



BRAINWARE UNIVERSITY

**Annual SDG-12 Report
2023-24**

SDG 12: Responsible Consumption and Production
Building a Culture of Circularity and Conscious Use

SDG 12: Responsible Consumption and Production – *Building a Culture of Circularity and Conscious Use*

About SDG 12

Sustainable consumption and production (SCP) aim to “do more and better with less.” It focuses on reducing waste, improving efficiency, and promoting a circular economy. For Brainware University, this goal lies at the heart of its environmental and academic ethics—ensuring that growth does not come at the cost of ecological imbalance.

Across teaching, research, and administration, the University embeds principles of responsible procurement, recycling, and sustainable resource use. Students are trained not only to innovate, but to innovate responsibly.

Institutional Commitment and Governance

The University operates under the Green Campus Policy, coordinated by the IQAC & Breen Campus Committee. This framework aligns all academic and administrative units with SDG 12 targets.

Research & Innovation Supporting Circular Economy

Brainware’s research output increasingly targets sustainable materials, waste reuse, and energy-efficient systems. Faculty and students have filed patents and contributed book chapters that extend the SDG 12 framework.

Selected Patents and Designs (2023–24)

Title / Innovation	Inventors	Relevance to SDG 12
<i>AI-Optimized Portable Solar and Renewable Energy EV Charger</i>	Dr Gunjan Mukherjee et al.	Energy efficiency and clean mobility
<i>Intelligent Waste Container with Real-Time Monitoring and Adaptive Route Planning</i>	Ashwani Sharma et al.	Smart waste management and recycling systems

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<i>Miniaturized Temperature-Regulated Storage Box for Versatile Application – Solar-Power Tailored Approach</i>	Dr Madhurima Basak et al.	Energy-efficient storage and sustainable design
<i>Sustainable Indoor Air Quality Improvement Using Aqua Algae-Based Filtration Systems</i>	Dr Priyanka Sen Guha et al.	Bio-based materials for sustainable infrastructure
<i>Production of Potassium Nanoparticles from Coriandrum Sativum – A Potent Nano-Biofertilizer</i>	Dr Nirlipta Saha et al.	Circular agriculture and waste-to-resource conversion
<i>AI-Based Plagiarism-Detecting OCR Pen for Handwritten Text</i>	Prof Subrata Sinha	Responsible technology development and academic ethics

Book Chapters (Selected 2023–24)

Title	Authors / Department	Publication / ISBN
<i>Sustainable Smart Manufacturing Processes in Industry 4.0</i>	Prasad A. et al. (AHS Dept.)	Taylor & Francis – CRC Press (9781003436072-5)
<i>Environmental Evolution: The Process of Ecological Changes in India</i>	Debanjana Sasmal & Sudipta Adhikary (Law)	ISBN 978-81-970323-7-0
<i>Crop Sustainability and Intellectual Property Rights</i>	Dr P. Mukherjee et al. (Law)	Taylor & Francis – CRC Press
<i>Nanobiomaterials: Research Trends and Applications</i>	Manna S. & Jana S. (Pharmacy)	CRC Press (9780429057038-12)

Industry Partnerships and MoUs

To translate sustainability research into practice, Brainware University partnered with industries that specialize in materials, waste, manufacturing, and process innovation.

Partner Organisation	Type	Key Objectives (2023–24)	Linked Department / School

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Redivivus Recyclers Pvt Ltd	Waste Management Industry	Waste segregation and recycling of campus waste	Biotechnology / Civil
MSME Tool Room	Govt Industry	Industrial training, eco-design, sustainable product manufacturing	Mechanical / Civil
Chromogen Pvt Ltd	Pharma Industry	Green chemistry product development and skill training	Pharmaceutical Tech
Eco Fast Agri Solutions	Agriculture Industry	Circular agriculture & bio-fertilizer production	Agriculture
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Campus Practices and Infrastructure

Category	Action
E-Waste Recycling	Partnered with authorized vendors; awareness drives by students
Plastic Reduction	Single-use plastic ban since July 2023 strictly implemented
Composting Plant	Compost produced from organic waste for campus landscaping
Sustainable Procurement	Vendor screening based on sustainability credentials
Paper Recycling Program	Partnered with authorized vendors

Education and Curriculum Integration

- Management and Commerce Schools: introduced elective *“Sustainable Operations & Circular Business Models.”*
- Pharmacy & Biotech: lab-based course *“Green Chemistry and Waste Minimization.”*
- Engineering Departments: capstone projects on eco-product design and waste heat recovery systems.

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- NSS and IIC Joint Workshops: “Circular Economy for Young Entrepreneurs” (Jan 2024).

Impact and Alignment with National Priorities

Brainware University’s initiatives support India’s Mission LiFE (Lifestyle for Environment) and National Action Plan for Climate Change – Waste to Wealth Mission. By linking academic research, skill training, and community action, BWU advances Targets 12.2, 12.4, 12.5, and 12.8 of the UN SDGs.

Responsible consumption begins with awareness, but it succeeds through design. Brainware University’s culture of efficiency and accountability reflects a genuine institutional transformation—*from compliance to commitment*.

Through its research, collaborations, and daily practices, BWU demonstrates that higher education can lead the circular revolution India urgently needs.

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