

# From Energy Security to Energy Governance: Turkey's Role in a Globalizing Energy Landscape

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**ABSTRACT** *The logic of energy security is changing, with supply security being de-emphasized, governance and collective solutions are being increasingly emphasized. As issues of energy, climate change, sustainability, energy-poverty have become thoroughly intermingled, the challenge of energy security cannot be tackled merely by mercantilist, national, uni-dimensional tools. Turkish energy transition is in a excellent position to derive lessons from this security-governance supplantation and also be a catalyst for the region as well as the globe.*

One of the commonplace issues in energy debates has been Russian/Middle Eastern dominance, as suppliers of oil and natural gas as well as energy security efforts have long been framed as “security of supply.” The 1973-4 Oil Crisis was undeniably and historically the hallmark of the poignancy of such a framework. Furthermore, the end of the Cold War added “security of transit” to the agenda. With the increasing resilience of energy infrastructures, technological, and institutional innovations, we now are witnessing the “security of demand” concerns that push the conventional suppliers to rethink their policies. This triple area of concerns can be

extended to include “energy poverty,” since “resource wars” are not *passé* and remain a highly relevant contemporary issue. Further, the least developed countries are the most vulnerable ones to climate change and suffer from the lack of emancipation from the extant “poverty trap.”<sup>1</sup>

Although it would be a chimera to state that political and foreign policy considerations are no longer part of the energy security debate, it can be claimed that robust infrastructure and institutions now prevail over political whims in shaping the reality and “feeling”<sup>2</sup> of security. The most important empirical evidence of depoliticization of energy security

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## **Turkey can transform this critical juncture of a changing energy security paradigm into being an energy hub with more robust markets and institutions at home and abroad**

is the European Union's (henceforth, EU) construction of a single voice in energy<sup>3</sup> and its leadership in the fight against climate change,<sup>4</sup> as well as improving relations with the Russian Federation after prolonged squabbling between the two parties. As an EU candidate country and poised between energy supply and demand nodes, Turkey can transform this critical juncture of a changing energy security paradigm into being an energy hub with more robust markets and institutions at home and abroad.

This article is an attempt to narrate how the energy security landscape has transitioned from a centralized, politics-intensive, zero-sum game-oriented structure into a decentralized, market-intensive, conciliatory structure where all actors realize that interdependency triumphs and institutions would do well to follow suit. In the first part, a historical and conceptual background of energy security will be outlined to be followed by a discussion on the regional and global developments, with the EU at the center of this analysis, which

will enhance the understanding of Turkey's energy case. The evolution of EU-Russia relations along with internal developments in the EU and Russia will clarify how energy security is perceived and managed to derive lessons for Turkey. The role of international/transnational organizations, with an emphasis on increasing salience of regulatory agencies, will be given in the last section to make a compelling case for more active involvement in such networks, as energy policy has become more a "beyond-nation-state phenomenon" and an archetype of networked governance. The main idea is that the challenges of energy poverty, climate change, and sustainability cease to become daunting tasks for states to manage with the right institutions in place.

### **A Global Great Game or a Quest for Better Rules?**

There is probably no area of anthropogenic life not touched by energy. Rasmussen once implied that "when faced with the problem of energy, we are facing ourselves."<sup>5</sup> This is why conventionally, energy security conceptualization has been shaped in accordance with "logic of war, subsistence and total security logic" and provided legitimacy for totalistic energy security policies.<sup>6</sup> The old Great Game of the 19<sup>th</sup> century between the Russian and British Empires has been replaced by a new Great Game,<sup>7</sup> whereby the newly-independent former Soviet countries, China, Iran, Turkey, and Pakistan are in the lineup along

with transnational corporations and their home governments.<sup>8</sup> One of the most important junctures for energy security in the early twentieth century has been oil's substitution for coal in Britain during WWI and later in the U.S. by Truman administration's efforts to overcome coal mine strikes.<sup>9</sup> From 1948 onwards, oil was the primary commodity to complete post-War reconstruction. One of President Truman's four themes in his 1949 inauguration speech was about the spread of technical advice and know-how for underdeveloped regions. This theme corresponded to expanding oil production and setting the rules of the game with peacetime military presence in the Middle East being a natural by-product.<sup>10</sup> In 1951, the Paley Commission's *Resources for Freedom* report advised Truman that "a new economy of energy must depend on both rational individual consumption of energy... and a necessary but limited intervention of the part of the state to support energy technologies."<sup>11</sup> Later in 1961, American Petroleum Head Frank M. Porter coined the term of "energy security" in his testimony to the House of Representatives, where he also emphasized "techno-scientific advancement."<sup>12</sup>

Until the formation of OPEC in 1960, competition between International Oil Companies (IOCs) was controlled via a cartel agreement (Achnacarry, 1928), which set production quotas. After independent production and competition increased and OPEC initiated its quota mechanism, these IOCs shifted their

attention to unexploited non-OPEC territories of the North Sea, Alaska, and the Gulf of Mexico.<sup>13</sup> Technological innovation was accompanied by institutional innovation in the management of 1973-74 and 1978-79 Oil Crises. This new institutional approach had actually been anticipated. As Timothy Mitchell traces in his article, energy's "ubiquity" and consumption in a "taken-for-granted" manner were sharply attended by the scientific community in 1967 and three years later, Federal Power Commission Chair John Nassikas used the "national energy crisis" discourse in his speech at the National Press Club. His statement had two themes: "deficiencies in energy supplies" and "deregulation," as the main remedy.<sup>14</sup> Then came the 1973 Oil Embargo on the 19<sup>th</sup> of October, precipitated by the U.S. "unwillingness to support negotiations that would address the question of Palestine."<sup>15</sup> The U.S. response was deregulation while the Europeans failed to display a unified stance, with only flimsy calls for "creating a climate for security."<sup>16</sup> Also, the bulk of energy consuming countries established the International Energy Agency (IEA) to be a center for data collection and dispersion, as well as short-term risk management through strategic petroleum reserves. The International Energy Forum (IEF) was also established to provide an information sharing and dialogue-enhancing platform between the producers and consumers. The main rationale has been minimization of transaction costs and information asymmetry and thus the adjustment costs.<sup>17</sup>

## The new scramble over Africa and the Arctic are frequently pointed to whether a new epoch of resource nationalism or resource wars is on the rise

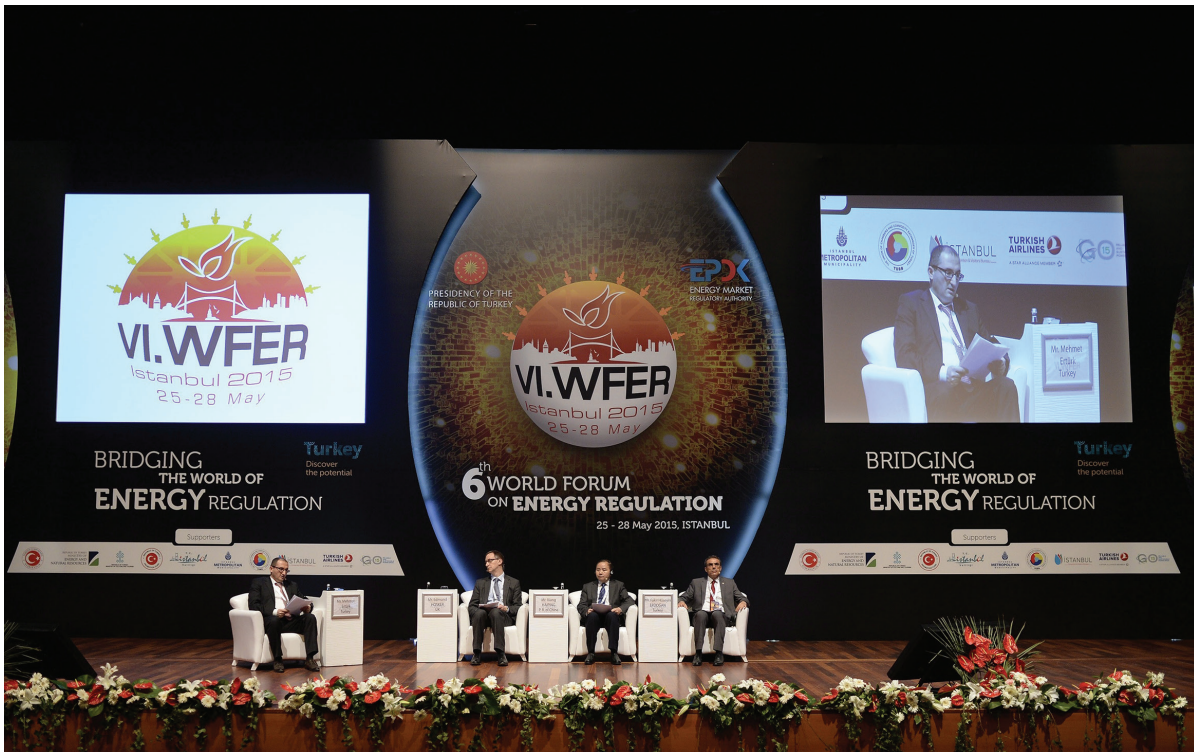
The 1970s were not only marked by Oil Crises but also environmental crises, which incorporated environmental externalities into the energy policy agenda irreversibly and started to complicate arguments of nuclear fusion as part of a panacea for world energy demand.<sup>18</sup> The consequences of energy and environmental crises, however, have not been peak oil, scarcity, and depletion but the shale revolution, carbon markets, oil futures, renewable energy technologies, and innovation in nuclear technologies. The *Resources for Freedom* report recommendations were heeded by sharp policy makers both in the US and elsewhere, debunking neorealist arguments and confirming liberal counterparts.

The contemporary energy security debates, especially with historically-low oil prices, center around decreasing investments against gradual depletion of low-cost reserves and the rise of China and India as well as other emerging economies. The new scramble over Africa and the Arctic are frequently pointed to whether a new epoch of resource nationalism or resource wars is on the rise. Climate change and increased concerns over environmental and social costs fur-

ther question economic growth patterns based on fossil fuels.<sup>19</sup> Such an extension of concerns in quantity and intensity signifies the vitality of international governance mechanisms in minimizing discretionary action and maximizing resilience.<sup>20</sup>

### EU-Russia Energy Conundrum: The Power of Institutions

The complication of EU-Russia energy relations did not reveal itself until the 2006 transit crisis. Until that juncture, Russia was a reliable supplier of energy to the EU since the energy trade started in 1968.<sup>21</sup> From the start of this supply relationship, both the EU and especially the Russian Federation underwent fundamental structural transformations. As the EU gradually tightened its single market in energy through three consecutive liberalization packages and also enlarged to absorb former Soviet countries in 2004 and 2007, Russia partially endorsed the Washington Consensus principles of privatization and openness, which included privatizations and deregulation in some segments. Meanwhile Russia awarded Gazprom an export and transmission monopoly.<sup>22</sup> Similarly to the pre-1973 US expectation of an energy crisis, the EU has precipitated its cooperation efforts prior to the 2006 crisis through the 1990s' Energy Charter Treaty and the 2000 EU-Russia Energy Dialogue. The former was signed but not ratified by the Russian Parliament<sup>23</sup> and the latter only became meaningfully functional as a problem resolution platform after the 2006



crisis.<sup>24</sup> In Paris of October 2000, the EU-Russia Summit enhanced the dialogue and cooperation between the two parties (1994 Partnership and Cooperation Agreement, the Common Economic Space) and opened the way for greater formalization and institutionalization of coordination efforts.

The evolution of EU-Russia relations can best be summarized through three transit disputes involving Ukraine in 2006, 2009, and 2014. Traditionally fragmented and regionally based due to the difficulties in the transportation networks, gas markets still have not been globalized. But the trend is towards de-regionalization due to increasing production in North Amer-

ica. Although the costs are still high and storage requires a certain geographical profile, spot markets in gas are on the rise. Amidst such a global environment, each crisis had a substantial economic impact. Further, as Stulberg argues, Russia chose to refrain from using its “energy weapon” until the stakes became too high. The 2006 crisis was triggered by rising prices in Europe, which increased the cost of subsidizing Ukraine. The Orange Revolution and Ukraine’s pro-Western stance were also taken into account by Moscow. Ukraine’s perpetual indebtedness was again the main reason behind the 2009 crisis. The price of subsidizing Ukraine was increasing due to a number of factors: the extraction costs of expensive

Special Session of G-20 during the 6<sup>th</sup> World Forum on Energy Regulation held in İstanbul, on May 25-28, 2015.

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Central Asian supplies; the declining price of gas, as a repercussion of the financial crisis; and declining domestic production, as less costly Western Siberian reserves were being depleted. The last crisis, in June 2014, took place after successive warnings on debt recoupment. The 2006 crisis inflicted the most damage and accelerated the European search for security. The 2009 crisis affected CEECs, particularly, and brought Nord Stream and South Stream higher on the agenda to bypass Ukraine and also the creation of a Southern Energy Corridor to bypass Russia. The last crisis was the most peculiar one, as Moscow appeared overly patient despite well-grounded political reasons to abet an energy crisis. Putin was quoted to state that “the loans and temporary gas price reduction were extended...to support the people of Ukraine, not the government. It’s the ordinary people who always suffer.”<sup>25</sup>

Brussels learned the lessons of a lack of a single voice back in the 1970s and following the two Ukrainian crises, accelerated its Internal Energy Market (IEM) building. To do so, the EU has had to strengthen its poor interconnections; invest in LNG and storage capacity; expand the cross-border pipelines; enable reverse flows; and provide more bargaining power for the EU. However, the IEM has yet to be completed. Furthermore, storage and LNG facilities still show a regionalized picture rather than reflect economic and political union. Still, rules are in place for third party access and investment-exemption-ac-

cess balance.<sup>26</sup> Another important development has been Gazprom’s investigation by the European Commission on three grounds: i) unfair pricing, ii) export bans and destination clauses, iii) using export agreements to gain leverage in transmission.<sup>27</sup> Europe’s significant dependence on energy imports (77 percent of EU consumption comes from traditional energy sources; 60 percent of gas consumption and 80 percent of oil consumption are derived from imports) has rendered the Union vulnerable to supply/transit shocks.<sup>28</sup> Three energy liberalization packages, one comprehensive Sector Inquiry, renegotiation of gas purchase contracts, an antitrust investigation of Gazprom, and this year’s Energy Union Package have made the EU energy sector more secure through diversity of fuels, diversity of routes, efficiency, and emission reductions.

Turkey has a historic opportunity now to become a leading node of the coalescing energy network in Eurasia. With TANAP under construction, the new Iraq-Turkey Pipeline, Turkish Stream, lifted sanctions on Iran, the Trans-Caspian network, and recent gas discoveries in the Eastern Mediterranean, Turkey’s hub prospects seem brighter. The institutional framework needs to be strengthened to out-compete rival routes and hub destinations. Nord Stream’s dashing of Latvian and Lithuanian ambitions and Russia’s increasing engagement with the Far East present an exemplary lesson of the risk of losing out to a rival and failing to become a hub unless the institutional reforms

are fulfilled.<sup>29</sup> As the following section shows, international/transnational institutions promise more engagement and institutional capacity building.

### **Beyond Nation-States: Energy Networks, Regulatory Policy Innovation and Convergence**

Since 1992 the Rio Earth Summit and later the 2007 Intergovernmental Panel on Climate Change report clarified that human activities of energy, land use, transportation, and industry are the main sources of climate change. International cooperation, on several levels, has accelerated since then through multilateral frameworks, such as the UNFCCC and the Kyoto Protocol.<sup>30</sup> In addition, other forms of international cooperation through partnerships, networks, and organizations such as the IEA have promoted improvements in environmental energy standards. Also, countries have developed a “mutual understanding through domestic policy initiatives in the EU, China, and the U.S.”<sup>31</sup> As climate change is a global problem, with differentiated responsibility and capacity of states, it is also an opportunity to strengthen governance and networks to overcome barriers to collective action and inequalities that perpetuate poverty in the South. As described above, the EU exemplifies the fruits of governance. While the Union was largely fragmented and the EU's energy policy used to appear low on its agenda, this trend gradually changed through governance mechanism to create an

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energy union with a decisive stance to reduce carbon emissions, increase the share of renewable energy, and develop energy efficiency.<sup>32</sup>

The goal of a governance approach is to seek a peaceful order in the EU through the Europeanization of its members. The type of policy formulated thus becomes a concern of all the members to establish “unity.” The idea is that a genuinely integrated EU can only be achieved via governance through free networks, rather than hierarchies, Europeanized regulations and all members' participation in the governing process with states, sub-state networks, and supranational networks.<sup>33</sup>

As stated above, energy has never been a national issue alone and energy crises/scarcities and security ambitions have been the main protagonists in the incremental building of an international, if not yet global, energy governance. The system still falls short of a global governance mechanism but with increasing awareness about climate change and that the re-

sponsible parties are human beings, there is progressively a realization that collective action is the sole road to take. Collective action means doing away with transaction costs, information problems, and disincentivizing free-riding. Once it is inferred that collective action is the only road

**The EU, since the 1990s, has gradually progressed in building a competitive single market with a strong infrastructure that provides flexibility to its members**

contemporary hurdles can be gradually overcome through more effective actions of the international organizations. Moreover, as globalization has been an uneven process, especially geographically, thinking of the predicament of Africa, international organizations have important tasks to construct a genuinely secure energy industry on which growth and development depend.

Considering that the energy industry suffers from market failures and displays a universal service character, regulatory practices constitute a major part of the value chain. As this article attempted to argue, innovation in technologies and institutions are indispensable and integral parts of the quest for energy security. Institutional learning, R&D cooperation, joint ventures to benefit from global supply chains, norm creation,

proactively preventing conflicts/crises before escalation, and inflicting costs on citizens cannot be realized within the boundaries of the nation-state alone. Regulatory agencies, along with their conventional mandate to maximize efficiency, have to consider distributive and redistributive concerns as well, and more importantly, not only on a national scale but also on an international/global scale. Without cooperation and collaboration through organizations and participation in international platforms, inequality and asymmetric development would continue to plague all nations as interdependence heightens vulnerability for all. Thus, policy convergence through transnational communication and information exchange in energy is a must to avoid a “race to the bottom.”<sup>34</sup>

Regulatory agencies are best placed to innovate on the policy front as their competence, expertise, and increasing reflexivity of these show. Regulatory policy itself has undergone a journey from rigid hierarchical structures to a better governance approach to minimize information asymmetries. Whereas regulatory agencies were seen as a solution to market failures, regulatory/government failures were also a natural part of the governance problem. From public enterprise to rate of return regulation, later to price cap/incentive regulation and performance-based regulation, all types of regulatory mechanisms were devised to minimize market/regulatory or to put it better, “collective failures.”<sup>35</sup>



Still, a gap remained, as dynamism of structures does not let to eliminate information asymmetries. This is why more reflection and mechanism designs were critical and innovation in institutions as well as technology cannot be achieved without the involvement of all stakeholders (state, business, and society).

Turkey is well-represented in numerous international organizations today and has leaders in the IEA, IMF, ERRA (Energy Regulators Regional Association), and ICER (International Confederation of Energy Regulators). Being an energy hub requires more engagement and leadership in norm building as well as learning and maximizing institutional capacity. As stated above, not only inter-governmental and high-level networks but also regional, transnational, multilateral networks, working groups should be attended to maximize learning, expertise, contribution to the epistemic communities since formal and informal linkages coexist as this is the most important rationale of horizontal networks. ERRA and ICER are two important multilateral networks of independent energy regulatory agencies where Turkish leadership is observed. The former brings together the three regions of Eurasia, Africa, and the Middle East whereas the latter is a global platform, both serving to improve soft law, build new norms, enhance mutual understanding, achieve greater harmonization for a global business world with consistency of interpretation.<sup>36</sup> Turkey's 2015 G20 Leadership and its energy agenda encompasses

all four pillars of energy security as well as contiguous issues of food security and climate change. It is a positive sign to see how far Turkey has come.

### **Patience *plus* Conscientiousness**

Patience has brought triumph to the EU, as considerable progress has been made in crafting the IEM, strengthening the infrastructure, and ameliorating its dependence on imports. However, "patience" is not the equivalent of "inaction," rather it implies conscientiousness. The EU, since the 1990s, when energy prices were relatively low, has gradually progressed in building a competitive single market with a strong infrastructure that provides flexibility to its members. Turkey's transition to competitive energy markets, in line with the *acquis communautaire*, has also progressed significantly but work remains to be done.

Networked governance in energy may have its roots in energy crises and the pursuit of energy security. Awareness led to innovations on technical and institutional fronts and made national economies more resilient in saturating demand for a scarce resource though diversified conduits for transfer of resources, better pricing, new and cleaner technologies, and even more fortunately, added energy efficiency. "Demand response" and new sustainable solutions were also incorporated into the policy toolkit. It remains that Turkey should be wary of the globalizing en-

ergy landscape and adapt/improve its governance accordingly to seize the historic opportunity in front of it.

Turkish energy policy is in transition. Liberalization and intensive investments on multi-levels are ongoing amidst challenges of climate change, sustainability, and security concerns. Convergence is not only to be realized on the venue of energy hub building but also on the policy venue as the pair is inseparable. Better governance at home and abroad is the key to adopt and proactively lead a smoother transition to achieve not only a better energy landscape but a peaceful life for all. ■

## Endnotes

1. Climate is already a threat for developing countries whose "geographic exposure, low incomes and greater reliance on climate-sensitive sectors such as agriculture" subvert their development process. Nicholas Stern, *The Economics of Climate Change: The Stern Review*, (Cambridge: Cambridge University Press, 2011), p. 104; Daria Nochevnik, "Redefining Energy Security for Europe and Beyond," *European Energy Review*, retrieved May 12, 2015, from <http://www.europe-anenergyreview.eu/part-i-redefining-energy-security-for-europe-and-beyond/>; Michael T. Klare, *Resource Wars: The New Landscape of Global Conflict*, (New York: Henry Holt and Company, 2011).
2. "The phrase of 'security of supply' embraces a hard and a soft concept: the economic fact of a quantity of a good or service delivered...and the psychological notion of security which is a feeling...the particular political relationship between the trading parties defines the sense of security of trade." Amelie Hadfield, "Energy and Foreign Policy: EU-Russia Energy Dynamics," *Foreign Policy: Theories, Actors, Cases*, (New York: Oxford University Press, 2008).
3. Energy Union Package (COM (2015) 80), *A Framework for a Resilient Energy Union with a Forward-Looking Climate Change Policy*, (Brussels, 25.02.2015).
4. Energy Union Package (COM (2015) 81), *The Paris Protocol – A Blueprint for Tackling Climate Change Beyond 2020*, (Brussels, 25.02.2015).
5. Felix Ciuta, "Conceptual Notes on Energy Security: Total or Banal Security?" *Security Dialogue*, Vol. 41, No. 2, (2010), p. 135.
6. Ciuta, p. 124.
7. First framed in the 1990s.
8. Lutz Kleveman, *The New Great Game: Blood and Oil in Central Asia*, (New York: Grove Press, 2003).
9. The coal supply chain was more prone to disruption compared to oil, as the oil supply chain is less labor-intensive and more diffused. Aleh Cherp and Jessica Jewell, "The Three Perspectives on Energy Security: Intellectual History," *Current Opinion in Environmental Sustainability*, No. 3 (2011); Timothy Mitchell, "Economentality: How the Future Entered Government," *Critical Inquiry*, 40, (Summer, 2014), pp. 486-7.
10. Energy resources of the Persian Gulf were important as they served the reconstruction of Europe. T. Mitchell, 2014; T. Mitchell, "Carbon Democracy," *Economy and Society*, Vol. 38, No. 3, (August, 2009).
11. Abraham S. D. Tidwell and Jessica M. Smith, "Morals, Materials and Technoscience: The Energy Security Imaginary in the United States," *Science, Technology and Human Values*, (2015), pp. 9-12.
12. Tidwell et. al., p. 2.
13. John V. Mitchell and Beth Mitchell, "Structural Crisis in the Oil and Gas Industry," *Energy Policy*, Vol. 64, (2014), pp. 36-7.
14. T. Mitchell, "The Resources of Economics: The 1973 Oil Crisis," *Journal of Cultural Economy*, Vol. 3, No. 2, (2010), pp. 192-3.
15. Mitchell (2010), p. 197.
16. A Euro-Arab Dialogue was initiated but shelved for political reasons. Francis McGowan, "Putting Energy Insecurity into Historical Context: European Responses to the Energy Crises of the 1970s and 2000s," *Geopolitics*, Vol. 16, No. 3, (2011), pp. 494, 503-4.
17. Andreas Goldthau and Jan Martin Witte, "Back to the Future or Forward to the Past? Strengthening Markets and Rules for Effective Global Energy Governance," *International Affairs*, Vol. 85, No. 2, (2009), pp. 377-9.
18. Mitchell (2010) quotes from John von Neumann's prescience put forward in 1950s, p. 198. *Limits to Growth*, published in 1972 was highly

influential in shaping sustainability debates. Richard Heinberg, "Beyond the Limits of Growth," Richard Heinberg and Daneil Lerch (ed.), *Post-Carbon Reader: Managing the 21<sup>st</sup> Century's Sustainability Crises*, (California: Watershed Media, 2010), p. 9.

19. Goldthau and Witte, pp. 382-3.

20. Adam N. Stulberg, "Out of Gas: Russia, Ukraine, Europe, and the Changing Geopolitics of Natural Gas," *Problems of Post-Communism*, Vol. 62, No. 2, (2015), p. 115.

21. The Russian Federation was preceded by the Soviet Union until the latter's dissolution in 1989.

22. The first contracts signed were between the Soviet Union and Austria, Germany, Italy, and Finland. Energy trade relations substantiated from 1980s onwards. S. Boussena and C. Locatelli, "Energy Institutional and Organizational Changes," *Energy Policy*, Vol. 55, (2013), p. 182.

23. The ECT was perceived to be short of a bilateral framework by Russia and it withdrew completely in 2009.

24. Tatiana Romanova, "Russian Energy in the EU Market: Bolstered Institutions and Their Effects," *Energy Policy*, Vol. 74, (2014), pp. 46-9. Another initiation has been Energy Community.

25. Stulberg, pp. 114-9.

26. Hella Engerer, Franziska Holz, P. M. Richter, von Hirschhausen and Kemfert, "European Natural Gas Supply Secure Despite Political Crises," DIW Economic Bulletin, German Institute for Economic Research, (2014), pp. 5-8.

27. "Commission sends Statement of Objections to Gazprom for alleged abuse of dominance on Central and Eastern European gas supply markets," (April 22, 2015), [http://europa.eu/rapid/press-release\\_IP-15-4828\\_en.htm](http://europa.eu/rapid/press-release_IP-15-4828_en.htm).

28. R. Leal Arcas and J. Schmitz, "Unconventional Energy Sources and EU Energy Security: A Legal, Economic and Political Analysis," *Oil, Gas and Energy Law Intelligence*, Vol. 12, No. 4, (2014), pp. 5-9.

29. Aalto et. al., pp. 16, 23. A moot point is that whereas gas does not correspond to a significant share of the overall energy mix of CEECs, Turkey's heavy reliance on gas for base load as well as heating and cooking increases the benefits of positioning itself as a prospective hub.

30. The Protocol expired and a new one will be signed in December in Paris.

31. Stern, 2011, p. 509. The EU's Emissions Trading Scheme (ETS) has been established but has not been very effective thus far. Still, emission reduction targets have been largely met due to increasing penetration of the renewables and stagnation in demand for fossil fuels.

32. 2020 targets were 20-20-20 for each tranche of energy transition: 20 percent decrease in emissions, 20 percent increase in renewables' deployment, and 20 percent increase in energy efficiency, with an additional 10 percent biofuels target. 2030 targets have also been set (40 percent emissions, 27 percent renewables and 27 percent efficiency). "2030 Framework for Climate and Energy Policies," (October 23, 2014), [http://ec.europa.eu/clima/policies/2030/index\\_en.htm](http://ec.europa.eu/clima/policies/2030/index_en.htm)

33. Markus Jachtenfuchs, "The Governance Approach to European Integration," *Journal of Common Market Studies*, Vol. 39, No. 2, (2001).

34. Christoph Knill and Jale Tosun, *Public Policy: An Introduction*, (London: Palgrave Macmillan, 2012), pp. 272-4.

35. Michael A. Crew and Paul R. Kleindorfer, "Regulation Redux," Crew and J. C. Schuh (ed.), *Markets, Pricing and Deregulation of Utilities*, (Boston: Kluwer Academic Publishers, 2002); Mariana Mazucato, *The Entrepreneurial State: Debunking Public vs. Private Sector Myths*, (London: Anthem Press, 2013), p. 163.

36. David Coen and Mark Thatcher (2008), "Network Governance and Multi-level Delegation: European Networks of Regulatory Agencies," *Journal of Public Policy*, Vol. 28, pp. 54-7.



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