

IIIT HYDERABAD

Confluence Industry-Academia Roundtable

ESG in Smart Cities – Role of Technology

22nd June 2022

The most important aspect of the smart city definition is “to make use of technology effectively for a better quality of life”. To brainstorm on the possibilities on how to retrofit our cities in a sustainable manner using Environmental, social and governance(ESG), a round table discussion was organised at IIIT-H on 22nd June 2022 under the purview of Living lab, IIIT HYD bringing in perspectives from government, technology partners, academia and start-ups to get a better understanding of how cities and technology players are responding to ESG and get valuable insights to address it by collaboratively. The objective is to identify and implement these ideas alive in the living lab. The key focus of deliberations 1. ESG Solution areas, use cases and types of solutions. 2. How to enable and ease Technology/Digital companies to report all emissions without manual intervention? 3. How Tech enables to capture Scope 1, 2 & 3 emissions on real time basis? What could the various measures and scores be. A single sustainability scores? 4. Technologies & Innovations at play. Tech for what kind of things. And what kind of tech. How do we get that woven in? Considering the same, the current position paper objective is to summarise the key points and way forward action plan.

A. What is ESG (Context)

The panel enumerated what comprise ESG.

Environmental, Social and Governance (ESG) is the term used to identify matters that are traditionally associated with sustainability, corporate responsibility and focus on the impact on the environment and wider society. They are linked together in the sense that the environment, the social factors, and good governance that affect the license to operate as a business.

A strong ESG proposition reduces the risk that affects the business and give assurance to the partners and investors. It ensures sustainability of the products and achieves long term benefits. The ESG criteria helps to ensure that internal processes are socially and environmentally sustainable. Increasing exposure to ESG rarely underperforms the markets.

Committing to socially and environmentally equitable practices may seem overwhelming, but when properly implemented, ESG can provide the guiding principles and measures that make social commitments actionable and directly beneficial to one's company in the long term.

B. Challenges to be addressed in the ESG way forward

I. ESG is beyond climate change

Human-induced climate change has caused widespread adverse impacts, broadly categorised as: a) those that affect ecosystems and b) those that have a more direct effect on human systems. Some changes are already irreversible, as human and ecosystems are beyond their ability to adapt.

For example, few cities have started reaching the critical wet bulb temperature of 35° C. and It is difficult for humans to survive at this temperature. The reason for this increase is increased humidity, urban heat island and global warming.

ESG policies must be slowly imbibed as sustainable practices and making sure that everyone is following it as an individual and as industry. It is an even stronger case now to demand more actions from businesses and governments to implement net-zero measures, and for companies to deliver the technology that will help scale decarbonisation.

II. Past decades of productivity increases, needs to be “unlearnt” as these are a detriment to ESG

Over the last decade there has been increase in productivity. To generate more profit, the productivity has been increased with the help of automation not considering Environmental and social aspects. This has increased to an extent that environment is on verge of collapsing. It has reached to a point where, it became necessary to undo the whole thing, so technology will bifurcate and bring more sustainability. As past can't be undone, only the present and future actions can make sure that the damages caused because of past actions can be redone.

III. ESG is about the whole product Life Cycle, and not just manufacturing

Life Cycle Assessment (LCA) is a methodology that is designed to help businesses measure and quantify the end-to-end environmental and economic impact of a product, process, or service. Life Cycle Assessment enhances the brand value for competitive differentiation, So it must be closely monitored. ESG policies are to be designed such that the products wastage is minimal and can be recycled or reused for further application. Ensuring a circular economy for materials is a very important aspect that companies developing new products should consider.

IV. Technologies are a key enabler, but need Increase in overall Efficiencies

Over time, the broad deployment of renewables can enhance energy security, as well as reduce import dependency. This can help work toward the goals of decarbonisation and enhancing energy security in the medium-to-long term. The three zeros - zero wastage, zero emissions, zero inequality is a key to improve the overall efficiency.

For India to reach its 350 GW solar energy target by 2030, innovations are needed to improve the efficiency of the solar panels, as they are currently only 20% efficient. At the same time, new technologies like building integrated and flexible photovoltaics and alternative sources should be explored in the Indian market.

V. Need local, Indian Solutions to Indian Problems

India being the most diversified country, solutions must be unique to the region and easily adaptable. New cities to be designed with new perspectives in mind. Technological policies should bring in the change in the masses of Indian people. Solutions will be

impactful to businesses as it reaches more people. ESG technologies that work in other countries may not work in India

VI. Collective amplification - Bringing all the players to a Common Platform

A common platform to be made available to all the technology solution providers. So that the solutions made at different levels by various players can be brought to a common platform to get integrated and to achieve progress in a shorter time span. This will need ESG advisors, policy makers, enterprises, start-ups, and researchers

C. Considerations as we build ESG Solutions

The panel listed how ESG tech innovation and adoption can be made more effective.

I. Utilize already-existing products

There are already software programs/products available to assess ESG value chain. Modifying the available products and customizing according to the sector will make the path faster. Components to be priced high if they are not ESG Compatible to discourage people from buying and companies for not making non ESG compliant products.

II. Metrics to be defined; need a global and multi-domain scoring Pattern

Scores must be standardized considering the existing technologies, regions products and people in mind and make it available to one and all. Scoring should also take into consideration of the process, ingredients and people involved. The company should also be made responsible to recycle the waste produced by them by maintaining a recycle plant etc. Criteria for setting up the ESG scores should be thoroughly studied and understood. For eg Co2 emissions may not be the only criteria for considering Environmental aspect. Deriving valuable insights also play a major role in defining the proper scoring mechanism.

Benchmark is needed for the companies based on the sector, as scope 1,2,and 3 emissions relevance differs. Technology to be enabled to capture the emissions on real time basis and generate a single sustainable score.

Embedding ESG metrics into one's portfolio may also be an effective way to manage risk, enhance the potential for resilience and tap into green innovation to generate long-term capital growth.

III. Need to build structures for Data management and transparency

Environment is throwing signals to act because of which everyone is affected socially. The challenge is to translate all data into understandable format. This ensures transparency socially which further improves the awareness and imbibes its importance among the

masses. Governance should be maintained strictly throughout in all aspects, at individual level and at industry level.

IV. ESG needs Environmentally Friendly Solutions

Accelerating the deployment of renewable energy, such as solar and wind, is a way to reduce the role of natural gas for electricity. It can also benefit other electricity-based vehicles. Other alternate energy sources also must be investigated to meet the required demands.

V. Data records needed; (like say for Environmental Health Records)

An environment health record can be created for each individual/Company for their contribution towards environment. Creating such environment health records will instil a sense of responsibility among the individuals.

Penalties/Incentives should be awarded to the companies/Individuals based on their contribution to ESG.

D. Way forward/Recommendations

I. Need a lot more clarity on what and how ESG can be realised

There is still a deep need for better understanding of various facets of ESG, problem areas and solution possibilities.

II. Work with government & policy makers to Mandate ESG Policies

Governance should enforce strict policies to enable the implementation, create awareness and embed it as a habit as per the individuals and companies in that region. The policies should enforce the following actions: 1-holistic reporting 2- reduce emissions and wastage (reusing) 3-environment health and safety solutions and Companies/Individuals must be made responsible of the ESG compliance.

III. Visibility: Enlist and publish Service Providers/Start-ups in ESG space

Service Providers should provide services to make companies/individual household ESG compliant with security, reliable functionality, and trust on data sharing aspects considered. So that more Individuals/companies shall use the services and get ESG compliant without major hassles. Run an ESB Innovation challenge to uncover some of these providers.

IV. Awareness: Leverage Social Network for visibility

The designed ESG policies must reach every individual. Multidisciplinary approach to be followed to achieve the same. Social network to be used to propagate the policies and to find

anomalies of companies w.r.t ESG. Socially every individual should be made responsible and aware about ESG and its importance.

Technology must be used such that incentives/penalties are awarded to bring in environmental consciousness among people.

V. Security: Make Data Transparent and secure

Data collection is not a major challenge. Making it transparent to the public is a major challenge as it affects data security and data privacy. For example, a flight booking platform should show flights based on how sustainable they are based on the collected data.

At a more grassroot level, the confidence of the customer must be gained that their data is secure and private. Only then will the customer be willing to implementation of new ideas and technologies involving sensors that collect the individual's daily data.

E. Actions that the Living Lab will take up

- i. Run an ESG Tech challenge
- ii. Workshops on specific sub-domains of ESG
- iii. Create a community of ESG interest group (WhatsApp now, and regular meetings)

F. PARTICIPANTS IN THE PANEL

(Moderator: Mr. Vivek Varma – Recykal Foundation. Facilitators: Prof Ramesh Loganathan, Mrs Anuradha Vatttem)

Panellists

- Policy: Ms Deepanvitha – IKP, Mr. Ram, Ms Harini – CEGIS, Mr. Anand -ISHRAE, Kumar – JLL Energy, Mr. Vincent Van noord – EBTC
- Start-ups: Mr. Udit – Bintix, Mr. Vikram Prabhakar, Ms. Damini, Mr. Sri Nagesh – Recykal.
- IIITH Faculty/Researchers: Prof Aftab Hussain; Prof Vishal Garg; Prof Sachin Chaudhary; Prof Suresh Purini, Mr. Yalla Prakash – Product Lab
- Tech Companies: Mr. Manish Gupta – SAP, Dr. Inderjeet Singh -Deloitte, Mr. Rama Iyer – GMR, Mr. Prashant – Amara Raja

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