جامعة بيروت العربية
BEIRUT ARAB UNIVERSITY

SUSTAINABLE DEVELOPMENT GOALS

SDG 17: PARTNERSHIPS FOR THE GOALS







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Beirut Arab University
SDG 12 Responsible Consumption and Production

University and Community Alignment Report | Lebanon

Evidence review updated 19 October 2026

Understanding the goal

SDG 12 seeks more sustainable patterns of consumption and production. It includes efficient resource use, reduced waste, responsible management of chemicals, sustainable purchasing and public understanding. Universities contribute through the goods and services they buy, the materials they use in teaching and research and the knowledge they share about production, reuse and disposal.

Evidence: United Nations SDG 12 targets

BAU's contribution

BAU's published procurement framework, waste-related education and research on material reuse provide relevant evidence. Its contribution involves purchasing and facilities employees, laboratory teams, academic staff and students. The clearest account distinguishes a policy requirement, an educational event and a tested research proposal from measured reductions in campus waste or verified circular use of materials.

Relevant UN targets	Focus of this report
12.2 and 12.4	Resource efficiency and responsible material management
12.5 and 12.7	Waste prevention and sustainable procurement
12.8	Information and education for responsible choices

Students staff and community

Students examine materials and processes through courses and projects. Academic staff develop research and education on responsible production. Purchasing, laboratory and facilities employees influence the resources used each day. Community and industry partners can help test whether proposed reuse and treatment approaches are practical and sustainable.

Evidence approach: dated activities and research from 2021–2026 are prioritised. Standing services are identified as such; policies and agreements have no date cutoff. Original links accompany the evidence. The final page proposes improvements and does not claim they are already implemented.

Responsible purchasing and resource stewardship

A university-wide procurement framework

BAU's Sustainable Procurement Policy applies to goods, services and works across university units. It addresses environmental and social criteria, life-cycle costs, reduced packaging, ethical sourcing and supplier expectations. The policy gives purchasing decisions a broader basis than initial price alone. Its requirements should be supported by procurement and contract records.

Evidence: BAU Sustainable Procurement Policy

Life-cycle thinking asks what happens before and after a purchase. A low-priced product may require more energy, replacement parts or disposal effort. Procurement staff can gather appropriate information, academic and technical users can define actual needs, and facilities teams can assess maintenance. These contributions help avoid buying items that are unsuitable or difficult to sustain.

Waste prevention as a policy objective

The Climate Action Policy includes source separation, reduced single-use plastics, recycling and organic-waste composting among intended actions. These are published objectives. Operational evidence is needed before describing a complete campus-wide system or a measured reduction as achieved.

Evidence: BAU Climate Action Policy

Prevention begins before disposal. Departments can review stock, coordinate shared equipment and order realistic quantities. Students and employees need clear instructions about the materials used in their activities. A recycling bin is useful only where a suitable collection and treatment route exists and users know what belongs in it.

Different materials require different responsibilities

Ordinary packaging, laboratory chemicals, clinical materials and electronic equipment cannot be managed as a single waste stream. The university's teaching and research activities therefore require appropriate specialist procedures and competent staff. A stronger SDG 12 account would explain the relevant responsibilities and provide records of actual handling and authorised disposal routes.

Education and participation in material responsibility

Public learning about zero waste

On 28 February 2023, BAU hosted engineer Ziad Abi Chaker for Zero Waste Is Not Science Fiction. The lecture addressed recycling and the different treatment needs of household, construction, medical and electronic waste. Students and an interested audience attended. It is direct evidence of public education, rather than a campus waste-diversion result.

Evidence: BAU Zero Waste Is Not Science Fiction lecture

Public learning is most useful when participants can connect a broad idea with a practical decision. Examples can show why separation matters, which materials can be recovered and what prevents recovery. Students can develop communication skills while staff help ensure that advice is accurate and relevant to local collection arrangements.

Chemistry education and sustainable practice

BAU's Chemistry Department describes a green and sustainable chemistry study pathway. This provides an academic setting for examining how chemical knowledge can support more responsible processes and materials. The programme's contribution is best demonstrated through course outcomes, practical work and assessed student understanding.

Evidence: BAU green and sustainable chemistry programme

Students propose campus action

The July 2025 closing record of Her Civic Quest describes student proposals, including recycling-related campus action. It shows students applying leadership learning to an environmental issue. A proposal should remain identified as a proposal until there is evidence that the activity was implemented and maintained.

Evidence: BAU Her Civic Quest closing event July 2025

Student participation becomes more effective when facilities and administrative teams can help assess feasibility. A campaign may need storage, collection arrangements, clear ownership and recurring communication. Academic supervisors can help students evaluate results and explain why an apparently simple solution may need changes before it works in practice.

Together, these activities connect awareness, formal education and student initiative. Their next stage should focus on whether participants make better decisions and whether the university can document a dependable process, rather than relying only on the visibility of an event.

Research on reuse and more responsible production

Recycled plastics in public-space proposals

BAU's 2022–2023 architecture research record describes a study of recycled plastic materials for public spaces in Al Mina. It develops site-specific pavilion and urban-space proposals informed by local conditions and waste-management questions. The record supports design research; it does not establish that the proposed structures were installed.

Evidence: BAU recycled plastics and heritage public spaces research

Material reuse needs careful evaluation. Designers must consider durability, exposure, maintenance, safety and what happens at the end of the next use. Community consultation can help establish whether a proposed public-space intervention is useful, while technical assessment can identify whether a material is suitable for that purpose.

Agricultural material as a treatment resource

BAU-affiliated research published in 2025 investigated tomato leaves for removing lead and organic dyes from water. The study links an agricultural material with a potential treatment application. It is experimental evidence, not proof of an operating large-scale waste-to-resource system.

Evidence: BAU tomato leaf water treatment study published 2025

Investigating plant-based agricultural options

A 2025 study by BAU researchers and a Lebanese Agricultural Research Institute partner tested Arum palaestinum extracts against root-knot nematodes in laboratory and greenhouse conditions. It explores an agricultural treatment alternative. Broader safety, environmental effects and field performance need evaluation before recommending routine farm use.

Evidence: BAU affiliated plant based agricultural research published 2025

These studies show how researchers can ask whether a locally available material has a useful role in another process. The SDG contribution depends on the whole system: extraction inputs, energy, transport, residual material and potential harm all matter. A biological source should not automatically be assumed safe or environmentally preferable.

Students can contribute by comparing options and documenting assumptions, while academic and technical staff maintain analytical quality. Partners who operate farms, treatment systems or public spaces can identify practical constraints. This combination helps move responsible production research toward realistic evaluation.

Green synthesis for dental applications

BAU's October 2026 patent announcement describes plant-assisted synthesis of zinc oxide nanoparticles for dental materials. It links local resources with a different production method. A full sustainability assessment would still need to compare inputs, performance and disposal across the material's life cycle.

Evidence: BAU dental materials patent reported October 2026

Priorities for strengthening the contribution to SDG 12

BAU has an institutional purchasing framework and relevant educational and research activity. The following recommendations would help connect these with a documented material-management system and clearer evidence of reduced resource demand.

Establish a reliable materials and waste baseline

A baseline could identify major purchased materials and waste streams by campus, with separate attention to hazardous and clinical materials. Collection records should state quantities, treatment destinations and the period covered. Estimates should be identified as estimates. This would make later changes understandable and help focus effort on the largest or most problematic streams.

Priority	Suggested evidence of progress
Purchasing	Applied criteria and reviewed supplier performance
Prevention	Reduced purchasing or reuse with a clear baseline
Waste management	Quantities and documented treatment routes
Research translation	Tested performance and life-cycle assessment

Give staff and students practical responsibilities

Departmental guidance could explain ordering, storage, reuse and disposal for the materials people actually handle. Procurement and facilities employees need workable systems, while students need instructions at the point of use. Feedback from cleaners, technicians and other operational staff is especially valuable because they see where proposed arrangements fail.

Research projects could include proportionate life-cycle and feasibility assessment before a new material is promoted as sustainable. Community education could use locally relevant examples and confirm the collection routes available to participants. A small, dependable process is more useful than a campaign whose material cannot be handled afterwards.

BAU’s contribution to Responsible Consumption and Production combines institutional choices with education and innovation. Measured material flows, completed procurement reviews and carefully tested applications would make the university’s progress easier to assess and strengthen its practical value for the community.