GREEN ALERT

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The focus of Environment information System (ENVIS) is to disseminate environmental information to Decision makers, policy planners, scientists and researchers across the world.

The Centre focuses on 'Eco-labeling and Promotion of Eco-friendly Products'. This bi-monthly e-bulletin features latest news, developments and innovations in the field.

Eco product of the month

Fuel From Sunlight with Artificial Leaf

Indian scientists at the Council of Scientific and Industrial Research's National Chemical Laboratory in Pune have developed an artificial leaf that absorbs sunlight to generate hydrogen fuel from water, an advance that may provide clean energy for powering eco-friendly cars in the future. The ultra-thin wireless device mimics plant leaves to produce energy using water and sunlight. The device consists of semiconductors stacked in a manner to simulate the natural leaf system. When light strikes the semiconductors, electrons move in one direction, producing electric current. The research is published in the journal ***Scientific Reports***.

Source: *https://www.nature.com/articles/s41598-017-06849-x*

Green issue

Climate change and urban lifestyle

Climate change has emerged as one of the most devastating environmental threats. Global climate change impacts on human and natural systems are predicted to be severe. As evidence of climate change and its impact continues to be amassed, it has become clear that many of the causes of climate change are anthropogenic in nature through lifestyles, consumption and choices that pollute and exploit resources in an unsustainable manner.

Climate change could be making metro cities more vulnerable to cyclonic storms and flooding. Imperceptible rise in sea levels and changes in weather patterns are increasing. In 2013, Mumbai was listed by the journal *Nature Climate Change* as the fifth coastal city in the world to be most affected by flooding in the future, measured by economic losses. The first four are Guangzhou, Miami, New York-Newark and New Orleans. Mumbai and Chennai hit by cyclones in 2015 and 2016 which are hubs for international IT firms.

The Institute of Transport Economics and Meteorological Institute in Norway and four Indian research institutions – The Energy and Resources Institute (TERI, Delhi), School of Planning and Architecture (SPA, Delhi), Indian Institute of Science (IISc, Bangalore) and Indian Institute of Technology Bombay (IIT Mumbai) have taken the study to evaluate the impact of transport on climate change in India. They collaboratively work on developing mitigation and adaptation strategies for the transport sector in India.

The research project 'CLIMATRANS – Coping with Climate: Assessing Transport Sector Strategies for Climate Change Adaptation and Mitigation for Indian Cities' launched in 2014 and will run for 3 years. The project assesses climate change impacts in urban areas in India and aims to develop mitigation and adaptation strategies for the transport sector. Delhi, Mumbai and Bangalore have been selected as case cities.

The Indian transport system is one of the largest in the world and the demand for mobility and the energy use of the transport sector has increased with the rapid growth of economic activity. India is experiencing a dramatic increase in urbanization and increase in car ownership, resulting in a number of negative impacts. Transport sectors have contributions to local emissions of pollutants and greenhouse gas emissions and the impacts of the future climate change.

Source: *http://www.urbannewsdigest.in/?p=13199, https://www.toi.no/climatrans/*

Eco news

Electric car revolution - India is pushing hard

Many Indian cities are among the world's most polluted and vehicular pollution is one of the major causes. India is obligated to bring down greenhouse gas emissions by 2030 for its Paris Climate Agreement. Electric vehicles can be a solution, as they can be charged from any power outlet. But are not seen as the solution because of the prohibitive up-front cost. These are on average 35% more expensive than non-electric cars— despite gradually declining battery prices and zero maintenance fees. The cost of the battery technology pumps up the sticker price. The Indian government is currently drawing up the details of an ambitious plan to promote electric vehicles, including banning the sale of non-electric vehicles by 2030.

Source: *http://www.eco-business.com/opinion/battery-swapping-can-propel-indias-electric-car-revolution/*

India's first electric locomotive manufacturing facility

India has started manufacturing electric locomotive with the help of France-based Alstom- a world leader in integrated transport systems. Manufacturing unit is located at Madhepura, Bihar. The construction of the plant is a remarkable achievement in the construction of greenfield facilities in the country. The Prima T8 (WAG12) locomotive, which will be produced in this new factory, is part of Alstom's Prima range of locomotives and has been specially adapted for Indian network. The first two car body shells have already arrived at Madhepura and will be soon fitted and assembled at the plant. The first locomotive will be ready for rollout early next year. The first 5 locomotives by 2019 followed by 35 locomotives by 2020, 60 in 2021, and by 100 every year till the target of 800 is completed.

Source: *http://www.alstom.com/press-centre/2017/10/alstom-commences-production-at-indias-first-electric-locomotive-manufacturing-facility/*

Eco tip of the month

Go for Organic food

Organic farming improves soil quality, encourages biodiversity, reduces fossil-fuel use, carbon emission and chemical runoff that pollutes water.

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