

energyⁿ manager



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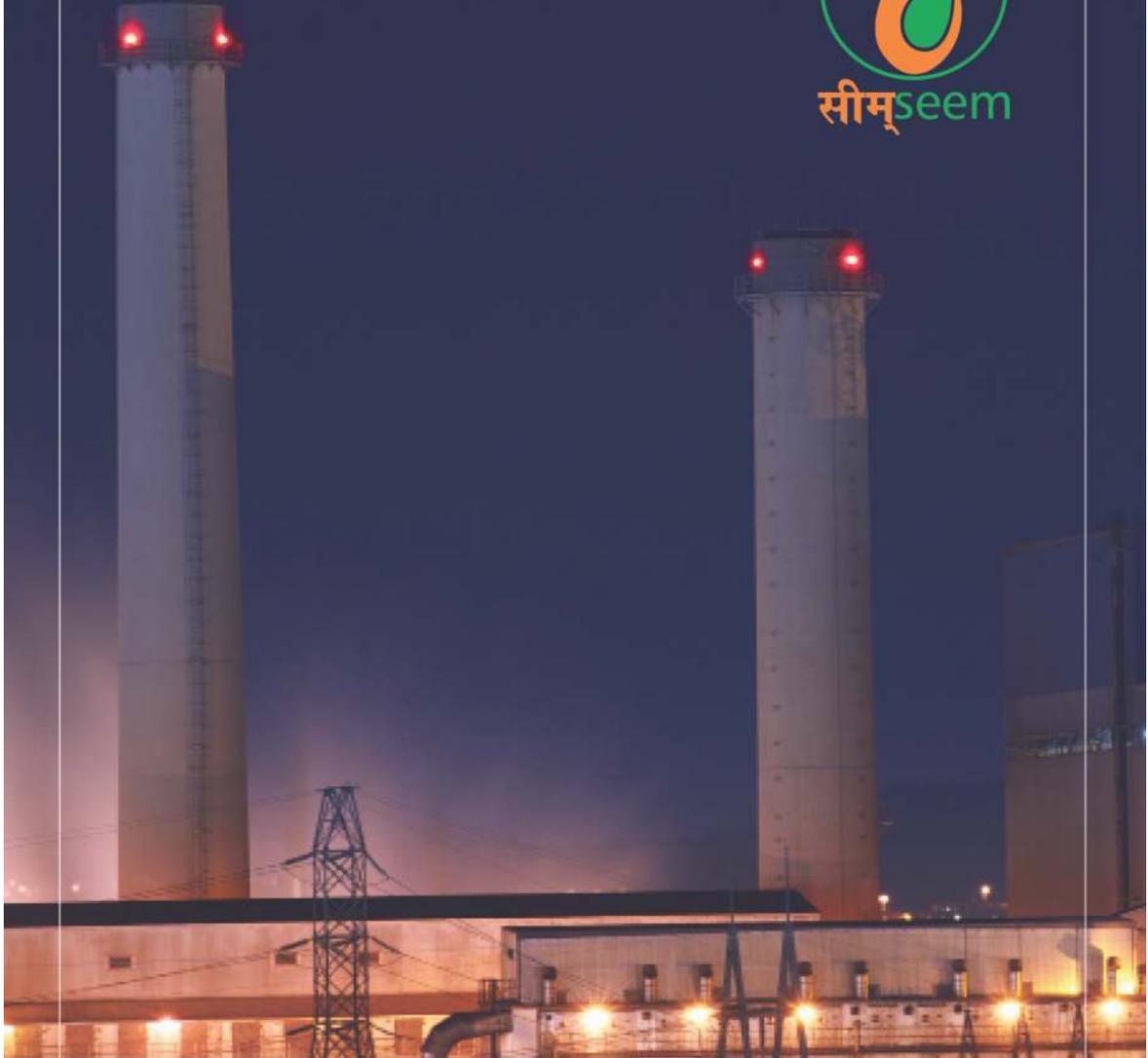
functional economy

**achieving triple bottomline
with servitisation**

**‘cooling as a service’
for farmers**

**servitisation benefits
for energy sector**

the functional economy



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Energy Press | SEEM Bhavan | KRA-A79
 Kannammoola | Thiruvananthapuram | Kerala | India
 Tel : +91 - 471 - 2557607
 E : energymanagerhq@gmail.com
 Web: www.seemindia.org

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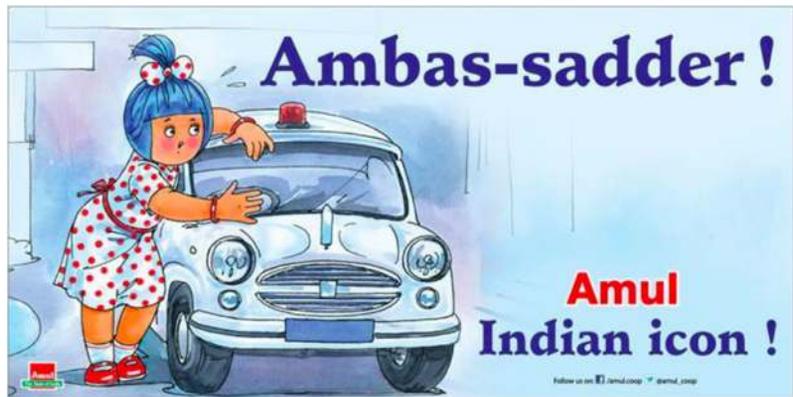
Brahmanand Mohanty

Dr. Brahmanand Mohanty, is the Regional Adviser in Asia for the French Agency for Ecological Transition (ADEME) and a Faculty in the School of Environment, Resources and Development at the Asian Institute of Technology. He has a PhD in energy from the Institute National Polytechnique of Toulouse, France

Needed: A ‘functional economy’

Those of us who grew up before the 1990s feel nostalgic about those ubiquitous Ambassador cars on India roads. Despite its British origin, Ambassador was considered as a definitive Indian car, and was the ‘king of Indian roads.’ It was the essential mode of transportation for politicians and senior government officials, and a great family car for those who could afford it. Though not easy to manoeuvre, the car was solid, rugged and well-suited to the potholed Indian roads. If it broke down, someone nearby knew how to fix it.

However, everything changed with the economic liberalisation that began in 1992. Gradually, we had a plethora of choices--cars that offered smoother rides, improved comfort, better mileage., etc. They were made by both Indian competitors and multinational companies investing in India because of cheaper production costs. With the economic boom that followed liberalisation, the rising demand and growing purchasing power meant greater competition among the producers. Though car ownership was only 1 for every thousand citizens back in 1980, it grew to 22 by 2018. We are all too familiar with the upshot of the growing vehicle population in urban India--



severe traffic gridlocks, increasing road accidents, deteriorated air quality, and rising greenhouse gas emissions and other pollutants. And, the current trend is to replace the broken parts of vehicles instead of developing the local skill to get them fixed, thus encouraging a wasteful society.

The automobile sector, one of the most important drivers of industrial growth of India with a high participation in global value chains, has received strong government support. But what about the natural resources that are mobilised, the waste generated during the manufacture of the vehicles, the fossil fuels consumed, and the air pollution caused during their operating lives? And, what would be the urban future like if the car ownership grows by 775% over the next two decades to reach 175 cars per 1,000 people in 2040, as estimated by the International Energy Agency (IEA)?

What we are witnessing in the automobile sector can be extrapolated to all other sectors such as the construction of buildings to accommodate the growing population, factories to produce goods needed by them, and agriculture to feed them.

The question that we need to ask ourselves is whether we are actually creating a functional economy while pursuing our goal of rapid economic growth, which is focused on production and related material flows as its principal means of wealth creation. Walter Stahel, often referred to as the father of circular economy, challenged businesses to switch over from traditional manufacturing to what he calls the Functional Service Economy. In a functional economy, object of the sale

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C Jayaraman

A rational choice

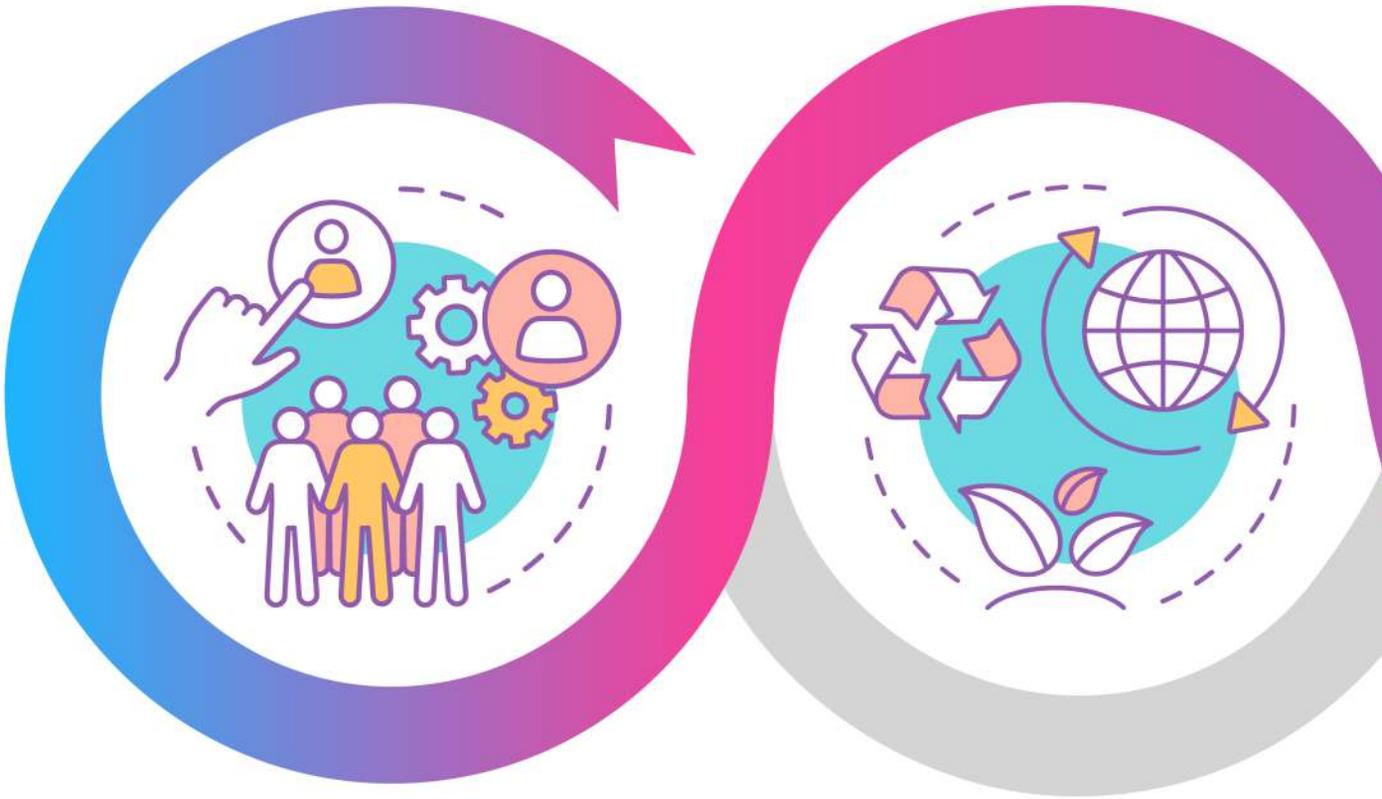
Serviceitisation promotes an organization's capabilities to innovatively change the processes to create better mutual value through a shift from selling a product to selling Product-Service Systems. There are quite a few examples familiar to us now where services are sold—like installing solar PV systems by utilities under a power purchase agreement or the services offered by taxi companies like Uber and Ola Cabs. However, adoption of seemingly straightforward, technically sound and economically viable energy-efficient measures faces many barriers. Studies on energy efficiency bring out many empirical evidences from Psychology and Behavioural Economics that shows that consumers do not always make rational choices, and there are many persistent biases.

To address the barriers and biases leading to sub-optimal choices that hamper the adoption of energy-efficient equipment, many innovative methods are developed. Serviceitisation is one of them. A conceptual model called 'Lumens as a Service' promoted by Rocky Mountain Institute (RMI) is one of them. The RMI, under this model, foresees both service providers and customers will be aligned and incentivised to deploy the most energy-efficient lighting system like LEDs with smart controls. Phillips, one of the leading players in the 'light market' recently came out with new business models called 'Philips Circular Lighting' that take care of installation, performance, and servicing of customer's lighting.

Serviceitisation can address many barriers such as bounded rationality, imperfect information, ambiguity aversion, high initial cost, choice overload, disposal issues etc. Serviceitisation that promotes reduce, reuse, recycle, is gaining ground. Industries need to thoroughly know the targeted market segment and individual customer needs. This will help to increase the bonding between the manufacturer and the

customer. This may lead to distinct price schedules according to the perceived customer value, the cost to serve, and the risks involved. As markets mature, outcome-based models will evolve and will become the norm, pushing for service quality beyond basic needs.

This issue of Energy Efficiency Manager carries, under the cover theme, articles by Dr Brahmanand Mohanty, the guest editor, that speaks of achieving triple bottom-line with serviceitisation; solar cooling as a service from SELCO; serviceitisation benefits for energy sector by Dr Mohita Sharma; and, on the economy of functionality which is an essential element of the vision of the French Agency for ecological Transformation (ADEME) on ecological, energy and social transition. As usual, we have included articles under different categories such as case study, energy management, global focus, best practices and trendsetters. 



achieving triple bottomline with servitisation

Brahmanand Mohanty

Ola, Uber and other taxi aggregators are icons of servitisation in India. They provide customisable, comfortable and flexible transportation without their having to own the cars that facilitate this service.