



## Energy, climate, and law

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The call for this volume was announced sometime last year when the 2018 report of The Inter-Governmental Panel on Climate Change (IPCC) was released. And this editorial note is now being written when the report of a UN backed panel called the Inter-Governmental Science Policy Platform on Biodiversity and Ecosystem Services (IPBES) has just been released. Both the documents come from authoritative scientific groupings of scientists and policy thinkers. The two reports have laid out a detailed diagnosis of climate change and the loss of nature while informing us about a dreadful prognosis for the planet.

Further, in the light of changed political dynamics across democracies where right leaning dispensations have taken charge and the countries like United States under Trump presidency reject the dangers of Climate Change, it seems that the planet that has been irreversibly damaged is nowhere to be saved in the near future. It seems that the ‘transformative changes to economic, social and political systems’ that are being called for by the two mentioned reports if the planet has to be saved further are not a possibility, at least in the near future. The failure of the Arctic Council meeting to arrive at a consensus declaration this time points towards this global deadlock.

It is therefore topical and imperative to indulge in the discourse on climate change governance. This edition of JGLR intends to contribute to the discourse on reimagining, studying and testing alternative regulatory and policy approaches to climate change governance. We intended to engage with academics, policy analysts and practitioners to have a renewed discourse on such models of governance in this special issue.

Climate change is highly unpredictable and uncertain in the scale, location and timing of its impact. We already understand that climate change governance must

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cut across countries, communities, businesses, sectors, and many other stakeholders. This implies that the governance models will have to continuously reimagine the institutional and decision-making structures, calling for an unprecedented inter-agency, cross-jurisdictional coordination. At the same time, any such model of regulation and policy will have to account for the political reality where long term climate change impact is often discounted for electoral gains or to placate an organized opposition such as coal power.

Encompassing a range of issues, this edition particularly highlights the interaction between energy and climate change. Renewable energy is the strategy most likely to mitigate the effects of climate change. Nearly everyone wants more renewable energy. But when one goes into the details of setting up a renewable energy plant, the realities dawn very quickly. India is one of the few countries that has a dedicated renewable energy ministry. Even before the Paris Agreement, India had pledged to increase its renewable energy production, especially in solar power. Having said this, there are many legal hurdles that must be resolved to alleviate intrinsic issues that face the renewable energy sector.

India lacks a specific legislation on renewable energy. The concerned ministry has in its pipeline a draft bill to this effect since 2015. However, it is still pending comments from the stakeholders and has not been introduced in the Parliament. The aim of this Act will be to ensure the development and implementation of a stable and conducive policy regime to facilitate development of renewable energy sources. Renewable energy projects require significant capital expenditure at the start. A financial structure, such as the Real Estate Investment Trust (that helps recover huge capital expenditures in infrastructure projects), can be implemented to further incentivize renewable energy and make the companies cash-rich.

This edition begins the discussion with Kirsten Davies proposing an approach known as ‘namele mechanism’ that links the bottom-up knowledge and values of the communities to the top-down constructs of environmental management and protection enshrined in regulatory instruments in order to adapt to and mitigate the damaging effects of climate change. Various principles such as the integration principle and the polluter pays principle are discussed which are particularly relevant to climate change adaptation. The usage of adaptive co-management is then discussed in relation to sustainable development, public participation and the use of resources. To ascertain the practicality of such a mechanism, a few case studies are discussed such as Fiji, Samoa and New Zealand.

Adaptive governance as a corollary to environmental governance with focus on the water sector is discussed by Chandni Bedi. The author draws attention of the readers to the important distinction between water governance and water management activities which is a very fine line. An insight into the pros and cons of various approaches to resolve this issue is provided. Adaptive governance to deal with issues in the water sector are discussed keeping in mind the multi-disciplinary approach required to address this. The paper then divulges into a case study of two villages in Gurgaon, a district in the National Capital Region (NCR) of Delhi, India which has faced an immense strain on the availability of water as a resource especially ground water for the sustenance of public life of the citizens inhabiting there. Efforts towards adaptive governance undertaken at the ground level and their implementation in

these villages is then discussed. These diverse efforts which range from participation and collaboration to role of leadership and accountability are discussed along with the results they have been able to achieve till date.

Domenico Amirante offers an insight into another regulatory legal instrument known as the ‘Global Pact’, which has the power to legally bind state and non-state actors to undertake measures to mitigate the increasing negative consequences of climate change. The Pact, derived not only from existent international instruments but national constitutions as well, would reaffirm the responsibility of the international community and that of the States, while involving them in actively working to stop the environmental disaster that is looming. Further, the author discusses some new innovative principles that have been put forth under the Pact such as non-regression which were earlier unheard of under environmental law jurisprudence. A critique of the Pact as put forth by various scholars is also discussed.

Bharath Jairaj and Parul Kumar in their article address the journey undertaken by India from 2015 till date in line with its commitments under the Paris Agreement. A brief insight into the ratification of the Paris Agreement by India is provided by the author along with discussing India’s Nationally Determined Contribution Plan under the Paris Agreement. India’s energy sector is then discussed by the author in relation to coal by providing an insight into the problems which the sector faces due to the need to meet electricity demands. Since everything is not dark and gloomy with respect to the energy sector, the author draws attention to the several avenues for positive change which India’s energy transition offers like de-carbonizing, using low carbon sources of energy such as solar and wind. The energy policies currently in force i.e. Saubhagya scheme and Pradhan Mantri Ujjwala Yojana are discussed to shed light on the energy policies for long-term change in energy access and sustainable energy use at the household level. In the final phase, the paper looks at the direction in which India’s energy policy should proceed, highlighting issues that form the cornerstones for law and regulation.

Anjali Jaiswal, Madhura Joshi and Sameer Kwatra in their article discuss the need for India to meet its Paris Agreement obligations as non-conformity will lead to a domino effect on the world at large. Although there is no denial of the fact that India has taken decisive steps towards achieving its commitments under the Paris Agreement, the very magnitude of its development needs being a developing state dwarfs the steps taken for climate protection. These commitments of India are governed by the climate pledge taken under the aegis of the Paris Agreement which lays out a comprehensive approach to curb the worst impacts of climate change while fostering economic growth, increasing energy access, creating jobs, protecting biodiversity, building resilience in communities to climate impacts, and providing cleaner air and water for its citizens. Renewable energy is the main stay of India’s strategy to achieve these goals which are discussed in this paper coupled with energy efficiency and super pollutants HFCs, transport sector reforms and other policy changes like green financing. India is already one of the largest clean energy markets in the world, and the potential for growth is unlimited. With the right mix of policy and financial incentives, India can promote prosperous development by accelerating the transition away from coal power to renewable energy and enhanced efficiency as argued through this piece.

The power requirements of India are discussed by Harsh Vardhan Bhati in the backdrop of increasing population and its relationship with increasing levels of pollution. Due to the upsurge in the negative impact of conventional sources of energy, the growth and development of renewable energy is becoming significant in the current global context. Emphasis has been given by the author in this piece to discussing solar energy and India's current progress in this regard. It is evident that the development of Indian solar energy sector hinges on the combination of a legislative framework, financial mechanisms, the local manufacturing sector, environmentally sound technology, etc. Despite the growing share of solar energy in India, there are still gaps in the governance of solar energy sector. In this article, the author focuses on the current status, challenges and future prospects of solar energy development in India and sums up the way forward with recommendations to address some of these gaps.

Food consumption patterns and their interaction with climate change have been discussed by Sahil Agarwal in his article. This interesting and crucial analysis begins by delving into the role of population explosion in advancing climate change with emphasis on the contribution that meat and dairy products have on greenhouse emissions. The author advances the need to expand policies and programs which nudge society to reduce the food requirements. The direct method proposed by him is the reduction of population growth rate through awareness and incentivization. Reduction of carbon emissions by reducing food wastage is also proposed. Changes such as an effort to consume seasonal food and accepting diversity of food across regions are discussed by the author. To achieve these objectives, the author proposes setting up of environmental accreditation agencies at an institutional level to set up food consumption frameworks to buttress attempts at changes at the behavioral level.

Siddharth Johar in another article discusses the requirement of a new energy regime in India and the world in the backdrop of reckless use of fossil fuels leading to pollution on a massive scale. He commences by providing a background of the symbiotic relationship between energy and mankind over the course of history. Renewable resources as viable alternatives to mitigate negative externalities of climate change have then been discussed in the light of international efforts to address this issue through initiatives like International Solar Alliance, International Renewable Energy Agency and the Paris Agreement. However, while international forums play an important role in bringing together like-minded nations, it is actually the internal policies and implementation procedures of a country that decide the level of growth in the domestic market of that nation. Keeping this in mind, the current Indian regulatory framework regarding the energy sector is discussed. Finally, the need for national level policies to enable the holistic growth of renewable energy are discussed in the Indian context.

Moving from policy level discussions now to a law focussed comment, Akaant Mittal has analysed a recent judgement given by a High Court in India that recognises legal identity for natural resources like rivers. Giving legal backing to protection of the environment as espoused through this paper would be the logical follow up to ensuring implementation of various environment law principles such as polluter pays as it would allow people to initiate actions on behalf of the environment and seek redressal by according them *locus standi* which is a prerequisite to bring

about any suit before a court of law. The idea of providing legal personality to non-sentient beings particularly animals, rivers amongst others is not new in the Indian jurisprudence. This view especially in respect to rivers is in sync with the courts of New Zealand and Ecuador. While these rulings which the author discusses are interesting subjects of discussion, the practical modalities are still a grey area for jurisprudence which is showcased by the author through the Ecuador's Vilcabamba River case, Columbia's Rio Atrato case and the case of Whanganui river in New Zealand. This approach is argued to having its basis in Public Trust doctrine wherein human beings are expected to respect other biotic elements of our eco- system.

Prashant Singh provides a review of the book by Isabel M. Borges titled *Environmental Change, Forced Displacement and International Law: from legal protection gaps to protection solutions*. Isabel M. Borges in her book examines environmental impact with emphasis on forced displacement of people who have faced the repercussions of climate change disasters. Borges' book aims to analyse the role of international law in general and in particular human rights law, in the protection of people who are facing a legal protection void in reference to cross-border displacement resulting from climate change. She aims to take a holistic approach to protection of Environmentally Displaced People's while focusing solely on the human rights obligations of states to protect them. The book offers an innovative insight into the complex 'legal protection gap' problem while devising a legal protection framework for Environmentally Displaced People.

These are all issues that will continue to see discussions and debates. We are hopeful that this special issue will contribute to the existing discourse while introducing new ideas at the same time. Given the nature of our problem at hand, we are sure that this will be an ongoing global discourse. But our endeavor must be to make an impactful and pragmatic contribution.

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