Initiative Resource Efficiency and Climate Action

Contribute to a more sustainable management of resources and, through that, to the reduction in GHG emissions related to resource use

- Sensitize about existing potentials and strengthen capacities of key actors
- Support national and international dialogue, networking and mutual learning
- Provide consultancy for identifying and tapping of potentials for enhanced resource efficiency and climate protection

Focus: G20 emerging economies
A comparative perspective of resource utilization on different countries

World Resources Forum, 24. 10. 2019 Geneva
Dr. Monika Dittrich and Andreas Auberger
The challenge of rising resource use and impacts on environment

With implications on

- Greenhouse gas emissions
- Air emissions
- Decreasing water quality
- Land degradation and loss of soil fertility
- Loss of biodiversity
  - ...

=> Resource efficiency is a strategy to decrease pressure on environment and at the same time to increase economic wealth

Project MoniRess – Monitoring international resource policies

- AIM: establishing and implementing a monitoring of international resource policies
- On behalf of the Federal Environmental Agency, Germany, in cooperation with giz
9 selected countries

covering
- industrialized, emerging and developing countries
- resource exporting and resource importing countries
- Asia, North and South America as well as Africa

Raw Material Consumption per capita in the selected countries, 1990 and 2013

- Biomass
- Fossil fuels
- Metal Ores
- Non-metallic Minerals

MoniRess – policies until 2017, still influencing the present resource use
MoniRess – policies influencing resource use 01/2017 - 7/2019

National strategies or action plans on resource efficiency

Programmes
- raw material extraction
- production
- consumption
- circular economy
- overarching instruments

Priorities materials sectors

Objectives and indicators

Policy instruments

Players

Country
- Brazil
- China
- India
- Indonesia
- Mexico
- Russian Federation
- South Africa
- Rep. of Korea
- USA

Intersections: Water, soil, air, biodiversity
Resource efficiency policy is multi-layered

Example 1:
China and strategic action at many levels: demonstration projects, local responsibility and an innovative Circular Economy Promotion Law (2009).

Example 2:
Russia and the modernization of main industries through best available techniques (energy and material consumption).

Example 3:
Closing regional cycles and improving raw material availability in South Africa with Industrial Symbiosis Program and Price Preference System.

Example 4:
Encourage sustainable consumption and the use of public transport. Korea and the Green Credit Card.
Conclusion

- Resource efficiency is an established and vivid policy field
- However, there are several differences between countries regarding
  - Comprehensiveness of policy approach
  - Selected priorities, addressed sectors or materials
  - Implemented measures
  - Driving forces, e.g. international competitiveness, environmental problems, resource dependencies
  - Pushing actors, e.g. government, private sector, civil society
- Policies for production and circular economy are dominating. Consumption is clearly less addressed.
- In the past, policies regarding production and circular economy have been in the focus. Today there is a slight shift towards overarching strategies and further implementation policies.
Thank you very much for your attention!

World Resources Forum, 24. 10. 2019 Geneva

Dr. Monika Dittrich and Andreas Auberger
From a baseline study to a National Resource Efficiency Policy in India

Dr Rachna Arora
Deputy Team Leader

European Union – Resource Efficiency Initiative (EU-REI)

October 24, 2019
World Resources Forum
- Extraction of raw material in India up by 420% between 1970 and 2010
- 3rd highest CO2 emitter responsible for 6.9% of global emissions
- Low material productivity and inefficiency in recycling
- Import dependence, high urbanization rates, product affordability
At its core, studies recommend potential areas for policy innovation to foster resource efficiency in the four target sectors.
Key Intervention Areas - Resource Efficiency (RE) Strategy for India

- Ecolabelling
- Standards
- Research & Development
- Sustainable Public Procurement (SPP)
- Industrial Clusters
- Waste exchange platform
- Information Sharing and Awareness Generation
- Economic Instruments
Objectives of RE Policy

Minimize the resource use and environmental impacts at each life cycle stage by adopting the concepts of resource efficiency and circular economy using one or more of the 6Rs principles.
Facilitating Partnerships

- EU-India Environment Forum on Resource Efficiency & Circular Economy in June 2017
- Support to the Indian Delegation at the G20 RE Dialogue – briefings for Sherpa (MoEFCC and NITI Aayog)
- CEM Led by Mr Karmenu Vella, Commissioner for Environment, Maritime Affairs and Fisheries, EU
- Engaged with over 300 Indian businesses, entrepreneurs and NGOs
- Over 140 B2B Meetings resulting in 11-12 announcements of partnerships made
- Launch of FICCI Indian Circular Economy Awards
Mainstreaming RE and CE at various levels

- **National level** - Sectoral Action Plan prepared by 4 key sectoral ministries (Steel, Aluminium, C&D waste, E-waste) to mainstream RE and action plans.

- **State Level** - Two Indian states developing a RE strategy with priorities and action to be undertaken by the state government (Hyderabad and Goa).

- **Local level** - Two city level material flow assessment with a focus on construction sector (UMBERTO).

- **Institutional strengthening** - RE Cell, Task Force, inter-departmental Committee, capacity development programme on RE.

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**Economic Survey of India 2019 (MoF)**

**FOR A GREENER TOMORROW**

- The Survey suggests setting up of a coordinating body for environment and sustainability concerns.
- National policy on resource efficiency.
- A policy on sustainable public procurement to minimise consumption of resources, reduce waste generation, greenhouse gas emissions.
- An energy policy taking into consideration the economies of coal and renewable.

*Business Standard, July 5, 2019*
o **Waste Exchange Platform** for promoting material database and byproduct characterization

o Producer Responsible Organizations (PROs) set up towards EPR compliance for Plastics and WEEE

o Circular Apparel Innovation Factory – Lakme Fashion Week 2019 – Aditya Birla, Reliance, Intellicap launched for addressing CE and RE in the textile production and consumption

o Utilization of Blast Furnace Slag increased in Cement industry from 30% in 2007 to 57% in 2017

o Single Use Plastics banned by Indian Railways

o Banyan Nation - Converts old car bumpers to new bumpers with high quality recycled plastics for Tata Motors and Loreal Cosmetics; Winner of the Circulars Award at World Economic Forum 2018

o Ecoware Tableware which turns into compost in 90 days (Winner of Young Global Leaders at WEF, 2019)
Thanks for your attention

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http://www.eu-rei.com/
“G20 Emerging Economies’ Perspective on Resource Efficiency Challenges and Prospects”

Approach to foster Resource Efficiency in Guanajuato, Mexico

October 24th
Geneva - Switzerland
Why is resource efficiency important for Government State of Guanajuato?

Population Growth

Source: PED 2040

3 million inhabitants

5.8 million inhabitants
Economic Growth

The State economy has grown twice as much as the national economy in the last 5 years.

Why is resource efficiency important for the State Government of Guanajuato?
Why is resource efficiency important for the State Government of Guanajuato?

Increased exports

The exports of Guanajuato have increased to 25 billion dollars in 2018.
Why is resource efficiency important for the State Government of Guanajuato?

Urbanization

Increase

Cities have grown exponentially in the past decades
Why is resource efficiency important for the State Government of Guanajuato?

Main Clusters in Guanajuato

- Chemical Products
- Agribusiness
- Automotive
- Transportation
- Medical equipment
- Crafts
- Tourism
- Leather-Footwear Fashion Sector
Why did we choose the fashion cluster as a proposal for the application of the Resource Efficiency Model?

**Background.** The fashion cluster in Guanajuato is composed by the leather and footwear industry, the textile industry, and the manufacturing industry.

**Economic relevance.** It comprehends more than 7,500 businesses that employ more than 122,000 people, which represents 10.5% of Guanajuato's GDP.

**Cultural relevance.** The activities of the fashion cluster important are deeply rooted in the cultural identity of many regions of the State.
Alignment to public policy instruments

**Objective 5.1.2**
Reduce the vulnerability and mitigate climate change

**Strategy 1**
Contribute to the mitigation of the causes of Climate Change

**Strategy 2**
Develop comprehensive actions for the adaptation to Climate Change

**What should we do to achieve the vision?**

**Objective 3.1.3** - Develop the capacity for mitigation and adaptation to climate change among the different sector of society.

**Strategies**

3.1.3.1 - Greenhouse effect gases emissions control.
3.1.3.2 - Native vegetation and soil conservation and restoration.
3.1.3.3 - Promotion of measures, actions, and projects for adaptation of human settlements to the effects of climate change, with a gender equality perspective.
3.1.3.4 - Promotion and development of renewable energy sources, as well as the increase on energy efficiency.
Introduction to resource efficiency in economic sectors of the fashion industry in Guanajuato State.
Climate Action and Resource Efficiency

- Long-term orientation of the NDC implementation process
- Accelerate NDC implementation
- Electric Mobility Strategy for Guanajuato
- Towards a circular economy in Mexican cities
- Low Emission Zone
- Energy efficiency and renewable energy
- Resource Efficiency in enterprises
THE STORY OF SUSTAINABILITY

Our Challenges in creating a Sustainable Farm Community
ECOVILLAGE design is about CREATING an ECOSYSTEM for LIFE.
LINEAR RESOURCE TO TRASH MODEL: 
*Individual Consumers*

SYMBOITIC RECYCLING: 
*Individual Contributors*
ECOVILLAGE construction is NOT about creating buildings but creating LIVING SPACES.
IDEA was to use LOW EMBODIED ENERGY materials and LOCAL materials for CONSTRUCTION
**Construction Process**

- **Zoning** - A thorough planning prior to construction
- **Protecting existing ecology** - Fences around the important ecology
- **Smart Sourcing** - To reduce the overall carbon footprint
- **Zoned Construction** - Not allowed to spread all throughout the campus
- **Mud is the essence** - Simple, Natural Mud was the key constituent of the construction material
- **Foundation** - Stone masonry with stabilized mud mortar & concrete short poles (as bond stone)
- **Assembled Arches** - Saves cost on RCC, Saves cost on plastering ceiling with cement, Saves waste & More strength and stability.
- **Natural Insulation** - A sloped roof with double layer of Mangalore tiles with an air gap between the two. It ensures that the temperature inside the room is moderate as compared to outside.

**Strength**

- 65 Kg/cm²
- 40 Kg/cm²

**Mortar**

- 1 cement : 1 mud : 4 stone dust
- 1 cement : 6 sand

**Size Variation**

- 0 - 2 mm
- 10 - 25 mm

**Shapes**

- 8 possible shapes
- Only 1 shape

Created buildings that minimize resource consumption, waste generation and overall ecological impact

Employed Mud based technologies like Compressed Stabilized Earth Blocks, Cob and Rammed Earth

Built structures that have less than 1% embodied energy compared to conventional buildings

Lower maintenance costs compared to regular buildings
CONSTRUCTION CHALLENGE
ECOVILLAGE water supplies must not just meet today's need, but even FUTURE!
HYDROGEOLOGY for WATER SECURITY
WATER CHALLENGE
Its not WASTE, but excess concentration of NUTRIENTS
Not just depending on subsidized FOSSIL FUEL based power but switching to RENEWABLES
ENERGY CHALLENGE

Reducing our SUN DEBT

30 KVA Solar Power

Bull based farming

Biogas Plants

Animal driven water pumps
Creating a livelihood model that ensures SOCIAL equity and ECOLOGICAL sustainability
HOLISTIC rural development program centered around ORGANIC FARMING, WATER SHED MANAGEMENT & HEALTH CARE
12000 VISITORS annually from various countries

The retreat center model bridging the URBAN-RURAL divide
AWARDS & ACCOLADES

UNWTO Award for ECO-TOURISM as a catalyst for RURAL DEVELOPMENT

Green Village Platinum Ratings
From the Indian Green Building Council
During the Green Building Congress

Smart Village Award for being a SUSTAINABILITY PROJECT in Wada and Palghar District of Maharashtra

GEV officially being granted with observer status in the NGO Category to the UNITED NATIONS ENVIRONMENT ASSEMBLY (UNEA)
AWARDS & ACCOLADES

SKOCH
Renaissance Award for WATER CONSERVATION

LIMCA BOOK OF RECORDS entry for innovative farming techniques

AF’s Excellence Awards Ceremony
AQUA EXCELLENCE AWARD for Outstanding Contribution towards cause of Sustainability

5 star platinum GRIHA rating for green buildings given by Ministry for New and Renewable Energy and TERI
THE STORY OF SUSTAINABILITY

Our Challenges in creating a Sustainable Farm Community

THANK YOU

www.ecovillage.org.in