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India-EU Clean Energy and Climate Partnership (CECP)

# Smart Readiness Indicator (SRI) in India - Application and possible way forward

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# SRI – Key pointers from the study

## Impact assessment result of SRI analysis in EU

- According to the impact assessment results for the EU situations, the total thermal energy savings by 2050 is estimated to be between **350 TWh/a and 450 TWh/a**, whereas the energy cost savings is estimated to be between **800 and 1,200 Million Euro per year**, depending on the different scenarios.
- Also, the payback period is calculated to be between **2-6 years** and the **CO<sub>2</sub> emissions reduction until 2050** is estimated to be lower by **70 Mt/a**.

## Penetration of smart technologies in India

- **Analysis of Penetration of each service** indicates that the market for **smart technologies** is available in India.
- A further push from both **regulatory and financing bodies** would make the availability wider and encourage further market adoption.
- The market at present is mainly limited to the **commercial sector**.



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# Policy framework and its integration with SRI



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S.No.	Code/Rating System	Integration of smart technologies in requirements
1.	Energy Conservation Building Code 2017	<p>ECBC Compliance for air conditioning systems</p> <ul style="list-style-type: none"><li>• Time clock control for automatic start and stop of system</li><li>• Temperature controls, occupancy controls</li><li>• Fan controls for cooling tower</li><li>• ECBC + and Super ECBC Compliance for air conditioning systems</li><li>• Centralized demand shed control</li><li>• VAV fan control</li><li>• ECBC Compliance for lighting systems</li><li>• Control in daylight</li><li>• ECBC+ and Super ECBC Compliance for lighting systems</li><li>• Centralized control system for schedule based automatic lighting shutoff switches</li></ul>
2.	Indian Green Building Council - IGBC	Requirements are based on ECBC (or) ASHRAE Standard 90.1-2010
3.	GRIHA – Green Rating for Integrated Habitat Assessment	Requirements are based on ECBC 2017
5.	EDGE	EDGE - Natural ventilation for guest room equipped with auto controls for HVAC and lighting (hotels)
6.	GEM Sustainability (Green) program	Refers clauses of ECBC 2017 for commercial buildings

SRI framework also fits very well into India's **Smart Cities Mission initiative** and the **net-zero transition framework** which is being developed. As indicated in the survey, the use of technology for **evidence-based reporting** and **monitoring** is very much evident, as energy efficiency is achieved by use of these advanced systems.



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# Way Forward



Prepare a **methodology** for rating a building for SRI

A study on the **assessment** and **implementation** options

**Pilot projects** could be tested on a voluntary basis post confirmation of viability of the approach

Conduct **capacity buildings program** among manufacturers and consumers to adoption of SRI assessment scheme

# Parallel Activities



Framing policies to promote the smart technologies, for example inclusion in codes and standards for increased awareness and adoption



Promotion of smart services through incentivization and running accelerator programs to promote smart technologies while promoting technology transfer to Indian Manufacturers.



Inclusion of certain smart technologies directly (if undressed entirely) or indirectly in codes and standards such as ECBC, Eco Niwas Samhita (ENS), Green Certification Ratings.



Providing financial support for implementation of these smart technologies.



# SRI study - Conclusions

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## Policy framework and its integration with SRI

- **Policies/codes and rating systems** in India relevant to the integration of SRI framework
- **SRI encourages evidence-based reporting and monitoring**, and it also provides a roadmap for use of **advanced smart technologies** which can be a **great catalyst** for all the beneficiaries including the **building's owners, technology providers and the Government**.

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## Way Forward

- Prepare a **methodology** for rating a building for SRI.
- A study on the **assessment and implementation** options.
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***Thank You***

