National Institute of Technology, Rourkela

# Sustainable Procurement/Purchasing Policy

NIT Rourkela has taken significant steps toward adopting sustainable construction practices, which not only contribute to environmental conservation but also align with national and global goals for sustainability. These practices focus on minimizing the ecological footprint of building construction while enhancing the quality of life for residents and users. The following sections provide an in-depth look at the sustainable construction practices being implemented by the institute.

## 1. Recycling of Construction Waste

One of the most effective strategies for sustainable construction is reducing waste generation during demolition and new construction processes. NIT Rourkela has incorporated the practice of recycling construction waste into its building projects. This practice is beneficial in multiple ways:

- **Reduction in Landfill Waste**: By reusing construction waste, NIT Rourkela helps reduce the amount of waste sent to landfills. Materials such as concrete, wood, metal, and bricks from demolished buildings are carefully segregated and reused in the construction of new buildings or other infrastructure projects on campus.

- **Conservation of Raw Materials**: Recycling construction materials reduces the need for virgin materials like new timber, stone, and sand. This helps conserve natural resources that are often extracted unsustainably, decreasing the environmental damage caused by mining and logging.

- **Reduction in Greenhouse Gas Emissions**: Manufacturing new construction materials is energy-intensive, contributing significantly to carbon emissions. By reusing materials, the institute significantly reduces

the energy required for the production of new materials, leading to a reduction in overall greenhouse gas emissions.

- **Cost Efficiency**: Recycling construction materials also contributes to cost savings for the institute. Reusing materials such as concrete or steel reduces the overall procurement costs for new building projects.

In conclusion, the recycling of construction waste promotes both environmental and economic sustainability at NIT Rourkela.

2. **Use of Eco-friendly Construction Materials**

Sustainable construction at NIT Rourkela involves using eco-friendly building materials that have a lower environmental impact during both their production and life cycles. One of the key materials used is fly-ash bricks. Fly-ash is a by-product of coal combustion in thermal power plants. Here's why fly-ash bricks are considered an eco-friendly option:

- **Reduction in Pollution**: The production of traditional clay bricks typically involves mining topsoil and firing them in kilns, releasing carbon dioxide and other pollutants into the atmosphere. In contrast, fly-ash bricks use the waste product from coal combustion, which helps mitigate air pollution by repurposing waste material that would otherwise be disposed of.

- **Lower Carbon Footprint**: The manufacturing process for fly-ash bricks is less energy-intensive compared to traditional bricks, resulting in lower carbon emissions associated with their production. Additionally, the bricks themselves are lightweight and require less energy to transport and handle.

- **Durability and Insulation**: Fly-ash bricks are known for their strength, durability, and thermal insulation properties. These characteristics help to improve the energy efficiency of buildings constructed with them, as they naturally reduce heating and cooling demands. This further contributes to a decrease in the energy required for building maintenance and operation.

Incorporating eco-friendly materials like fly-ash bricks not only reduces the environmental impact of construction but also improves the long-term sustainability of the campus buildings.

### 3. Eco-friendly Procurement Practices

Sustainable procurement practices are another key element of NIT Rourkela's strategy to reduce the environmental footprint of its construction projects. The institute follows the principle of eco-friendly procurement, which emphasizes sourcing materials and products locally. Here's how these practices are beneficial:

- **Reduction in Transportation Emissions**: By procuring construction materials from local suppliers, the institute minimizes the distance these materials need to travel. This reduces transportation-related emissions, such as carbon dioxide and other pollutants, which are typically associated with long-distance freight shipping.

- **Support for Local Economy**: Sourcing materials locally not only supports regional industries but also stimulates the local economy. By purchasing from nearby suppliers, NIT Rourkela ensures that local businesses and communities benefit, fostering a cycle of economic growth and sustainability.

- **Reduced Fuel Consumption**: Local sourcing cuts down on the need for transportation, which in turn reduces fuel consumption and costs. This aligns with broader efforts to conserve energy resources and reduce dependence on fossil fuels.

- **Improved Supply Chain Efficiency**: Local sourcing ensures a shorter and more efficient supply chain, making it easier to monitor material quality and environmental compliance. Furthermore, it supports the "Make in India" initiative by promoting domestic manufacturing.

In conclusion, eco-friendly procurement practices help NIT Rourkela minimize its carbon footprint, contribute to local economic growth, and improve the sustainability of its construction projects.

4. **Aligning with "Make in India" Procurement Guidelines**

The "Make in India" initiative, launched by the Government of India, promotes the use of domestically produced goods and services. NIT Rourkela adheres to the provisions of the Public Procurement (Preference to Make in India) Order 2017 and its subsequent amendments issued by the Ministry of Commerce and Industry, Government of India.

- **Supporting Domestic Manufacturing**: By prioritizing domestically produced materials, the institute ensures that its procurement decisions align with national goals to reduce reliance on imports and support the growth of India's manufacturing sector.

- **Encouraging Local Innovation**: The "Make in India" policy incentivizes local manufacturers to innovate and improve their production processes. This results in the development of new, sustainable construction materials and technologies that can contribute to more environmentally responsible building practices.

Incorporating these procurement practices helps the institute meet its sustainability goals while adhering to national policies and contributing to the larger goal of self-reliance and sustainable growth in India.

# NATIONAL INSTITUTE OF TECHNOLOGY ROURKELA – 769 008, ODISHA

## Sustainable Purchase Practices in Government Offices

Sustainable purchasing is integral to promoting environmental conservation, social responsibility, and cost efficiency in government procurement. Our Institute has been consistently working towards implementing such practices, ensuring that our procurement positively impacts both the environment and society at large. Moreover, we adopt such practices that reduce our carbon footprint and promote sustainability. A few of such practices we have been implementing in our Institute are enumerated below:

1. **Green Procurement Policy**: In our Institute, we prioritize the purchase of environmentally friendly products. This includes Energy Star-rated electronics, energy-efficient lighting, eco-friendly cleaning appliances, recycled paper products, and materials that contribute to reducing carbon footprint. Additionally, solar panels have been installed on the rooftops of several buildings to capture and utilize renewable solar energy, further reducing our dependence on non-renewable energy sources.
2. **3 R Principle (Reduce, Reuse, and Recycle)**: Our Institute strictly prohibits the use of single-use plastics, such as water bottles, cups, and cutlery. We opt for products made from recycled materials wherever possible.
3. **Paper Reduction**: We encourage the use of digital platforms for procurement and administrative processes. Majority of our procurements are done through the Government E-Marketplace (GEM) and Central Public Procurement (CPP) portals. We follow e-tendering and e-publishing procedures for transparency and reduced paper usage. For more details on our e-procurement process, visit the following link: https://www.nitrkl.ac.in/PurchaseSection .
4. **Water Conservation & Recycling**: Multiple measures have been put in place to conserve water and recharge the groundwater system. We prioritize purchasing water-efficient fixtures and equipment, such as flow valves, low-flow faucets, sensor taps, and water-efficient toilets. Our Institute has several water bodies that help recharge groundwater, and we ensure that these water sources are always well-maintained and clean.
5. **Promotion of 'Make in India'**: In line with our commitment to promoting local industry and self-reliance, we actively seek products compliant with **"Make in India"** guidelines as prescribed by the Public Procurement (Preference to Make in India) Order, 2017 dated 16/09/2020. This supports domestic manufacturing, reduces our carbon footprint, and fosters national economic growth.

6. **Preference for Local Suppliers for Services:** For services, we give preference to local suppliers and service providers. This not only reduces transportation costs and emissions but also helps stimulate the local economy.
7. **Auctioning Obsolete and Scrap Materials for Recycling**: Our Institute follows a strict process for the disposal of obsolete and scrap materials. These materials are disposed of in a transparent manner, ensuring that they are sent to authorized recycling centers for proper processing. This helps to reduce waste and ensures that valuable materials are reused, thus contributing to a circular economy.
8. **Sustainable Furniture and Office Supplies**: We prioritize the purchase of office furniture and supplies made from sustainable materials, such as recycled wood, eco-friendly fabrics, and low-emission paints. This minimizes the environmental impact of our office furniture and ensures that the items purchased can be easily recycled at the end of their life cycle.
9. **Sustainable Packaging**: We have adopted policies that reduce packaging waste in procurement, especially for goods. We encourage suppliers to minimize the use of excessive packaging and prefer products that come in recyclable or reusable packaging.
10. **Employee Awareness and Cleanliness drives**: To ensure the successful implementation of our sustainable procurement practices, we regularly train our employees on the importance of sustainability and environmental responsibility. Through awareness programs and cleanliness drives, we educate staff on eco-friendly purchasing practices and encourage them to make conscious, sustainable choices in their professional duties. Additionally, we have been conducting more than 100 weekly cleaning drives in our buildings and their surrounding areas to keep them clean and tidy at all times.
11. **Support for Local Artisans and Sustainable Mementos:** In our Institute, we believe in promoting local craftsmanship and reducing adverse environmental impact. Mementos given at official functions are crafted from recycled materials and produced by local artisans, showcasing their talent and the sustainability of the region. Additionally, the Dresses (Kurta/Pajama/Saree) for Convocation (Annual ceremony for the conferment of a University Degree), shawls and the Uttarayas (traditional hand-woven items) given in functions are made by local handloom weavers, thus supporting both eco-friendly practices and local economic growth.
12. **Responsible Disposal of Hazardous Materials:** To ensure the safe and responsible disposal of batteries and other hazardous materials, our Institute follows a strict buy-back procedure. Rather than discarding these materials, they are exchanged through an environmentally responsible process, preventing contamination of our ecosystem and promoting recycling and reuse.
13. **Promotion of Sustainable Commuting:** We prioritize energy-efficient transportation methods, such as electric vehicles, to further reduce carbon emissions associated with transportation. To encourage sustainable commuting, our students and staff actively use



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bicycles, e-cycles, and Electric Vehicles (EVs) for their daily travel within the Institute, which fosters a healthier and more eco-conscious community.

14. **Eco-friendly Practices in Canteens and Messes:** In line with our commitment to sustainability, our canteens and messes strictly adhere to eco-friendly practices. We do not use any non-biodegradable materials and avoid single-use plastics. Instead, we use paper cups, paper packaging, glass, leaf plates and other biodegradable alternatives, ensuring that our food service operations are as sustainable as possible.

15. **Collaboration with Startups Contributing to Sustainability:** Our Institute actively collaborates with startups that share our commitment to sustainability. These innovative companies help us advance our environmental goals while supporting local entrepreneurship. The following startups are key partners in our sustainability journey:

    1. **Yoshino Energy Pvt. Ltd.**: They specialize in converting traditional bicycles into e-cycles, encouraging the use of bicycles over motorcycles and reducing our carbon footprint.
    2. **Biotez Agrinovation Pvt. Ltd.**: This startup provides organic fertilizers and compost, promoting sustainable farming practices, thereby offering better sustainable alternatives to chemical-based products.
    3. **Ayurinno Legacy Pvt. Ltd.**: They offer herbal oils and soaps made without the use of chemicals, aligning with our focus on natural and eco-friendly products.
    4. **Jhumpa Herbal Cosmetics Pvt. Ltd.**: Specializing in beauty cosmetics, they provide products free of harmful additives, promoting natural beauty solutions without harming the environment.

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