

CORRESPONDENCE

positions. For example, according to the guidelines (<http://www.bhu.ac.in/ELIGIBILITYCRITERIONREVISED15JULY20091.pdf>) issued by Banaras Hindu University, Varanasi, only NAAS ratings would be used to evaluate applicants to be called for interview for teaching positions in the Faculty of Agriculture, whereas this may not be the case in other universities or research institutions. Such discrepancies need to be resolved so that publications can be uniformly evaluated

in different platforms using any chosen index (NAAS or IF).

To conclude, NAAS is the sole Academy that caters to professionals in the field of agriculture in India. Hence, it has to play an active part in uplifting the standards of publication in the field of agricultural research and development. Additionally, transparency in the evaluation process would instil greater confidence amongst professionals in the agricultural community.

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Masdar City: a zero carbon, zero waste myth

Not only in popular media but also on serious scientific fora¹⁻³ the up-and-coming ‘Masdar City’ near Abu Dhabi is being projected as a ‘carbon neutral, zero waste’ urban cluster. It is being repeatedly claimed that Masdar City would serve as a model for carbon neutral, zero waste urbanization of the future².

There is no reason to doubt the noble intentions of the Government of Abu Dhabi in funding this expensive venture – estimated to cost upward of US\$ 22 billion – but it is difficult to see that Masdar City will manage to be a ‘low carbon, low waste’ city, let alone a ‘carbon neutral, zero waste’ one.

The city is envisaged to be powered by solar panels of 130 MW capacity, backed up by 20 MW wind turbines⁴. To this mix will be added geothermal and hydrogen power in the future. No cars driven by fossil fuels will be allowed inside Masdar City; instead a battery-powered, auto-piloted ‘personal transit system’ (PRT) would take those across who would not, instead, prefer to walk through Masdar’s long, narrow, shaded streets designed to reduce outdoor heat⁴.

All this will insulate Masdar City from anthropogenic CO₂ emissions if we ignore the CO₂ contributed by the respiration of the city’s envisaged 50,000–90,000 population. But it would not stop Masdar City from leaving a massive carbon footprint somewhere close by, a footprint which will grow larger and larger with time.

In fact before the first resident moves into Masdar City, the city would have incurred a massive carbon debt in the form of greenhouse gas (GHG) emissions entailed in planning, designing and commissioning of the city. From then on this debt will increase by the minute as the city’s main source of power, solar electricity, is far from carbon neutral⁵. Nor is the wind, geothermal or ‘hydrogen’ energy it proposes to use⁶. Battery-operated vehicles (of the type PRT would consist of) are arguably bigger net GHG emitters than fuel-efficient, gas-driven cars. Masdar City will be zero carbon only in the sense that the GHGs generated due to its construction and functioning will not be emitted in its premises, but some distance away from it.

As for waste management, Masdar City intends to do waste incineration, plastic reuse, metal recycling, composting, etc. Each of these processes is either a net energy consumer or leaves one or the other pollutant to contend with⁵. Masdar’s business-houses and residents will use cell phones, computers and all other gadgets that are used in commercial establishments. The resulting e-waste would enhance energy consumption of Masdar City substantially if the city chooses to fully ‘clean’ and reuse its entire e-waste. This will add substantially to the carbon debt of the city. Hence Masdar City can be ‘zero waste’ only by exporting its waste as it would be exporting its GHG emissions.

Masdar City may set an example worth emulating if it puts up its infrastructure with materials that are low in embedded energy and functions in a way that minimizes consumption of energy and materials. That would not make it 100% eco-friendly, but a lot more eco-friendly than it is presently set to become. Touting Masdar as a zero carbon, zero waste city is, in fact, harmful to the cause of environmental protection because it makes the world believe that it can continue with its present consumerist lifestyle and yet contain global warming.

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