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Introduction

1.1. ENERGY SECURITY IN TRANSITION AND DEVELOPING
ECONOMIES: THE RELEVANCE OF CENTRAL ASIA

Securing a stable and reliable energy supply in affordable and environmentally friendly conditions is the ultimate objective of energy law and policy.¹ Energy systems must function ‘free from serious risk of major disruption of service’.² Consumers must have access to a sufficient quantity of energy at socially and economically acceptable prices, but at the same time, efforts to mitigate climate change, protect local air quality and address water scarcity must not be undermined.³ States must therefore ensure that adequate investments are made in energy production and network capacity, without imposing an unreasonable financial burden on industry and the general public.⁴ The stakes are high. The failure to deliver energy security undermines economic development and social and environmental protection, and can also threaten social peace and stability.⁵

This book focuses on energy security in Central Asia – defined for present purposes as the post-Soviet Eurasian heartland states, namely Kazakhstan, Uzbekistan, Kyrgyzstan, Tajikistan and Turkmenistan. The region constitutes a unique laboratory for the study of energy law. It is one of the world’s major energy

¹ See, e.g., Andreas Goldthau and Benjamin Sovacool, ‘The Uniqueness of the Energy Security, Justice, and Governance Problem’ (2012) 41 *Energy Policy* 232; Sanam Haghighi, *Energy Security: The External Legal Relations of the European Union with Major Oil and Gas Supplying Countries* (Oxford: Hart Publishing, 2007), at 9–32.

² Barry Barton et al., ‘Energy Security in the Twenty-First Century’, in Barry Barton et al. (eds), *Energy Security: Managing Risk in a Dynamic Legal and Regulatory Environment* (Oxford: Oxford University Press, 2004), at 457.

³ Daniel Yergin, ‘Energy Security and Markets’, in Jan Kalicki and David Goldwin (eds), *Energy and Security: Strategies for a World in Transition*, 2nd ed. (Baltimore: Johns Hopkins University Press, 2013) 69, at 74; Karen Hussey and Jamie Pittock, ‘The Energy-Water Nexus: Managing the Links between Energy and Water for a Sustainable Future’ (2012) 17 *Ecology & Society* 31.

⁴ Eurelectric, *Ensuring Investments in a Liberalized Electricity Sector* (Brussels: Eurelectric, 2004), at 16–18.

⁵ Charles Ebinger and John Banks, ‘Electricity Access in Emerging Markets’, in Kalicki and Goldwin (eds), *supra* note 3, at 425.

resource bases.⁶ It is also, paradoxically, an example of the failure of law to ensure the stable and reliable functioning of energy systems. Despite massive reserves of natural gas, oil, coal and uranium, and with a significant potential for producing hydropower and other forms of renewable energy,⁷ the Central Asian electricity, heat and gas systems are highly unreliable.⁸ They are also amongst the most inefficient in the world. Following the recommendations of multilateral development banks, most Central Asian countries committed, at least to some extent, to reorganize their energy markets on the basis of the liberalization and privatization ‘textbook’ – the energy market reform template developed on the basis of the experience of OECD countries. However, these reforms were rapidly reversed. This book critically examines the failure of Central Asia’s market reforms, and discusses the important role played by law and legal institutions in ensuring the security of energy supply in transition and developing economies more generally.

During the Soviet era, the Central Asian energy systems functioned in a stable and reliable way.⁹ The Soviet Union invested in a large-scale energy infrastructure that supplied the region in a coordinated way as a function of the availability of local resources.¹⁰ After the collapse of the Soviet Union, investments dried up, resulting in the rapid deterioration of the Central Asian energy infrastructure. The Central Asian energy systems became vulnerable to a potentially major breakdown that could cause enormous damage to the region’s economy and population.¹¹ Today, regular interruptions of the energy supply are still affecting economic growth and the quality of life. Most of the region’s energy utilities are on the verge of bankruptcy. Although the region’s energy prices are amongst the lowest in the world, increasing prices to

⁶ British Petroleum, *BP Statistical Review of World Energy*, 67th ed., 2018, www.bp.com/en/global/corporate/energy-economics/statistical-review-of-world-energy.html.

⁷ International Energy Agency, *Eastern Europe, Caucasus and Central Asia* (Paris: International Energy Agency, 2015), www.iea.org/publications/freepublications/publication/IDR_EasternEuropeCaucasus_2015.pdf.

⁸ See, e.g., World Bank, *Kyrgyzstan: Energy Sector Development Policy Operation* (Washington, DC: World Bank, 2014), www.worldbank.org/en/news/press-release/2015/01/29/world-bank-supports-energy-sector-development-in-the-kyrgyz-republic; Daryl Fields et al., *Tajikistan’s Winter Energy Crisis: Electricity Supply and Demand Alternatives* (Washington, DC: World Bank, 2013), <https://openknowledge.worldbank.org/handle/10986/15795>; Artur Kochnakyen et al., *Uzbekistan Energy/Power Sector Issues Note* (Washington, DC: World Bank, 2013), <http://documents.worldbank.org/curated/en/2013/06/18882686/uzbekistan-energy-power-sector-issues-note>; Siegfried Grunwald, *Central Asia Regional Economic Cooperation: Power Sector Regional Master Plan* (Manila: Asian Development Bank, 2012), www.adb.org/projects/documents/central-asia-regional-economic-cooperation-power-sector-regional-master-plan-tacr.

⁹ Vladimir Yasinskiy, Alexander Mironenkov and Tulegen Sarsembekov, ‘Energy Security and Water Resources Management in Transboundary River Basins in Central Asia’, in Evgeny Vinokurov (ed.), *EDB Eurasian Integration Yearbook* (Almaty: Eurasian Development Bank, 2013) 168, at 177, <https://eabr.org/en/analytics/archive-edb-editions/annual-almanac/6499/>.

¹⁰ Mercados, *Load Dispatch and System Operation Study for Central Asian Power System* (Washington, DC: World Bank, 2010), at 5, <http://documents.worldbank.org/curated/en/961351468178154865/pdf/98830-WP-P117280-PUBLIC-Box393182B.pdf>.

¹¹ See Fields et al., *supra* note 8.

improve utilities' respective financial situations and ensure the urgently needed investments is an issue of high social and political sensitivity.¹² High levels of poverty in Central Asia exacerbate the difficulty of aligning energy prices to cost-recovery levels. Popular discontent with price increases and the quality of energy supply has already helped trigger regime change in Kyrgyzstan in 2010.¹³ Interstate disputes over energy and water supply are one of the main reasons for rapid environmental degradation in the region.¹⁴ With climate change, there are concerns that increasing pressure on resource adequacy could exacerbate the existing tensions, perhaps provoking an armed conflict.¹⁵

The threat to Central Asia's energy security has implications beyond the region itself. Central Asia is China's 'strategic rear'.¹⁶ It borders China's restive Xinjiang Uyghur Autonomous Region and is a strategic source of energy supply for China. The Central Asian region is located at the centre of the 'Belt and Road Initiative' or 'New Silk Road', as the Chinese government seeks to connect China with the Eurasian region by reviving the trade routes of the fabled silk roads.¹⁷ Simultaneously, Russia considers Central Asia to be part of its post-Soviet 'sphere of influence' (or 'privileged interests').¹⁸ Central Asia is also located next door to Afghanistan and Iran, and is within easy reach of India and of the member states of the European Union.¹⁹ Central Asia is also strategically important to the United

¹² David Gullette and Jeanne Féaux de la Croix, 'Mr Light and People's Everyday Energy Struggles in Central Asia and the Caucasus: An Introduction' (2014) 33 *Central Asia Survey* 435, at 436.

¹³ Davida Wood, *Electricity Plays Key Role in Kyrgyzstan Uprising* (Washington, DC: World Resources Institute, 2010), www.wri.org/blog/2010/04/electricity-plays-key-role-kyrgyzstan-uprising; Jim Nichol, *The April 2010 Coup in Kyrgyzstan and Its Aftermath: Context and Implications for U.S. Interests* (Washington, DC: Congressional Research Service, 2010), at 5, <http://fas.org/sgp/crs/row/R41178.pdf>; Annette Bohr, 'Revolution in Kyrgyzstan – Again' (2010), *Chatham House Russia and Eurasia Programme Paper 03/10*, www.chathamhouse.org/sites/files/chathamhouse/public/Research/Russia%20and%20Eurasia/0410pp_kyrgyzstan.pdf.

¹⁴ Bakhtiyor Mukhammadiev, 'Challenges of Transboundary Water Resources Management in Central Asia', in Philip Micklin, Nikolay Aladin and Igor Plotnikov (eds), *The Aral Sea: The Devastation and Partial Rehabilitation of a Great Lake* (Berlin: Springer, 2013) 233.

¹⁵ International Crisis Group, *Central Asia: Water and Conflict* (Brussels: International Crisis Group, 2002), at 14, www.crisisgroup.org/europe-central-asia/central-asia/uzbekistan/central-asia-water-and-conflict.

¹⁶ Thomas Fingar, 'China and South and Central Asia in the Era of Reform and Opening', and Zhao Huasheng, 'Central Asia in Chinese Strategic Thinking', in Thomas Fingar (ed.), *The New Great Game: China and South and Central Asia in the Era of Reform* (Stanford: Stanford University Press, 2016) 1, at 13, and 171, at 177–85.

¹⁷ Covering both the 'Silk Road Economic Belt' and the 'Twenty-First Century Maritime Road', the Belt and Road Initiative is an ambitious Chinese infrastructure concept aiming to intensify economic integration by promoting the interconnection of the Chinese market with neighbouring countries, regional economic blocks and the global economy more generally. See Wang Yiwei, *The Belt and Road Initiative: What Will China Offer the World in Its Rise* (Beijing: New World Press, 2016).

¹⁸ Dmitry Medvedev (former Russian President), interview given to Television Channel One, Russia, NTV, 31 August 2008, <http://en.kremlin.ru/events/president/transcripts/48301>. See also Dmitry Trenin, 'Russia's Spheres of Interest, Not Influence' (2009) 32 *The Washington Quarterly* 3.

¹⁹ Council of the European Union, Conclusions on the EU Strategy for Central Asia, 19 June 2017, 10387/17.

States, given its proximity to Afghanistan, as recognized in the American ‘New Silk Road’ strategy announced in 2011.²⁰ The potentially destabilizing effect of a collapse of energy supply in Central Asia could spill over to neighbouring countries and seriously harm the geopolitical interests of the major players in Central Asia’s ‘New Great Game’.²¹

Several energy studies have examined Central Asia’s role as an exporter of natural resources to neighbouring markets. These studies tend to focus on the ‘New Great Game’ or ‘fight for influence’ amongst foreign powers in the region.²² However, little attention has so far been paid to Central Asia’s internal energy security challenges and the role of law in securing an adequate energy supply to Central Asia’s own population and industry.²³ The law literature on internal energy security focuses mainly on the European Union, the United States and the OECD countries more generally.²⁴ Given the high degree of interest in these more mature institutional and market environments, the understanding of the role of law in ensuring the energy supply in transition and developing economies remains limited. Since transition and developing economies account for an increasingly large share of global energy

²⁰ Robert D. Hormats, ‘The United States’ “New Silk Road” Strategy: What Is It? Where Is It Headed?’, Address to the SAIS Central Asia-Caucasus Institute and CSIS Forum, Washington, DC, 29 September 2011, <https://2009-2017.state.gov/e/rls/rmk/20092013/2011/174800.htm>. See also Andrew Kuchins and Shalini Sharan, ‘Both Epicenter and Periphery: U.S. Interests in Central Asia’, in David Denoon (ed.), *China, The United States, and the Future of Central Asia: U.S.–China Relations* (New York: NYU Press, 2015) 101.

²¹ Alexander Cooley, ‘The New Great Game in Central Asia: Geopolitics in a Post-Western World’ (2012) *Foreign Affairs*, www.foreignaffairs.com/articles/central-asia/2012-08-07/new-great-game-central-asia.

²² See, e.g., the contributions in Fingar (ed.), *supra* note 16; Ajay Patnaik, *Central Asia: Geopolitics, Security and Stability* (Abingdon: Routledge, 2016); Alexey Malashenko, *The Fight for Influence: Russia in Central Asia* (Washington, DC: Carnegie Endowment for International Peace, 2013); Alexander Cooley, *Great Games, Local Rules: The New Great Power Contest in Central Asia* (Oxford: Oxford University Press, 2012); Emilian Kavalski (ed.), *The New Central Asia: The Regional Impact of International Actors* (Singapore: World Scientific, 2010); Lena Jonson, *Tajikistan in the New Central Asia: Geopolitics Great Power Rivalry and Radical Islam* (New York: I.B. Taurus, 2006).

²³ Despite its undeniable relevance, the case of Central Asian energy security and market reform has largely been overlooked in the academic literature, including the literature focusing on energy market reform in Asia (see, e.g., Anupama Sen, Rabindra Nepal and Tooraj Jamasb, *Reforming Electricity Reforms? Empirical Evidence from Asian Economies* (Oxford: Oxford Institute for Energy Studies, 2016), www.oxfordenergy.org/wpcms/wp-content/uploads/2016/02/Reforming-Electricity-Reforms-Empirical-Evidence-from-Asian-Economies-EL-18.pdf). Studies on Central Asian energy security largely remain limited to publications by multilateral development banks. See, e.g., Mirlan Aldayarov, Istvan Dobozi and Thomas Nikolakakis, *Stuck in Transition: Reform Experiences and Challenges Ahead in the Kazakhstan Power Sector* (Washington, DC: World Bank, 2017).

²⁴ See, e.g., Ruven Fleming, *Shale Gas, the Environment and Energy Security: A New Framework for Energy Regulation* (Cheltenham: Edward Elgar, 2017); Raphael Heffron and Gavin Little (eds), *Delivering Energy Law and Policy in the EU and the US: A Reader* (Edinburgh: Edinburgh University Press, 2016); Leigh Hancher, Adrien de Hauteclocque and Malgorzata Sadowska (eds), *Capacity Mechanisms in the EU Energy Market: Law, Policy and Economics* (Oxford: Oxford University Press, 2015); Henrik Bjernebye, *Investing in EU Energy Security: Exploring the Regulatory Approach to Tomorrow’s Electricity Production* (Alphen aan den Rijn: Kluwer Law International, 2010).

demand,²⁵ it is necessary to fill this gap in the literature and gain a better understanding of energy security in non-OECD countries. Given the poverty of the region and the scale of investments needed, regulatory responses to Central Asia's energy security crisis, and in particular the failure of these responses, are highly relevant for a more informed understanding of the role of law in ensuring energy security in less mature markets.²⁶

This book examines Central Asia's energy security by analysing the reform of the region's regional and domestic energy markets in light of the theories of textbook reform and institutional constraints on reform, and by taking into consideration the specific geopolitical context in which these reforms have taken place.

1.2. ENERGY LAW AND MARKET REFORM

1.2.1. Regulatory Theory on the Reform of Energy Markets

Regulatory theory on the reform of energy markets provides the first theoretical strand governing this book's study of energy security and law in Central Asia. States can achieve energy security by charging one utility (the monopoly) with the exclusive task of guaranteeing consumer access to affordable energy.²⁷ Alternatively, states can reform energy markets on a competitive basis, so as to improve the efficiency of energy production and supply.²⁸

Following the energy market liberalization experience of the United Kingdom, the European Union and parts of the United States, energy market reform became an increasingly common mechanism for countries to ensure investments in their energy infrastructure and keep their energy systems in balance.²⁹ Development banks (e.g., the World Bank, the Asian Development Bank and the European

²⁵ International Energy Agency, *World Energy Outlook 2017* (Paris: International Energy Agency, 2017).

²⁶ On the relevance of case studies in examining the regulation of infrastructure and utilities, see José Gómez-Ibáñez, *Regulating Infrastructure: Monopoly, Contracts and Discretion* (Cambridge, MA: Harvard University Press, 2006), at 13–14.

²⁷ See, e.g., Manuel Baritaud, *Securing Power during the Transition: Generation Investment and Operation Issues in Electricity Markets with Low-Carbon Policies* (Paris: International Energy Agency, 2012), at 15–17, www.iea.org/publications/insights/insightpublications/SecuringPowerTransition_Secondedition_WEB.pdf; Matthias Finger and Dominique Finon, 'From "Service Public" to Universal Service: the Case of the European Union', in Matthias Finger and Rolf Künneke (eds), *International Handbook of Network Industries: The Liberalization of Infrastructure* (Cheltenham: Edward Elgar, 2011) 54, at 61.

²⁸ Carlos Battle, 'Electricity Generation and Wholesale Markets', in Ignacio Pérez-Arriaga (ed.), *Regulation of the Power Sector* (Amsterdam: Elsevier, 2013) 341; Paul Joskow, 'Introduction to Electricity Sector Liberalization: Lessons Learned from Cross-Country Studies', in Fereidoon Sioshansi and Wolfgang Pfaffenberger (eds), *Electricity Market Reform: An International Perspective* (Amsterdam: Elsevier, 2006) 1; David Newbery, *Privatization, Restructuring, and Regulation of Network Utilities* (Cambridge, MA: MIT Press, 1999).

²⁹ Vivien Foster et al., *Charting the Diffusion of Power Sector Reforms across the Developing World* (Washington, DC: World Bank, 2017). See also the contributions in Fereidoon Sioshansi (ed.), *Evolution of Global Electricity Markets: New Paradigms, New Challenges, New Approaches* (Amsterdam: Elsevier, 2013).

Bank for Reconstruction and Development) have advocated – and generally continue to advocate – the reform of energy markets on the basis of the reform ‘textbook’ followed in OECD countries.³⁰ The scholarship on the textbook of energy market reform provides a strong theoretical basis for comparative research on energy market regulation.³¹ The reform textbook represents the ‘desirable features for restructuring, regulatory reform and the development of competitive markets for power’³² and is regularly used as a ‘measuring stick’ to assess reform initiatives in emerging economies.³³

Regulatory choices regarding the design of energy markets influence the profitability and the risks of long-term and capital-intensive investments in energy production, transportation and supply.³⁴ Two market models may be considered. In energy monopoly markets, government regulation of energy tariffs and investments determines the ability of energy companies to recover their capital and operating expenses and make a reasonable profit on their energy supply activities.³⁵ Utilities’ rights to property and freedom of economic activity require states to adopt cost-recovery tariffs or compensate utilities for the financial losses resulting from the regulation of energy tariffs below cost-recovery levels.³⁶ In the absence of competition, energy utilities tend to remain vertically integrated (i.e., utilities control

³⁰ See, e.g., Paul Moffatt and Vesselina Haralampieva, ‘Core Principles for Effective Power Sector Reform’, in Emmanuel Maurice (ed.), *Law in Transition: Regulating the Power Sector* (London: European Bank for Reconstruction and Development, 2008); Xu Yi-Chong, ‘The Myth of the Single Solution: Electricity Reforms and The World Bank’ (2006) 31 *Energy* 802; Jim Williams and Ravi Ghanadan, ‘Electricity Reform in Developing and Transition Countries: A Reappraisal’ (2006) 31 *Energy* 815; Xu Yi-Chong, *Electricity Reform in China, India and Russia: The World Bank Template and the Politics of Power* (Cheltenham: Edward Elgar Publishing, 2004). Most recently, see European Bank for Reconstruction and Development, ‘Uzbekistan: Roadmap for Attracting Investment in Power Sector through Corporate and Structural Reform’, Terms of Reference, 7 November 2018, www.ebrd.com/work-with-us/procurement/pn-75780.html.

³¹ See, e.g., Michael G. Pollitt, Chung-Han Yang and Hao Chen, ‘Reforming the Chinese Electricity Supply Sector: Lessons from International Experience’ (2017) *Energy Policy Research Group*, www.eprg-group.cam.ac.uk/wp-content/uploads/2017/03/1704-Text.pdf.

³² Paul Joskow, ‘Lessons Learned from Electricity-Market Liberalization’ (2008) 29 *The Energy Journal* 9, at 11.

³³ David Victor and Thomas Heller, ‘Introduction and Overview’, in David Victor and Thomas Heller (eds), *The Political Economy of Power Sector Reform* (Cambridge: Cambridge University Press, 2007) 1, at 8.

³⁴ See, e.g., Jens Perner and Christoph Riechmann, ‘Energy Market Design with Capacity Mechanisms’, in Hancher, de Hauteclocque and Sadowska (eds), *supra* note 24, at 67; Gert Brunekreeft and Tanga McDaniel, ‘Policy Uncertainty and Supply Adequacy in Electricity Power Markets’ (2005) 21 *Oxford Review of Economic Policy* 111, at 113. See, more generally, Jean-Jacques Laffont, *Regulation and Development* (Cambridge: Cambridge University Press, 2005).

³⁵ David Tewksbury, Stephanie Lim and Grace Su, ‘New Chapters in the *Mobile-Sierra* Story: Application of the Doctrine after *NRG Power Marketing, LLC v. Maine Public Utilities Commission*’ (2011) 32 *Energy Law Journal* 433; Lawrence Kolbe and William Tye, ‘The Duquesne Opinion: How Much ‘Hope’ Is There for Investors in Regulated Firms’ (1991) 8 *Yale Journal on Regulation* 113; Scott Hempling, *Regulating Public Utility Performance: The Law of Market Structure, Pricing and Jurisdiction* (Chicago: American Bar Association, 2013).

³⁶ Anatole Boute, *Russian Electricity and Energy Investment Law* (Leiden: Brill Nijhoff, 2015), at 192–4.

production, transmission, distribution and supply) and are usually owned by the state.³⁷ Access to the energy network infrastructure is allocated in priority (if not exclusively) to the monopoly.³⁸ State ownership and central command and control over the sector considerably simplify the regulatory architecture governing energy exchanges, but this results in losses in efficiency and transparency.³⁹

By contrast, in reformed energy markets, energy production and supply are demonopolized and deregulated.⁴⁰ This means that energy production and supply are opened to competition. Prices and investments are no longer centrally dictated by the government, but are determined on the basis of the forces of supply and demand and the pursuit of profit by the energy companies.⁴¹ Only the network infrastructure remains regulated as a natural monopoly.⁴²

Despite common misconceptions, deregulation of energy supply does not involve less laws but more.⁴³ Energy market reform entails more sophisticated regulatory arrangements to achieve the efficiency gains that characterize the free interaction between suppliers and consumers.⁴⁴ Hence, the function of regulation shifts from total government control over prices and investments to the facilitation of price formation and investment making by the market players.⁴⁵ Market platforms are created in order to coordinate energy trade and the formation of prices.⁴⁶ Regulatory powers are delegated to independent institutions in order to shield the market from political interference for short-term electoral purposes.⁴⁷

³⁷ Fereidoon Sioshansi, 'Electricity Market Reform: What Has the Experience Taught Us Thus Far?' (2006) 14 *Utilities Policy* 63.

³⁸ Vitaliy Pogoretsky, *Freedom of Transit and Access to Gas Pipeline Networks under WTO Law* (Cambridge: Cambridge University Press, 2017).

³⁹ Anatolii Kuzovkin, *Reformirovanie elektroenergetiki i energeticheskaja bezopasnost'* (Moscow: Institut Mikroekonomiki, 2006).

⁴⁰ Joskow, *supra* note 32, at 9–42; Steve Isser, *Electricity Restructuring in the United States: Markets and Policy from the 1978 Energy Act to the Present* (Oxford: Oxford University Press, 2015).

⁴¹ Sven Fischerauer and Angus Johnston, 'State Regulation of Retail Energy Prices: an Anachronism in the Liberalized EU Energy Market' (2016) 9 *Journal of World Energy Law and Business* 458.

⁴² See, e.g., the contributions in Martha Roggenkamp et al. (eds), *Energy Networks and the Law: Innovative Solutions in Changing Markets* (Oxford: Oxford University Press, 2012).

⁴³ David Spence, 'Can Law Manage Competitive Energy Markets' (2008) 93 *Cornell Law Review* 765, at 772.

⁴⁴ Petri Mäntysaari, *EU Electricity Trade Law: The Legal Tools of Electricity Producers in the Internal Electricity Market* (Berlin: Springer, 2015).

⁴⁵ Victor and Heller, *supra* note 33, at 23.

⁴⁶ Hamilcar Knops, *A Functional Legal Design for Reliable Electricity Supply: How Technology Affects Law* (Antwerp: Intersentia, 2008); Martha Roggenkamp and Francois Boisseleau, 'The Liberalization of the EU Electricity Market and the Role of Power Exchanges', in Martha Roggenkamp and Francois Boisseleau (eds), *The Regulation of Power Exchanges in Europe* (Antwerp: Intersentia, 2005) 1, at 23.

⁴⁷ John Stern and John Cubbin, *Regulatory Effectiveness: The Impact of Regulation and Regulatory Governance Arrangements on Electricity Industry Outcomes* (Washington, DC: World Bank, 2005), 53, <http://documents.worldbank.org/curated/en/535991468763757645/Regulatory-effectiveness-the-impact-of-regulation-and-regulatory-governance-arrangements-on-electricity-industry-outcomes>;

To enhance the efficiency of energy exchanges, energy utilities should be reformed in parallel with the opening of markets to competition. Energy suppliers should be corporatized (i.e., organized as independent legal entities) and unbundled (i.e., the competitive activities of production and supply should be separated from the natural monopoly activity of network management and development).⁴⁸ Privatization of energy utilities and foreign participation in the privatization process are expected to contribute to the creation of a more competitive market environment.⁴⁹

To prevent conflicts of interests and ensure competition on equal terms, the law should guarantee the non-discriminatory treatment of all market players.⁵⁰ Access to the network should be open to all energy suppliers on equal terms.⁵¹ The former monopoly's priority access rights to cross-border energy facilities should be terminated in order to enable new entrants to compete by purchasing energy from neighbouring markets.⁵² Cross-border energy exchanges and regional energy market integration are a corollary of the liberalization of energy supply.⁵³

In theory, competitive energy markets can, if properly designed, deliver energy investments more efficiently than state regulation under the monopoly model.⁵⁴ Free market prices should send the right signals to energy companies to invest in adequate energy production capacity.⁵⁵ In practice, however, national energy laws

International Energy Agency, *Regulatory Institutions in Liberalized Electricity Markets* (Paris: International Energy Agency, 2001).

⁴⁸ Johann-Christian Pielow, Gert Brunekreeft and Eckart Ehlers, 'Legal and Economic Aspects of Ownership Unbundling in the EU' (2009) 2 *Journal of World Energy Law and Business* 96; Neelie Kroes, 'Improving Competition in European Energy Markets through Effective Unbundling' (2007) 31 *Fordham International Law Journal* 1387; Ioannis Kessides, *Reforming Infrastructure: Privatization, Regulation and Competition* (Washington, DC: World Bank, 2004), at 51.

⁴⁹ Joskow, *supra* note 32, at 12. See also Gérard Roland, 'Private and Public Ownership in Economic Theory', in Gérard Roland (ed.), *Privatization: Successes and Failures* (New York: Columbia University Press, 2008) 9, at 18.

⁵⁰ Hannah Kruimer, *The Non-Discrimination Obligation of Energy Network Operators* (Antwerp: Intersentia, 2013).

⁵¹ Kim Talus, 'Just What Is the Scope of the Essential Facilities Doctrine in the Energy Sector? Third-Party Access-Friendly Interpretation in the EU v. Contractual Freedom in the US' (2011) 48 *Common Market Law Review* 1571.

⁵² See Kim Talus, 'First Interpretation of Energy Market Directives by the European Court of Justice – Case C-17/03, *Vereniging voor Energie*' (2006) 24 *Journal of Energy & Natural Resources Law* 39; Adrien de Hautecloque and Vincent Rioux, 'Reconsidering the European Regulation of Merchant Transmission Investment in Light of the Third Energy Package' (2011) 39 *Energy Policy* 7068.

⁵³ Hans Vedder et al., 'EU Energy Law', in Martha Roggenkamp et al. (eds), *Energy Law in Europe* (Oxford: Oxford University Press, 2016) 187; Kim Talus, *EU Energy Law and Policy: A Critical Account* (Oxford: Oxford University Press, 2013). See also Peter Cameron and Raphael Heffron (eds), *Legal Aspects of EU Energy Regulation* (Oxford: Oxford University Press, 2016).

⁵⁴ Fereidoon Sioshansi and Wolfgang Pfaffenberger, 'Why Restructure Electricity Markets?', in Sioshansi and Pfaffenberger (eds), *supra* note 28, at 35.

⁵⁵ William Hughes and Andrew Parece, 'The Economics of Price Spikes in Deregulated Power Markets' (2002) 15 *The Electricity Journal* 31.

often fail to provide the necessary guarantees to protect investors' economic interests. Governments are reluctant to delegate price and investment decisions entirely to market forces. This reticence can lead to distortions of the signals that the market is supposed to send to investors and the failure of energy market reform to deliver energy security.⁵⁶ The difficulty of eliminating government distortions of prices and investments undermines the proper functioning of energy markets in developed countries.⁵⁷ This difficulty is even more pronounced in transition and developing economies, where relatively weaker institutional factors exacerbate the risk of government interference with the market (see Section 1.3).

1.2.2. Central Asian Energy Law and the Reform Textbook

This book critically examines Central Asia's energy laws in light of the regulatory principles identified in the literature as being central to the reform textbook. In particular, the laws and regulations governing electricity, heating and gas supply in the five Central Asian states (Kazakhstan, Uzbekistan, Kyrgyzstan, Tajikistan and Turkmenistan) are examined, with a focus on demonopolization, price and investment deregulation, unbundling and privatization, as well as regulatory independence, non-discriminatory access to the network and regional market integration.⁵⁸ This methodological approach is necessary to determine whether the Central Asian states opted for common regulatory principles of market reform or adopted alternative models of energy regulation.

As the various chapters of this book (each dedicated to a specific aspect of market reform) seek to clarify, Central Asian energy law provides new insights for the study of energy market reform. Surprisingly for a region that tends to concentrate control over its strategic energy resources in the hands of governments,⁵⁹ the Central Asian

⁵⁶ Fabien Roques, 'Market Design for Generation Adequacy: Healing Causes Rather than Symptoms' (2008) 16 *Utilities Policy* 171, at 174 and 180; Laurens De Vries, 'Generation Adequacy: Helping the Market Do Its Job' (2007) 15 *Utilities Policy* 20; Karsten Neuhoff and Laurens De Vries, 'Insufficient Incentives for Investment in Electricity Generations' (2004) 12 *Utilities Policy* 253, at 264; Steven Stoft, *Power System Economics: Designing Markets for Electricity* (Piscataway: IEEE Press/Wiley-Interscience Press, 2002), at 74–7, 108–19 and 162–7.

⁵⁷ See, e.g., the contributions in Hancher, de Hauteclouque and Sadowska (eds), *supra* note 24.

⁵⁸ Access to Central Asian energy laws and regulations was obtained through the following legal databases: www.prg.kz (Paragraf Information Systems) for Kazakh law; www.toktom.kg (Information and Legal Centre Toktom) and <http://cbd.minjust.gov.kg/ru-ru/npakr/Search> (Kyrgyz Ministry of Justice) for Kyrgyz law; www.mmk.tj/ru/ (National Centre for Legislation of Tajikistan) and www.adlia.tj/ (Centralized Legal Database of Tajikistan) for Tajik law; www.lex.uz/ (Legal Database of Uzbekistan) for Uzbek law; and www.turkmenistan.gov.tm/ for Turkmen law. Agreements between Russia and Central Asia can also be consulted through the Russian legal database www.consultant.ru. Central Asia's energy-water cooperation agreements are available at www.cawater-info.net/library/ca_e.htm.

⁵⁹ Aashish Mehta, Satish Rao and Anil Terway, 'Power Sector Reform in Central Asia: Observations on the Diverse Experiences of Some Formerly Soviet Republics and Mongolia' (2007) 15 *Journal of Cleaner Production* 218.

states (with the exception of Turkmenistan) have indeed undertaken to corporatize, unbundle and (in some cases) privatize their energy utilities, particularly those supplying electricity, and have gradually reorganized energy supply in a market-oriented way.

As the region continues to face a serious energy security crisis, it would seem at first sight that energy market reform in Central Asia failed to achieve its objective of ensuring investments in the energy infrastructure. If so, the Central Asian experience would provide ammunition to the critics of energy market reform. However, this conclusion would ignore the significant gap between the theory and practice of energy law in Central Asia. Although in principle Central Asia's energy laws and regulations reproduce elements of market reform, the way the law is applied in practice differs significantly from the theoretical scenarios envisaged by the reform textbook. Central Asian energy law generally remains 'stuck in transition'.⁶⁰ The reforms sponsored by the development banks substantially changed the letter of the law, but rarely changed its practice.

To bridge the gap between the theory and practice of energy law in Central Asia, it is necessary to analyse the application of Central Asia's energy laws and regulations by the national judicial and regulatory authorities. Building on the regulatory theory of energy market reform, this book critically examines whether the decisions by Central Asia's courts and regulators reflect the main principles of energy market reform, as defined in the literature on textbook reform.

The energy law literature highlights the importance of the judiciary and regulators in safeguarding the integrity of energy markets and protecting the interests of both investors and consumers. Logically, judicial and regulatory decisions are a key component of legal analyses of energy markets in the European Union and United States.⁶¹ In Central Asia, both judiciary and regulatory authorities are generally considered to lack independence and to perform poorly in the protection of property rights and the enforcement of contracts.⁶² Limits to judicial and regulatory independence must be recognized, but are not in themselves a sufficient reason to exclude judicial and regulatory decisions from the analysis of Central Asian law.⁶³ As this book's analysis of judicial and regulatory practice in Central Asia will

⁶⁰ Aldayarov, Dobozi and Nikolakakis, *supra* note 23, at 46.

⁶¹ See, e.g., Talus, *supra* note 52, at 39; Spence, *supra* note 43, at 765; Kim Talus, 'Role of the European Court of Justice in the Opening of Energy Markets' (2007) 8 *ERA Forum* 435; Richard Pierce, 'Public Utility Regulatory Takings: Should the Judiciary Attempt to Police the Political Institutions?' (1989) 77 *Georgetown Law Journal* 2013.

⁶² See, e.g., World Bank, 'Ease of Doing Business in Tajikistan' (2018), www.doingbusiness.org/data/exploreeconomies/tajikistan; World Bank, 'Ease of Doing Business in Kyrgyzstan' (2018), www.doingbusiness.org/data/exploreeconomies/kyrgyz-republic; World Bank, 'Ease of Doing Business in Uzbekistan' (2018), www.doingbusiness.org/data/exploreeconomies/uzbekistan; World Bank, 'Ease of Doing Business in Kazakhstan' (2018), www.doingbusiness.org/data/exploreeconomies/kazakhstan.

⁶³ Legal scholars (whether nationals of Central Asia or not) tend to ignore judicial decisions in their analysis of Central Asian law. For instance, in his analysis of constitutional law in Central Asia, Scott Newton, *The Constitutional Systems of the Independent Central Asian States* (Oxford: Hart