



Bureau of Energy Efficiency



सत्यमेव जयते
Government of India
Ministry of Power



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für Internationale
Zusammenarbeit (GIZ) GmbH

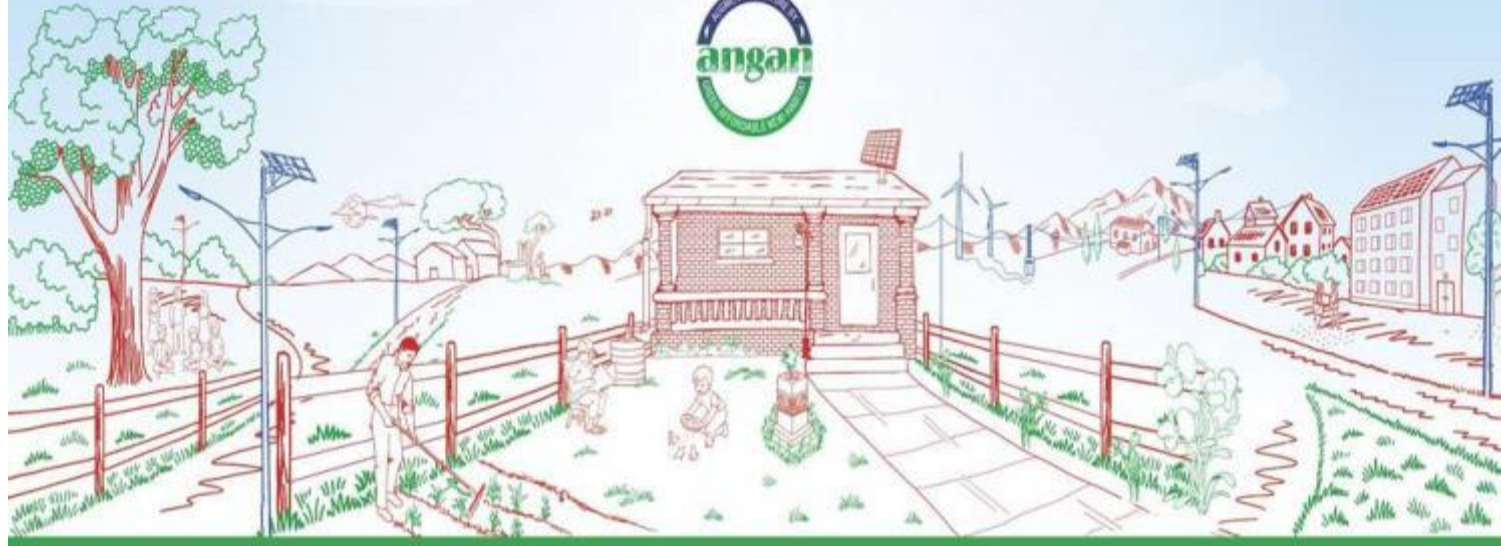
ANGAN

Augmenting Nature by Green Affordable New-habitat

A Courtyard for Revolutionary Change in Building Energy Efficiency

An International Conference on Building Energy Efficiency

9th-11th September, 2019 | Hotel The LaLIT, New Delhi





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THIS PRESENTATION WAS SHARED BY

Satish Kumar

Alliance for an Energy Efficient Economy

FOR THE SESSION:

“Circular Economy (Waste or Resource)”

DURING ANGAN 2019

Knowledge Partner



Event Partner





Circular Economy

**Augmenting Nature by Green Affordable
New-habitat (ANGAN)**

**The International Building Energy Efficiency Conference
The Lalit, New Delhi**

- Dr. Satish Kumar, President and Executive Director

9th September 2019

- **Resources are limited**
 - Traditional linear economy (make-use-dispose) still persistent
 - Building industry is creating products with sole idea of maximizing profits
 - Construction Industry – World’s largest consumer of raw materials
- **Need to shift towards a more efficient and climate resilient future**
 - Require a shift in business models and public policies – driven by market and business, change in operating models and business thinking
 - New design approaches are need of the hour
- **Global Environmental Regulations**
 - Environment, Social and Governance (ESG) framework for rating of companies
 - Is ESG a possible way forward?

There are wind of changes

Frameworks that are influencing the behavior leading to some remarkable changes in the way companies conduct their businesses

3 Pillars	10 Themes	37 ESG Key Issues	
Environment	Climate Change	Carbon Emissions Product Carbon Footprint	Financing Environmental Impact Climate Change Vulnerability
	Natural Resources	Water Stress Biodiversity & Land Use	Raw Material Sourcing
	Pollution & Waste	Toxic Emissions & Waste Packaging Material & Waste	Electronic Waste
	Environmental Opportunities	Opportunities in Clean Tech Opportunities in Green Building	Opp's in Renewable Energy
Social	Human Capital	Labor Management Health & Safety	Human Capital Development Supply Chain Labor Standards
	Product Liability	Product Safety & Quality Chemical Safety Financial Product Safety	Privacy & Data Security Responsible Investment Health & Demographic Risk
	Stakeholder Opposition	Controversial Sourcing	
	Social Opportunities	Access to Communications Access to Finance	Access to Health Care Opp's in Nutrition & Health
Governance	Corporate Governance*	Board* Pay*	Ownership* Accounting*
	Corporate Behavior	Business Ethics Anti-Competitive Practices Tax Transparency	Corruption & Instability Financial System Instability

Source: MSCI ESG Ratings Methodology, 2018

Statement on the Purpose of a Corporation

Americans deserve an economy that allows each person to succeed through hard work and creativity and to lead a life of meaning and dignity. We believe the free-market system is the best means of generating good jobs, a strong and sustainable economy, innovation, a healthy environment and economic opportunity for all.

Businesses play a vital role in the economy by creating jobs, fostering innovation and providing essential goods and services. Businesses make and sell consumer products; manufacture equipment and vehicles; support the national defense; grow and produce food; provide health care; generate and deliver energy; and offer financial, communications and other services that underpin economic growth.

While each of our individual companies serves its own corporate purpose, we share a fundamental commitment to all of our stakeholders. We commit to:

- Delivering value to our customers. We will further the tradition of American companies leading the way in meeting or exceeding customer expectations.
- Investing in our employees. This starts with compensating them fairly and providing important benefits. It also includes supporting them through training and education that help develop new skills for a rapidly changing world. We foster diversity and inclusion, dignity and respect.
- Dealing fairly and ethically with our suppliers. We are dedicated to serving as good partners to the other companies, large and small, that help us meet our missions.
- Supporting the communities in which we work. We respect the people in our communities and protect the environment by embracing sustainable practices across our businesses.
- Generating long-term value for shareholders, who provide the capital that allows companies to invest, grow and innovate. We are committed to transparency and effective engagement with shareholders.

Each of our stakeholders is essential. We commit to deliver value to all of them, for the future success of our companies, our communities and our country.



Kevin J. Wheeler
PRESIDENT & CHIEF EXECUTIVE OFFICER
A. S. SATH CORPORATION



Miles D. White
CHAIRMAN AND CHIEF EXECUTIVE OFFICER
ABBOTT



Julie Sweet
CHIEF EXECUTIVE OFFICER DESIGNATE
ACCENTURE



Carlos Rodriguez
PRESIDENT AND CEO
ADP

Source: businessroundtable.org

WHAT

- Alternative to traditional linear economy
- Looks at entire life-cycle of any process

WHY

- Reduce demand of non-renewable virgin materials
- Reduce waste
- Provides highest utility and value through the life

WHERE

- Energy, water, waste, ecology, environment
 - - Construction Industry

What the industry thinks?

*The **€1.8tn opportunity** reaffirms the economic rationale of moving towards a circular economy. Realizing and capturing the benefits of this systemic transition requires a cross-industry, cross-performance, and multidisciplinary approach.*

—Ellen MacArthur Foundation, 2016

*“Adopting circular economy principles could significantly **enhance global construction industry productivity**, saving at least US\$100bn a year.”*

—World Economic Forum, 2016

*“We need to get the whole supply chain together to identify overlapping obstacles, remove the barriers, **show the opportunities** and discuss how to **work together**.”*

—Nille Juul-Sørensen, Arup

*“In the built environment, it’s all about **maximising utility** of resources — extending product life or providing a proper end-of-life recovery.”*

—Nick Cliffe, Innovate UK

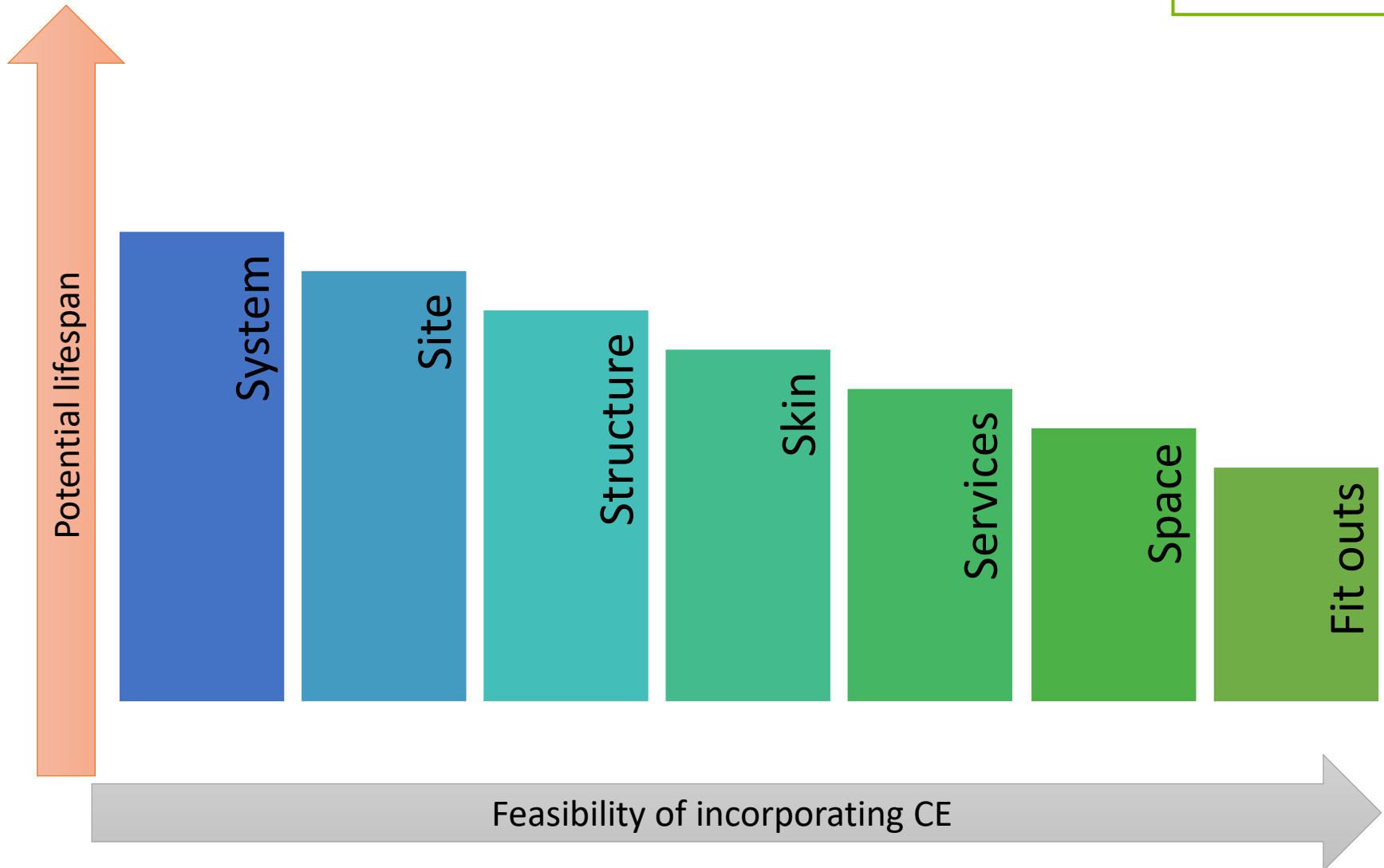
• ReSOLVE framework for CE – Ellen MacArthur Foundation

- Regenerate
- Share
- Optimize
- Loop
- Virtualize
- Exchange

• CE model for commercial property – ARUP

- Ecosystem
- Design
- Sourcing
- Construction
- Operation
- Renewable
- Disassembly
- Repurpose

CE at each layer of building



Adapted from "The Circular Economy in the Built Environment", ARUP, 2016

Education, awareness and communication

- *Hard to get people on board because it seems like another form of sustainability.*
- *Need awareness in respect to the direct benefits of participating.*

Policy and regulation

- *The shift towards a circular economy will likely come from business*
- *Government to raise awareness, address real barriers and facilitate information availability in support of business*

Technology and innovation

- *Innovation in product design and product as a service*
- *Access to more data*
- *Better connecting supply chain systems for delivering more for less*

Collaboration

- *Need a system where every part is accruing value*
- *More trust between different partners through collaboration.*
- *Economies of scale to make this work – it can't just be one company moving on their own*

What we can do?

Clients

- *Commit to Circular Economy*
- *Set clear performance requirements*
- *Take whole life cost approach*
- *Commit to ESG framework*
- *Refurbish rather than demolish*

Designers

- *Advise clients*
- *Include CE in design reviews and align with design life*
- *Design for ease of maintenance and flexibility*
- *Design for future flexibility and retrofit*
- *Design for deconstruction and disassembly*

Suppliers and Manufacturers

- *Explore and communicate end-of-life options*
- *Consider take-back schemes and policy*
- *Offer product as a service*
- *Design for remanufacture*
- *Optimize secondary materials and virgin materials*

Contractors

- *Procure from suppliers offering circular economy benefits*
- *Eliminate waste*
- *Business case for reused and recycled materials*
- *Maximize reuse of resources among different projects*

THANK YOU