Mr Karthikeyan is a Principal Counsellor in CII-Sohrabji Godrej Green Business Centre (CII-Godrej GBC), India. He is a mechanical Engineer with master's degree in Energy conservation and management. He has over 20 years of experience in Industrial Energy efficiency, Green Buildings and Ecolabelling.

Presently, he is heading 'GreenPro' Ecolabelling division in CII-Godrej GBC. He has been instrumental in designing and developing the GreenPro – a Type -1 Indian Ecolabel, which aims at facilitating green product market transformation in India. So far, more than 1000 products from over 100 companies have achieved GreenPro ecolabelling.

He is also leading the facilitation and certification of Green Building services in CII. He contributed significantly for developing new concepts such as Green Data Centres, Net Zero Energy buildings, Green Hospitals etc. and advancing the Green Building movement in the country.

Eco Labelling - An Environmental Management Tool and the Indian Experience in Eco - Labelling

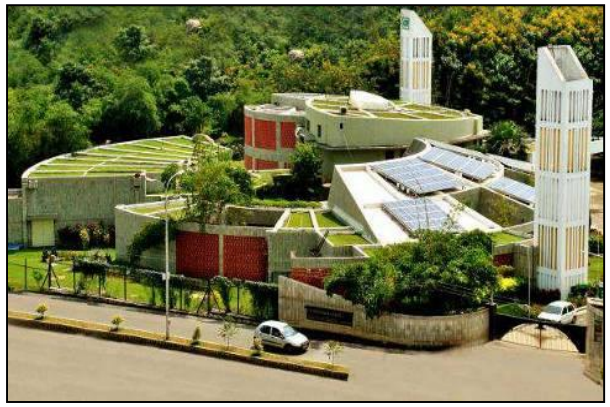
S. Karthikeyan

Principal Counsellor

Confederation of Indian Industry (India)

CII – Sohrabji Godrej Green Business Centre Hyderabad, India

Unique Initiative of CII supported by the State Government, USAID and Pirojsha Godrej Foundation



- Centre of Excellence on Green Business
  - Vision : India to become one of the Global Leaders in Green Businesses by 2025
  - Demonstrates 'Green makes good Business sense'
  - 15 years of National contribution - Green Buildings, Green Companies and Green Products

Genesis of 'GreenPro' – An Indian EcoLabel

- 2nd largest 'Green Building' footprint in the World
- Expected to reach 10 billion sq.ft by year 2022
- Created enormous demand for credible Green building products, Materials and Technologies

5,723 Registered Green Building Projects

7.09 Billion sq. ft

Challenges faced by the end users in selection of Green Products, Materials and Technologies

Typical Questions

- How do we know that the product is green ?
- If green, then to what extent ?
- Is it green in performance (or) materials used ?
- What if the product is green in performance but not during manufacturing?

So far…

- Extent of Green based on declarations / their own certification
- Dependence on certifications from other countries
  - ❑ Not fine tuned to local requirements

- GreenPro - Type 1 EcoLabel was launched in the year 2015
- Objective: Facilitate Market Transformation in Green Products and services in India through **'EcoLabelling'**

'GreenPro' Ecolabelling Focus Areas

- **Initial focus: Green Building materials / products**
- **Gradually expand focus on :**
  - **Industrial Products**
  - **Consumer items**
  - **Services**

Involved all Stakeholders for developing the National EcoLabel

Developers

Architects

Academia

Multinational agencies – UNIDO, WRF

Green Products and Services Council

Government

- **BEE**
- **BIS**
- **PCBs**

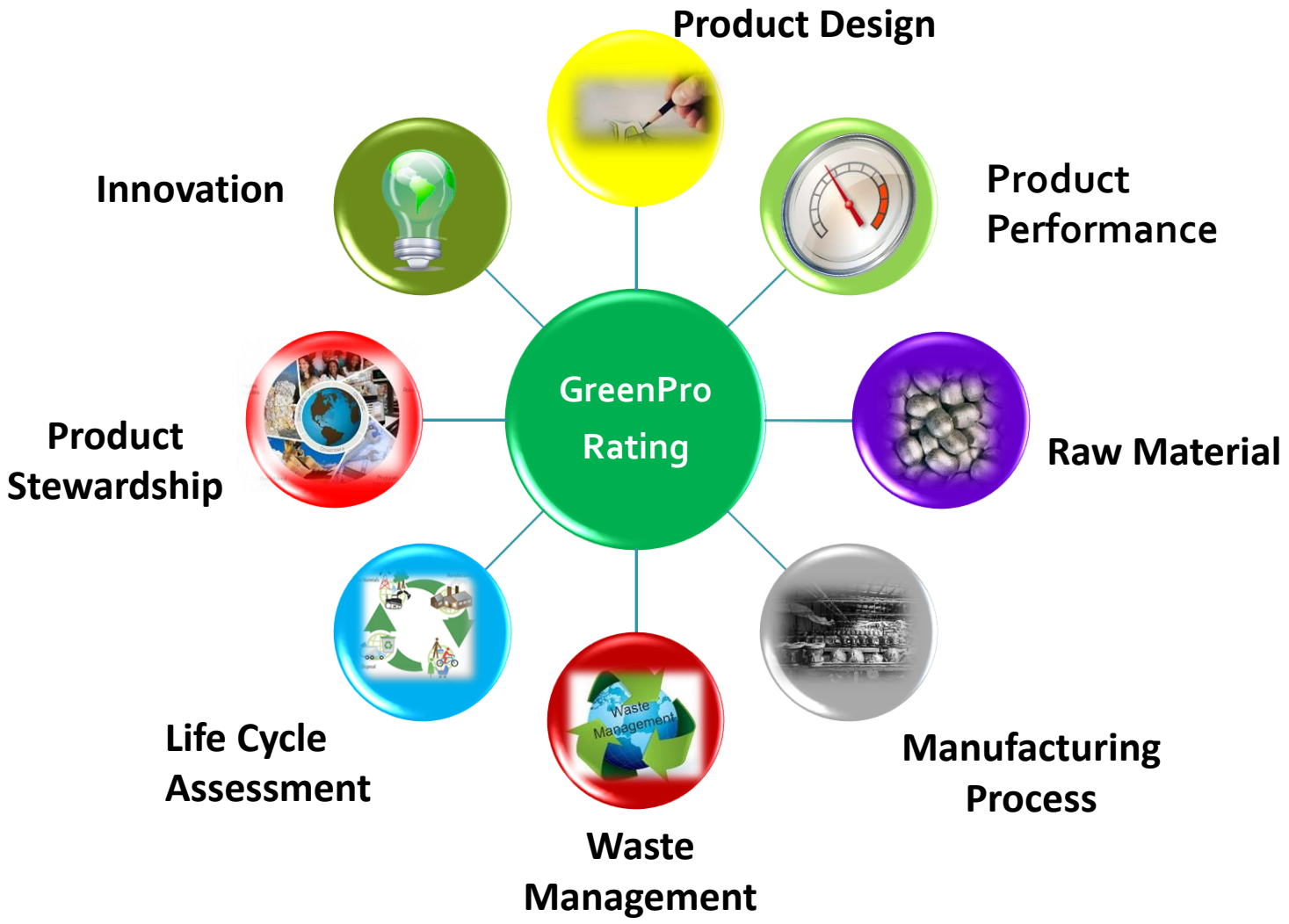
Certifying & Standard setting

- **ASHRAE**
- **ISHRAE**
- **IAPMO**
- **Green building ratings**
- **Conformity agencies**
- **Law firms**

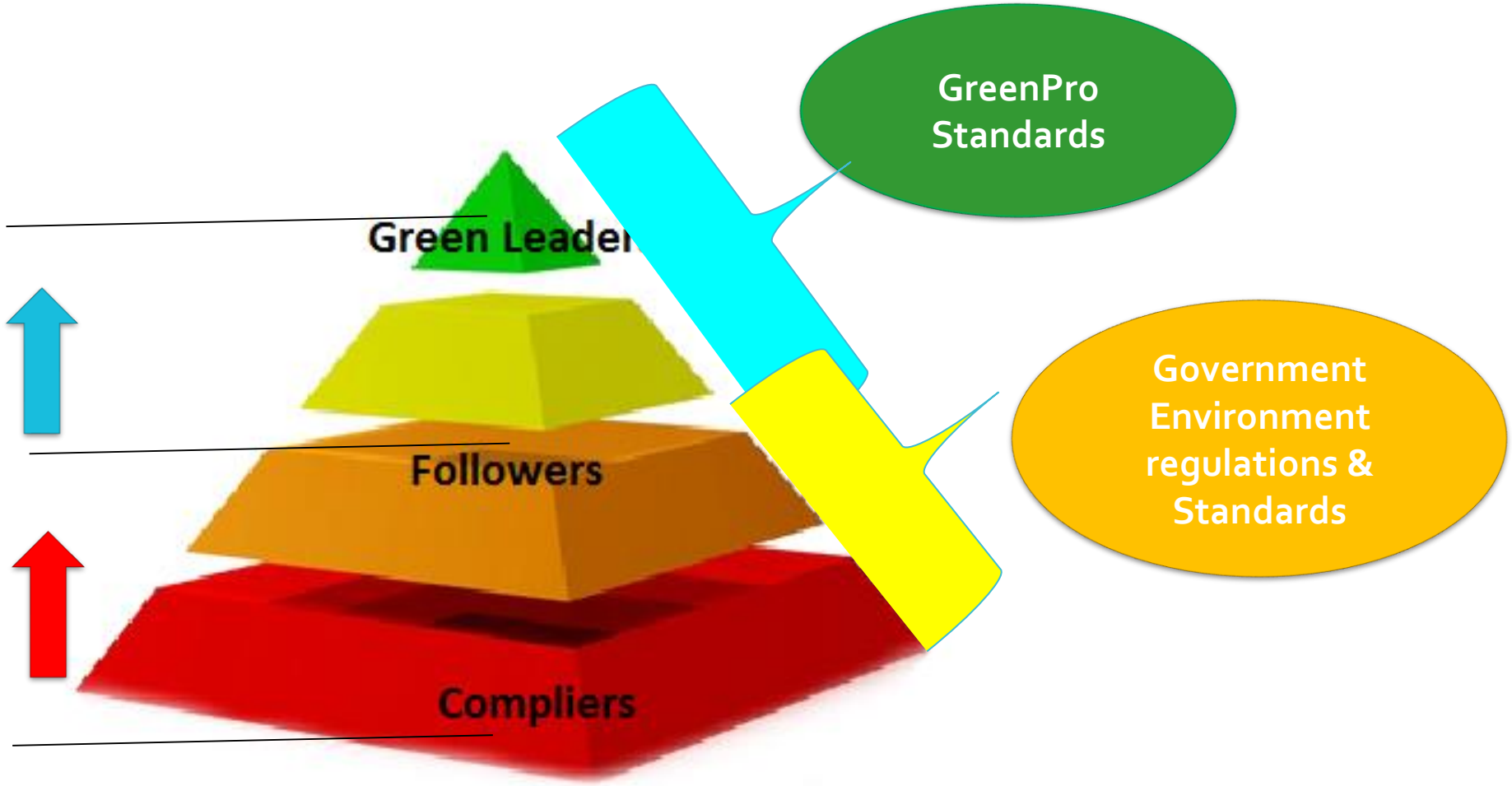
Manufacturers

- **Products**
- **Technology**

Life Cycle Based Approach for Evaluation – Type 1 Ecolabel



Key strategy for setting the standards



GreenPro To Continuously Raise the Bar

Benefits of GreenPro – As a tool for End Users

- Helps in enhancing the performance of their Green Buildings
- No due diligence is required – Time & Effort saved
- Assured environment performance
- Ensures toxic & Carcinogenic free Products
- Facilitates Green Procurement at organization level

Benefits of GreenPro to Product Manufacturers

- Easier to convince Green building architects, developers, Corporates, and consultants
- Differentiates the Green product from Competition
- Increased Market reach out with Green features & Green Image
- Enables Product Innovation and meet the future regulations
- Significant reduction in resource consumption

Market Transformation in India

- Companies leverage 'GreenPro' Ecolabel for
  - Educating their customers
  - Enhancing their market reach
- CII promotes GreenPro Ecolabelled products amongst end users
  - Conferences, Exhibitions, webinars, newsletters
  - Online Directory
- Certified Products demanded by all end users
  - Architects, Green Building Consultants, Developers, Builders

GreenPro – the journey so far…

- **Launch of GreenPro**
- **50 Products Certified from 6 manufacturers**

- **160 Products Certified from 18 manufacturers**
- ***Developed a reference manual with the support of UNIDO***

- **313 Products Certified From 40 manufacturers**
- ***Accreditation by Global Ecolabelling Network as part of their GENICES process***

- **500 Products Certified From 70 manufacturers**
- ***Low Carbon Roadmap for Ready Mix Concrete Sector with the support of International Finance Corporation***
- ***GreenPro for Industrial products***

- 1000+ Products Certified from over 100 Manufacturers
- ***Mutual Recognition with Thailand Ecolabel***

100 + Manufacturers 1000+ Products

100 + Companies are adopting GreenPro

Confederation of Indian Industry

Over 1000 Certified products are available for Green Buildings

Architectural Products

HunterDouglas, iqubx (modular integrated Green Building interior product systems), anutone, Armstrong

Boards, Panels, Ceilings & Plaster

Deeya Panel Products Pvt. Ltd., Gyproc (Saint-Gobain), HÄFELE, India Gypsum (P) Ltd., Ramco Industries Limited, Sahyadri (Indian. Innovative. Iconic.), senses akustik+

Glass Products

VISAKA, AIS (Asahi India Glass Ltd.), MODIGUARD, SAINT-GOBAIN

Cement

ACC, Birla Shakti Cement (Trusted Technology - Solid Strength), Dalmia Bharat Cement, JK Lakshmi Cement, JSW Cement, Orient Cement, Sagar Cement, Ramco Cements Limited, Zuari Cement

Doors & Windows

ITP, HÖRMANN, sumai (PRE HUNG DOORS), TATA STEEL (WeAlsoMakeTomorrow)

Tiles

abc (weatherproof tiles), AET (Building Products (WI) Pvt. Ltd.), JOHNSON (Not just tiles. Lifestyles.), NITCO (TILES MARBLE MOSAICO)

Construction Blocks

fusion (Building Materials), Godrej CONSTRUCTION, JK Lakshmi Cement, JVS COMATSCO, KONCRETE (Konark Aerated Concrete), LOHIA Group, UltraTech XTRALITE (Autoclaved Aerated Concrete Block)

Construction Chemicals

green build, HINDCON CHEMICALS

Low Density Aggregate

imfa

Plaster Aggregates

SINICON

Ready Mix Plaster

ADITYA BIRLA (HINDALCO)

Cleaning Chemicals

ASHOK CHEMICALS, ekam (ECO SOLUTIONS), Grenove, Haylide (Green Cleaning for all), Herbocare, Richie Raffle

Insulation Products

Berger, NATURAL INSULATION, ROCKWOOL INDIA, ROCKWOOL, Star Comfort Industries, Supreme (People who know plastics best), TWIGA (insulating today for a better tomorrow)

Paints & Coatings

AkzoNobel, Berger, Birla White WALLCARE (White Cement Based Putty), British Paints, Beckers, Indian Insulation & Engineering, NIPPON PAINT, panache (Creating Cool Green Cities), SOUJANYA, surfa coats (India) Private Limited, UGAM

Metal Roofing Solutions

TATA BLUESCOPE STEEL

Ground Granulated Blast Furnace Slag

JSW Cement (START STRONG. GROW STRONGER.), SAGAR CEMENT, TATA STEEL (WeAlsoMakeTomorrow)

Innovative Products

AQUATRON, BIO MICROBICS (BETTER WATER. BETTER WORLD.), Chakr Innovation, ecoRain, eden (Innovations that work.), EMERSON, furaat (LETS USE RAINWATER), Godrej ELECTRICALS & ELECTRONICS, ru (reduce reusing recycling), SAVITA (bonds build businesses), THINK PHI, TURBOTECH

Plumbing Fixtures and Sanitaryware

hindware, Multiversal (Technologies to impel your future)

IAQ

aeropure, AIR QUALITY BY bonphul, FYTORÈM, Honeywell (THE POWER OF CONNECTED), Magneto (Clean Tech), STERLING & WILSON

Furniture

Godrej interio, SOS (Spacewood Office Solutions)

Steel Pipes & Structural

TATA STEEL (WeAlsoMakeTomorrow)

Ready Mix Concrete

ACC CONCRETE, Godrej CONSTRUCTION, UltraTech (CONCRETE SOLUTIONS The Engineer's Choice)

WPC Products

Shubhwood (PREMIUM WOOD COMPOSITE)

Supporting Council and Organisations

IGBC, Greenco

INSEE ECOCYCLE, FORBES MARSHALL, MAS (CHANGE IS COURAGE), සියත tv

International Conference on Resource Efficiency and Circular Economy

Impact of GreenPro in Indian Cement sector

- Key performance parameters
  - Increased utilization of Industrial waste
    - CEM IV Pozzolanic cement – Fly ash based cement (upto 35%)
    - CEM III Blast furnace slag cement (upto 70%)
  - Reduction in GHG emission per ton of Cement produced

GHG Emission Reduction

Results per product unit : Tonne of Cement

Most Relevant Life Cycle Stages : Raw Material and Manufacturing

Selected Impact Categories : GHG Emission reduction

Parameters	CEM IV Pozzolanic cement (Portland Pozzolana Cement)	CEM III Blast furnace cement (Portland Slag Cement)	Reference Case (Baseline 2010)
Industrial Waste	32%	54%	CEM IV – 27% CEM III – 40%
GHG Emission in Kg of CO_2 / Ton of cement	601	398	CEM IV – 647 CEM III – 527
GHG emission reduction in Kg of CO_2 / Ton of cement	46	129	-

GHG Emission Reduction

Parameters	CEM IV Pozzolanic cement (Portland Pozzolana Cement)	CEM III Blast furnace cement (Portland Slag Cement)
Production million tons	124	6.6
Quantity of Increase in Industrial waste utilised in Million Tons	39.6	3.56
Clinker Factor (Baseline 2010)	0.68	0.55
Clinker Factor for GreenPro Ecolabelled Products	0.63	0.41
Clinker consumption reduced in Million Tonnes	6.2	0.92
Reduction in GHG emission Million Tons of CO_2 eq./ Annum	5.7	0.8

- India is 2nd largest producer of Cement in the world
- Over 70% of CEM IV and CEM III produced in India is GreenPro Ecolabelled

Global Alliance of Ecolabels

- Global Ecolabelling Network (GEN)
  - A non-profit association of over 30 ecolabelling organizations founded in 1994
  - Aims to improve, promote, and develop the ecolabelling of products and services
  - Accredits Ecolabels based on International Standards
  - Facilitates mutual cooperation between Ecolabels

GLOBAL ECOLABELLING NETWORK

GreenPro Receives Global Recognition

- GreenPro accredited by

Global Ecolabelling Network (GEN)

- GreenPro standards at par with International Standards
- Increased export opportunities for GreenPro certified products


GLOBAL ECOLABELLING NETWORK

GENICES CERTIFICATE

Confederation of Indian Industry
Member Organization

A 'Peer Review' has determined that the named organization operates the identified ecolabelling program in a competent manner and in conformance with the GENICES requirements.

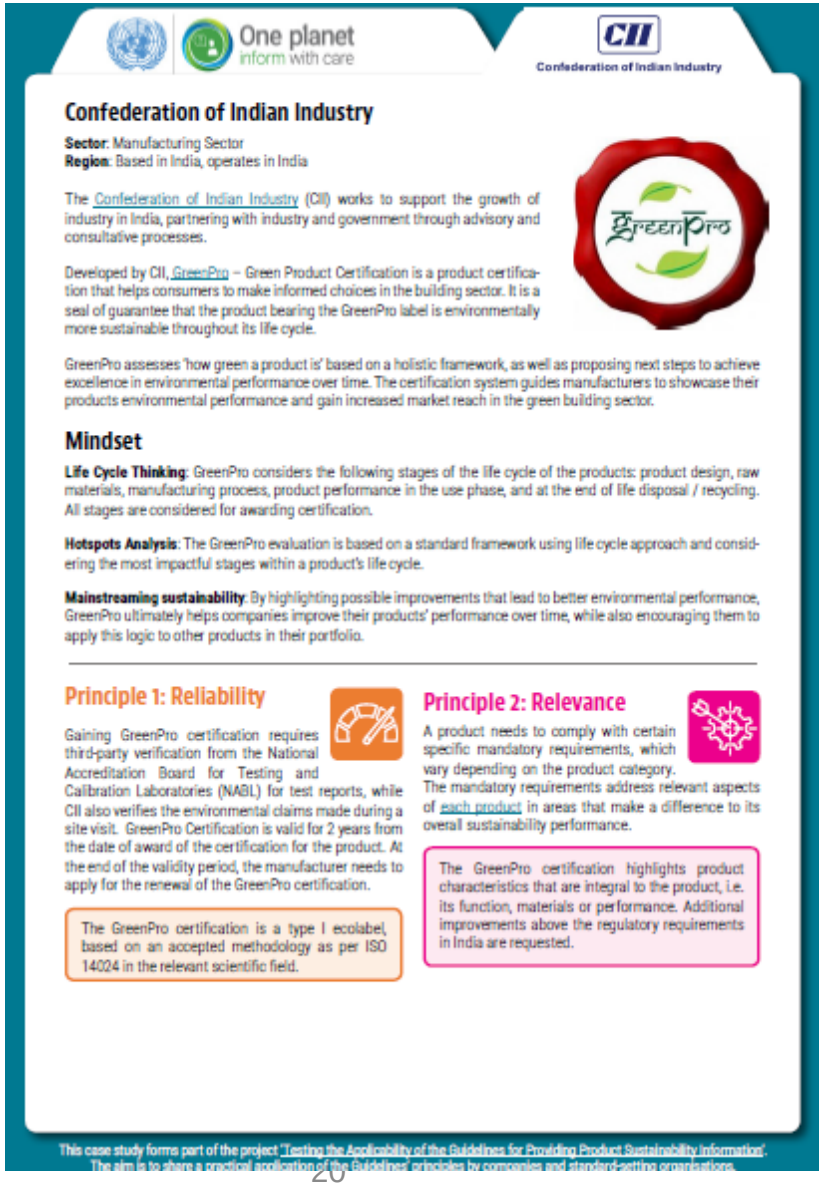
GreenPro
Ecolabelling Program

April 4th, 2017
Audit Date

Chair, Global Ecolabelling Network

October 4th, 2017
Date Issued

Recognition from UN Environment



One planet
inform with care

CII
Confederation of Indian Industry

Confederation of Indian Industry

Sector: Manufacturing Sector
Region: Based in India, operates in India

The Confederation of Indian Industry (CII) works to support the growth of industry in India, partnering with industry and government through advisory and consultative processes.

Developed by CII, GreenPro – Green Product Certification is a product certification that helps consumers to make informed choices in the building sector. It is a seal of guarantee that the product bearing the GreenPro label is environmentally more sustainable throughout its life cycle.

GreenPro assesses 'how green a product is' based on a holistic framework, as well as proposing next steps to achieve excellence in environmental performance over time. The certification system guides manufacturers to showcase their products environmental performance and gain increased market reach in the green building sector.

Mindset

Life Cycle Thinking: GreenPro considers the following stages of the life cycle of the products: product design, raw materials, manufacturing process, product performance in the use phase, and at the end of life disposal / recycling. All stages are considered for awarding certification.

Hotspots Analysis: The GreenPro evaluation is based on a standard framework using life cycle approach and considering the most impactful stages within a product's life cycle.

Mainstreaming sustainability: By highlighting possible improvements that lead to better environmental performance, GreenPro ultimately helps companies improve their products' performance over time, while also encouraging them to apply this logic to other products in their portfolio.

Principle 1: Reliability

Gaining GreenPro certification requires third-party verification from the National Accreditation Board for Testing and Calibration Laboratories (NABL) for test reports, while CII also verifies the environmental claims made during a site visit. GreenPro Certification is valid for 2 years from the date of award of the certification for the product. At the end of the validity period, the manufacturer needs to apply for the renewal of the GreenPro certification.

The GreenPro certification is a type I ecolabel, based on an accepted methodology as per ISO 14024 in the relevant scientific field.

Principle 2: Relevance

A product needs to comply with certain specific mandatory requirements, which vary depending on the product category. The mandatory requirements address relevant aspects of each product in areas that make a difference to its overall sustainability performance.

The GreenPro certification highlights product characteristics that are integral to the product, i.e. its function, materials or performance. Additional improvements above the regulatory requirements in India are requested.

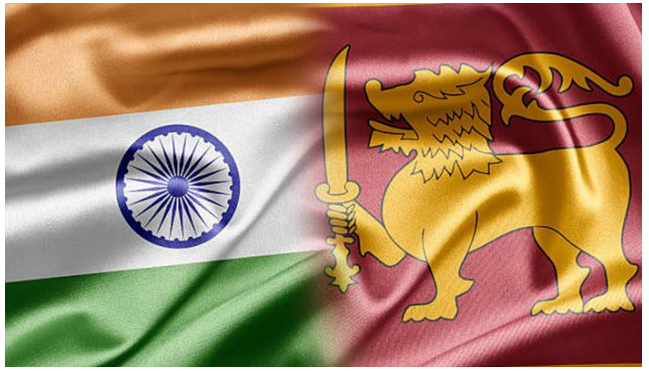
This case study forms part of the project 'Testing the Applicability of the Guidelines for Providing Product Sustainability Information'.
The aim is to share a practical application of the Guidelines' principles by companies and standard-setting organizations.

UN environment

- **A Case study on 'GreenPro' by UN Environment**
- **GreenPro is in-line with UN Environment guidelines on providing product sustainability information**

Way Forward – Areas of Cooperation

- Provide all technical support for development and Launch of Ecolabelling scheme in Sri Lanka
- Facilitate India and SriLanka Industry and Institution cooperation on Ecolabelling
- Sharing of best practices
- Mutual recognition and Jointly promote use of Ecolabelled products in India & Sri Lanka



Ultimately enable Green Product Market Transformation in Sri Lanka

Thank You...!

S Karthikeyan
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