

## "My Resource. My Responsibility"

A knowledge series from the experts on effective management of resources to enhance urban Liveability post pandemic.



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### TOPIC: CIRCULAR ECONOMY

by Vivek Taneja- Business Head (Waste to Wealth)  
Thermax Limited

Current pandemic has shown us that rampant consumerism with no concern to environment can lead to disasters. What we need is an effort to strike a balance and not exploit natural resources at an unchecked pace. This dilemma necessitates that we think out of the box for solutions that will fulfill the aspirations of the people - let them live the lifestyles, more or less in the same way they're used to, while using natural resources in a sustainable way. Moot question is - Is it really possible?

The answer lies in **Circular economy** - a well thought and planned economic model of circular economy. A model which is probably driven top down but is implementable at lowest levels with ease and has commercial benefits as well.



The biggest issues that face us in our growth part are the CO<sub>2</sub> eq. contributions by transportation and comfort cooling (buildings sector). If we can just make these two sectors carbon negative or at least carbon neutral by bringing them in the realms of circular economy, we would have taken a significant step towards sustainability.

## TRANSPORTATION

Transportation fuel has both carbon adding potential and foreign exchange saving potential. While on the other hand bio waste and stubble burning is a national issue.

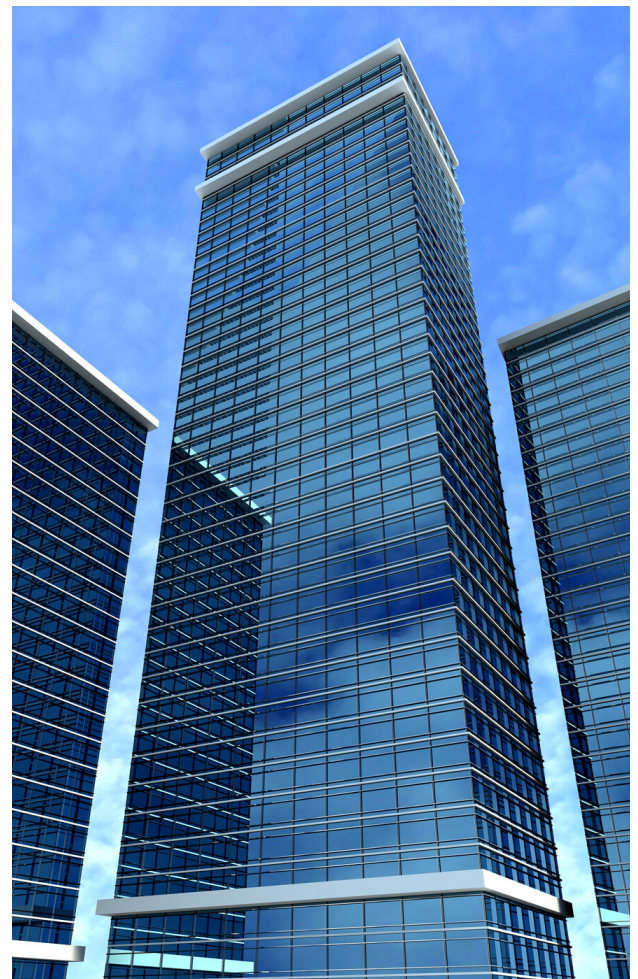
**Solution:** The bio waste or stubble being burnt can easily be converted in Bio CNG with extremely low CAPEX to replace liquid fuel as well as RLNG in a commercially viable manner. This may need policies like wheeling and banking in pipelines like it was done to push renewable energy in the grid.

## COMFORT COOLING (BUILDING SECTOR)

Air conditioning currently consumes about 30% of power generated which is mainly by high ash content coal in India. Municipal solid waste is yet another environment hazard due to rampant urbanisation. So as we urbanise more power is generated and more ash hills are created. Thus, we are creating two parallel environment hazards from same root.

### **Solution:**

- The ash from ash ponds and fly ash can be an easy free raw material to make varied construction material that can save upto 20-30% of AC's load in the building.
- Segregated MSW fractions can be used to produce heat to run large chillers in district cooling mode to make the HVAC system carbon neutral.





## THE WAY FORWARD

To start with, can these two sectors be brought under the ambit of circular economy?

- What is needed to do so, if it is possible?
- Will it be commercially viable?
- What kind of subsidy/support will be required?

These could be a few such questions which many may want to ask! Fortunately, the technological developments and innovative mix of available technologies, can solve these issues in medium to long term. Most importantly - these options can be commercially viable with no support in capital terms. In fact they can give sizable returns to an investor once the models attain economies of scale.

For investors to reach economies of scale we may need top down policy support to enable their usage and market creation.

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### ABOUT THE WRITER



<http://www.linkedin.com/in/vivektaneja1373/>

Vivek Taneja, Business Head (Waste to Wealth), Thermax Ltd. Vivek brings to the table over two decades of experience compassing conventional as well as non-conventional (renewable) power business, energy efficiency, resource efficient building material, instrumentation and automation solutions to varied industries.

He is a Mechanical engineer from University of Pune with Masters in Management sciences. He has been an invited member on various advisory boards and is currently part of Maharashtra Energy & Environmental panel constituted by CII of select professional to advise Govt. of Maharashtra. He is also a core member of World Energy Council and on the innovation team of WEC for quality access of power

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To Contribute an article, Vrushali Negandhi  
e: [vrushali@urbanliveabilityforum.com](mailto:vrushali@urbanliveabilityforum.com)  
t: +91-9004785696.

For Partnership, Sarang Mehta  
e: [sarang@urbanliveabilityforum.com](mailto:sarang@urbanliveabilityforum.com)  
t: +91-9004785696.