The BRICS, energy security, and global energy governance

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Chapter X

The BRICS, energy security, and global energy governance

Matteo Fumagalli

1.1 Introduction

On 1 June 2017, U.S. President Donald J. Trump announced that the United States would withdraw from the Paris Agreement on Climate Change (hereafter, PACC), which the United States had previously signed in April 2016 [Rucker and Johnson, 2017]. Although the earliest this can formally happen is 2020, the announcement nonetheless deals a significant blow to global energy governance due to the defection of one of the world's largest emitters of greenhouse gases. With even Syria signing the PACC in November 2017, that left the U.S. as the only country that will not be part of the agreement. Whether this will in the end be tantamount to a 'gift' to China's president in the form of an opportunity for global leadership, as the New York Times wrote at the time [Sanger and Perlez, 2017; Urpelainen, 2017], remains to be seen. Regardless of that, the U.S.'s withdrawal raises questions about the future of the Western-led international order and global governance arrangements [Bomberg, 2017].

Recent developments and shifts in global energy markets have brought adjustments to how consuming countries pursue energy security, here understood in terms of the accessibility, affordability, efficiency and environmental sustainability of energy [Sovacool, 2010a]. Changes to domestic energy strategies and international energy diplomacy are having implications for global energy governance (here defined as 'international collaborative efforts undertaken to manage and distribute energy resources and provide energy services') [Florini and Sovacool, 2009, p. 5239]. Thus, developments in the field of energy offer a useful vantage point to reflect

on developments in global governance arrangements and the emergence of a new post-Western architecture, and the role of rising powers in bringing that into reality. Energy security is one of the greatest challenges of the 21st century [Dannreuther, 2017; Goldthau and Sitter, 2015]. The global economy is changing rapidly, with population and economic growth shifting towards emerging markets. Nowhere is this more evident than in the case of the BRICS countries (Brazil, Russia, India, China and South Africa). Virtually all the growth in world energy demand comes from these fast-growing emerging economies, especially China and India. These five countries alone will make up over 50% in world energy demand by 2035 [BP, 2017a]. China is expected to be the largest growth market for energy for most of the next two decades, but it is expected to be overtaken by India by 2035 [BP, 2017a]. By contrast, energy demands among OECD economies is forecast to barely increase. This chapter focuses on how the BRICS are responding to the intertwined politics of energy and climate change, domestically and internationally. The origins of the BRICS acronym date back to 2001, when Jim O'Neill, then head of global economic research at Goldman Sachs, predicted the rise in economic power of Brazil, Russia, India and China (then only BRIC, as South Africa joined in 2010) in the following decade. The five countries surely can be regarded as 'heavyweights' in terms of size, demography and economy [D'Ambrogio 2014, p. 1]. Taken together they encompass 26% of the world's land and 42% of the world's population [D'Ambrogio 2014, p. 1]. In 2015 their GDP reached US $33.1tn, and their per capita GDP was US $10,709 [BRICS Energy Indicators, 2015, p. 1]. In the energy sector, the BRICS accounted for 37% of the world's energy demand (up from 30% in 2008) and for 41.4% of CO2 emissions due to energy usage (up from 33% in 2008), in large part owing to the significant presence of coal in their energy mix [MME, 2015, p. 1; MME, 2008, p. 1]. They represent 20% of world trade. These are impressive figures.

Yet, the BRICS remain a heterogeneous group of countries. They do not share a geographical context, they are not a trading bloc, not are they united by cultural affinities or historical ties [D'Ambrogio, 2014, pp.1-2]. In fact, they do not have many ties apart from the fact that they are rising

economic powers, or that they are perceived to be[1]. The asymmetry between the various BRICS countries is also evident: China's economy is larger than those of the other four combined. Beijing's GDP represents 58% of the group's GDP. Two thirds of BRICS' trade is generated by China, placing it in a dominant position. Beijing acts as a counterpart in 85% of intra-BRICS trade. For each other member of the group, China ranks among the top three export destinations. Economic structures are quite different: China and India are pursuing industrial development. Brazil and Russia are counting more on the gains of commodities exports [D'Ambrogio, 2014, p. 2]. The group includes three multi-ethnic and multi-cultural democracies (Brazil, India and South Africa) and two authoritarian states (Russia and China). The very inclusion of Russia has been challenged. Whereas the other four are emerging economies, Russia is a former superpower, with worrying prospects in both demographic and population health. Lastly, South Africa is significantly smaller than the others. All this taken together raises considerable questions about the cohesiveness and coherence of the group. At the same time, the group has gone a long way in institutionalizing; regular summits, an expanding agenda, a BRICS bank. While the role of BRICS in global economic governance has been subject to some degree of scrutiny [Hopewell, 2017 on trade; Huotari and Hanemann, 2014, Slaughter, 2017, Cooper, 2017 and Schollman, 2014 on finance; Nicolas, 2016 on economic governance], less has been said about their role in energy and environmental governance. When it has, this has typically come in the form of country

1 Russia went through severe economic slumps first during the 2008-09 global financial crisis and later as a result of the Western sanctions imposed after Moscow's annexation of Crimea in 2014. South Africa and Brazil experienced recessions in recent years, too, and China went through a slowdown in 2014-2015.

case studies[2], with few limited BRICS-wide exceptions[3]. The subject has also been neglected in earlier reviews of the field such as the Routledge Handbook of Energy Security [Sovacool, 2010b], the Routledge Handbook of Global Environmental Politics [Harris, 2016], and the relevant entries of International Studies Association (ISA)'s Compendium [Ozdamar, 2010; Duffield, 2010], Global Energy [Ekins, Bradshaw, and Watson, 2015], the Handbook of Global Environmental Politics [Dauvergne, 2012], or Bernauer [2013] and Hughes and Lipscy [2013]'s reviews of the field. The 2012 study by the Norwegian Institute of International Affairs (NUPI) [Eriksen, Oldgaard, Melchior, Rich, Wilson Rowe and Sending, 2012] and Anceschi and Symons [2012] are rare exceptions, but are in need of updating.

Thus, this chapter contributes to the field by taking stock of recent trends in the form of shifts in the energy markets and the way they have affected and in turn been reshaped by the BRICS and also, theoretically, by reviewing the terms of the scholarly debate and conversations on the relationship between the BRICS and energy security. Scholarship on energy and energy governance has grown tremendously in recent years and has produced valuable insights on issues of definitions and measurement [Sovacool, 2010a; Cherp, Jewell, Goldthau, 2011; Cherp and Jewell, 2014; Spreng, 2014; Stirling, 2013; Falkner, 2014], as well as discussion of the promise and limits of emerging governance arrangements [Bernauer, 2013; Florini, 2011; Escribano, 2013; Dubash and Florini, 2011; Florini, 2012; Florini and Dubash, 2011; Harris, 2010;

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2 On Russia see Shadrina and Bradshaw [2013], Henderson and Mitrova [2015], Heinrich [2003]; on China [Kong, 2011; Christoffersen, 2016; Wu and Nakano, 2016; Wang, 2014], on India see Bisht [2012] and Bajpai, Huang and Mahbubani [2012]; and on Brazil see Setzer [2014].

3 Eriksen *et al.* [2012]; Dubash and Florini [2011]; Downie [2015]; Van de Graaf and Colgan [2016]; Camilleri [2012]; Sun [2014]; Van de Graaf and Westphal [2011]; Van De Graaf and Colgan [2016]; Underal [2017]; Martin-Moreno [2014]; Symons [2012]; Falkner [2014].

Ladislaw, 2011; Krickvic, 2015; Downie, 2015; Hochstetler and Milkoreit, 2015].

By so doing, the chapter seeks to engage the following questions: how do changes in the global economy and energy markets affect the BRICS and how are they responding to them? What role do they play in global energy governance arrangements? Are the BRICS revisionist or supporters of the institutional status quo? When and why does competition prevail over cooperation, and competition with whom, exactly? How do the BRICS relate to advanced industrialized countries and countries in the Global South, or with each other, for that matter?

The main story this contribution tells is that of a rather heterogeneous group which struggles to position itself as a coherent entity as far as energy security and governance are concerned. This is not to say that no progress has been made (the 2016 New Delhi Summit forcefully added energy as a new area in which cooperation should be pursued by the members of the group, a point later restated in the 2017 Xiamen summit[4]), but the diversity in economic structures and resource endowments of the BRICS leads to them pursuing different agendas and priorities. The BRICS are responding differently to the challenge of climate change and are responding differently and unevenly to energy transitions, although here the outlier is clearly Russia, whereas the other four seem to be eager to play an active role in nascent global energy governance arrangements. Overall, although the BRICS seek greater representation and voice in the current institutions, they do not share a vision of what a new post-Western order will look like.

The chapter is structured as follows. Section II provides a short overview of the key shifts in the global energy markets, paying attention to changes in the patterns of both supply and demand. Next, Section III discusses the BRICS' contribution to global governance by reviewing

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4 Ministry of External Affairs. Government of India [2016]; Ministry of Foreign Affairs of the People's Republic of China [2017].

areas of agreement and contention among the five countries and vis-à-vis countries in the global South and advanced industrialised countries. Section IV turns to the international political economy of energy and identifies key debates in this exciting and expanding inter-disciplinary scholarly field. It highlights the main research frontiers and also identifies some of the most promising questions raised by recent developments, before concluding.

1.2 Trends and shifts in energy markets: Supply, demand and energy transitions

The centre of gravity of the global economy has shifted towards non-OECD markets and players. The world economy is expected to double over the next twenty years (BP 2017a), with growth averaging 3-4% per year (BP, 2017a). China and India will account for half of the increase in the growth of the global economy. The BRICS 'club' includes energy importing (China, India, South Africa) as well as energy producing (Russia, Brazil) countries.

With the world's 8th largest oil reserves and the largest natural gas reserves (17% and 26% respectively [Henderson and Mitrova, 2015; Russell, 2015]) Russia is a producer of global importance, though much of its oil goes to domestic needs, unlike Brazil, which produces mostly for export. Brazil's off-shore discoveries have made the country a relevant producer of hydrocarbons over the past decade, which it sells primarily to China. The situation in India, China and South Africa is remarkably different. There economic development takes priority, and these countries are net importers. China's continued rise depends on continued reliable access to natural resources. India and South Africa suffer from domestic constraints, poverty and insufficient economic development [Rich and Wilson Rowe, 2012, pp. 6-8]. In the pages below, I examine each country in turn, paying attention both to the current situation in terms of reserves, production and consumption, and trends over the 2006-2016 period.

While production of oil in Russia has increased tremendously over the past ten years, production of natural gas has remained stagnant, primarily as a result of the lack of investment and discoveries (Table 1). Consumption of coal has increased. Russia's energy mix is essentially made up of fossils fuels (90%) with some nuclear power and, in light of the country's energy strategies, this situation is unlikely to change in the near future. Natural gas covers about 90% of Russia's domestic energy needs and the largest domestic source of energy (54% of consumption), followed by oil (22%) and coal (12%) [Russell, 2016]. Nuclear constitutes the largest non-fossil source of energy and the country is largely self-sufficient in that regard, as it is home to the world's 3rd largest uranium deposits and has highly developed technology. The hydro-electric sector is in dire need of investment; Russia uses a mere 20% of hydroelectricity potential, and thus there is an enormous scope for expansion. As for renewables Russia boasts massive potential which, however, appears likely to remain untapped due to domestic political considerations. Renewables account for a small share of the energy mix, less than 1%.

Table 1: Energy reserves, production, and consumption in Russia (1996-2016)

		1996	2006	2016	Share (2016, %)
Oil	Reserves	113.6	104	109.5	26.6
	Production		98.19	11,227	12.2
	Consumption		2762	3,203	3.3
Natural gas	Reserves	30.9	31.2	32.3	17.3
	Production		595.2	579.4	16.3
	Consumption		415	390.9	11

Coal	Consumption		141	192.8	5.3
Nuclear	Consumption		97	97.3	2.3
Hydro-electric	Consumption		39.6	42.2	4.6
Renewables	Consumption		0.1	0.2	-
Electricity	Consumption		992.1	1,087.1	4.4

Source: BP Statistical Review of World Energy (2017b). Oil is measured in million tonnes, and all other sources of energy in MTE (million tonnes equivalent).

After averaging 9.8% per year between 1978-2013, China's real GDP growth has slowed since 2014, with a target now set at 6.5% for 2016-2020 under the government's 13th five-year program. The Chinese economy has entered an era of low growth (since 2014). The structure of the Chinese economy is changing and energy demand growth is likely to slow down as well. As China's economy goes through significant changes, so do its patterns of energy production and consumption.

As Table 2 shows, reserves and production of oil and gas have increased in the period between 1996 and 2016, although they have not been able to keep up with the country's demand for energy. Oil consumption has nearly doubled from 2006 (increasing to 12.8% in 2016), with natural gas consumption going through a stunning four-fold increase over the same period, although in terms of its share of global gas consumption it remains below 6%. Coal consumption remains at very high levels (at over 21% of the world's coal consumption), which inevitably has led to high levels of global greenhouse gas emissions. The rise in China's GHG emissions in 2016 has pushed up global CO2 emissions after a three-year lull. Consumption of nuclear, hydro-electric and electric

energy has also grown tremendously over the past decade, and so has renewable energy, particularly in the form of solar and wind.

Table 2: Energy reserves, production, and consumption in China (1996-2016)

		1996	2006	2016	Share (2016, %)
Oil	Reserves	16.4	20.2	25.7	1.5
	Production		3,711	3,999	4.3
	Consumption		7,432	12,381	12.8
Natural gas	Reserves	1.2	1.7	5.4	2.9
	Production		60.6	138.4	3.9
	Consumption		59.3	210.3	5.9
Coal	Consumption		23,004	244,010	21.4
Nuclear	Consumption		12.4	48.2	8.1
Hydro-electric	Consumption		98.6	263.1	28.9
Renewables	Consumption		2.5	86.1	20.5
Electricity	Consumption		2,865.7	6,142.5	24.8

Source: BP Statistical Review of World Energy [2017b].

India's economy has grown considerably in recent decades, although at a slower pace than China's. Its energy reserves are negligible and so is production, especially insofar as hydrocarbons are concerned. India is, however, a key consumer of coal (8.3% of global coal consumption), oil (4.6%) and electricity (5.6%) (Table 3). Renewable energy is, at current levels, also negligible.

Table 3: Energy reserves, production and consumption in India (1996-2016)

		1996	2006	2016	Share (2016, %)
Oil	Reserves	5.5	5.7	4.7	0.3
	Production		760	856	4.3
	Consumption		2,737	4,489	4.6
Natural gas	Reserves	0.6	1.1	1.2	0.7
	Production		29.3	27.6	0.8
	Consumption		37.1	50.1	1.4
Coal	Consumption			897,782	8.3
Nuclear	Consumption		4.0	8.6	1.4
Hydro-electric	Consumption		25.5	29.1	3.2
Renewables	Consumption		3.3	2.6	0.6
Electricity	Consumption		744.1	1,400.8	5.6

Source: BP Statistical Review of World Energy [2017b].

Although its overall reserves of hydrocarbons are small by world standards (Table 4), Brazil has emerged as an important producer and exporter of oil due to recent discoveries [Lazarou, 2015]. Following a cycle of steady growth at the end of the 2000s, the Brazilian economy started to contract in 2011, entering recession in 2015. Declining exports, rising inflation, a growing deficit, and corruption have destabilized the economy. Brazil is an emerging economic power in crisis. Brazil's growth in the 2000s was essentially the result of two factors: macroeconomic reforms and fiscal adjustment begun in the 1990s, and the demand for Brazilian exports of primary products from international markets, especially from China. The global economic turndown, however, reached Brazil too, with stagnation in 2011-2014 and finally a recession in 2015.

Table 4: Energy reserves, production and consumption in Brazil (1996-2016)

		1996	2006	2016	Share (2016, %)
Oil	Reserves	6.7	12.2	12.6	0.7
	Production		1,806	2,605	2.8
	Consumption		100	138.8	3.1
Natural gas	Reserves	0.2	0.3	0.3	0.2
	Production		11.2	23.5	0.7
	Consumption		20.6	36.6	1

Coal	Reserves			6,596	0.2
	Production		2.6	3.5	0.1
	Consumption		12.8	16.5	0.4
Nuclear	Consumption		3.1	3.6	0.6
Hydro-electric	Consumption		78.9	86.9	9.6
Renewables	Consumption		419.4	581.7	2.3
Electricity	Consumption		419.4	581.7	2.3

Source: BP Statistical Review of World Energy [2017b].

South Africa is home to the African continent's most developed economy and, until it was overtaken by Nigeria in 2014, the largest economy. It is Africa's only member of the G20 and has been a member of the BRICS since 2010. However, despite some important growth in the 2000s, South Africa resembles an 'economic powerhouse in decline' [Latek, 2015].

The South African economy has been crippled by the 2009 crisis, has only made a very slow recovery since then, and has been further slowed by the 2015 turbulence on the global commodity markets. South Africa's high reliance on exports of natural resources makes the country sensitive to external shocks. Furthermore, there are evident internal constraints, such as frequent electricity outages and years of under-investment in power generation and distribution. Oil and gas reserves and production are negligible in South Africa. Renewable energy also remains an untapped potential and coal consumption remains comparatively high (Table 5). Mining of natural resources remains a pillar of South Africa's economy [p. 2].

Table 5: Energy resources, production and consumption in South Africa (1996-2016)

		1996	2006	2016	Share (2016, %)
Coal	Consumption			9,893	0.9
Nuclear	Consumption		401.3	425.7	1.3
Hydro-electric	Consumption		2.7	3.6	0.6
Renewables	Consumption		0.1	1.8	0.4
Electricity	Consumption		253.8	251.9	1.0

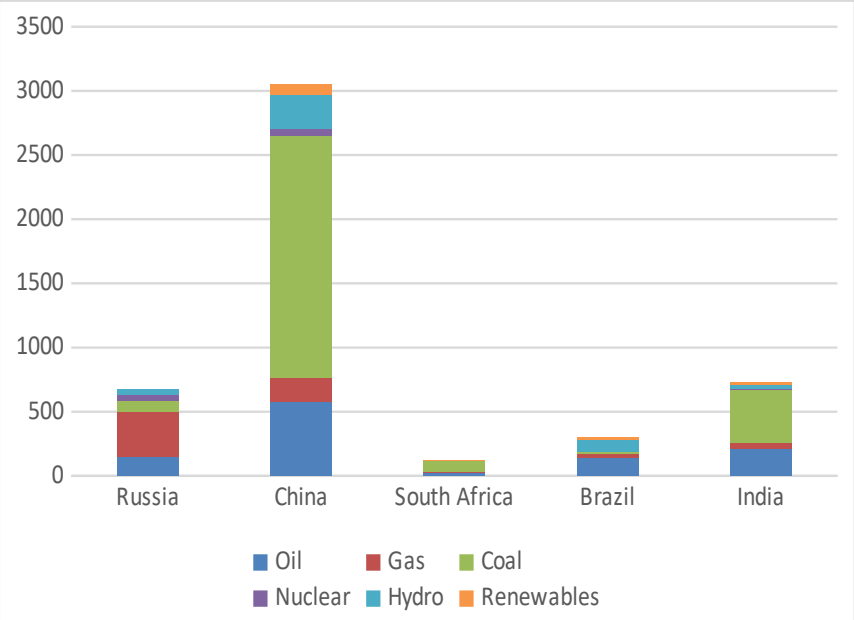
Source: BP Statistical Review of World Energy [2017b].

1.2.1 *Energy Transitions among the BRICS*

The BRICS are serious CO2 emitters. As chart 1 indicates, greenhouse gas emissions have increased considerably over the space of ten years. At present, China and the United States remain the world's leading emitters, with India and Russia catching up. Brazil and South Africa have also increased their CO2 emissions between 2006 and 2016. They do respond to the challenge of climate change remarkably differently. At one extreme of this ideal spectrum lies Russia. Due to abundance of cheap fossil fuels, widespread climate change scepticism, and lack of international pressure, Russia's leadership has not felt compelled to make anything other than a loose commitment to curbing CO2 emissions. This, in fact, means it can increase emissions by 50% while still meeting its target. What has aided Russia in the past is that due to the protracted economic decline of the 1990s – which led to the closure of some of the worst polluters – Russia's

emissions have remained relatively low, only 5% of global GHG emissions are Russia's (China 22%, U.S. 12%, EU 9%, India 6% and Brazil 4%). Domestic policy inaction has gone hand in hand with a lack of enthusiasm for climate commitments [Russell, 2015, p. 2]. Being a large producer and consumer of fossil fuels explain this. Russia did not ratify the Kyoto Protocol until 2004, seven years after its adoption, despite the fact that due to the reasons outlined above Russia was never in danger of missing the target. Moscow declared that it would not accept any binding reduction for the post-2012 period. Russia has barely participated in the pre-Paris climate conference negotiations and 'boasts' a fairly un-ambitious submission [Russell, 2016]. At the opposite end, both in terms of a remarkable improvement in its data and its disposition towards climate change negotiations and the moves needed to curb emissions, is Brazil. Not long ago a serious CO2 emitter. Brazil has made considerable progress on the renewables and the hydro-electricity front. Brazil plays an active role in international climate change negotiations. Its success record on reducing deforestation has made it a leader in the reduction of carbon emissions. Between 2005 and 2012 it reduced its CO2 emissions by over 40% through a focus on deforestation (illegal deforestation was reduced by 78%) and boosting the share of renewables in its energy mix. Brazil nonetheless remains the world's seventh biggest emitter of GHG, responsible for 1.45% of global emissions. It is party to UNFCCC and to the Kyoto protocol, but it does not have a compulsory goal for carbon emissions reduction stemming from the Kyoto Protocol, as it is not classified as a developed country.

Chart 1: BRICS CO2 emissions (2006-2016)



Source: BP [2017b].

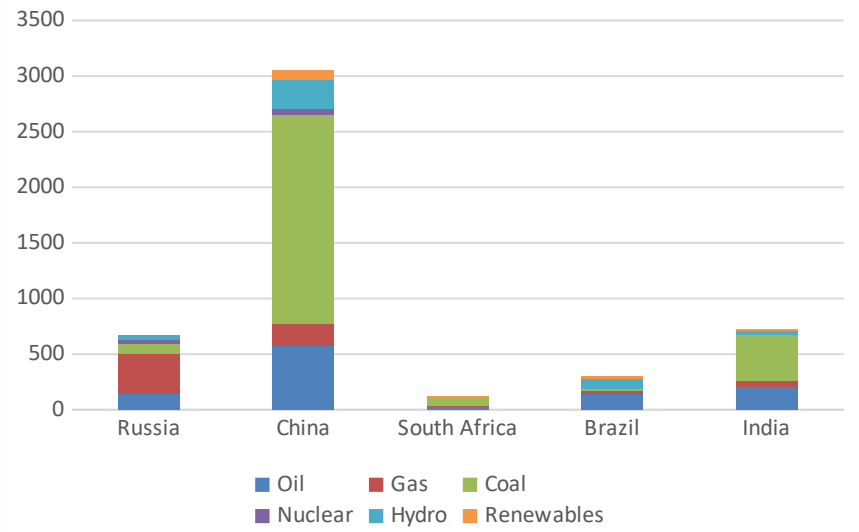
Data in Table 6 and Chart 2 highlight the fuel mix of the economies of the BRICS as of 2016. Oil remains the most important type of fuel for all BRICS except for Russia, for whom the main source of domestic energy is natural gas. Coal is hugely important for China and India, although its share in the fuel mix is expected to decrease in the coming decades [BP, 2017b]. Although the share of renewables in China, Brazil and India's energy mix is increasing, fossil fuels continue to make up the lion's share of it in all five countries, ranging from 63% in Brazil % to 86% in China, 87% in Russia, 92% in India and 95% in South Africa.

Table 6: Energy mix and the BRICS

	Russia	China	South Africa	Brazil	India
Oil	148	578.7	26.9	138.8	212.7
Gas	351.8	189.3	4.6	32.9	45.1
Coal	87.3	1,887.6	85	16.5	411.9
Nuclear	44.5	48.2	3.6	3.6	8.6
Hydro	42.2	263.1	0.2	86.9	29.1
Renewables	0.2	86.1	1.8	19	16.5
TOTAL	674	3,053	122.1	297.7	723.9

Source: BP [2017].

Chart 2: Primary energy and the BRICS: Consumption by fuel (2016)



Source: BP [2017].

In sum, this section has shown that the BRICS are a heterogeneous group, made of producers and consumers of energy, of countries that have embraced energy transitions and where renewables are steadily growing as part of their energy mix, with others resisting such trends. The data above illustrate the intertwined nature of the politics of energy and climate [Rich and Wilson Rowe, 2012, p. 6]. The economic rise of the BRICS is closely tied to the global politics of energy and their consumption of global energy/and climate change. Each member of the BRICS 'club' faces multifaceted domestic energy issues and politics that shape its energy strategy and, consequently, its participation (or lack thereof) in climate change negotiations. To what extent does this internal diversity of the BRICS group affect its behavior and stance on the international stage? This is what the next section examines.

1.3 The BRICS and energy governance

This section reviews both key developments and progress in terms of the BRICS's role in global energy governance and some of the major contentious issues, amongst them and between them and countries of the global South as well as advanced industrialised countries. The most visible progress of the BRICS as a group has been its relatively rapid process of institutionalization, from a mere acronym in 2001 (BRIC, then BRICS from 2010 when South Africa joined) to a more institutionalized organization. The group has held annual meetings since the one in New York at the side of the UN General Assembly meeting in 2006, followed by regular summits in Ekaterinburg (Russia) in 2009 and then hosted in each country on a rotating basis. At the 2013 summit in Durban (South Africa), the members established a BRICS Think Tank Council and the BRICS Business Council. Gradually, BRICS cooperation has extended to financial governance, with the establishment of the BRICS bank and a reserve arrangement [D'Ambrogio, 2014]. At the 6th summit held in Fortaleza (Brazil) in July 2014 the BRICS decided to create the New Development Bank (NDB), with the purpose of mobilising resources for infrastructure and sustainable development projects in BRICS and other emerging and developing economies. At the 7th BRICS summit in Delhi (India) in 2016, the BRICS explicitly referred to energy as an area in which cooperation among the members should expand and deepen, a point later stated in the 2017 Xiamen (China) summit. This is not to say that there are no differences among the member countries or contentious issues. Although the BRICS' rise has been peaceful, this has not been free of contention. Some of these issues pertain to them only (such as the China-India geopolitical rivalry), whereas others blur the lines between the BRICS, advanced industrialized countries and countries in the Global South, such the difficulty of setting up inclusive and sustainable global governance arrangements and the risk of creating a new oligarchy, a 'concert' of a select group of powers, with the exclusion of the majority.

Contentious issues among the BRICS

Two main fissure lines exist within the BRICS. The first concerns bilateral issues, of which the rivalry between China and India, the two largest and most populous countries, is the most vivid example of how competition, rather than cooperation, has come to define energy security in Asia [Jain, 2014]. The China-India relationship is plagued with several unresolved issues, from territorial disputes (Tibet), Beijing's relationship with Pakistan and, not least, competitive energy relations. Energy is reshaping the international relations of Asia, where it is a subject of geostrategic contest rather than cooperation and interdependence. A site of production, as much as of huge consumption of energy, primarily fossil fuels. As Jain notes 'Asia is now the centre stage of the world's energy concerns' [Jain, 2014, p. 547].

This is not to say that energy cooperation between New Delhi and Beijing is impossible, as joint activities in Sudan and Syria have shown [Reischer, 2012; Bajpai, Huang, and Mahbubani, 2015], but these are marginal issues, and thus energy cooperation remains the exception rather than the rule. Despite all the rhetoric of a strategic partnership, Russia-China relations are not less fraught with challenges. Although Russia has seemingly acquiesced to the shift in power to China which saw it becoming the junior partner in the relationship [Kaczmarski, 2015], some of the irritants remain and have deeper historical roots, such as Moscow's fear about an encroaching Chinese presence – through migration – in the sparsely inhabited regions in the Russian Far East, where six million Russian citizens face over one hundred million Chinese on the other side of the border. Other irritants are of a more recent nature, such as Moscow's occasional departure from its advocated principle of non-interference in the domestic affairs of another country and the staunch defense of sovereignty. Its recognition of Abkhazia and south Ossetia in 2008 and its more recent annexation of Crimea in 2014 were not well received in Beijing. Apart from immediately bilateral issues, Russia and China also share a neighbourhood: Central Asia. Although both powers have peacefully co-existed so far [Cooley, 2012], in practice Central Asia is

where competition already takes place between the region's main security provider (Russia) and the main commercial partner and investor (China). Bilateral issues aside, the BRICS also differ in terms of their stance on climate change and ways to tackle it. They may well agree about their dissatisfaction with a global institutional order they did not create and whose rules they did not write, but they agree on little else in terms of what an alternative should look like, something which hasn't changed since the NUPI study in 2012 [Eriksen, Odgaard, Melchior, Rich, Wilson Rowe, and Sending, 2012]. Russia is very much the spoiler in the group. Russia remains an important international player, more relevant in some regions (the post-Soviet neighbourhood and Syria, among others) than in others. Moscow is playing a decreasing role in G8, G20, and OECD, which turned their back on Russia post-sanctions and Crimea. Moscow remains a member of the G20 not least due to the support of fellow BRICS. Accession to OECD was suspended. In short, Russia's prestige has taken a hit, although the negative impact on the relationship with its fellow BRICS has been negligible. Moscow tends to favour working within the framework of the United Nations, which, the Russian government emphasizes, remains 'at the centre for regulation of international relations and coordination in world politics' [Russell, 2015, p. 1]. Domestically, Brazil has developed a National Plan on Climate Change set out in 2007/08, consisting of a comprehensive framework to combat climate change which proposes a set of mitigation actions. The plan focuses on deforestation and increasing energy efficiency and renewable energy. Beyond its borders, having hosted the 1992 Earth Summit and the 2012 Rio+20 UN Conference on Sustainable Development, Brazil has positioned itself as a significant actor in the international climate arena [Lazarou, 2015, p. 2]. The EU and Brazil have been the two first actors to adopt the UNFCCC and the Kyoto Protocol, in a move that signalled the importance of cooperation on environmental issues. On the whole, although some writers have perhaps too alarmistically pointed to coming resource wars in Asia [Chellaney, 2013a and 2013b] or the coming of an 'energy great game' [Jain, 2014], it is a fair point to note that China as the leading Asian consumer sees little point in cooperating [Jain, 2014, p.

547], and that more generally completion prevails over cooperation. This is not because there is anything intrinsic to natural resources that makes rivalry or even conflict inevitable, but rather because of an institutional void.

The BRICS and advanced industrial countries

Energy governance is an area in which progress has been slow and, again, uneven. There are, of course, several reasons for this. One is a lack of institutional architecture [Downie, 2015]: At present there is a plethora of multilateral organizations for dealing with energy in which emerging markets are unevenly involved, such as the G20, IEA, International Energy Forum (IEF), OPEC, International Renewable Energy Agency (IRENA), and IAEA. Acronyms aside, what is evident is that membership in the relevant clubs (sellers and buyers) does not accurately reflect the contribution to the global economy any longer. Among the sellers, some emerging economies are members of OPEC (Qatar), and most of the members are from the Middle East, with no Central Asian state (or Russia, for that matter) being a member. Neither of the BRICS is part of OPEC. As to the buyers, the IEA included Japan and Korea only recently and is de facto a club for OECD economies. Again, the organization does not include a single BRICS country. In this regard, therefore, the Paris Agreement represents a small but important step towards building an institutional architecture. The most significant development because of its relevance to global energy governance is the 2016 Paris Agreement on Climate Change (PACC) [IEA, 2016]. Reflecting a long and arduous path of negotiations, failures and agreements from Durban to Kyoto to Brisbane, PACC, which entered into force in November 2016, it is ‘fundamentally, at its heart, about energy’ [IEA, 2016]. Covering over 190 countries, with China, India and Brazil as parties to the agreement (not Russia, which was a signatory), the agreement focuses on emissions reductions in the power sector (electricity), seeking to tackle global warming through a reduction in GHG emissions. This brings about transformative change in the energy sector. Changes are in fact already

under way, as countries are on target to achieve, even exceed, the targets, sufficient to slow the projected rise in CO2 emissions but not enough to limit warming to less than 2 degrees Celsius. Growth in energy-related CO2 emissions stalled in 2015, as a result of a 1.8% improvement in the energy intensity of the global economy, a trend bolstered by gains in energy efficiency and the use of cleaner energy sources worldwide (mostly renewables), before increasing again in 2017 [Hausfather, 2017].

The group has not threatened the current multilateral and financial international structure. It has called for reforms and for them to acquire decision-making power consistent with their economic weight. Politically, in this newly emerging world order they are also challenging the old powers in the field of security. However, there has been no open contestation of the current order and, if anything, the Paris agreement constitutes a way in which AICs and BRICS can work together. The importance of reducing the carbon intensity of their economies is evident to all BRICS. China leads the way. Russia is recalcitrant. At the same time, it should be clear that the pursuit of energy efficiency and diversification among emerging economies, and the big ones among the BRICS such as China and India, is driven less by concerns about climate and more by concerns about energy security. This, however, is not tantamount to an alternative to the status quo; at the moment there is no shared vision among the BRICS as to what a post-Western global (energy) governance arrangement may or should look like. Despite the rise of new players and the emergence of new voices (and new interests and agendas), membership to both clubs (IEA and OPEC) remains restricted, despite the 'association dialogues' of the IEA with key non-members. It goes without saying that without membership the emergence of new players and voices goes unrepresented.

Relations between the BRICS and other developing countries

In climate change negotiations the BRICS have been quite content with being 'bundled' with other developing countries, a position which

indicates how the BRICS still perceive themselves (as being outside 'the establishment' and the defenders of the status quo). Ties between individual BRICS and the Global South have received some attention, typically in the form of China's energy diplomacy in Africa [Taylor, 2009], Central Asia [Cooley, 2012], or in South-East Asia [Hong, 2015]. Interest in China's $1 trillion flagship One Belt, One Road (OBOR) initiative is also growing, although so far it is more the drivers of Beijing's initiative have been subject to scrutiny and less has been said about the countries, economies and societies on the receiving end of the OBOR. As economic growth, and consequently demand for energy, is shifting eastwards, it is not surprising that attention has especially focused on developments in Asia. In this respect, energy dynamics in Asia well illustrate the challenges of institutionalized energy cooperation between the BRICS and developing countries in specific regions of the world. Neither ASEAN (Association of Southeast Asian Nations) nor the Shanghai Cooperation Organization (SCO) deals with energy explicitly, let alone effectively. In Southeast Asia, international cooperation is driven primarily through ASEAN-centred institutions and yet, energy is not seen as an issue warranting its own separate organization in the region. ASEAN+3 deals with economic matters, but not energy specifically, and ARF (the ASEAN Regional Forum) focuses primarily on security. The 2007 Cebu Declaration has seemingly remained a 'toothless arrangement' [Jain, 2014]. Similarly, attempts to move beyond a focus on security within the framework of the SCO has not yielded any tangible result. While ASEAN's consensus based modus operandi seems to prevent a focus on an admittedly fractious issue such as energy security and cooperation, in the case of SCO it seems that the organization's main added value lies in its being a forum that allows Central Asia's smaller players to simultaneously manage relations with two great powers such as China and Russia and for the two to manage ties with each other. On a separate issue, the different structural economic conditions and economic capacity of some of the poorer LDC (less developed) countries, such as Myanmar, Laos, or Cambodia, places them in a radically different situation when it comes to considering embracing energy transitions and

radically altering their fuel mix in favour of renewables. While these are choices that countries like Brazil and China have been able to 'afford' to make, coal remains a cheaper and thus more realistic option for many poorer economies. In sum, as Jain puts it, 'to speak of Asia as top player is not to suggest that it is a cluster of actors or act as one in its quest for energy' [Jain, 2014, p. 549]. Energy competition, interwoven with matters of geopolitical rivalry, status, prestige and history, is the compelling story of Asian politics and security in this early part of the 21st century. If, as Jain claims, 'the nature of energy fuel as an essential commodity traded in a highly competitive world market makes energy security a competitive strategic pursuit for Asian states' [Jain, 2014, p. 554], it is also fair to note that an institutional void has not helped with moving away from the current zero-sum game that prevails in Asia's energy markets. The big risk here is that the eagerness of the BRICS to get recognition and a 'seat at the table' is that new divides will emerge and that a 'new oligarchy' will emerge [Melchior, 2012, p. 3]. To summarise, two issues stand out in relation to the relationship between the BRICS and the current global governance arrangements. First is the emerging economies' – and the BRICs most notably among them – dissatisfaction with the current architecture of the global economy [Downie, 2015]. Second is the lack of an alternative vision by the very same actors. This is clearly the result of their different priorities and interests, which hinder their operation as a coherent coalition of international actors [Downie, 2015]. The BRICS are important and mighty but their interests are sometimes diverging, and their international role is still in the making [Melchior, 2012, p. 4]. Despite the evident progress in institutionalizing the BRICS as an organization, is this a group of like-minded countries or a heterogeneous bundle of states, some of which are rising powers (China), some 'declining-rising' powers (Russia), and the rest a mixture? Will they act together or individually? What does China want to make out of the BRICS and how does this relate to Beijing's OBOR initiative?

1.4 The BRICS and the International Political Economy of Energy: Convergence, Divergence, and Research Frontiers

The study of energy has long suffered from under-theorization, with policy-oriented research receiving the bulk of attention. There are signs that this might be changing, driven by theoretically-innovative contributions in international relations [Dannreuther, 2017], public policy [Florini, 2011; Florini and Dubash, 2011; Dubash and Florini, 2011] and international political economy [Goldthau and Sitter, 2015]. As the single greatest area of convergence among the BRICS – and among scholars researching global governance and the BRICS – is the demand for greater representation and voice in international institutions, it is not surprising that a key debate has revolved around questions of change versus continuity in the international system and, by extension, about the durability of current Western-designed and -led governance arrangements. The extent of the individual BRICS' – and especially China's[5] – dissatisfaction with the status quo in the form of a Western-made and Western-led international order is debated [Breslin, 2013; Hochstetler and Milkoreit, 2015; Cunliffe and Kenkel, 2016], with some scholars emphasizing the status quo orientation of the BRICS [Downie, 2015], or at least some of them, and others highlighting some (potentially) revisionist initiatives. While there may be a desire for a new global order, at present there has been no detectable move towards revisionism or a direct challenge to the existing arrangements, as intra-BRICS energy cooperation efforts are still in their infancy. This has to do with the fact that the BRICS do not see 'eye to eye' as to what the new order may look like. There is, in other words, no unified vision of an alternative order [Downie, 2015]. In practice, this leaves the BRICS as norm-takers, rather than norm-makers [Dubash, 2011; Downie, 2015], although the Paris

5 On China-specific debates, also beyond the confines of energy, see Allison (2017), French (2017), Lim (2015), and Beeson (2009).

Agreement on Climate Change has the potential to transform global energy governance. The lack of BRICS institutional space is clearly visible in energy-related organizations. A second 'big debate' in the study of the BRICS is between those that emphasise the competitive nature of energy and those instead who privilege cooperative relations. This, by and large, depends on the analytical tools used to make sense of such phenomena. On a larger level there appears to be a divide between those that see relations as more competitive or cooperative. At the risk of some simplification, such a divide can be captured by the conversation between those that focus more on the geopolitics of energy [Jain, 2014; Pascual, 2015; Hashimi, 2010; Heinrich, 2003; Henderson and Mitrova, 2015] and those, informed by public policy and IPE perspectives and tools, that have a greater interest in governance, with recent innovative endeavours to bridge the two [Goldthau and Sitter, 2015]. Cooperative dynamics stand out clearly in publications on Brazil and South Africa. Literature on Russia, by contrast, has concentrated on Moscow's use of energy as a foreign policy tool, particularly in its immediate neighbourhood [Hashimi, 2010; Heinrich, 2003]. An approach focused on Russia's 'weaponization of energy' has not been free of critique, and Orttung and Overland had subjected the claim to close empirical scrutiny [Orttung and Overland, 2015]. Empirically, the literature has paid greater attention to Russia's European neighbourhood and the implications for EU-Russia relations, with far less being written about Russia's Asian relations. As noted elsewhere in this chapter, competition prevails over cooperation when it comes to energy security in Asia [Jain, 2014; Chellaney, 2013a and 2013b], although that is compounded by other pre-existing issues (historical legacies and geopolitical rivalries), raising questions as to whether competition needs to be the 'default' condition when it comes to Asia's energy relations.

Beyond this, energy offers a new and refreshing starting point for reflecting on the transformation of the BRICS and more generally or rising powers beyond the BRICS. Drawing on neo-Gramscian sensibilities in international relations, Hameiri and Jones have challenged one of the key assumptions of international relations – the state as a unitary actor – and

have examined how processes of de-centralization, fragmentation and internationalization are taking place in countries often associated with the image of Westphalian statehood (China and Russia being among them) and how such domestic processes are having external implications, often diverging from that country's foreign policy [Hameiri and Jones, 2016]. In practice, one dimension that is especially relevant to the BRICS is the internationalization of sub-national actors and the emergence of the 'energy giants', the state-owned enterprises (SOEs). The emergence of the SOEs is clearly visible in the re-nationalization of energy giants like Yukos in Russia in 2004 and, most notably the rise of state-owned enterprises in China [Dannreuther, 2001; Andrews-Speed and Shi, 2016] and Russia [Hashimi, 2010; Henderson and Mitrova, 2015; Heinrich, 2003]. More than the domestic role of these state-owned enterprises, what has attracted interest is their assertive role abroad as part of their respective countries' energy diplomacy [on China: Cutler, 2014; Hubbard and Williams, 2014; Wang, 2017; Dannreuther, 2011; on Russia: Poussenkova, 2010]. Sub-national actors are playing a growing role in international affairs by carrying out initiatives which are at times aligned with and at times diverging from the foreign policy of their respective countries. The para-diplomacy of sub-national actors has been subject to investigation in India [Plageman and Destradi, 2015; Dossani and Vijakumar, 2006; Jenkins, 2003a and 2003b; Sridharan, 2003], South Africa [Cornelissen, 2006; Geldenhuys, 1998; Nganje, 2014a and 2014b] and Russia [Sharafutdinova, 2003; Joenniemi and Sergunin, 2014]. This is starting to be visible in the areas of energy and environmental governance, as evidenced by Setzer's work on Sao Paulo in Brazil in environmental governance [Setzer, 2014] and Fraundorfer's research on China's cities and climate governance [Fraundorfer, 2017]. Hameiri and Jones [2016] and Tubilewicz [2017] have also shed light on the internationalization of China's provinces. Yunnan Province and the Greater Mekong Sub-Region. An important insight that is relevant to debates on energy and energy governance is that domestic processes of decentralization and fragmentation have both domestic and international ramifications, in the form of the rise of multiple and competing centres of

power and the challenges this poses to coherent policy-making, especially in under-institutionalized countries [on India: Dubash, 2011; on China: Cabestan, 2017; Freizer, 2010].

Last, but not least, are efforts to bring insights from more critical strands of international relations into the study of energy. In a recent important study of energy security, Dannreuther, in particular, argues that energy security should be understood as a value in competition, even conflict, with other values such as economic prosperity and environmental sustainability [Dannreuther, 2017]. Dannreuther's dual focus on power and justice is also highly innovative as, typically, energy has been framed in the language of the form, but not the latter [Dannreuther, 2017]. What is especially interesting about China, but similar points can be made about Brazil and India, is the attempt to frame the country's attempts to tackle climate change and thus steer the energy transitions processes in the language of a 'green growth' or 'transition to a green economy', thereby combining the emphasis on sustained economic growth – oftentimes the pillar of performance legitimacy – with exploring new opportunities by reducing fossils in the fuel mix in favour of renewable energy. So far, however, with the exception of Hameiri and Jones [2016] and Dannreuther [2017], critical approaches to international relations have struggled to make inroads in energy debates. Following from this, questions arise about the impact of energy transitions, especially in terms of the impact that energy transitions might have on domestic power configurations, especially of the more authoritarian members of the BRICS.

While much scholarly attention has focused on the policies and strategies of the BRICS themselves, remarkably little has been said about how countries on the receiving end of the BRICS' attention are responding to it. How are local states, economies and societies being reshaped by the actions of China and its state-owned enterprises? What are the negative externalities of natural resource diplomacy? Although something has been written about the effects of China's Africa diplomacy, more should be done about the periodic rise in resource nationalism, understood as a state's effort at restoring ownership over key strategic assets in the natural

resource sector, a phenomenon of growing salience in countries on China's doorstep such as Myanmar, Mongolia and Kyrgyzstan [Fumagalli, 2015]. Attention to this issue has been limited and sporadic, with oil receiving the bulk of attention (for an exception on South Africa's mining sector see Andreasson [2015]). The case of the One Belt, One Road initiative is also relevant here; at least in terms of the initiative's official objectives and how it is framed publicly, energy cooperation is ascribed great importance, and energy, infrastructure and logistics linkages are expected to create goodwill for enhanced political partnerships between China and the partner countries.

1.5 Conclusion

Are the BRICS a new player in their own right, or an assemblage of different actors each with its own specificities and divergent interests? They are certainly a heterogeneous collection of actors rising in their own different ways, asking for greater voice on the international stage in light of their economic weight. Yet, this combined growth has thus far not translated into a coherent voice, let alone a shared vision for what a post-Western international order might look like. At the same time, there are visible signs of institutionalization of the bloc.

The chapter has advanced the following propositions. First, it has shown that the label BRICS conceals as much as it reveals when it comes to either identifying shifting patterns of demand and consumption or gauging whether the BRICS countries behave as one coherent group. In all this, the BRICS have become not only an important part of the story, but central players. At the same time, they have not yet articulated a shared vision, let alone one which may be an alternative to the current Western-designed and Western-led institutional architecture. The BRICS relate differently, unevenly, to one of the biggest challenges of the early part of the 21st century: climate change and energy transitions.

The chapter has highlighted that how the individual BRICS countries respond to energy transitions is a result of both domestic issues (such as the fragmentation of energy governance and the low level of institutionalization more generally) and global processes, and the interaction of the two. Furthermore, while many among the BRICS eagerly present themselves as models of Westphalian states, jealous of their own sovereignty and resistant to foreign interference, in practice state transformation has already affected them deeply in recent decades. This has led to the rise of new important international actors even in the energy sector, such as state-owned enterprises (Gazprom, Sinopec, PetroChina, PetroBras) and sub-national actors, such as cities (Sao Paulo) or provinces and regions (India's states or China's provinces such as the Yunnan). Inevitably, several questions remain, the answers to which will only become apparent in the coming years. How will China's flagship initiative, the One Belt, One Road, impact on the countries and economies on the receiving end of China's attention? How will further advances in technological innovation affect the BRICS' energy security strategies? Lastly, how far will the populist Zeitgeist push the backlash against globalization and what impact is this going to have on global governance, its fragile architecture and the role of the BRICS? Developments in the late 2010s serve as stark reminders that global governance is still a work in progress even in the field of energy, the role of the BRICS is still in flux and, thus, significant challenges to redefining a new world order lie ahead.

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