modernise its energy sector and recognises the necessity to start engaging with the international community. While it is argued that Pyongyang's newfound concerns for sustainable development, equity and the environment are a welcomed departure from its usual belligerent rhetoric and present a number of exciting engagement opportunities, the regime has not abandoned its nuclear energy programme.*

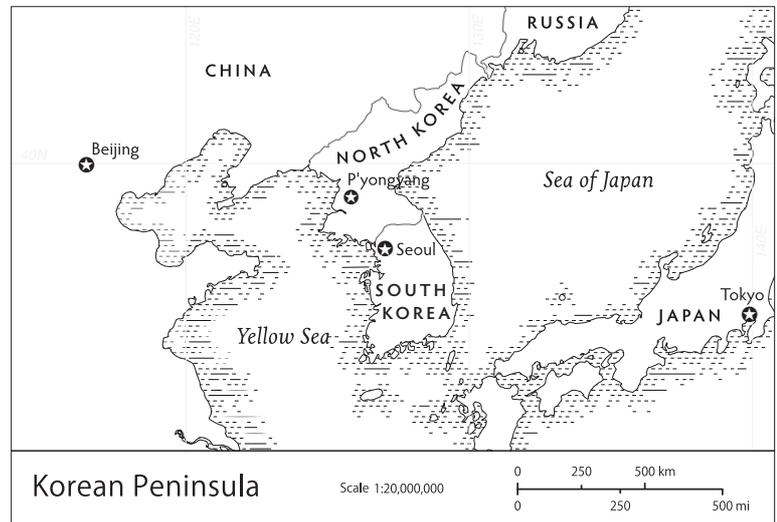
**KEYWORDS:** North Korea, energy security, economic policy, energy security dilemma

## INTRODUCTION

Nestled east of China and south of Russia, the Korean peninsula has played a prominent role in history due to its geographical location. Largely ignored by western powers for many centuries, it weathered many conquests by neighbouring Japan before becoming an important strategic stopover on major trade routes linking Europe and the Americas in the late 19<sup>th</sup> century. Eventually, Korea became a casualty of World War II and divided into two halves to facilitate the removal of Japanese colonial structures. If Korea was of geostrategic use, it was never particularly sought after for its natural resources as almost half of its landmass is covered by forests and woodlands, while numerous mountains leave only about a fifth of the territory as arable land. Natural resources include coal, which

both the Democratic People's Republic of Korea and the Republic of Korea have abundantly mined. Both North and South Korea have chosen very different development paths, with North Korea attempting to sustain a failing communist system while South Korea embraced capitalism. It is now generally accepted that Seoul succeeded in becoming a world economic player, and that Pyongyang has turned most of its attention toward developing nuclear weapons in a bid to ensure its own security in the region, given the US's large military forces still stationed in the South and Japan.

A general understanding of North Korea's position regarding energy and economics, especially coming from the Seoul-Pyongyang competition patterns that were seen during the 1960s and 1970s maybe harvested from Cumings and Oberdorfer as they provide a good picture of North Korea's energy sector during the Cold War and into the 1990s.<sup>1</sup> More recently though, the Nautilus Institute has gathered extensive data on North Korean minerals, power grids and energy shortages, and has been able to paint part of North Korea's energy picture by meeting, on numerous occasions, with North Korean officials.<sup>2</sup> A lot of attention has been given to North Korea's peaceful and military nuclear energy programmes,<sup>3</sup> but ultimately, North Korea's approach toward its own energy situation, and what its potential goals are within the system has largely been ignored.



This article focuses on how the North Korean regime conceives of energy and energy security by de-linking energy and frequently cited international concerns over North Korea's development and possession of weapons of mass destruction (WMD). As such, the work argues that though North Korea appears to be a rather monolithic state that resists changes and does not adapt well to new ideas and technologies, Pyongyang has started to develop a rather nuanced energy discourse. The work therefore focuses on: 1. summarising North Korea's traditional energy concerns that focus on production and avoiding economic decline, 2. introducing the notion that North Korea has begun to shift efforts toward more efficient and green technologies, and 3. suggesting that North Korea might be seeking a new place within the international energy community by taking a more active role in sustainable development.

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The data presented in this article has been extracted from approximately 1,200 energy-related news items published by the Korean Central News Agency (KCNA) between 1997 until 2011. The KCNA is the only official press organ in North Korea and has publicised news on behalf of the North Korean elite since 1946 while providing an accessible archive after 1997. Although the KCNA is known for its anti-American rhetoric and general Kim-family-focused propaganda, it has also always provided very technical information on North Korea and the rest of the world. Hence, despite the shortcomings that should be anticipated from the absence of alternative information channels to corroborate facts, the data presented here gives an unprecedented record of North Korea's evolving stance on economic change and modernisation, its rhetoric and understanding of past, present and future energy deals with others and its overall understanding of energy security and evolving approaches toward developing a stable and sustainable domestic energy sector.

#### NORTH KOREA'S TRADITIONAL ENERGY FOCUS

The Korean War (1951) left the Koreas artificially separated by an Armistice since 1953. Nothing, however, is artificial about the differences that have sprouted from the separation, both politically and economically. South Korea was economically and militarily bolstered by the US for decades, enabling Seoul to develop light

industrialisation in the 1960s and 1970s before it became an “Asian Tiger” and transformed into one of the most advanced technology-producing countries in the world. South Korea’s political system also mutated from near-totalitarianism in the 1960s and 1970s into a flourishing democracy: the country is now a recognised international player, sponsoring events such as the FIFA World Cup, and hosting the 2010 G20 Summit. In the North the story could not be more different: under Soviet and Communist Chinese influences, General Kim Il Sung, the Democratic People’s Republic of Korea’s spiritual and political father, cultivated isolation and autarky, promoting economic plans and over-industrialisation. Pyongyang maintained scant contacts with the rest of the world, with the exception of Beijing and Moscow: an alliance with Mao’s China enabled North Korea to receive preferential treatment and economic assistance while closeness with the USSR meant that hard currency was not always needed when trading with the Soviet giant. By the early 1990s it was clear that North Korea had failed to develop and modernise enough to compete with South Korea, and with most of the developing and developed nations in the world. Kim suggests that highly unrealistic economic plans based on fallacious growth projections in the 1980s led to such a debacle, but those were, unfortunately, only a prelude to what was to come: the end of the USSR had devastating effects for North Korea, as it suddenly lost a large part of its crude oil supply along with a market to sell its manufactured products.<sup>4</sup>

#### *Producing At Any Cost*

While industrialisation often relied on around-the clock exploitation of both people and resources, climactic conditions swept away many of the North’s hopes for a robust economy: droughts and floods led to tragic famines in the 1990s with millions of lives lost with state teetering on the verge of economic collapse.<sup>5</sup> Subsequent nuclear ventures aimed at keeping the US at bay while potentially providing a reliable source of much-needed energy entrenched North Korea even more as Pyongyang was heavily sanctioned by the international community and could rely only on a few states for limited economic exchanges. Old “allies” such as Russia and China started to request that North Korea pay for materials and goods in

cash. Even international aid was extremely regulated and limited, and only a few organisations currently operate on North Korean soil.<sup>6</sup>

Given those extreme conditions, it is hardly surprising that North Korea has focused its efforts on two major tasks: producing as much energy as possible and trying to alleviate the devastating effects that its crumbling economy had on its infrastructure by attempting to secure aid and investments. While many thought that North Korea was on the brink of collapse upon the death of Kim Il Sung in 1994, his son Kim Jong Il managed to consolidate power and attempted to achieve some of the policy goals formulated by his father.<sup>7</sup> Energy directives created by Kim Il Sung emphasised hydro-electric power and were still being implemented in 2009 when Pyongyang announced that ‘President Kim Il Sung’s desires’ had come true through the construction of the Kangwon, Anbyon and Wonsan power stations.<sup>8</sup> In the late 1990s, North Korea’s energy discourse was still centred on increasing outputs, but with a budget that would both support the construction of new power stations to alleviate power shortages as well as investments in new technologies such as coal gasification.<sup>9</sup> Emphasis was also put on publicising the construction of a number of new hydro-electric plans and Kim Jong Il’s field visits were used to showcase North Korea’s drive to develop new technologies: a visit to the Huichon Machine Tool Factory highlighted new hydroelectric generators,<sup>10</sup> while a visit to the Korean People’s Army Unit 614 in early 2004 showed that a partnership with Kim Chaek University of Technology had developed wind-power.<sup>11</sup> On many of his field guidance outings, Kim Jong Il’s message was clearly voiced: priority was given to increasing North Korea’s power output, calling for developing energy innovation technologies.<sup>12</sup> The DPRK’s flag is reflective of this economic ambition, as it represents Mt. Paektu, one of North Korea’s most important mountains and supposed birthplace of Kim Il Sung along with the representation of a hydro-electric power station.<sup>13</sup> This drive for energy can be seen in other parts of North Korean life as well: the 2005 Worker’s Party Committee’s slogan chanted that its comrades should ‘produce more nonferrous minerals and non-minerals at ore mines!’<sup>14</sup> while new books and CDs produced in the past few years celebrate a story called ‘Spring in My Native Town’ which lauds the efforts of those who built hydro-electric power stations.<sup>15</sup>

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In a candid manner, North Korea largely publicised its energy shortages and had to 'solve the electricity problem of the country and revitalise the independent national economy.'<sup>16</sup> Parallel reporting from Korean specialist Oh, in late 1999, highlighted this shortage by describing North Korea as a land where 'workers are idle, factory chimneys are cold, power outages are frequent, motorised transportation is slow and intermittent'.<sup>17</sup> More surprisingly is the lack of a nuclear energy propaganda policy though North Korea's tendency to blame Washington for not holding its end of the Agreed Framework bargain,<sup>18</sup> namely building two light-water reactors and providing Pyongyang with heavy oil shipments to compensate for energy losses due to North Korea's freezing of its civilian nuclear programme led to more vociferous outbursts against the US throughout 2003 when the Agreed Framework was officially buried and Pyongyang withdrew from the Non-Proliferation Treaty.<sup>19</sup> During this time, North Korea often insisted on how Washington had failed to fulfil its obligations, and resumed the DPRK nuclear programme.<sup>20</sup> There is evidence which suggests that Washington did aim to ensure that 'the failure of enhanced diplomacy should be demonstrably attributable to Pyongyang'<sup>21</sup> though Pyongyang's uranium enriched production was a key element in the Korean Peninsula Energy Development Organisation programme collapse.<sup>22</sup> North Korea also actively sought compensation for losses of electricity from KEDO which had been created to manage the 1994 Agreed Framework, but was denied on several occasions.<sup>23</sup>

Seeing that assigning blame could not sufficiently extort energy from others, North Korea swiftly realised that it had to seek new partnerships with both China and Russia. Regular meetings were held to foster cooperation through the 50-year old Korea-China Hydroelectric Power Company.<sup>24</sup> Yet despite evidence of meetings throughout the years,<sup>25</sup> very little transpires about the content of meetings, resolutions, and agreements. Even though China has been involved in several projects to help develop North Korea's economy, with yearly investments of more than \$15 million (USD) – representing close to 85% of the total foreign investment in North Korea – it is unclear whether or not Pyongyang will come out of its

closed economic system.<sup>26</sup> At the same time, China's role in North Korean security energy is ambiguous, with Lee suggesting that Beijing could be deploying energy as a foreign policy leverage to ensure stability in the region.<sup>27</sup> As a result, there is some guarded interest for engaging Pyongyang, but some attempts have been made such as the Tumen River Area Development Program: initially launched in 1991 by the UN, China, Russia, North Korea and Mongolia, and aiming to jointly develop 'trade and investment, transport and communications, environment, tourism and energy.'<sup>28</sup> But such programmes are very limited in scope, and have not yet created momentum for expanding partnerships to other countries. Hence, the promising option of a regional opening has not become a reality, though it is the option most favoured by economists.<sup>29</sup> One of the main factors that prevented countries other than China from investing in North Korea is the paucity of information available on how to open up contacts with North Korea, as well as what criteria and conditions for investments are in the country. As Kim states, North Korea still 'lacks basic frameworks needed for drawing in foreign investment. Policies, laws and regulations about tax, for instance, are not in place.'<sup>30</sup>

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Moreover, limited data is available on raw production outputs, as Pyongyang cultivates the rhetorical art of being specific while remaining vague, with output figures often given as percentage of energy produced compared to previous years' data, which largely remains unspecified (further contextualise). As such, increases in electricity production in 1999 is listed as 45% more than in 1998 leading to important questions: given the climactic disruptions that year, one cannot fail to wonder if the 1999 production was not, in fact, lower than outputs in 1995 or 1996.<sup>31</sup> Figures gathered or extrapolated by other experts strengthen this position, with some suggesting that North Korea's energy production had, by 2000, fallen to a quarter of its 1990 level.<sup>32</sup> Under a new long term plan though, emphasis started to be placed on energy economisation and rationalisation<sup>33</sup> and North Korea began to develop a range of technologies such as solar energy, the utilisation of tidal power, as well as methane-fuelled heating systems.<sup>34</sup> Towards the end of the 2000s, ever more emphasis was put on improving living standards, especially in more rural areas.<sup>35</sup>

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By the mid-2000s, economic indicators started to point at a very slow economic recovery,<sup>36</sup> thus suggesting marginal success with Pyongyang's commitment to 'direct big efforts to operating power plants at full capacity, step up the construction of large hydro-power plants and build new large power plants.'<sup>37</sup> This was noted in the literature just a few years after Kim Jong Il officially assumed power, and was understood as heavy industry and agriculture centric rather than light industry and agriculture centric.<sup>38</sup> Eventually, power station projects, construction and upgrades to existing plants were widely reported in the North Korean news.<sup>39</sup> Indeed, changes such as improving drinking-water reserves, protecting flood-prone arable land as well as ensuring sustained irrigation suggested higher productivity in a more energy-secured environment.<sup>40</sup> In parallel, coal gas power plants were still being built but development of new process to gasify coal was prioritised throughout the past decade.<sup>41</sup> But most of the production has been achieved thanks to an apparent commitment to geological prospection that has taken place both in terms of actual search of new resources, as well as the development of new technologies to prospect more efficiently. As such, a massive geological survey was undertaken in the early 2000s, leading to the drawing of more than 5,000 maps to aid surveying for resources.<sup>42</sup> New technological developments by Kim Chaek University of Technology also appeared to have aided prospection, with machines no longer requiring boring. As such, North Korea claims to have exported the technology to China, Russia as well as Laos, Thailand and Namibia<sup>43</sup> while its satellite imaging efforts led to the discovery of many underground water resources as well as coal and copper reserves.<sup>44</sup> Smaller developments in more specific areas of production also appear to show that North Korea is slowly modernising some of its infrastructures: computer systems installed in 2003 at the Sunchon Cement Complex for example led to improvements in firebricks energy-generating length,<sup>45</sup> while research in more accurate meteorological equipment could reduce hydro-electric power construction costs significantly.<sup>46</sup>

### *Technological Changes*

Such investments support the argument that North Korea has started to gradually shift its focus from production at all costs to considering ways to support various sectors and increase their productivity through modernisation. This change is largely noticeable with North Korea's realisation that rural areas must be developed in order to strengthen the economy as a whole.<sup>47</sup> Rural villages started to be outfitted with methane units and solar panels as heating sources<sup>48</sup> and solar energy was also being used to heat greenhouses promoting fish breeding and vegetable production while recycling methane by-products to heat and light villages.<sup>49</sup> The impetus for such technological developments could be attributed, in part, to the Scientific and Technological Presentation on Natural Energies held in 2006 and which focused on scientific and technological researches and experiences for effectively developing and utilising various energies and saving them and achievements in the research and introduction of different kinds of combustion devices and heat-preserving methods of heating facilities.<sup>50</sup>

Some technologies focused on how to use residual energy from heat furnaces and boilers<sup>51</sup> and also showcased technologies used in the Tudan Duck Farm and developed in partnership with Kim Chaek Technological University: it reuses methane gas produced by ducks living in climate-controlled farms fuelled by geothermal heat. Kim Jong Il praised the process during his 2009 visit,<sup>52</sup> and further geothermic and solar energies are being developed at the Yongsong Machine Complex and at the Solar Equipment Centre in Mangyongdae.<sup>53</sup> It is questionable, however, whether such small projects would be able to resolve North Korea's massive energy problems, as they probably could only be 'providing power and energy services to local areas when national-level supply systems are unreliable at best.'<sup>54</sup>

### *Learning about the World*

Technological awareness and innovations are only one aspect of North Korea's changing relationship with energy as Pyongyang appears to have a deep interest in domestic energy policies that have been implemented by some of its trading partners. For example, North Korea reports on China's drive to save energy and highlights the newest Chinese

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five-year plan (energy-saving companies increased from 80 in 2005 to more than 800 five years later<sup>55</sup>) and focuses on Russia's Siberia modernisation approach through oil pipeline projects.<sup>56</sup> Moreover, North Korea appears interested in how Venezuela has chosen to tackle its energy problems by using educational programmes and public relation campaigns aiming at raising its citizens' awareness of energy-wasting.<sup>57</sup> Pyongyang also highlights Cuba's low-energy houses and bathrooms running on only two litres of water and recycling wastes for irrigation purposes and bio-gas to generate lighting, an example very relevant for North Korea's work on its own farming villages.<sup>58</sup>

Large-scale projects are also on Pyongyang's radar but while North Korea is still confident that hydroelectric power must be developed and as such outlines Panama's efforts to build twelve new hydropower plants,<sup>59</sup> its outlook is resolutely focused on gas. Indeed, Iran's natural gas production and the construction of the Qom reservoir to store Iran's reserves is noted by North Korea as being the second-largest in the world.<sup>60</sup> This interest in natural gas belies Pyongyang's hopes for the development of a Russian gas pipeline that would cross North Korea and could help open up the country to other Asian markets,<sup>61</sup> and points to its will to devote more time and resources toward its own gas generation projects. Developing new technology outlets to enhance its production appears to be a cornerstone of North Korea's energy policy: citing the examples of Spain and the Toresol Energy Company's plans to develop solar facilities capable of delivering energy round the clock<sup>62</sup> and Indonesia's plans to develop solar cell power generators<sup>63</sup> shows this shift in attitude. Indeed, by 2011, North Korea appears to be focusing its attention toward confronting its energy shortage in a more efficient manner than in the past, especially by no longer relying on energy resources promised by or negotiated within the Agreed Framework or the Six-Party Talks process. In this sense, North Korea appears to be returning to some of its "Chu'che" values of self-reliance and economic pride. This change has also been noted by several researchers who have recently met with the North Korean elite.<sup>64</sup>

#### *Environmental Protection*

Could this apparent return to self-reliance be nothing more than a rational way of using energy while preserving resources which

would eventually be needed in the future? Pyongyang's potential commitment to geothermal technology is clearly stated when discussing Reykjavik's approach to using energy which is not only efficient but also does not harm the environment: North Korea's more radical development over the past two years is therefore its apparent concern for internationally-agreed targets such as pollution levels and the Millennium Development Goals. At the same time, Pyongyang is concerned with inflated and unfair energy prices generally affecting the developing world and this could indicate that North Korea is concerned with the necessity to adopt capitalist market structures while still being ideologically opposed to becoming a non-socialist system. Pyongyang is also as reluctant as ever to depend on a limited amount of resources controlled by external market forces, and stresses this through the example of Cambodia's recent appeal at the UNGA for the international community to work on the food and energy crisis.<sup>65</sup> Articles also highlight Indonesia's efforts to reduce its dependency on fossil fuels and its focus on developing renewable energy sources<sup>66</sup> and South African policies to reduce dependency on coal resources and fighting for greenhouse gas emissions reduction.<sup>67</sup>

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#### NORTH KOREA AND THE GLOBAL ENERGY COMMUNITY

The discourses are sophisticated but lead to questions regarding Korea's true intentions when it comes to saving the environment given the country's past environmental abuses and heavy deforestation in the 1980s and 1990s which led to unstable soils and many deadly mudslides during floods. The data suggests, however, that North Korea's newfound concern for the environment is crafty a way of marrying self-reliance and increased efficiency: Pyongyang has relegated old technologies such as coal mining to a more minimal role and has chosen new energy policies in the hope of gaining efficiency and stability while at the same time continuing to develop nuclear energy. As such, the country's recent energy policy can be divided into two broad lines: one the one hand, Pyongyang is conscious that new partnerships must be developed, but on the other hand, there is a strong desire to remain self-sufficient which leads to a sustained rhetoric on its right to produce nuclear energy.

Whether or not North Korean nuclear energy will only be used in a peaceful way is more questionable, however.

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North Korea's relationship to the international community is a rather complex one: on the one hand, Pyongyang has had very limited contacts with other states and its participation in international organisations and in global governance more generally is rather scant, but on the other hand recent years have shown more consistency in considering partnerships. North Korea also started to take on a more active role in the global community by actively participating in international meetings on energy such as the recent World Congress on Wind Energy that took place in Cairo in November 2011, and during which its delegates outlined the nation's wind strategies.<sup>68</sup> Prior to this Congress, North Korea had held several international workshops on the environment in Pyongyang since the mid-2000s, and has focused on 'measures to improve and strengthen the environmental protection such as ecological environment, technology of using resources, water purification technology, and use of renewable energy and protection of birds' habitats.'<sup>69</sup> North Korea's adoption of vocabulary such as "greenhouse gas emissions" or "climate changes" in 2007 also suggests a new North Korean role and place within the international community<sup>70</sup> and is also exemplified in its active participation at the 65<sup>th</sup> meeting of the Economic and Social Commission for Asia and the Pacific of the UN held in Thailand in 2008: all of these forums allow the country to have a voice on the global scene without, for once, being the target of sanctions and criticisms.<sup>71</sup> North Korea's legal framework even started in 2011 to codify 'the development and use of renewable energy, the establishment of an environmental authentication system and the introduction of technologies of recycling resources.'<sup>72</sup> This overall sense of responsibility and need to be concerned with its own resources is also mirrored in new prospection endeavours well beyond North Korean borders, with Pyongyang highlighting the fact that the Arctic region is likely to become the terrain for 'a state of new Cold War' over who can claim them first.<sup>73</sup> Such stance is also paving the way for independence in dealing with its own potentially lucrative but yet unexploited mineral resources: North Korea is sensitive to

China's advances in seeking legal rights to exploit deep sea beds,<sup>74</sup> as well as the recent discovery of a new natural gas fields in the Gulf of Mexico.<sup>75</sup>

### *Nuclear Energy*

But North Korea has adamantly kept on defending its right to develop nuclear energy over the years and has denied any collusion with other dangerous nations even though the United States has alleged that uranium hexafluoride had been sold to Iran and that North Korea had sold motors for nuclear facilities to Libya with Pakistan's logistical help.<sup>76</sup> It is thus very likely that North Korea will pursue nuclear power as it has engaged in a much broader campaign to justify its own right to have a peaceful nuclear programme by showing that other countries including South Korea are developing the technology without being singled out. Pyongyang has been especially active in this regard in 2011 by focusing on Cuba's commitment to 'using nuclear energy for peaceful purposes'<sup>77</sup> while at the same citing data from the International Atomic Energy Agency's Technical Cooperation Division for Latin America outlining more than seventy peaceful nuclear development projects currently underway in parts of Latin American and the Caribbean.<sup>78</sup> Pyongyang also did not fail to address Iran's nuclear programme and Teheran's willingness to maintain its peaceful nuclear energy programme despite growing concerns from the international community.<sup>79</sup> Moreover, North Korea relied on heavy-weights' stances on nuclear energy, focusing on Russia, China and France's continued commitment to nuclear energy.<sup>80</sup>

Justifying nuclear technology is interwoven with a will to draw attention on worldwide problems of energy supply, dependency and affordability, and energy saving. North Korea shows here an acute understanding of world issues, a surprising feature given how self-reliant and remote from the international community it often appears to be. Problems of pricing and resources are usually addressed by presenting facts such as the rising energy prices in the US,<sup>81</sup> the monitoring of price increases in Germany by the summer of 2011,<sup>82</sup> and by presenting China's calls at the recent G20 summit in Cannes to take actions toward stabilising commodity prices worldwide by creating a more stable energy market.<sup>83</sup> North Korea also appears

### *North Korea's Energy Security Dilemma*

concerned with “old enemies” and there is an obvious grudge still held toward Japan and its plundering of Korean resources during its colonial period (‘the Japanese imperialists plundered Korea of gold, silver and other kinds of minerals, agricultural products including rice and cotton, marine, foreign and all other resources during their colonial rule’<sup>84</sup>). As such, North Korea is wary of Japan trying to take over disputed islands with a view to exploit resources<sup>85</sup> while also being concerned with Japan potentially exploiting some of Kazakhstan’s uranium natural reserves.<sup>86</sup> Even though North Korea’s focus appears to be on resources, the message is largely political, as it warns of imperialistic tendencies and persecuted weaker countries robbed of their natural attributes: for example, Pyongyang highlights the US’s apparent design to use the Middle Eastern terrorist menace to gain control of oil and natural gas resources in strategic areas such as Central Asia.<sup>87</sup> There is also a sharp focus on how US allies might be following on similar trends with Hezbollah’s claims that Israel is attempting to take control of Lebanese gas and oil offshore resources.<sup>88</sup> Concepts of fairness and equalities are important to North Korea when considering Sudanese oil production, and how revenue should be divided between North Sudan and South Sudan.<sup>89</sup> In essence, Pyongyang is concerned about its own cooperation patterns with South Korea on how new minerals reserves should be exploited, and is exemplified through Lebanon’s drive to exploit its own offshore gas reserves in order to become an energy exporter<sup>90</sup> or Zimbabwe’s commitment to process its own minerals by including new clauses in its legislation.<sup>91</sup> Pyongyang also displays a sophisticated sense of justice when considering US oil pollution stemming out of some of its military bases in South Korea, and how it affects the local environment,<sup>92</sup> as well as calls by Brazil for Chevron to come clean about its recent oil spillage off its coasts.<sup>93</sup>

Consequently, North Korea has been cautious in developing energy relationships with its neighbours but has also started to consider new projects at the regional and global level: a joint declaration between Pyongyang and Moscow in July 2000 speaks of cooperation that will take place in ‘various fields such as metal, power, transport, forestry, oil, gas and light industries’<sup>94</sup> while recent meetings held as late as August 2011 suggest that gas provision as well as the linking of railway systems were being worked on.<sup>95</sup> An extensive joint energy programme was also bolstered by the late Kim Jong Il’s August

2011 visit to several parts of Russia including Far East regions and parts of Siberia.<sup>96</sup> The crux of the talks involved Russia's newest gas pipeline project and whether it should be laid across North Korea, hence allowing Pyongyang access to gas while enabling Russia, one of the world's largest natural gas producers, to supply the Asia-Pacific region.<sup>97</sup> Hence, Pyongyang has suggested that were the pipeline project to go ahead, the Six-Party Talks process could be likely positively affected.<sup>98</sup> If the Six-Party Talks could restart through a new conversation on denuclearisation of the Korean peninsula, it might also be possible to develop the Seoul-Pyongyang dialogue and relationship to new heights. Indeed, inter-ministerial talks held in 2001 opened up discussion on a number of energy-related topics, with an emphasis on 're-linking the Sinuiju-Seoul railways', 'supplying electricity', as well as discussing the gas pipeline issue,<sup>99</sup> and eventually closed with an agreement to 'positively cooperate with each other to put the project of linking the two parts of Korea-Russia railways into practice and examine the work of linking gas pipeline.'<sup>100</sup> At the same time, North Korea appears keen on strengthening "South-South" cooperation, calling for 'economic and technological cooperation among developing countries' though it is unclear whether or not Pyongyang considers itself to be part of the developing world or at the forefront of assistance: some of its current projects surprisingly include 'the training of specialists in various fields such as agriculture, science and technology, water resources and minor hydro-power stations for developing countries in Asia and Africa.'<sup>101</sup> Though this international cooperation is promising, much more should be done for North Korea to develop a stable energy system, and such rehabilitation will 'require major intergovernmental cooperation, investment by international financial institutions and technology transfer', according to Williams.<sup>102</sup>

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#### CONCLUSION: EMPTY WORDS OR THE BEGINNING OF A NEW KOREA?

While it is undeniable that energy is North Korea's economy policy cornerstone, Pyongyang's efforts to redevelop its energy production capacities are very limited when compared to the amount of effort, investment, and openness to international cooperation a complete rehabilitation of the North Korean energy system would entail.

Despite this important shortcoming, analysing North Korea's energy rhetoric since the late 1990s yields surprising results about the degree of sophistication North Korea shows, especially in regards to Pyongyang's growing understanding of and interaction with the international system. As such, the country has emphasised its general approach toward production while at the same time delving into a multitude of topics related to energy development. Overall rhetoric is therefore articulated around the Democratic People's Republic of Korea's broad energy policies and development which includes its general propaganda on production as well as its future targets, and the celebration of milestones such as improvements in energy production as well as new technical prowess. Over the past few years, new trends have also developed and have slowly started to replace propaganda and achievements: North Korea has started to showcase its resources, perhaps with the view to provide a stronger image of its production as well as to attract potential businesses. Hence, resource-related articles publicise existing economic and development areas and highlight current underground resource prospection projects. Construction of new energy plants have also been showcased especially recently, with an emphasis on both new commissioned units as well as future investments. The last category that has recently started to emerge from North Korea's engagement in various projects is a rather surprising one given the country's difficult economic conditions and limited engagement with the international community: while new rhetoric on how to develop new ways of producing energy at a cheaper cost is understandably of concern to Pyongyang, its new commitments to international environmental standards and its apparent work toward sustainable development is rather unexpected.

How much credit can be given to this discourse, especially given the fact that the Korean Central News Agency is notorious for its daily and sustained anti-American rhetoric and general aggressive stances that are anything but constructive? The question of how Pyongyang aims to portray itself through its only news outlet is central, and has different implications for different actors. Indeed, when it comes to the North Korean population, most of the articles aim at controlling and influencing North Korean citizens' perception of their own country as well as of the world. As such, domestic efforts are lauded, while the international environment is described

as a place where North Korea has a hoist of relationships, and where North Korea's traditional "enemies" are not always faring well. For the international reader, be they laymen or expert, the KCNA energy-focused articles offer a departure from unconstructive rhetoric centred on old animosities between North Korea and the United States or Japan. It also highlights the fact that Pyongyang is not in denial about the need to redevelop its energy system, and that even though self-reliance is praised and favoured, the international environment might provide an answer to North Korean plights. If it fails to give economic advantages, it can at least be used as a justification for North Korea to pursue specific policies, and as a way to show its population it is at the forefront of science when developing new types of energy that are also being implemented around the world.

Overall, the analysis shows that North Korea is trying to update its energy network system, and has also done so in a relatively independent way, even though China has been investing into North Korean infrastructure.<sup>103</sup> Could North Korea slowly rehabilitate itself through its stance on energy, and its participation in several international projects? Could North Korea even be seen as a reasonable stakeholder? Some have argued that North Korea now has 'established official relations with nearly all governments in Europe and Asia, been admitted to the ARF, and received substantial food and energy assistance from the KEDO members.'<sup>104</sup> In this sense, talking about the environment and the concept of sustainability is a conversation North Korea can take part in without being castigated for unlawful or inhuman behaviour, as long as this does not involve nuclear energy. But because of the nature of the North Korean regime and how the country has been understood as a rogue state by many in the literature, there are very few avenues left for Pyongyang to interact with the international system.<sup>105</sup> Therefore, if North Korea wants to hold a conversation with main powers such as Japan or the US, it will be forced to change some of its behaviours in light of sanctions and international pressure. Eventually, North Korea's interest in energy and especially environmental issues of sustainability might lead to a reform within the North Korea society, with 'a hybrid system in which the state provides a basic supply of crucial goods and leaves the distribution of the remaining available output to free markets.'<sup>106</sup> In the meantime though, North Korea's focus on developing new ways to become energy-sustainable should be

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noted by the international community, and should also bring about a more constructive understanding of North Korea not just as an Axis of Evil, but as a country that should be helped to open up so that investments can benefit those who need it the most, and who are oftentimes forgotten: the North Korean underprivileged population that has given its all to support a system that is unsustainable if it remains closed up. With Kim Jong Un recently becoming the new North Korea leader, it will be crucial to monitor North Korea's understanding of the energy sector even further for any sign of opening.

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