
SOLAR TRANSITIONS AND LEGAL EXEGESIS: A DOCTRINAL STUDY OF SAARC'S CLIMATE JUSTICE FRAMEWORK IN SOUTH ASIA'S ENERGY GOVERNANCE

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ABSTRACT

This study explores the complex interplay of solar energy transitions, climate justice, and energy governance in the South Asian Association for Regional Cooperation (SAARC) framework. South Asia is severely vulnerable to rising climate shocks with catastrophic socio-economic consequences, and SAARC's role in climate and energy policy becomes increasingly significant. This is a key topic in light of the region's climate vulnerability and the transformative power of solar energy to meet energy demand while ensuring human rights and access to equity. A wide gap exists between SAARC's lofty assertions on climate change and energy cooperation and the working reality, which is thwarted by political tensions and implementation lacunae. This leads to fragmented national action and reactive reliance on judicial activism. This research attempts to doctrinally evaluate SAARC's climate justice approach in solar transitions, categorizing it as having confines and gaps in implementation and integration. A doctrinal study approach examines SAARC's policy and legal documents, national frameworks, and whether they conform to climate justice values and solar deployment realities. This paper's primary message is that solar energy has tremendous opportunity, but that a very fast deployment tends to overwhelm policies and infrastructure development in an overarching sense. Key findings in this paper represent chronic policy deficiencies in the adoption of 'just transition' principles, above all, social equity, labour justice, and consent of the people, due to insufficient human rights policies and people's consultation. SAARC structures, though they acknowledge climate justice, lack legally obligatory implementation. This research makes a contribution by the recognition of the critical imperative of a justice-led regional response, a blend of 'hard' and 'soft' infrastructure, to just and sustainable energy futures in South Asia, and as a model for other vulnerable regions.

Keywords: Solar Transitions, Climate Justice, SAARC, Energy Governance, Regional Cooperation, Just Transition, Policy Frameworks

INTRODUCTION: SETTING THE STAGE FOR SOLAR TRANSITIONS AND CLIMATE JUSTICE IN SOUTH ASIA

South Asia is a region, which is characterized by diverse geography and a significant population. This region faces an acute and escalating climate crisis. Climate change will incur this region economic losses on average \$160 billion by 2030¹, and by 2050, it will witness over 40 million climate migrants, which represents up to 1.8% of the region's total population.² It is recognized as one of the most vulnerable regions to climate shocks.³ It's living through a "new climate normal" in which it started to experience an intensification of heat waves, cyclones, droughts, and floods, pointing to the urgency of adaptation and resilience.⁴

These climate vulnerabilities are not limited to national boundaries. The whole region shares common rivers,⁵ transboundary air pollution⁶, and extreme weather events.⁷ To tackle this transboundary situation, it demands a unified response, driven by science and rooted in justice. This unified response is impossible without regional cooperation and integrated efforts.⁸ To address the pervasive impacts of this new climate normal, South Asian countries need to transcend individual national interests.⁹ This will lead to create a common imperative that will necessitate collective action as part of their commitments to the UNFCCC process.¹⁰

The central argument to address these ongoing climate challenges might be the notion of

¹ *Climate Change*, WORLD BANK, <https://www.worldbank.org/en/programs/south-asia-regional-integration/climate-change> (last visited July 27, 2025).

² *Internal Climate Migration in South Asia*, WORLD BANK, <https://documents.worldbank.org/en/publication/documents-reports/documentdetail/en/401511522303177090> (last visited July 27, 2025).

³ *South Asia Climate Roadmap*, WORLD BANK (2021), <https://www.worldbank.org/en/region/sar/publication/south-asia-climate-roadmap>.

⁴ *Climate and Development in South Asia*, WORLD BANK, <https://www.worldbank.org/en/region/sar/brief/integrating-climate-and-development-in-south-asia/integrating-climate-and-development-in-south-asia-region> (last visited July 22, 2025).

⁵ *Agreements and Institutions Related to Shared Rivers within South Asia and Beyond*, in SOUTH ASIAN RIVERS 45 (2017), http://link.springer.com/10.1007/978-3-319-67374-5_3.

⁶ MAHMOOD A. KHWAJA ET AL., AIR POLLUTION REDUCTION AND CONTROL IN SOUTH ASIA (2012), <https://www.jstor.org/stable/resrep00582.3>.

⁷ *Challenges in Predicting Extreme Weather Events Over the South Asian Region*, in EXTREME NATURAL EVENTS 51 (2022), https://link.springer.com/10.1007/978-981-19-2511-5_3.

⁸ The Secretary General of SAARC H.E. Mr. Md. Golam Sarwar, *Climate Change, Mountains, and the Future of Humanity*, (2025), <https://www.saarc-sec.org/index.php/resources/statements/298-speech-by-the-secretary-general-of-saarc-h-e-mr-md-golam-sarwar-at-the-sagarmatha-sambaad-plenary-session-on-the-theme-climate-change-mountains-and-the-future-of-humanity-16-may-2025-kathmandu/file>.

⁹ Habib Zafarullah & Ahmed Shafiqul Huque, *Climate Change, Regulatory Policies and Regional Cooperation in South Asia*, 21 PAP 22 (2018).

¹⁰ Pk Khup Hangzo, *Strengthening Collective Action on Climate Change in South Asia*, 6 NS 141 (2023).

climate justice.¹¹ It incorporates an array of rights and obligations for different stakeholders, such as governments, individuals, and corporations. They are obliged to maintain this set of rules towards climate-affected vulnerable populations.¹² The scope of climate justice extends to notable emerging patterns of human rights violations, such as land grabs or forced displacements are resulting from climate change response measures and projects by the governments.¹³ Thus, it acknowledges that climate change is not solely an environmental issue;¹⁴ rather, it is deeply rooted in the principles of equity,¹⁵ human rights, and social justice.¹⁶ In the context of South Asia, the climate justice regime is a complex paradigm due to its diverse geography, population, and economic profiles.¹⁷ Climate justice in this region must take into account its close tie with the historical legacy of colonialism and capitalism, which made a significant contribution to the environmental degradation through the exploitation of natural resources,¹⁸ resulting in the current state of a new climate normal. It implies that solar transitions in South Asia cannot only be limited to decarbonization,¹⁹ but must be extended in ensuring equitable access, protecting social and economic interests of vulnerable communities,²⁰ and leading towards the rectification of historical injustices. Therefore, instead of climate justice, stationing 'just transition' as a central non-negotiable principle for energy governance is a more viable consideration.

The South Asian Association for Regional Cooperation (SAARC) was established by eight South Asian countries to serve as a regional intergovernmental, economic, and political organization of countries in South Asia.²¹ The foundational mandate of this organization was

¹¹ David Schlosberg & Lisette B. Collins, *From Environmental to Climate Justice: Climate Change and the Discourse of Environmental Justice*, 5 WILEY INTERDISCIP. REV. CLIM. CHANGE 359 (2014).

¹² *Climate Equity or Climate Justice? More than a Question of Terminology* | IUCN, (Mar. 19, 2021), <https://iucn.org/news/world-commission-environmental-law/202103/climate-equity-or-climate-justice-more-a-question-terminology>.

¹³ Damilola Olawuyi, *Advancing Climate Justice in International Law: An Evaluation of the United Nations Human Rights-Based Approach*, 11 FLORIDA A & M UNIVERSITY LAW REVIEW (2015), <https://commons.law.famu.edu/famulawreview/vol11/iss1/3>.

¹⁴ Sarah Lee, *Climate Justice in Asia*, (June 18, 2015), <https://www.numberanalytics.com/blog/climate-justice-in-asia>.

¹⁵ *Climate Equity or Climate Justice?*, *supra* note 13.

¹⁶ Khadj Rouf & Tony Wainwright, *Linking Health Justice, Social Justice, and Climate Justice*, 4 LANCET PLANET. HEALTH e131 (2020).

¹⁷ Lee, *supra* note 15.

¹⁸ *Id.*

¹⁹ Benjamin K. Sovacool et al., *Decarbonization and Its Discontents: A Critical Energy Justice Perspective on Four Low-Carbon Transitions*, 155 CLIM. CHANGE 581 (2019).

²⁰ Shalanda H. Baker, *Fighting for a Just Transition: Climate Change Mitigation Does Not Guarantee Social Justice. To Avoid Deepening Inequalities, Clean Energy Transitions Must Prioritize Communities over Profit.*, 52 NACLA REPORT ON THE AMERICAS 144 (2020).

²¹ *South Asian Association for Regional Cooperation (SAARC)* | EEAS, (2021), https://www.eeas.europa.eu/eeas/south-asian-association-regional-cooperation-saarc_en.

to promote regional economic growth²² and enhanced political cooperation for common problems, interests, and aspirations of the people of South Asia.²³ As per the mandate, SAARC has the potential to drive collaboration among South Asian nations on the climate crisis.²⁴

In this pivotal context, solar energy stands out as a critical element in South Asia's energy future. It is critical to achieve affordable, universally-accessible, reliable, and low-to-no-carbon electricity supply at a time when roughly 87% of the energy supply in the SAARC region is unsustainable.²⁵ The South Asian region has massive potential for sustainable energy, including abundant solar resources, large areas of terrain and plains, and large hydro power potential.²⁶ Moving to solar energy is not just an environmental necessity, but also a logical step needed to meet the increasing energy demand in the region, lessen the expensive foreign dependence on fossil fuels, and fulfill ambitious climate targets the nations are striving to achieve.²⁷

SAARC's Foundational Frameworks: Climate Change and Energy Cooperation

As time has progressed, SAARC has implemented a series of pivotal declarations and agreements to affirm its commitment to combating climate change and enhancing regional energy cooperation. These crucial documents serve as the basis for a collaborative regional strategy to address the mutual challenges of climate and sustainable energy transition.

SAARC Declarations and Action Plans on Climate Change

The first instrument on climate change under the SAARC framework was the SAARC Declaration on Climate Change, which was adopted in 2007 by the foreign ministers of SAARC member states. They expressed deep concern about the adverse impacts of climate change and considered climate change a phenomenon that impacts the right to development in

²² Jham Kumar Bishwakarma & Zongshan Hu, *Problems and Prospects for the South Asian Association for Regional Cooperation (SAARC)*, 50 *POLIT. POLICY* 154 (2021).

²³ *SAARC Charter*, (July 12, 2020), <https://www.saarc-sec.org/index.php/about-saarc/saarc-charter>.

²⁴ Pramodini Balasaheb Nawale (Kadam), *A Case Study on Analysing the Potential of SAARC for Enhancing Regional Cooperation on Climate Change*, 5 *SHODHKOSH: JOURNAL OF VISUAL AND PERFORMING ARTS* 526 (2024).

²⁵ Ashish Gulagi et al., *Electricity System Based on 100% Renewable Energy for India and SAARC*, 12 *PLOS ONE* e0180611 (2017).

²⁶ *Id.*

²⁷ *Bangladesh Mandates Solar Panels on Public Buildings to Secure Energy Supply - Energynews*, (June 27, 2025), <https://energynews.pro/en/bangladesh-mandates-solar-panels-on-public-buildings-to-secure-energy-supply/>.

the whole region.²⁸ This declaration explicitly stated SAARC members' intention to contribute to this phenomenon, in line with the principle of "common but differentiated responsibilities" (CBDR).²⁹ Following this, the Dhaka Declaration and SAARC Action Plan on Climate Change were adopted in 2008 to ensure rapid economic and social development in the SAARC region with climate change resilient features.³⁰ The core objectives behind this action plan were "to focus on enhancing south-south cooperation regarding technology and knowledge transfer", "to cooperate in the global negotiation process under the UNFCCC", and "to implement a regional-level action plan on climate change through national-level action."³¹ Subsequently, in 2010, a landmark moment occurred with the adoption of the Thimphu Statement on Climate Change. It recognized the urgency of regional collaboration on climate change mitigation and adaptation, the significance of low-carbon technologies, renewable energy sources, and moral responsibility to act not only for the present generation but also for future generations to come.³²

SAARC's foundational documents express a view on climate change and regional coordinated energy governance in the region. But the operational reality is different from the declarative intent. The consistent emphasis on "the need for rapid social and economic development"³³ and the principle of CBDR lacks collective and coherent application.³⁴ Though the SAARC framework on Climate Change has the potential to address the region's climate governance landscape in the right direction, it became operationally defunct due to political hindrances by the member states.³⁵ This implies that in spite of laying high aspirations in the legal frameworks, the effective implementation might be obstructed due to political goodwill and institutional incapacity.

²⁸ Saravanakuma Ramalingam, *SAARC Declaration on Climate Change*, SAR-CLIMATE (May 30, 2022), <http://sar-climate.adpc.net/index.php/2022/05/30/saarc-declaration-on-climate-change-2007/>.

²⁹ *Id.*

³⁰ *Dhaka Declaration and SAARC Action Plan on Climate Change (2008)*, <https://www.saarc-sec.org/images/areas-of-cooperation/ENB/>.

³¹ Sarim Akram Baacha, *Climate Change Cooperation: A Case Study of SAARC*, 3 IJEFSD 250 (2021).

³² The Secretary General of SAARC H.E. Mr. Md. Golam Sarwar, *supra* note 9.

³³ Ramalingam, *supra* note 29.

³⁴ Michal Kolmaš, *The Failure of CBDR in Global Environmental Politics*, 23 GLOBAL ENVIRON. POLIT. 11 (2023).

³⁵ Radhini Gawarammana Thangaiah Kaif Sally, Subhashi Tania de Silva, Luxy Thriyanka, *Shaping the Future of Climate Justice: Sri Lanka's Perspective on the ICJ Advisory Opinion on Climate Change*, RESEARCH SOCIETY OF INTERNATIONAL LAW | RSIL (Mar. 19, 2025), <https://rsilpak.org/2025/shaping-the-future-of-climate-justice-sri-lankas-perspective-on-the-icj-advisory-opinion-on-climate-change/>.

SAARC Framework Agreement for Energy Cooperation (Electricity)

In addition to the climate frameworks, the Eighteenth SAARC Summit facilitated the signing of the SAARC Framework Agreement for Energy Cooperation (Electricity) in 2014.³⁶ This agreement recalled a decision of the Sixteenth SAARC summit to accelerate regional energy trade and “development of efficient conventional and renewable energy sources, including hydropower.”³⁷ This agreement recognizes the potential benefits of cross-border electricity exchanges and trade.³⁸ All the member states have vast renewable energy potential, and the sharing of these resources can lead to optimal utilization of regional electricity-generating resources.³⁹ Contemporary research suggested that the vision of the Framework⁴⁰ is practically feasible⁴¹, and a cost-competitive 100% renewable energy system could be possible in the SAARC region by the year 2030.⁴² However, due to political tensions and a lack of cooperation among the member states⁴³ impeded this potential for regional energy integration was impeded.

Analysis of SAARC’s Institutional Mechanism of Climate Resilience and Energy Integration

Several institutional mechanisms were established to accomplish climate and energy cooperation objectives within the SAARC framework. To assist the SAARC Secretariat on environmental issues, including climate change and sustainable energy transitions, a Technical Committee on Environment and Meteorology⁴⁴ has been constituted⁴⁵ in accordance with the SAARC Environment Action Plan.⁴⁶ To establish an Energy Ring in South Asia, the SAARC

³⁶ *Areas Of Cooperation*, (July 23, 2020), <https://www.saarc-sec.org/index.php/areas-of-cooperation/energy-transport-science-technology/38-areas-of-cooperation>.

³⁷ *SAARC Framework Agreement for Energy Cooperation (Electricity)*.

³⁸ *Id.*

³⁹ Priyantha Wijayatunga & P N Fernando, *An Overview of Energy Cooperation in South Asia*, ASIAN DEVELOPMENT BANK (2013).

⁴⁰ SAARC Framework Agreement for Energy Cooperation (Electricity), *supra* note 38.

⁴¹ Hassan Zidan et al., *Exploring the Potential of Cross-Border Energy Trade in SAARC Countries for Achieving Sustainable Development Goals (SDGs)*, 13 ENERGY SCI. ENG. 2063 (2025).

⁴² Gulagi et al., *supra* note 26.

⁴³ Bishwakarma and Hu, *supra* note 23.

⁴⁴ DR. RASHID HASAN, HANDBOOK ON NATIONAL ENVIRONMENTAL LEGISLATION AND INSTITUTIONS IN SOUTH ASIA (2002), <http://www.sacep.org/pdf/Reports-Technical/2002-UNEP-SACEP-Law-Handbook-for-South-Asia.pdf>.

⁴⁵ *Environment Natural Disasters And Biotechnology*, (July 16, 2020), <https://www.saarc-sec.org/index.php/areas-of-cooperation/energy-transport-science-technology/38-areas-of-cooperation/91-environment-natural-disasters-and-biotechnology>.

⁴⁶ *SAARC Environment Action Plan*, (1997), <https://www.saarc-sec.org/images/areas-of-cooperation/ENB/SAARC%20ENVIRONMENT%20ACTION%20PLAN.docx#:~:text=Where%20necessary%2C%20national%20institutions%20should,the%20work%20of%20the%20Ministers>.

Energy Center was established through the Dhaka Declaration in 2005.⁴⁷ It plays a vital role in regional energy cooperation, promotes cross-border energy trade, aims to facilitate efficient use of regional energy resources, and contributes towards sustainable development through cooperation in the use of renewable energy sources in the region.⁴⁸ Additionally, the SAARC Disaster Management Center has also been established in October 2006⁴⁹ to facilitate the exchange of information and expertise for effective and efficient management of disaster risk in the SAARC region.⁵⁰ Despite these institutional mechanisms, their full potential remains constrained due to political tensions among the member states and regional economic challenges.⁵¹

DOCTRINAL ANALYSIS OF CLIMATE JUSTICE IN SAARC'S FRAMEWORK

The concept of climate justice has been developed as a critical lens through which we can evaluate climate action plans in vulnerable regions like South Asia. This concept doesn't confine itself to mere environmental protection; rather, it extends to a broader framework of social and economic equity.

Conceptualizing Climate Justice in International Environmental Law

Climate change is inherently a justice issue. Because its causes are driven by social inequalities, such as the marginalized communities not using the fossil fuel-based energy, but its impacts are carried equally by both marginalized and non-marginalized.⁵² To tackle these entrenched inequalities, profound systemic and structural reforms in political and economic systems are required. These reforms can lead to a comprehensive model of climate justice, which will encompass material, procedural,⁵³ compensatory, and transformative⁵⁴ dimensions of justice.

⁴⁷ *About Us | SAARC Energy Centre (SEC), Islamabad*, <https://www.saarcenergy.org/about-us/> (last visited Aug. 8, 2025).

⁴⁸ *Vision & Mission | SAARC Energy Centre (SEC), Islamabad*, <https://www.saarcenergy.org/vision-mission/> (last visited Aug. 8, 2025).

⁴⁹ *South Asian Association for Regional Cooperation—SAARC*, in *THE EUROPA DIRECTORY OF INTERNATIONAL ORGANIZATIONS* 2020 756 (Europa Publications ed., 22 ed. 2020), <https://www.taylorfrancis.com/books/9781000326352/chapters/10.4324/97810003138587-63>.

⁵⁰ *About Us | SAARC Disaster Management Centre (IU)*, <https://saarc-sdmc.org/about-us> (last visited Aug. 8, 2025).

⁵¹ Bishwakarma and Hu, *supra* note 23.

⁵² Sharon L. Harlan et al., *Climate Justice and Inequality*, in *CLIMATE CHANGE AND SOCIETY* 127 (Riley E. Dunlap & Robert J. Brulle eds., 2015), <https://academic.oup.com/book/9871/chapter/157162082>.

⁵³ Breena Holland, *Procedural Justice in Local Climate Adaptation: Political Capabilities and Transformational Change*, 26 *ENVIRON. POLIT.* 391 (2017).

⁵⁴ Peter Newell et al., *Toward Transformative Climate Justice: An Emerging Research Agenda*, 12 *WILEY INTERDISCIP. REV. CLIM. CHANGE* e733 (2021).

This approach will ensure the inclusion of marginalized communities in the global response to climate change.⁵⁵ Moreover, the concept of climate change is inextricably connected with human rights, because an emerging pattern of human rights violations is resulting from the adoption of climate change response measures and projects.⁵⁶ As a matter of fact, the right to a clean, healthy, and sustainable environment has been acknowledged as a fundamental precondition for the enjoyment of all other human rights.⁵⁷

Exegesis of Climate Justice Principles within SAARC Declarations

SAARC declarations contain elements that echo the principles of climate justice. The SAARC declaration on Climate Change⁵⁸ explicitly recognized the principle of Common but Differentiated Responsibilities (CBDR). It advocates for developed countries to bear greater responsibilities to address climate change.⁵⁹ This historical responsibility for emissions and differing capacities among nations directly aligns with a central tenet of the international climate justice movement.⁶⁰ Furthermore, SAARC's commitment to "rapid social and economic development to make the region climate change resilient"⁶¹ implicitly touches the distributive dimension of climate justice. It aims to uplift the living standards of the vulnerable populations⁶² while simultaneously adapting to the climate change response measures.⁶³ The Thimphu Statement's emphasis on "the moral responsibility to act... for future generations"⁶⁴ reflects the principle of intergenerational equity, which is the bedrock of the notion of climate justice.⁶⁵

⁵⁵ Md Saidul Islam, *Rethinking Climate Justice: Insights from Environmental Sociology*, 12 CLIMATE 203 (2024).

⁵⁶ Olawuyi, *supra* note 14.

⁵⁷ Yohan Liyanage, *Judicial Protection on Right to Clean, Healthy and Sustainable Environment: South Asian Perspective on ICJ Advisory Proceedings*, WORLD'S YOUTH FOR CLIMATE JUSTICE, <https://www.wy4cj.org/symposium/judicial-protection-on-right-to-clean-healthy-and-sustainable-environmentsouth-asian-perspective-on-icj-advisory-proceedings> (last visited July 23, 2025).

⁵⁸ Ramalingam, *supra* note 29.

⁵⁹ *Common but Differentiated Responsibilities (CBDR) | Britannica*, <https://www.britannica.com/topic/common-but-differentiated-responsibilities> (last visited Aug. 11, 2025).

⁶⁰ Harlan et al., *supra* note 53.

⁶¹ Ramalingam, *supra* note 29.

⁶² David Schlosberg, *Climate Justice and Capabilities: A Framework for Adaptation Policy*, 26 ETHICS INT. AFF. 445 (2012).

⁶³ Sirkku Juhola et al., *Connecting Climate Justice and Adaptation Planning: An Adaptation Justice Index*, 136 ENVIRON. SCI. POLICY 609 (2022).

⁶⁴ The Secretary General of SAARC H.E. Mr. Md. Golam Sarwar, *supra* note 9.

⁶⁵ Daniel Bertram, *'For You Will (Still) Be Here Tomorrow': The Many Lives of Intergenerational Equity*, 12 TEL 121 (2022).

Addressing Human Rights and Equity in SAARC's Climate Discourse

In addition to declarations, the legal landscape has started to shape the climate justice debate in South Asia through legal action. Sri Lanka's application to the International Court of Justice (ICJ) highlighted the obligations of states to respond to climate change as enforceable duties under international law.⁶⁶ It asserted that the inaction of high-emitting states violates the fundamental rights of all Sri Lankans, encompassing access to clean water, food security, and public health.⁶⁷ Domestic courts in South Asia are showing some increasing activism. For example, the Supreme Court of Pakistan successfully held the government accountable for its failure to implement the National Climate Change Policy of 2012.⁶⁸ The Supreme Court of Sri Lanka has also recognized a 'right to a clean environment' and applied the 'polluter pays principle' in environmental contamination cases.⁶⁹ In Bangladesh, the Supreme Court has expanded the constitutional 'right to life' to include the right to a safe and healthy environment.⁷⁰

This judicial activism serves as a key accelerator of climate justice, especially where regional governance is lacking. Although the regional climate justice framework of SAARC faces implementation issues as regional political tensions persist,⁷¹ there has been an emergence of national courts in South Asian countries as new actors exercising environmental rights and holding governments accountable for inaction on climate.⁷² This indicates that judicial pathways are a growing, albeit disjointed, means for advancing climate justice and filling the governance lacunae at national levels. It forms a kind of reactive and not proactive governance where we are using legal systems to source accountability in instances where regional political bodies have not acted.

Yet, renewable energy development, especially solar, has its own human rights ramifications.

⁶⁶ Farhath Rhysa, *Bridging the Climate Justice Gap: Sri Lanka's Approach to State Responsibility in Light of the ICJ Advisory Proceedings on Climate Change Obligations*, WORLD'S YOUTH FOR CLIMATE JUSTICE, <https://www.wy4cj.org/symposium/bridging-the-climate-justice-gap-sri-lankas-approach-to-state-responsibility-in-light-of-the-icj-advisory-proceedings-on-climate-change-obligations> (last visited Aug. 12, 2025).

⁶⁷ Thangaiah, *supra* note 36.

⁶⁸ *Leghari v. Federation of Pakistan*, CLIMATE CHANGE LITIGATION (2015), <https://climatecasechart.com/non-us-case/ashgar-leghari-v-federation-of-pakistan/>.

⁶⁹ Shanil Wijesinha & Shermila Antony, *Judicial Reasoning in Cases Concerning the Environment in Sri Lanka: A Commentary*, 1 S. ASIAN J. ENV'T L. & POL'Y 95 (2022).

⁷⁰ *Dr Mohiuddin Farooque v Secretary, Ministry of Commerce, Government of the People's Republic of Bangladesh and Others* (Supreme Court of Bangladesh, High Court Division 1996).

⁷¹ Nawale (Kadam), *supra* note 25.

⁷² Yohan Liyanage, *supra* note 58.

An analysis that focused on Southeast Asia, but is contextually relevant, found that the renewable energy companies that are developing energy in this region have weak human rights policies, poor transparency, and weak engagement with affected communities.⁷³ There are also reported attacks on both human rights and environmental defenders, as well as negative impacts on communities. This problematizes the “just transition” from simply being an idea to being a human rights due diligence obligation in terms of solar development. When the analysis showed policy gaps in “just energy transition,”⁷⁴ coupled with the concerns of human rights abuses by the renewable energy companies, it was clear that while the expansion of solar energy generates environmental benefits, it continues to have social risks if it is not accompanied by strong human rights due diligence. This means that the legal frameworks for solar transitions must require more than normative claims and include ascendancy of shared prosperity, respect for human rights, social protection, and fair negotiation⁷⁵ to prevent new forms of injustice, especially for marginalized communities.⁷⁶

Limitations and Gaps in SAARC’s Climate Justice Integration

Despite the declarations and an increasing acknowledgement of climate justice principles, there are serious limitations and gaps in the incorporation of these issues in SAARC. As mentioned earlier, the SAARC Framework on Climate Change is “operationally defunct”⁷⁷ as a result of political tensions, but this operational paralysis also stalls the development of a regional unified front that could potentially demand fair climate finance and technology transfer from countries that emit the most and undermines the principle of CBDR in action.⁷⁸

Moreover, there are many justice elements in the existing energy and development-related policies, but there is a lot of room to strengthen justice in energy transition pathways, and sadly, no clear and verified goals and objectives.⁷⁹ To be precise, there are inadequate commitments to labor justice, such as unemployment assistance for former fossil fuel workers, and few

⁷³ *Renewable Energy Companies Failing to Address Human Rights Issues in Southeast Asia*, BUSINESS & HUMAN RIGHTS RESOURCE CENTRE (2024), <https://www.business-humanrights.org/de/von-uns/media-centre/renewable-energy-companies-failing-to-address-human-rights-issues-in-southeast-asia/>.

⁷⁴ STOCKHOLM ENVIRONMENT INSTITUTE ET AL., *ENERGY TRANSITION POLICIES IN SOUTHEAST ASIA AND CHINA: SCOPING OUT THE ‘JUST’ ASPECT* (2025), <https://www.sei.org/publications/energy-transition-policies-southeast-asia-china-just>.

⁷⁵ *Renewable Energy Companies Failing to Address Human Rights Issues in Southeast Asia*, *supra* note 74.

⁷⁶ *What We Do*, SAPNA SOUTH ASIAN CLIMATE SOLIDARITY, https://www.sapnasolidarity.org/what_we_do (last visited July 23, 2025).

⁷⁷ Thangaiah, *supra* note 36.

⁷⁸ *Id.*

⁷⁹ STOCKHOLM ENVIRONMENT INSTITUTE ET AL., *supra* note 75.

commitments to energy justice, especially in terms of accessibility and affordability. There was almost no commitment to procedural justice, which included multi-perspective dialogues and feedback mechanism loops, or recognition justice, that is, respect for different visions for energy transitions and how local community needs and gender aspects were considered.⁸⁰ It is worth noting that clean energy can create more environmental injustices because it may be designed solely for the purpose of private profit, it may commercialize basic services without consent from the community, and it may create other environmental or social problems.⁸¹ This indicates weak legal obligations for community rights to consent to the use of their lands and equitable benefit-sharing from solar projects as a part of a just transition.

NATIONAL SOLAR ENERGY LEGAL AND POLICY FRAMEWORKS IN SAARC MEMBER STATES

SAARC member countries are operating at different stages of designing and adopting legal and policy frameworks that promote solar energy and support their respective energy transitions. While a number of similarities may exist, each country has developed its approach based on its respective social, political, and economic context.

India: Key Legislation and Regulatory Bodies

The Electricity Act, 2003, governs the renewable energy sector in India, and provides a comprehensive regime for the development of the electricity sector as a whole, specifically providing for, among other things, concessional tariffs and quotas to incentivize the usage of renewable energy.⁸² There are also other enabling rules and regulations, including the Electricity Rules, 2005, setting out the eligibility criteria for captive generation plants, and the Green Open-Access Rules, 2022, establishing rules for promoting the generation, purchase, and consumption of renewable energy, with a particular focus on waste-to-energy, green hydrogen, and green ammonia.⁸³ Lastly, the Energy Conservation Act, 2001 promotes efforts to decrease energy intensity in energy-intensive sectors while also establishing the Bureau of

⁸⁰ *Id.*

⁸¹ What We Do, *supra* note 77.

⁸² Akshay VR, *Solar Energy Laws And Regulations In India*, ARKA (2025), <https://arka360.com/ros/solar-energy-laws-regulations-india>.

⁸³ Shashwat Kumar, *Renewable Energy 2024 - India | Global Practice Guides | Chambers and Partners*, (2024), <https://practiceguides.chambers.com/practice-guides/renewable-energy-2024/india/trends-and-developments>.

Energy Efficiency.⁸⁴

The regulatory landscape in India is managed by a number of important authorities: the Ministry of Power (MoP), which is responsible for formulating legislation regarding electricity; the Ministry of New and Renewable Energy (MNRE), which is the ministry responsible for all new and renewable energy development; the Central Electricity Authority (CEA) which describes its functions and duties under the Electricity Act; the Appellate Tribunal for Electricity (APTEL), which is an appellate authority for dispute resolution; and the Central Electricity Regulatory Commission (CERC), which regulates tariffs and issue licenses.⁸⁵ India has set lofty targets, including net zero emissions by 2070, and solar energy is expected to contribute 30% of India's generation capacity by 2040. A large part of this transition is supported by large programs, such as the \$648 million Grid-Connected Rooftop Solar Program, which sources rooftop solar to residential consumers as affordably as possible, and the Shared Infrastructure for Solar Parks Project, which powers the Delhi Metro with solar sources.⁸⁶

Pakistan: Policy and Regulatory Landscape

The Government of Pakistan has promulgated the Alternative and Renewable Energy (ARE) Policy 2019 that provides a regulatory structure, intended to encourage renewable energy generation and the deployment of ARE technologies in the context of the communities' socio-economic development.⁸⁷ Pakistan has experienced an extraordinary "grassroots solar boom," in which the needs of consumers are driving self-propelled and self-sustaining market-driven demand, even without subsidies. Many people are converting their investment into battery storage to go off-grid, especially in rural areas that have never been connected to the national transmission and distribution grid. Consumers are now using energy in a more autonomous manner, and there is a growing independence in their choice of energy systems.⁸⁸

However, this hastened and decentralized growth has "outstayed policy and infrastructure," creating a paradoxically faster-paced organic market in relation to a governmental regulatory

⁸⁴ *Id.*

⁸⁵ *Id.*

⁸⁶ Cecile Fruman & Pankaj Gupta, *South Asia: Navigating Green Energy Transitions, Together*, WORLD BANK BLOGS (2023), <https://blogs.worldbank.org/en/endpovertyinsouthasia/south-asia-navigating-green-energy-transitions-together>.

⁸⁷ *Legal Framework for Renewable Energy in Pakistan – RCIL & HR*, <https://rcilhr.com/legal-framework-for-renewable-energy-in-pakistan/> (last visited July 23, 2025).

⁸⁸ *What's behind Pakistan's Solar Energy Push? China Is Just One Factor*, (2025), https://www.youtube.com/watch?v=Fcc_IuykDSs.

framework.⁸⁹ There is no existing comprehensive road map on how to manage this decentralized growth, and the sector is vulnerable to the imposition of rising taxes on solar panel imports and a lack of local manufacturing capacity.⁹⁰ This presents a key challenge of energy governance: how to design adaptable policies that can both incentivize and effectively manage rapid, distributed energy transitions without stifling innovation or creating new risks.

Bangladesh: Mandates and Renewable Energy Policy

Bangladesh has taken significant measures to reduce its dependence on expensive fossil fuel imports by mandating the deployment of solar systems on the rooftops of public buildings, including schools, colleges, and hospitals.⁹¹ This new economic model, including the installation and maintenance of the solar systems, is completed by private companies, who install, own, and maintain the solar systems on public roofs. The public buildings do not pay electricity bills, and instead receive a financial rental payment, which minimizes the government's financial obligations in the short term.⁹²

The nation's updated Renewable Energy Policy 2025 aims to meet 20% of its power demand from green sources by 2030, offering significant incentives such as a 10-year corporate tax exemption for all government and private renewable energy producers, followed by another five years of partial exemption.⁹³ Through the policy, all customer types, for instance, residential, industrial, and commercial, may install renewable energy systems on their properties and sell back extra power to the government or private entities under the Net Metering Guidelines 2018. It is also supportive of peer-to-peer (P2P) trade in renewable energy as well as off-grid solutions, such as solar mini, micro, nano, and pico grids, or hybrid systems, in locations where national grid electrification is not viable.⁹⁴ The Sustainable and Renewable Energy Development Authority (SREDA) acts as the nodal agency, responsible for coordinating grid-connected and off-grid renewable projects, introducing a renewable purchase obligation, and developing the national renewable energy roadmap.⁹⁵

⁸⁹ *Id.*

⁹⁰ *Id.*

⁹¹ Bangladesh Mandates Solar Panels on Public Buildings to Secure Energy Supply - energynews, *supra* note 28.

⁹² *Id.*

⁹³ Asifur Rahman, *Bangladesh Unveils New Renewable Energy Policy*, (June 20, 2025), <https://asianews.network/bangladesh-unveils-new-renewable-energy-policy/>.

⁹⁴ *Id.*

⁹⁵ *Id.*

Sri Lanka: Tariff Reforms and Renewable Energy Targets

Sri Lanka has implemented ambitious goals, aiming to achieve 70% of energy from renewable sources by 2030.⁹⁶ However, recent tariff reforms approved by the Cabinet of Ministers in June 2025 for solar power projects represent significant reductions, in some cases exceeding 20-40%, which directly impacts the financial feasibility of these projects.⁹⁷ These tariff reductions are currently being challenged in court, with a central argument being that they were enacted without the mandatory approval of the Public Utilities Commission of Sri Lanka (PUCSL), as stipulated by the Electricity Act.⁹⁸

Despite hindrances from the public sector regarding investments in renewable energy, the private sector is making notable strides in expanding Sri Lanka's solar power harvesting potential and other renewable sources like wind.⁹⁹ A significant challenge, however, is grid infrastructure storage issues, which hinder the effective integration of residential renewable energy generation. Individual battery storage systems are viewed as a viable solution to achieve self-sufficiency at the domestic level, though the current lack of government incentives makes them costly.¹⁰⁰

Nepal: Constitutional Mandates and Decentralized Energy Development

Nepal's Constitution of 2015 strongly recognizes the imperative for conservation, management, and sustainable use of natural resources. It explicitly mandates local governments to plan, implement, and manage hydropower projects up to 1 MW and to oversee the use of renewable energy in irrigation, drinking water, institutions, and productive end uses.¹⁰¹ The Nepalese government is committed to achieving universal access to reliable, affordable, and modern energy services by 2030, aligning with Sustainable Development Goal (SDG) 7.1, and

⁹⁶ Avindya, *Sri Lanka's 2030 Renewable Energy Vision: Solar & Wind*, (July 17, 2025), <https://www.hayleyssolar.com/sri-lanka-renewable-energy-2030/>.

⁹⁷ Ben Thompson & Matthew B. Chow, *Sri Lanka's Solar Tariff Reforms | Insights | Mayer Brown*, (2025), <https://www.mayerbrown.com/en/insights/publications/2025/06/sri-lankas-solar-tariff-reforms>.

⁹⁸ *Id.*

⁹⁹ Avindya, *supra* note 97.

¹⁰⁰ *Id.*

¹⁰¹ RENEWABLE ENERGY IN THE FEDERALIZED CONTEXT AND THE ROLE OF ALTERNATIVE ENERGY PROMOTION CENTER, https://www.undp.org/sites/g/files/zskgke326/files/migration/np/Renewable_Energy_in_Fedreal_Context.pdf (last visited July 23, 2025).

has integrated this objective into its 14th Periodic Plan.¹⁰²

Under its federal structure, local governments have increased responsibilities for policy formulation, planning, implementation, and monitoring of renewable energy projects. This decentralized process empowers them to develop their own policies, laws, and regulations for renewable energy, fostering collaboration with the private sector.¹⁰³

Bhutan: Licensing Regulations for Solar Power Plants

Bhutan, already a carbon-neutral country, possesses abundant hydropower resources, which it largely exports to India.¹⁰⁴ However, the country faces a challenge during lean winter months when hydropower generation is low, necessitating power imports. Coincidentally, these winter months offer excellent sunshine hours, presenting a clear opportunity for solar power integration.¹⁰⁵ To manage the growing popularity of solar power plants and ensure national grid safety, the Electricity Regulatory Authority (ERA) launched the first Licensing Regulation for Solar Power Plant 2024. This regulation systematizes ownership by categorizing solar plants based on capacity from 30 kWp and below to 3000 kWp and above, requiring licenses or exemptions depending on the size and type, such as: rooftop, ground-mounted, utility-scale. For instance, rooftop solar power plants with a capacity of 30 kWp and below only require registration with Bhutan Power Cooperation Limited.¹⁰⁶

Maldives: Energy Act and Carbon-Neutral Goals

The Maldives Energy Act (Law No. 18/2021 of 2021) establishes a comprehensive legal framework for the provision, production, and consumption of energy, with a strong emphasis on ensuring sustainable and environmentally safe energy services.¹⁰⁷ This Act outlines policies for granting energy service provider licenses and explicitly prioritizes the transition to a renewable-energy-based economy to meet the Maldives' ambitious carbon-neutral goals.¹⁰⁸ The nation aims for net-zero emissions by 2030, a target significantly supported by World

¹⁰² *Id.*

¹⁰³ *Id.*

¹⁰⁴ Cecile Fruman and Pankaj Gupta, *supra* note 87.

¹⁰⁵ Singye Dema & Deki Lhazom, *Licensing Regulation for Solar Power Plant 2024 Launched, Installation Now Requires License*, BBSCL (Aug. 13, 2024), <https://www.bbs.bt/207540/>.

¹⁰⁶ *Id.*

¹⁰⁷ *Maldives Energy Act (Law No. 18/2021 of 2021) | ESCAP Policy Documents Management*, (2021), <https://policy.asiapacificenergy.org/node/4478>.

¹⁰⁸ *Id.*

Bank-funded projects such as ASPIRE and ARISE, which have facilitated the installation of over 50 megawatts of solar capacity and 40 megawatt-hours of battery storage, enabling unprecedented renewable energy projects across the islands.¹⁰⁹

National Solar Energy Frameworks and Targets in SAARC Member States

The different national models for solar energy outlined above provide a significant starting point for possible regional synergies. Each SAARC member is pursuing solar energy in their own unique context with specific legal and policy pathways. This diversity, alongside the SAARC energy cooperation framework,¹¹⁰ creates the potential for optimized regional energy security and climate change mitigation. For example, Bhutan’s winter solar potential¹¹¹ could usefully complement its hydropower exports to India and Bangladesh¹¹², and therefore can proactively impact their regional energy mix. This indicates that the difference in their energy profile and policy mechanisms can be collaboratively woven together, rather than being completely disparate, through better regional cooperation to create a more resilient and efficient energy system for the entire region.

Country Name	Primary Solar/RE Legislation/ Policy	Key Regulatory Body/Authority	Notable Policy Mechanisms	Current Solar Capacity / RE Target	Key Challenges Highlighted
India	Electricity Act, 2003	MoP, MNRE, CEA, APTEL, CERC	Preferential tariffs, quotas, Green Open-Access Rules, Rooftop Solar Program	30% solar generation by 2040; Net zero by 2070 ¹¹³	-
Pakistan	Alternative and Renewable	-	Stimulates RE generation,	Rapid grassroots	Policy and infrastructure outpaced

¹⁰⁹ Cecile Fruman and Pankaj Gupta, *supra* note 87.

¹¹⁰ SAARC Framework Agreement for Energy Cooperation (Electricity), *supra* note 38.

¹¹¹ Singye Dema and Deki Lhazom, *supra* note 106.

¹¹² Cecile Fruman and Pankaj Gupta, *supra* note 87.

¹¹³ *Id.*

	Energy (ARE) Policy 2019		off-grid solutions	boom ¹¹⁴	by growth, rising taxes, lack of local manufacturing ¹¹⁵
Bangladesh	Renewable Energy Policy 2025	SREDA	Mandatory rooftop solar on public buildings, 10-year tax exemption, Net Metering, P2P trade, off-grid solutions ¹¹⁶	20% green sources by 2030 ¹¹⁷	Technical constraints (equipment quality, grid management), regulatory barriers (high tariffs) ¹¹⁸
Sri Lanka	Electricity Act (challenged)	PUCSL (authority challenged)	Tariff reforms (disputed), Net Plus (paused)	70% RE by 2030 ¹¹⁹	Tariff reductions impacting feasibility, grid infrastructure storage issues ¹²⁰
Nepal	Constitution of Nepal 2015, Local Government Operation Act 2017	Local governments (mandated)	Decentralized RE development, universal access by 2030 (SDG 7.1)	Universal access to modern energy by 2030 ¹²¹	Extensive support is needed for the decentralized process ¹²²

¹¹⁴ WHAT’S BEHIND PAKISTAN’S SOLAR ENERGY PUSH?, *supra* note 89.

¹¹⁵ *Id.*

¹¹⁶ Bangladesh Mandates Solar Panels on Public Buildings to Secure Energy Supply - *energynews*, *supra* note 28.

¹¹⁷ Rahman, *supra* note 94.

¹¹⁸ Bangladesh Mandates Solar Panels on Public Buildings to Secure Energy Supply - *energynews*, *supra* note 28.

¹¹⁹ Avindya, *supra* note 97.

¹²⁰ *Id.*

¹²¹ RENEWABLE ENERGY IN THE FEDERALIZED CONTEXT AND THE ROLE OF ALTERNATIVE ENERGY PROMOTION CENTER, *supra* note 102.

¹²² *Id.*

Bhutan	Licensing Regulation for Solar Power Plant 2024	Electricity Regulatory Authority (ERA)	Licensing/exemption based on capacity promotes solar during the lean hydropower season	Net-zero country, abundant hydropower (2.4 GW installed capacity as of 2022) ¹²³	Needs investment support for hydropower potential, imports power in winter ¹²⁴
Maldives	Maldives Energy Act (Law No. 18/2021)	-	Permits for electricity production, priority for local inventions/employees, transition to RE-based economy ¹²⁵	Net zero by 2030 ¹²⁶	-

The table provides a succinct comparative overview of the legal and policy environment in SAARC members to facilitate quick identification of aspects of similarity or difference in regulatory approaches. By comparing like policies, the table implicitly showcases the successful policy instruments that might be replicated or common issues requiring regional solutions. From a doctrinal perspective, we need to know the law made at the national level, so the table serves as a systematic source of that legal and policy information, thus locating how those principles and rules developed in a national framework and how they align or diverge from SAARC's regional aspirations. This structured framework of data also informed the recommendations section, facilitating specific and relevant evidence-based proposals that strengthen the SAARC framework.

INTERPLAY: SOLAR TRANSITIONS, CLIMATE JUSTICE, AND ENERGY GOVERNANCE IN SOUTH ASIA

The relationship between solar transitions, climate justice, and energy governance in South Asia is quite complicated, with significant potential for sustainable development and numerous

¹²³ Cecile Fruman and Pankaj Gupta, *supra* note 87.

¹²⁴ *Id.*

¹²⁵ Maldives Energy Act (Law No. 18/2021 of 2021) | ESCAP Policy Documents Management, *supra* note 108.

¹²⁶ Cecile Fruman and Pankaj Gupta, *supra* note 87.

challenges related to equitable implementation.

Integration of Solar Energy into National and Regional Energy Mixes

South Asian countries are in the process of developing renewable energy, and several are already carrying out climate-smart solutions.¹²⁷ The Maldives has been a great example of this transformation as several World Bank-funded projects have transitioned the Maldives from fossil fuels to solar, moving the country closer to its net-zero goals for 2030.¹²⁸ India's rapid expansion of solar energy has increased from 4% to 13% from 2014 to 2022, and forecast that solar will make up 30% of its generation capacity by 2040.¹²⁹ Also, Bangladesh is aiming to have its power demand sourced from 20% green sources by 2030,¹³⁰ and Sri Lanka's goal is to have 70% truly renewable energy by 2030.¹³¹

A regional electricity market and better cross-border trade are essential to getting the best out of these national actions. Greater integration would enable synergies among different factors related to clean energy resources, such as the abundant hydropower from Bhutan's and Nepal's rivers, combined with India's and Bangladesh's increasing solar energy capacity, while allowing CO₂ emissions in the region to be reduced progressively.¹³² This approach would allow countries to avoid adding more generation capacity and meet their net-zero targets more efficiently by sharing clean energy sources, thereby improving the quality of life for entire nations.¹³³

Challenges to Equitable Solar Energy Access and Human Rights Implications

Despite the strong impetus for renewables, a quick pace of solar transition may present or increase human rights and environmental risks if the transition is not accompanied by strong "just transition" policies.¹³⁴ This poses an inherent challenge between the time-sensitive nature of decarbonization and social equity, highlighting a value prioritization within existing governance structures. Major human rights and environmental risks exist when looking at the strength and transparency of human rights policies and the extent to which renewable energy

¹²⁷ Climate and Development in South Asia, *supra* note 5.

¹²⁸ Cecile Fruman and Pankaj Gupta, *supra* note 87.

¹²⁹ *Id.*

¹³⁰ Rahman, *supra* note 94.

¹³¹ Avindya, *supra* note 97.

¹³² Cecile Fruman and Pankaj Gupta, *supra* note 87.

¹³³ *Id.*

¹³⁴ Renewable Energy Companies Failing to Address Human Rights Issues in Southeast Asia, *supra* note 74.

firms engage with the communities affected in either case.¹³⁵ Some of these documented issues include the attack on human rights and environmental defenders, as well as the detrimental consequences on the communities.

The idea of a “just energy transition” highlights the significance of confirming justice and equity for impacted populations; that more people are gaining from energy generation, and that we have universal access to clean energy.¹³⁶ Distributed energy resources such as solar are often recognized as being cheaper, more inclusive, and resilient means of facilitating local economic development and solving energy poverty.¹³⁷ Community-led initiatives are key to assuring equitable access and to placing the power of decision-making into the hands of vulnerable communities, such as via solar-powered solutions for livelihoods and projects that provide communities with a say over the infrastructure that is provided for them.¹³⁸ Solar energy, therefore, has expansive potential beyond simply climate adaptation, as it can directly address energy poverty, increase resilience, and empower vulnerable communities.¹³⁹ This reframes solar transitions from being an environmental argument to being a lever for achieving Sustainable Development Goals more broadly, for instance, Universal Energy Access in Goal 7.1,¹⁴⁰ and creates the potential for human security in a climate-vulnerable region.

The “Just Energy Transition” Debate in South Asia

The “just energy transition” aims for a shift that is “as fair and inclusive as possible to everyone concerned, creating decent work opportunities and leaving no one behind.”¹⁴¹ This concept encompasses several dimensions of justice: distributive justice, which pertains to the equitable distribution of the costs and benefits of transitioning from fossil fuels to renewables; procedural justice, involving representation and inclusion in decision-making processes; and recognition justice, which requires accepting diverse visions of energy transitions among stakeholders and genuinely considering the needs of local communities when planning and building new energy

¹³⁵ *Id.*

¹³⁶ STOCKHOLM ENVIRONMENT INSTITUTE ET AL., *supra* note 75.

¹³⁷ *Global South*, RMI, <https://rmi.org/our-work/africa-islands-se-asia/> (last visited July 23, 2025).

¹³⁸ *What We Do*, *supra* note 77.

¹³⁹ *Global South*, *supra* note 138.

¹⁴⁰ RENEWABLE ENERGY IN THE FEDERALIZED CONTEXT AND THE ROLE OF ALTERNATIVE ENERGY PROMOTION CENTER, *supra* note 102.

¹⁴¹ Mirza Sadaqat Huda, *Towards a Just Energy Transition in Southeast Asia*, ISEAS - YUSOF ISHAK INSTITUTE (2025).

infrastructure.¹⁴²

While a policy framework for a just transition exists in some contexts, implementation is often restricted by a lack of public engagement, inadequate levels of finance, and the pervasiveness of fossil fuel lobbies.¹⁴³ There is still considerable opportunity to enhance justice components along energy transition pathways, with a notable lack of clarity in verifiable goals and objectives.¹⁴⁴

Legal and Policy Gaps in Facilitating a Just Solar Transition

Multiple important legal and policy gaps obstruct a genuinely just solar transition in South Asia. A substantial gap is that many renewable energy companies work in an impunity framework of a lacking human rights policy.¹⁴⁵ Our policies often do not have even explicit provisions related to: the unemployment of former fossil fuel workers, guarantees of energy access and affordability for all, or the provisions for recognizing, designing, and implementing meaningful multi-stakeholder dialogues and sourcing credible feedback from communities impacted.¹⁴⁶

The risk that “clean energy, when designed entirely for private profit, driven without community consent, and resulting in other environmental or social problems, can multiply environmental injustices”¹⁴⁷ highlights a crucial gap in legal mandates for ensuring community consent and equitable benefit-sharing. This implies that the method of solar deployment can negate its environmental benefits if human rights are not prioritized. Therefore, the “just transition” is not merely a policy aspiration but a legal and ethical requirement for companies and governments to conduct thorough human rights due diligence throughout the solar project lifecycle, from planning to operation, to avoid conflict and ensure equitable outcomes.

CHALLENGES AND OPPORTUNITIES FOR ENHANCED REGIONAL COOPERATION

The path to a sustainable and just energy future in South Asia is full of challenges, but it also

¹⁴² STOCKHOLM ENVIRONMENT INSTITUTE ET AL., *supra* note 75.

¹⁴³ Huda, *supra* note 142.

¹⁴⁴ STOCKHOLM ENVIRONMENT INSTITUTE ET AL., *supra* note 75.

¹⁴⁵ Renewable Energy Companies Failing to Address Human Rights Issues in Southeast Asia, *supra* note 74.

¹⁴⁶ Yohan Liyanage, *supra* note 58.

¹⁴⁷ *South Asian Climate Justice*, SAPNA SOUTH ASIAN CLIMATE SOLIDARITY, https://www.sapnasolidarity.org/south_asian_climate_justice (last visited July 23, 2025).

produces real opportunities for increased regional cooperation.

Political Tensions and Economic Disparities as Impediments

SAARC has made favorable progress towards regional cooperation, particularly related to climate and energy issues. But it has generally been modest progress owing to ongoing historical battles, border disputes, and poor commitment from members on behalf of their interests, and institutions remain unfocused toward national interests that dominate regional issues.¹⁴⁸ The realm of mutual distrust and self-interest has been detrimental to substantive progress in the region.¹⁴⁹ Some facet of reluctance among member states toward regional liberalization occurs because of a fear of being “swamped by Indian businesses.”¹⁵⁰ This adds to the political differences and economic discrepancies among member states, which contribute to asymmetries of capacity to launch vast climate change-related projects and policies, and thus impacts overall regional success.¹⁵¹

This persistent political deadlock consistently undermines energy security and climate goals. The persistent political tensions and mutual distrust directly inhibit the operationalization of regional frameworks for energy cooperation.¹⁵² This not only means that vast amounts of regional renewable energy resources, including Bhutan's hydropower and South Asia's vast solar potential,¹⁵³ are left untapped, but also forces individual countries to rely more on expensive fossil fuel imports¹⁵⁴ and significantly encumber their collective progress on climate goals and energy security. This creates a negatively reinforcing feedback loop where political challenges serve as a direct impediment to essential climate and energy objectives.

Infrastructure Gaps and Grid Integration Challenges

The rapid expansion of solar energy in some countries, notably Pakistan, has “outpaced policy and infrastructure,” leading to a lack of a comprehensive roadmap for managing decentralized growth.¹⁵⁵ Sri Lanka, for instance, faces significant grid infrastructure storage issues, which

¹⁴⁸ Faijul Islam, *The Role of the South Asian Association for Regional Communication (SAARC): Limitations, Challenges and Proposed Reforms*, 3 IJLSS 78 (2025).

¹⁴⁹ Rajiv Kumar, *SAARC: Changing Realities, Opportunities and Challenges* (19-20 DECEMBER).

¹⁵⁰ *Id.*

¹⁵¹ Nawale (Kadam), *supra* note 25.

¹⁵² SAARC Framework Agreement for Energy Cooperation (Electricity), *supra* note 38.

¹⁵³ Gulagi et al., *supra* note 26.

¹⁵⁴ Bangladesh Mandates Solar Panels on Public Buildings to Secure Energy Supply - energynews, *supra* note 28.

¹⁵⁵ WHAT'S BEHIND PAKISTAN'S SOLAR ENERGY PUSH?, *supra* note 89.

hinder the effective integration of residential renewable energy generation.¹⁵⁶ The technical challenges of integrating distributed energy generation at multiple locations, including equipment assurance and smart grid implementation, are substantial.¹⁵⁷ This means that there is significant importance to invest in proper grid infrastructure for countries to achieve their 2030 renewable energy goals.¹⁵⁸

Financing and Investment Needs for Solar Expansion

In South Asia, addressing climate change necessitates that we find significant funding, and the “integral role of the international community in facilitating this” will be critical. Worldwide, there is clearly a “USD 5 trillion gap in the yearly financing to meet net-zero emissions,” and South Asia bears the brunt of these challenges.¹⁵⁹ Government incentives for various technologies, such as battery storage, become very expensive in places like Sri Lanka. Thus, it creates barriers to a swap to renewable energy self-reliance.¹⁶⁰ The policy frameworks for a just transition to net-zero are also often limited by a broad lack of cash and the opposition of powerful fossil fuel lobbies.¹⁶¹

Opportunities for Cross-Border Electricity Trade and Resource Sharing

In spite of so many challenges, immense opportunities exist for enhanced regional cooperation. A regional electricity market would effectively integrate countries, increase synergies among diverse clean energy resources, and significantly reduce CO₂ emissions.¹⁶² Bhutan and Nepal, with their abundant hydropower potential, possess clear synergies with India, which aims to meet 50% of its energy requirements from renewables by 2030, and with Bangladesh, which targets a 22% reduction in carbon emissions before 2030. These hydropower-rich nations can significantly contribute to their neighbors’ energy transition targets.¹⁶³ Cross-border trade can lead to the efficient utilization of regional energy resources and an overall reduction in unserved electricity.¹⁶⁴ The SAARC Framework Agreement on Energy (Electricity)

¹⁵⁶ Avindya, *supra* note 97.

¹⁵⁷ Bangladesh Mandates Solar Panels on Public Buildings to Secure Energy Supply - energynews, *supra* note 28.

¹⁵⁸ Institute, *Southeast Asia’s Energy Transition: Policy and Deployment*, SOUTHEAST ASIA PUBLIC POLICY INSTITUTE (Jan. 25, 2025), <https://seapublicpolicy.org/seaenergytransition2025/>.

¹⁵⁹ Cecile Fruman and Pankaj Gupta, *supra* note 87.

¹⁶⁰ Avindya, *supra* note 97.

¹⁶¹ Huda, *supra* note 142.

¹⁶² Cecile Fruman and Pankaj Gupta, *supra* note 87.

¹⁶³ *Id.*

¹⁶⁴ *Publications* | SAARC Energy Centre (SEC), Islamabad, (2021), <https://www.saarcenergy.org/publications/>.

Cooperation¹⁶⁵ provides the foundational legal basis for such initiatives, and dispute resolution mechanisms, including the SAARC Arbitration Council, are in place to address potential conflicts in cross-border electricity trade.¹⁶⁶

Role of Climate Litigation in Driving Accountability

Climate litigation has seen a considerable global increase, with cases increasingly emerging from the Global South since 2015,¹⁶⁷ with domestic courts in South Asia having a more active role in enforcing environmental rights and holding governments accountable for a failure to act on climate change.¹⁶⁸ An ongoing advisory opinion on climate change from the International Court of Justice (ICJ) may provide important legal clarity about state obligations and potential liability for climate damage, which may further strengthen legal frameworks in South Asia and beyond.¹⁶⁹

The success of solar transitions and climate justice in South Asia hinges on developing robust “soft infrastructure” in addition to physical grid interconnections.¹⁷⁰ This soft infrastructure includes transparent governance, strong human rights due diligence, and effective dispute resolution mechanisms.¹⁷¹ The rise of climate litigation¹⁷² indicates that where formal regional or national governance is weak, legal challenges become a de facto mechanism to enforce justice, underscoring the critical need for both types of infrastructure to ensure equitable and sustainable energy futures.

RECOMMENDATIONS FOR STRENGTHENING SAARC’S CLIMATE JUSTICE AND SOLAR ENERGY FRAMEWORK

To meaningfully address the complex relationship of solar transitions, climate justice, and energy governance in South Asia, an integrated approach focusing on building up regional and

¹⁶⁵ SAARC Framework Agreement for Energy Cooperation (Electricity), *supra* note 38.

¹⁶⁶ *Regulatory Issues and Challenges in Cross Border Electricity Trade-Role of Regional Regulatory Guidelines & Way Forward*, (2016), <https://sarepenergy.net/wp-content/uploads/2022/07/Regulatory-Issues-and-Challenges-in-CBET.pdf>.

¹⁶⁷ MARIA ANTONIA TIGRE, CLIMATE LITIGATION IN THE GLOBAL SOUTH: MAPPING REPORT (2024), https://scholarship.law.columbia.edu/sabin_climate_change/230?utm_source=scholarship.law.columbia.edu%2Fsabin_climate_change%2F230&utm_medium=PDF&utm_campaign=PDFCoverPages.

¹⁶⁸ Thangaiah, *supra* note 36.

¹⁶⁹ *Id.*

¹⁷⁰ Institute, *supra* note 159.

¹⁷¹ Renewable Energy Companies Failing to Address Human Rights Issues in Southeast Asia, *supra* note 74.

¹⁷² Thangaiah, *supra* note 36.

national structures is necessary.

Enhancing Legal and Policy Cohesion at Regional and National Levels

At its most basic level, it is necessary for SAARC to develop an integrated, coherent climate and energy policy that moves past aspirational statements to developing concrete implementation plans to demonstrate they meet clear, measurable objectives and goals.¹⁷³ This involves harmonizing national renewable energy policies and regulations, including tariffs, licensing procedures, and grid codes, to facilitate seamless cross-border electricity trade and investment.¹⁷⁴ Furthermore, legal frameworks must be strengthened to explicitly incorporate and enforce all dimensions of climate justice, such as distributive, procedural, recognition, compensatory, and transformative, into all energy projects.¹⁷⁵ The consistent observation of SAARC declarations being “operationally defunct”¹⁷⁶ and the increasing reliance on domestic litigation¹⁷⁷ for climate justice underscores a fundamental need for SAARC to transition from non-binding declarations to a more robust, potentially legally binding framework for climate justice and energy cooperation. This would provide a clearer legal basis for state obligations and facilitate regional enforcement, reducing reliance on fragmented national judicial efforts.

Promoting Equitable Access and Community-Centric Solar Development

It is critical to impose comprehensive human rights due diligence on all renewable energy projects. This means provisions for transparency, prior informed consent from the local community, and procedures for effective grievance mechanisms.¹⁷⁸ There has to be a discernible order of priority for those who have faced energy poverty, direct investments in marginalised people, support for the direct use of distributed energy resources, and a commitment to community solar.¹⁷⁹ In addition, we need policies that ensure shared prosperity and social protection for the people and communities, and workers affected by the transition system of the energy transition, which will include retraining and jobs for people moving away from fossil fuel jobs.¹⁸⁰

¹⁷³ Ruchir Agarwal et al., *Climate Change in South Asia: Further Need for Mitigation and Adaptation*, (2021).

¹⁷⁴ SAARC Framework Agreement for Energy Cooperation (Electricity), *supra* note 38.

¹⁷⁵ Islam, *supra* note 56.

¹⁷⁶ Thangaiah, *supra* note 36.

¹⁷⁷ *Id.*

¹⁷⁸ Renewable Energy Companies Failing to Address Human Rights Issues in Southeast Asia, *supra* note 74.

¹⁷⁹ What We Do, *supra* note 77.

¹⁸⁰ STOCKHOLM ENVIRONMENT INSTITUTE ET AL., *supra* note 75.

Strengthening Regional Energy Interconnection and Trade

Prompting a regional power grid quickly and efficiently is a priority and can be achieved with valuable lessons learned from the ASEAN power grid.¹⁸¹ Substantial investment in cross-border transmission infrastructure needs to occur to efficiently utilize, among other things, the hydropower potential of Bhutan and Nepal, as well as the solar energy resources in India and Bangladesh.¹⁸² Importantly, to facilitate proper operation, the SAARC Arbitration Council should be effectively operational and reinforced for establishing adequate dispute resolution in the realm of cross-border energy trading.¹⁸³

Mobilizing Climate Finance and Private Sector Investment

For SAARC member states to insist on their fair share from the global climate financial community that supports climate justice, they need to strengthen their voice as a collective force.¹⁸⁴ The scale of the finance gap for net zero emissions¹⁸⁵ represents the need for an ecosystem of finance regions, cutting-edge finance models with private sector involvement from green bonds to public-private partnerships, and creating disincentives for non-renewable energy financing.¹⁸⁶ The most essential first step in de-risking private sector investments in renewables is to create pathways characterized by clear, stable, and attractive regulatory regimes for the region.¹⁸⁷ SAARC can take advantage of the significant financing gap for net-zero emissions¹⁸⁸ and the need for international support for renewables¹⁸⁹ by banding together and demonstrating a unified regional commitment to solar transition based on a clear and just plan for the region. By doing so, SAARC can frame a climate finance model that is more meaningful than simply asking for financing. It would be a means to accelerate a more equitable energy transition for the region that recognizes global obligations and responsibilities and local energy needs.

¹⁸¹ Regulatory Issues and Challenges in Cross Border Electricity Trade-Role of Regional Regulatory Guidelines & Way Forward, *supra* note 167.

¹⁸² Cecile Fruman and Pankaj Gupta, *supra* note 87.

¹⁸³ Regulatory Issues and Challenges in Cross Border Electricity Trade-Role of Regional Regulatory Guidelines & Way Forward, *supra* note 167.

¹⁸⁴ The Secretary General of SAARC H.E. Mr. Md. Golam Sarwar, *supra* note 9.

¹⁸⁵ Cecile Fruman and Pankaj Gupta, *supra* note 87.

¹⁸⁶ Huda, *supra* note 142.

¹⁸⁷ Avindya, *supra* note 97.

¹⁸⁸ Cecile Fruman and Pankaj Gupta, *supra* note 87.

¹⁸⁹ Ruchir Agarwal et al., *supra* note 174.

Fostering Data Sharing, Knowledge Exchange, and Capacity Building

Enhancing collaboration in climate science across the region with common data sharing and information on glaciers, water flows, and weather patterns would help support better-informed decisions.¹⁹⁰ Facilitating the sharing of knowledge, best practices, and technology transfer concerning clean and renewable energy among members of the region will hasten regional advancement.¹⁹¹ Helping to enhance local governments and community capabilities is also important for them to be able to manage decentralized renewable energy projects, as well as strengthen their involvement in energy governance.¹⁹²

CONCLUSION

South Asia is at a unique moment, increasingly exposed to the onslaught of climate change that requires coordinated and immediate action. The Southern Asian Association for Regional Cooperation (SAARC) has defined some fundamental climate and energy frameworks throughout multiple declarations and frameworks, but their efficacy has been hindered by political tensions and gaps in implementation. Often, this has led countries in the region to pursue their respective climate solutions, including increasing judicial activism, which is a reactive manner to advance climate justice using courts and taking advantage of the failure of regional governance.

There are alternatives and possibilities within solar energy for the region, offering the potential of affordable, reliable, and low-carbon electricity. Most SAARC member states have national policies driving solar energy, but this increased deployment is often quickly outpacing the policy and infrastructure that support it. This creates a scenario where we see a paradox of decentralized growth and the absence of a decentralized policy. When we think of climate justice, we must recognize that no transition to solar is merely about decarbonization. Rather, the transition to solar must also be about equity, protecting human rights, and providing a meaningful level of community participation. There are still large policy gaps in meriting a “just transition,” especially with respect to social equity, labor justice, and the important consideration of community consent.

¹⁹⁰ The Secretary General of SAARC H.E. Mr. Md. Golam Sarwar, *supra* note 9.

¹⁹¹ *Id.*

¹⁹² RENEWABLE ENERGY IN THE FEDERALIZED CONTEXT AND THE ROLE OF ALTERNATIVE ENERGY PROMOTION CENTER, *supra* note 102.

Moving forward requires moving from disparate national activities to a fully integrated, justice-oriented regional vision. Political hurdles continue to remain entrenched, and there is no getting away from investing in hard infrastructure, such as cross-border transmission grids and stronger soft infrastructure, like transparent governance, rigorous human rights due diligence systems, and efficient dispute settlement measures. As a collective, SAARC can utilize its voice and single regional narrative to improve its capacity to mobilize much-needed climate finance and facilitate technology transfer from the international community. All of this can convert climate vulnerabilities into an opening to develop the first model of just energy governance that can inform developments in the rest of the Global South.