



HOME RENOVATION ROADMAPS TO ADDRESS
ENERGY POVERTY IN VULNERABLE RURAL
DISTRICTS

Type of renovation measures



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List of Arguments



**Deep and Step-wise
Renovation**



**Promote energy renovation
vs conservation renovation**



Deep and Step-wise Renovation





Deep and Step-wise Renovation

Deep Renovation

Deep renovation involves a **comprehensive overhaul** of a building to significantly **improve its energy performance**, often aiming to achieve **nearly zero-energy** status. This type of renovation typically addresses various aspects of the building, including insulation, windows, heating, cooling, and ventilation systems. The goal is to achieve a substantial **reduction in energy consumption** and **greenhouse gas emissions**. Deep renovations often involve a more extensive scope of work compared to step-wise renovations.



Common Steps in Deep Renovation

Energy Audit and Assessment



Conduct a thorough energy audit to **identify areas** of improvement and assess the current energy performance of the building.

Window and Door Replacement



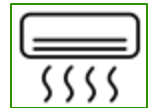
Install **high-performance windows and doors** to enhance thermal comfort and reduce energy consumption.

Building Envelope Improvement



Upgrade insulation in walls, roofs, and floors to minimize heat loss or gain.

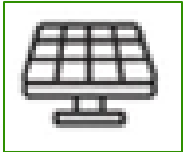
Heating, Ventilation, and Air Conditioning (HVAC) Systems Upgrade



Replace or upgrade HVAC systems with more energy-efficient technologies.



Common Steps in Deep Renovation



Renewable Energy Integration

Integrate renewable energy

sources such as solar panels or geothermal systems to further reduce dependence on conventional energy sources.



Quality Assurance and Testing

Conduct tests and quality

assurance checks to ensure that the renovated building meets energy performance targets.



Smart Building Technologies

Incorporate **smart technologies for energy management**, including programmable thermostats, energy-efficient lighting, and building automation systems



Deep and Step-wise Renovation

Step - Wise Renovation

Step-Wise Renovation is a **step-by-step and sequential approach** to building renovation. Rather than performing a complete renovation in a single step, this method involves breaking the process down into more manageable and progressively implementable steps. This approach involves identifying and implementing improvements in several steps, **allowing the focus to be on specific areas of the building at different times.**

This allows for better management of available resources, both financial and time, and provides an opportunity to evaluate the effectiveness of the changes made before proceeding further with the renovation.



Common Steps in Step-wise Renovation



Priority Identification

Identify and **prioritize** areas or systems that require immediate attention based on energy efficiency, performance, or durability.



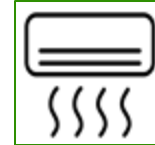
Appliance and Lighting Upgrades

Upgrade appliances and lighting fixtures to more energy-efficient models.



Insulation and Window Upgrades

Begin with **insulation improvements** and window replacements to enhance thermal performance.

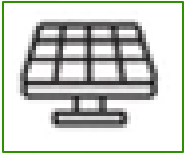


HVAC System Upgrades

Replace or upgrade HVAC systems gradually, prioritizing the most energy-consuming components.



Common Steps in Step-wise Renovation



Renewable Energy Integration

Consider **integrating renewable energy sources** when feasible and economically viable.



Monitoring and Feedback

Implement **monitoring systems** to track energy consumption and gather data for future improvements.



Deep Renovation e Step-Wise Renovation:

Deep Renovation

Comprehensive Approach: Involves a complete renovation of the building in a single phase;

Objective: Maximise energy efficiency and resource optimisation in a single effort;

Global Building: Involves global improvements, e.g. insulation, windows, heating and cooling systems, all implemented together;

Maximised Energy Efficiency: Achieves high levels of energy efficiency in a single initiative;

Immediate Results: Provides tangible and immediate results in terms of reduced energy consumption.



Deep Renovation e Step-Wise Renovation:

Step - Wise Renovation

Graduality: Provides a series of phases or steps, addressing specific improvements at different times;

Flexibility: Allows management of resources and assessment of the impacts of each step before proceeding;

Selectivity: Focuses on specific improvements at each step, e.g. insulation, windows, heating or cooling systems, implemented in several separate steps;

Resource Management: Enables better financial and logistical management, allowing adaptation to available resources;

Gradual Evaluation: Allows the impacts of each improvement to be evaluated before proceeding, offering greater flexibility.



Promoting Energy Renovation vs Conservation Renovation





Promoting Energy Renovation vs Conservation Renovation

Energy Renovation

Energy renovation focuses on **enhancing a building's energy performance**, reducing energy consumption, and incorporating renewable energy sources. The aim is to **align the building with modern energy efficiency standards** and reduce its environmental impact.



Common Steps for Promoting Energy Renovation



Financial Incentives

Offer **financial incentives, subsidies, or tax credits** to encourage building owners to **invest in energy-efficient renovations.**



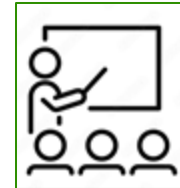
Public Awareness Campaigns

Conduct **public awareness campaigns** to educate homeowners, businesses, and communities about the benefits of energy renovation.



Regulatory Measures

Implement and enforce **building codes and regulations** that promote energy efficiency in both new constructions and renovations.



Professional Training and Certification

Provide **training and certification programs** for professionals in the construction and renovation industry to ensure they are **well-versed in energy-efficient practices.**



Common Steps for Promoting Energy Renovation



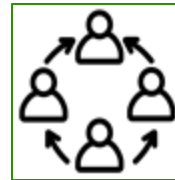
Research and Development

Invest **in research and development** to discover **innovative technologies and materials** that enhance energy efficiency in building renovations.



Demonstration Projects

Showcase **successful energy renovation projects s examples** to inspire others and build confidence in the feasibility and benefits of such initiatives.



Collaboration and Partnerships

Foster **collaboration between government agencies, industry stakeholders, and non-profit organizations** to collectively promote energy-efficient renovation practices.



Promoting Energy Renovation vs Conservation Renovation

Conservation Renovation

Conservation renovation emphasizes **preserving the historical, cultural, or architectural aspects of a building** while making necessary repairs and improvements. The primary goal is to maintain the building's original character and significance.

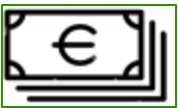


Common Steps for Conservative Renovation



Historic Preservation Programs

Establish or support historic preservation programs that recognize and protect culturally significant buildings. These programs may include designations such as National Historic Landmarks or local historic districts.



Financial Incentives for Preservation

Offer financial incentives, grants, or tax credits to property owners who undertake conservation renovations. These incentives can help offset the costs associated with preserving historic features.



Common Steps for Conservative Renovation



Heritage Conservation Policies

Develop and implement heritage conservation policies that guide the preservation of historic structures. These policies may include regulations on alterations, additions, or demolitions to protect the building's character.



Educational Initiatives

Conduct educational initiatives to raise awareness about the value of historic buildings and the benefits of conservation renovation. This can include workshops, seminars, and outreach programs for property owners, communities, and professionals.

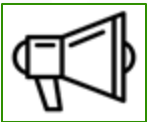


Common Steps for Conservative Renovation



Community Engagement

Foster community engagement in the preservation process. Involve local communities in decision-making and encourage a sense of ownership and pride in historic buildings.



Technical Assistance and Resources

Provide technical assistance and resources to property owners, architects, and contractors involved in conservation renovations. This can include guidelines, manuals, and expert advice on best practices for historic preservation.



Common Steps for Conservative Renovation



Recognition and Awards

Create recognition programs and awards to celebrate exemplary conservation renovation projects. This can inspire others and create a positive culture around historic preservation.



Collaboration with Preservation Organizations

Collaborate with preservation organizations, both local and national, to leverage expertise and resources. These organizations often play a key role in advocating for historic preservation and can provide support to property owners.



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Thank you for your attention

