

## **The Energy Policy Journal 'Special Section: Energy Policies for Low Carbon Sustainable Transport in Asia'.**

The Energy Policy Journal 'Special Section: Energy Policies for Low Carbon Sustainable Transport in Asia', which is scheduled for release in June 2015, is a direct outcome of the 'Promoting Low Carbon Transport in India' project. The project is funded by the German government (BMUB), under the International Climate Initiative (IKI). The journal features 2 articles resulting from work undertaken within the project, and includes an editorial piece. The journal's editorial team invited international experts external to the project to provide perspectives on transitions occurring outside India. The abstracts for the articles are provided below:

### **1. Energy policies for low carbon sustainable transport in Asia**

**Priyadarshi R. Shukla, Subash Dhar**

Transformation of Asia's transport sector has vital implications for climate change, sustainable development and energy indicators. Papers in this special issue show how transport transitions in Asia may play out in different socio-economic and policy scenarios, including a low carbon scenario equivalent to 2°C stabilization. Accounting for heterogeneity of national transport systems, these papers use diverse methods, frameworks and models to assess the response of the transport system to environmental policy, such as a carbon tax, as well as to a cluster of policies aimed at diverse development indicators. The analysis shows that CO<sub>2</sub> mitigation in a transport system is achieved more effectively by aligning mitigation policies with sustainable development policies and measures such as mandates for mode share and choices such as urban design, information and communication systems, and behavioral measures. Authors therefore advocate policies that target multiple dividends vis-à-vis carbon mitigation, energy security and local air quality. Whereas four papers focus on emissions mitigation policies, one paper examines challenges to adapt fast growing transport infrastructures to future climate change induced risks. Collectively, the papers exemplify a set of policies and measures that can deliver co-benefits, and also, demonstrate the use of methods, frameworks and models to delineate the optimal mix of such policies and measures.

### **2. Low carbon scenarios for transport in India: Co-benefits analysis**

**Subash Dhar, Priyadarshi R. Shukla**

Dependence on oil for transport is a concern for India's policymakers on three counts – energy security, local environment and climate change. Rapid urbanisation and accompanying motorisation has created some of the most polluting cities in India and rising demand for oil is leading to higher imports, besides causing more CO<sub>2</sub> emissions. The government of India wants to achieve the climate goals through a sustainability approach that simultaneously addresses other environmental and developmental challenges. This paper analyses a sustainable low carbon transport (SLCT) scenario based on sustainable strategies for passenger and freight mobility, vehicle technologies and fuel using global CO<sub>2</sub> prices that correspond to 2°C global stabilisation target. The scenarios span from years 2010 to 2050, and are analysed using the energy system model - ANSWER MARKAL. The SLCT scenario has improved energy security (cumulative oil demand lower by 3100 Mtoe), improved air quality (PM 2.5 emissions never exceed the existing levels), and the cumulative CO<sub>2</sub> emissions are

lower by 13 billion t CO<sub>2</sub> thereby showing that achieving development objectives with CO<sub>2</sub> co-benefits is feasible.

### **3. Energy infrastructure in India: Profile and risks under climate change**

**Amit Garg, Prakriti Naswa, Priyadarshi R. Shukla**

India has committed large investments to energy infrastructure assets-power plants, refineries, energy ports, pipelines, roads, railways etc. The coastal infrastructure being developed to meet the rising energy imports is vulnerable to climate extremes. This paper provides an overview of climate risks to energy infrastructures in India and details two case studies – a crude oil importing port and a western coast railway transporting coal. The climate vulnerability of the port has been mapped using an index, while that of the railway has been done through a damage function for RCP 4.5.0 and 8.5 scenarios. Our analysis shows that risk management through adaptation is likely to be very expensive. The system risks can be even greater and might adversely affect energy security and access objectives. Aligning sustainable development and climate adaptation measures can deliver substantial co-benefits. The key policy recommendations include: i) mandatory vulnerability assessment to future climate risks for energy infrastructures; ii) project and systemic risks in the vulnerability index; iii) adaptation funds for unmitigated climate risks; iv) continuous monitoring of climatic parameters and implementation of adaptation measures; and iv) sustainability actions along energy infrastructures that enhance climate resilience and simultaneously deliver co-benefits to local agents.

Link to the Energy Policy journal where the project articles are written  
Energy Policy <http://www.sciencedirect.com/science/journal/03014215/81>