

# PAKISTAN SECURITIZES ENERGY: POLITICAL EVALUATION OF SOLAR TECHNOLOGY UTILIZATION

*Sara Batool Naqvi and Dr. Musarrat Jabeen\**

## **Abstract**

*Energy securitization in Pakistan is indicated by energy on political party's agenda while contesting elections, and the frequency of energy policymaking of governments in 21<sup>st</sup> century. Previous investigations about Solar Technology have focused on either the scientific or socio-economic enabling indicators that are counted for "Solar Technology Utilization" (STU). This study presents data by using Political Evaluation method that includes the most important factor of political dimension of STU in South Punjab. The findings of survey regarding political evaluation of STU are beneficial as it shows higher level of STU attitude as of 94%. However, having positive attitude alone cannot bring the entire change. Practical measures by politicians have to be taken to utilize potential of solar technology in order to achieve energy security.*

**Keywords:** Energy Securitization, Solar Technology Utilization, Politicians.

## **Introduction**

**E**nergy in the form of electricity has assumed dominant role in human lives, turning into one of the most important human needs. However in Pakistan frequent power breakdowns trigger regular demonstrations and political instability, and are adversely affecting economic growth. The genesis of energy insecurity is rooted in the existing policies and practices regarding energy generation, transmission and distribution systems indicative of prevalent securitization trends by the politicians. Such energy securitization defined as political behaviour towards unavailability of energy based on energy scarcity is negatively affecting energy security in the country.

This article describes the securitization theory vis-à-vis political behaviour in contact to Pakistan's energy security. It examines the status of energy security in the country, considering securitization drifts imparted by the political parties. It argues

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\*Sara Batool Naqvi is a PhD Scholar at the Department of International Relations, National Defence University, Islamabad and Dr. Musarrat Jabeen is Associate Professor and Faculty Member at National Defence University, Islamabad.

that the energy securitization trends in Pakistan are negatively affecting energy security of the country. Major attention is dedicated to evaluating alternative means of energy by focusing on national energy policies. It looks at how Solar Technology Utilization (hereafter STU) is viewed by policymakers through their policies and practices.

The research is shaped around two domains: Energy Securitization theory that is applied to Pakistan's energy security; and National Energy Policies that count alternative means of energy with particular focus on STU. While doing so, STU is presented as mediator to energy security and national energy policies in the country. STU is further deliberated in the form of political evaluation. The study attempts the *question*: How best can STU help in attaining energy security in contact to its political variable? The *purpose* of this paper is to conduct a political evaluation of STU to achieve energy security in Pakistan. The specific *objective* is to present primary data by using political evaluation of STU in South Punjab of Pakistan. However, the central argument of the study is that there is a significant relationship between the energy scarcity and political behavior towards energy securitization tendencies in Pakistan; therefore, the calculation of specific political commitments, policies and projects are required to conduct political evaluation of STU.

## Securitization Theory and Concept of Energy Security

Before defining the concept of energy security and energy securitization, it is necessary to elaborate the meaning of "security." During the period when security studies were dominated by *realist* school of thought, concept of security was defined in terms of military only. Security was a state-centric notion then and the core spot of focus was only the external threats to national security by posing military factors.<sup>1</sup>

But when security is discussed by using the lens of *liberal* school of thought, it can be implied that while security of any state is for sure important, even more vital is the security of any basic entity. Liberals warn that dearth of basic resources or means to fulfill human needs can also pose grave threats to the national security of any nation. Energy security has been a verity of international life for more than a century. Its importance has been accepted at international level since the energy shocks of the 1970s.

As defined by Asia Pacific Energy Research Centre (APEREC) energy security is:

*"Ability of an economy to guarantee the ability of energy resource supply in a sustainable and timely manner with energy price being at a level that will not adversely affect the economic performance of the economy, spread*

*across the four as of availability, accessibility, acceptability, and affordability”.*<sup>2</sup>

The definition by International Atomic Energy Agency (IAEA):

*“Secure supply of energy fuels as well as import, technologies that promote self-sufficiency as well protection against disruptions, including those that hedge against price volatility, encourage diversity of technologies and source, reduce threats to and/from neighboring states”.*<sup>3</sup>

The text quoted below shows how Yergin, one of the most influential voices on energy in the world, has defined energy security Reliable and affordable access to energy supplies, diversification, integration into energy markets, and the provision of information.”<sup>4</sup>

Resilient energy security system does not only include its physical infrastructure or the protection of energy supply lines, but also energy affordability, consistency and commercial capability. Its realistic expression revolves around delivering energy services to domestic and industrial precincts that are aligned with clients’ knack to disburse. Access to sustainable sources of clean, reliable and affordable energy has immense impact on myriad features of human development. The accomplishment of energy security is not only essential for human development but is must for any country to avoid critical vulnerabilities. The human energy requirement has infinitum grown as the human civilization has advanced.

In search of a robust theoretical framework, the theory that most aptly defines the concept of “energy security” is indeed “Securitization.” In the domain of International Relations studies, the Securitization theory stems from Copenhagen School. Ole Waever, who was researcher in late 1980s at the former Copenhagen Peace Research, used this term in 1995<sup>5</sup>. The theory explains the entire modus operandi of the makeover of various objects into matters of ‘security’ by state actors, which depicts a view of “politicization.” It is basically a sub-branch of non-traditional security theory. There are four main elements of securitization.

- Existential threat
- Referent object
- Securitizing agents
- Extra ordinary measures<sup>6</sup>

The approach elaborates that something becomes a matter of security or defense when an influential securitizing actor asserts that something poses an existential threat to some referent object. It must be dealt as precedence, in order to shield the referent object. Thus the theory rebuffs the idea that something is taken as

a matter of security issue solely when it directly constitutes an objective threat to the state.<sup>7</sup>

The securitizing actors acknowledge related referent objects and take extraordinary measures under the process of securitization. This process portrays that security is about existence and very much linked to power politics. The threats involved in the whole process can be real or imaginary but their recognition is more important. This recognition is applied on the securitizing actor as well as on the referent object. It has to be proven that the referent object has also accepted that the threat is endorsed.

### Securitization Theory and Pakistan's Energy Security

The theory suitably explains securitization of energy in Pakistan, given the fact that energy is central to sustainable development. It is fundamental to sustainable growth and poverty reduction efforts and impinges on all facets of progress: societal, financial, and environmental, source of revenue, availability of water, agricultural output, wellbeing, populace stages, tutoring, and gender-related concerns. Since the industrial development no meaningful progress in the field of international economy and development can be made without crucial step up in the value and magnitude of energy services. The Securitization theory is very suitable to understand and connect the energy insecurity and instability in Pakistan, which has been causing enormous risks to the nation's security for so many years. This approach not only facilitates in recognizing the relationship between Pakistan's energy security and its position regarding international politics but also explains that how the country's insufficient energy reserves and services are known as inefficient strategic reserves. Hence, it is very pertinent to have a handle on Elements of Securitization in Pakistan's case.

**Table-1:** Elements of Securitization in Pakistan's Case

Elements of Securitization	Elements of Securitization in Pakistan's Case
<ul style="list-style-type: none"> <li>▪ What is the threat?</li> </ul>	<ul style="list-style-type: none"> <li>▪ In Pakistan's case Energy Scarcity is the threat.</li> </ul>
<ul style="list-style-type: none"> <li>▪ What are the referent objects?</li> </ul>	<ul style="list-style-type: none"> <li>▪ The referent objects in Pakistan's case are Individuals.</li> </ul>
<ul style="list-style-type: none"> <li>▪ Who is the securitizing actor?</li> </ul>	<ul style="list-style-type: none"> <li>▪ Politicians of Pakistan are considered as Securitizing actor.</li> </ul>
<ul style="list-style-type: none"> <li>▪ What are the measures being taken by the securitizing actor to deal with the threat?</li> </ul>	<ul style="list-style-type: none"> <li>▪ Prevalent energy policies adopted by the politicians.</li> </ul>

The foremost element of securitization is to establish the *threat*—real or imaginary. In Pakistan’s case, the threat—Energy Scarcity—is real, and needs not be invented. Regular and prolonged power outages, both scheduled and unscheduled, coerce the referent object—the general populace in this case—into accepting the existence as well as the enormity of the threat. Only the common individuals constitute the referent object since the elite has access to either uninterrupted power supply or alternate arrangements to mitigate the effects of power outages. Politicians, being the policy makers and executors, are considered the securitizing actor. With the threat being real and big and experienced firsthand by the referent object, this securitizing actor, instead of formulating long-term energy policies and strategizing futuristic energy projects, resort to short-term extraordinary measures for personal as well political expediency. Such disjointed extraordinary measures include, inter alia, furnace oil based independent power plants and rental power plants—measures that can be in place in short period of time, albeit less cost-effective, while circumventing any coherent and wholesome policy formulation and implementation process. Personal interests of the securitizing actor include financial gains in form of commissions and kickbacks, while political mileage includes retaining or enhancing the political party’s vote bank. It is such vested interests of the securitizing actor that motivate the securitization of energy in Pakistan. In order to have a handle on these elements, in the subsequent paragraphs, the contents of energy policies of Pakistan are discussed in detail. It will help in understanding energy securitization trends adopted by securitizing actors of the country.

### **Contents of Energy Policies of Pakistan: An Overview**

The efficacy of energy policies has pronounced impact on energy security of a huge developing country like Pakistan. The energy insecurity and instability in the country are the product of previous and current inadequate energy policies of the government. The government of Pakistan has announced several energy policies since the inception of its first ever formal power policy in 1994 till today. This paper, however, shall be assessing the efficacy of these particular power policies in contact to alternative means of energy in order to highlight the connection between the energy security and political behavior towards energy securitization trends in Pakistan.

### **Energy Policies of Pakistan till Date: An Analysis**

The first ever energy policy was formally presented in 1994.<sup>8</sup> The policy, however, lacked emphasis on renewable energy resources and attracted thermal projects only, resulting in heavy share of thermal in the energy mix. The responsibility of the arrangement of fuel to these private sector power generation companies was taken by the government. Fair prices of electricity were offered in the form of subsidies and affordability of concerned companies was also considered by the

government. Suffering from lack of a balanced mix and other structural inadequacies, the policy later on proved to be a serious setback that has badly affected the whole country. The government also had to face huge losses related to transmission and dispatch of electricity.

A year later, the government launched the 1995 Energy Policy based on hydropower resources. The policy was named as "Policy framework package of incentives for private sector power generation projects in Pakistan," proposing private partnership related to hydropower. It was launched to meet the future energy needs. Due to lackluster response from private sector, all these speedy measures proved to be enormous burden on the government.<sup>9</sup> The 1994 energy policy underwent periodic review. Certain taxes and duties were exempted. All extraordinary incentives given in previous policies were removed in 2002 energy policy. Additional privatization was proposed. Electricity generation based on imported crude oil from Saudi Arabia was preferred that resulted in further decaying power production.<sup>10</sup>

Pakistan responded to the need for alternative sources very late and first ever formal renewable energy policy was developed in 2006<sup>11</sup> on the basis of National Energy Security Plan (NESP) 2005-2030,<sup>12</sup> announced in 2005 with emphasis on increasing electricity generation capacity by using renewable energy along with other sources of power generation.<sup>13</sup> The plan further laid basis for National Energy Conservation Policy in 2005. As a consequence, in 2006 Alternative Energy Development Board (AEDB) was tasked with promoting renewable energy for power generation. Along with other renewable sources this policy encouraged solar energy. The government aimed at attracting huge investments; hence the machinery was exempted from duties and taxes. As in 1996 policy, this policy also allowed investment in both local and foreign currencies.<sup>14</sup> Although the policies for alternative sources were made very late, yet the initiative was admirable.

In 2008, Pakistan Peoples' Party's government announced another ephemeral energy policy founded on electricity created from bio-waste and imported and local coal. A settled tariff was offered on 30 years for the plants with capacity of 60 MW or above. The Party proposed Five Es of the policy: Employment, Education, Energy, Environment, and Equality. Interestingly, while the party manifesto identified energy as key policy element, it laid much emphasis on hydel, promising new hydel power projects to reduce electricity shortage, and ensure cheap and affordable electricity. However, they continued with oil-based expensive electricity. Neither was anything about renewable energy stated in the manifesto nor did the government take any initiative to promote renewable energy.<sup>15</sup>

In the backdrop of continuous power breakdown, plan for controversial Rental Power Plants (RPPs) was announced by then Prime Minister on 22<sup>nd</sup> April 2010

after the National Conference was called in Islamabad by Pakistan Peoples Party (PPP) administration. Energy conservation remained the focal point of this policy.<sup>16</sup> The gap between energy supply and demand, however, persisted. The government of Pakistan developed another energy policy during 2013. It visualized: “Pakistan will develop the most efficient and consumer centric power generation, transmission and distribution system that meets the needs of its population and boosts its economy in a sustainable and affordable manner.” The policy included plans to improve efficiency in the short run with the help of Public Private Partnership (PPP) based on low cost coal and hydro projects.<sup>17</sup> This policy was primarily designed to boost the generation capacity at minimum cost while utilizing indigenous resources. This also incorporated interest of all stakeholders without exploiting the environment. For that matter it encouraged high efficiency, environment friendly, indigenous and imported fuel-based power plants. Although the focal point remained maximum exploitation of raw hydropower sites but diversity of fuel mix was also initiated for installing base load and peak power plant.<sup>18</sup>

Since the mid-80s until now, the energy department has remained short of one well thought out, long-term and workable energy policy. All above discussed policies were developed with the input from various energy experts of government sector. However, little focus on alternative means of energy, particularly STU, is evident. Thus these policies signify that the importance of STU with regards to national energy policies has not been accorded due importance by the government. The situation calls out for attention towards electricity generation through STU, which the country does not afford to ignore. It is, therefore, very important that new energy policies should be scaled to STU keeping in view the energy shortfall and potential of STU in the country so as to achieve energy security. However, in this context a detailed study on political evaluation of STU in Pakistan is highly required. The intended impact of this paper is to fill this gap by taking political composite as the most important composite of STU.

### **Conceptual Framework for Political Evaluation of STU**

The potential of STU does not solely rely upon the scientific or socio-economic enabling indicators, but is dependent on the most important component that is political support of STU. The scientific or socio-economic enabling indicators that are considered for STU in existing studies matter for the promotion and adoption of the technology, yet these are not sufficient. A meaningful utilization of solar technology depends on political support from politicians, as all other composites of STU are dependent on political support. Following are the variables in this paper:

- Solar Technology Utilization=Change variable
- Energy Security=Outcome variable

- Political Support=Linking variable

The design of this study tries to analyze the utilization of solar technology in South Punjab based on its Political dimension. The selection of sample population, area of study and methods of data collection. Purposive sampling was used to gather data from 38 politicians. The present research was performed in the context of political evaluation of STU within the demographic site of South Punjab, Pakistan. The excessive load shedding and high level of solar installation makes this region as most suitable selection for conducting a research on STU. The survey activity was orderly and carried out from May 2017 to August 2017 and comprised of questionnaire. As the questionnaire was made for politicians, it was designed according to the perspective of relevant selected respondents. An effort was made to make sure that all questions were written clearly and briefly.

### **Political Evaluation of STU: Findings and Analysis**

A useful utilization of solar technology essentially requires support from politicians. The study describes the findings of political evaluation of STU in deductive style under three captions.

### **STU Knowledge, Attitude & Practices of Politicians**

Six questions were designed to measure the STU knowledge among politicians who are main actor for policy-making in Pakistan. STU knowledge of politicians stood second in overall results of the study that is 59.5%. It deduces that only 55% of politicians know that UN has enlisted Pakistan in top 10 energy deficient countries. While politicians know much about load shedding schedule, the result tell us 92% politicians know that load shedding in rural areas is being done on daily basis up to 15-16 hours. Politicians lack knowledge regarding development of renewable energy policy that's why only 47% know that Pakistan developed first renewable energy policy with focus on STU in 2006. 63% politicians claim to know that the first solar power plant in Pakistan was established in 2012. 58% of politicians are responsive that Pakistan receives 300 sunshine days per year. The study reveals that only 42% of politicians have attended trainings regarding STU. Question number 3 was asked to choose the major reason of energy scarcity from the three given choices: rising population, climate change and corruption in centralized system. 36% held rising population reason of energy scarcity in the country, whereas 4% to climate change and 60% corruption in centralized energy system.

The study finds the highest content of STU attitude of politicians that is 94%. 92% of politicians are of the view that energy shortfall can be managed with STU. 95% agree that political support is necessary for promoting STU and 97% are ready to support policymaking regarding STU. It is established by the study that the level of

attitude towards training, seminars and other activities for creating awareness about STU is also very high, i.e. 92%. The results of this research indicate the STU practices of politicians in real terms only 47% the least output compared to the 60% STU knowledge of politicians and 94% STU attitude of politicians. The study finds only 47% of the politicians have ever been involved in policymaking regarding STU and even lesser have ever headed any event seminar/training/meeting related STU that is 27%. 65% respondents supported STU as the best energy source during debates and discussions about Pakistan's energy scarcity in provincial/national assembly.

## **Conclusion**

The political evaluation of STU as the role of politicians is essential for the promotion and utilization of the solar energy technology. The findings of our survey regarding political evaluation of STU are beneficial as it shows higher level of STU attitude (94%). However, STU knowledge and practices/participation of politicians in the policymaking are wanting and having positive attitude alone cannot bring the desired change. Practical measures by politicians have to be taken to utilize potential of solar technology in order to achieve energy security.

The solution lies in an objective and dispassionate analysis of available options for long-term redressal of the issue sans politicking and expediencies. Global trends and key drivers of energy demand into the future have to be considered. With depleting fossil resources and the impending water scarcity, solar technology holds a lot of promise. Politicians may be given requisite exposure of the subject through a series of seminars aimed at closing the gap between their STU knowledge and STU attitude. An open debate on the energy policy and implementation strategy should then follow, before its formalization. The present study was conducted in the context of political evaluation of STU within the demographic site of South Punjab, Pakistan. However, the situation of energy security in the country requires similar studies in other parts of Pakistan.

## NOTES

- <sup>1</sup> Waltz, K. (Ed.). (1979). *Theory of International Politics*. New York: Random House. pp. 155-157.
- <sup>2</sup> Asia Pacific Energy Research Centre. (2007). *A Quest for Energy Security in the 21<sup>st</sup> Century: Resources and Constraints*. Tokyo: APERC.
- <sup>3</sup> Roger, Holger, H., Langlois, M.L., McDonald, A., Weisser, D., & Howells, M. (2006). *The Costs of Energy Supply Security*. Vienna: International Atomic Energy Agency.
- <sup>4</sup> Yergin, D. (2006). Ensuring energy security. *Foreign Affairs*, 85(2), 69-82.
- <sup>5</sup> Ole Waver, O. (2004, March). *Aberystwyth, Paris Copenhagen schools in security theory and the origins between core and periphery*. paper presented at the ISA Conference, Montreal.
- <sup>6</sup> Buzan, B., Waever, O. & Wilde, J.D. (1998). *Security: A New Framework for Analysis*. Boulder: Lynne Rienner
- <sup>7</sup> Buzan, B., Waever, O. & Wilde, J.D. (1998). *Security: A New Framework for Analysis*. Boulder: Lynne Rienner. p. 24.
- <sup>8</sup> Government of Pakistan. (March 1994). *The policy framework and package of incentives for private sector power generation projects in Pakistan*, 1-11. <http://www.ppib.gov.pk/Power%20Policy%201994.pdf>
- <sup>9</sup> Government of Pakistan. (May 1995). *Policy framework and package of incentives for private sector hydel power generation projects in Pakistan* 1-15, <http://www.ppib.gov.pk/PowerPolicy1995.pdf>
- <sup>10</sup> Ministry of Water and Power, Government of Pakistan. (2002). *Policy For Power Generation Projects*, 1-27, <http://www.ppib.gov.pk/PowerPolicy2002.pdf>
- <sup>11</sup> Amer, M. & Tugral, U., Daim, T., D. (2011). Selection of renewable energy technologies for a developing country: A case of Pakistan. *Energy for Sustainable Development*, 15, p.422.
- <sup>12</sup> Shaikh, F., Ji, Q., & Fan, Y. (2015). The diagnosis of an electricity crisis and alternative energy development in Pakistan. *Renewable and Sustainable Energy Reviews*, 52, 1174.
- <sup>13</sup> Ibid.
- <sup>14</sup> Government of Pakistan. (2006). *Policy for development of renewable energy for power generation*, 1-42, <http://www.ppib.gov.pk/PowerPolicy2006.pdf>
- <sup>15</sup> Government of Pakistan. (January 2008). *National policy for power co-generation by sugar industry and guidelines for investors*, 1-20.
- <sup>16</sup> Government of Pakistan. (August 2010). *Guidelines for setting up of private power projects under short-term capacity addition initiative*, 1-27, <http://www.ppib.gov.pk/Power%20Policy%202015.pdf>
- <sup>17</sup> Government of Pakistan. (2013). *National power policy*, 1-19, <http://www.ppib.gov.pk/National%20Power%20Policy%202013.pdf>
- <sup>18</sup> Government of Pakistan. (3<sup>rd</sup> April 2015). *Power generation policy*, <http://www.ppib.gov.pk/Power%20Policy%202015.pdf>