

**Studying Green Building Practices and Technologies
Applied in Modern Construction**

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The first-year student of Civil Engineering Department I.Bardykhanov represented his report at the annual scientific conference held at the BNTU. His research deals with new technologies and practices in Green Building.

Without doubt, Green Building is on the rise as global trends attest. More and more new construction technologies are being developed to keep up with escalating shift to sustainability. From maximizing the use of renewable resources to minimizing carbon footprint, whether in constructing a new sustainable building or greening existing infrastructure these seven construction technologies aim to save the planet .

1. Using sustainable construction materials. Green construction materials are great alternatives to prevent exhausting already depleted natural resources.

2. Green architecture with cross-ventilation. In some cases, simply tweaking a building's design can save on energy use and benefit occupants by taking advantage of on-site light and air.

3. Zero-energy buildings. Zero-energy buildings are specially designed and engineered to rely on renewable sources of energy, such as solar and wind power, allowing them to operate independent of the electric grid.

4. Water reuse and supply technologies. In his research the student identified actions to achieve net-zero water use in buildings such as water-conservation fixtures to efficiently manage water consumption, rainwater harvesting and greywater reuse to make use of recycled water, and on-site sewage treatment.

5. Storm-water management.

6. Low-emittance windows and smart glass. New materials are developed as smart, sustainable upgrades of traditional materials, as they effectively deal with the natural elements.

7. Cool roofs reflect sunlight and heat away. Made of special tiles and reflective paint, cool roofs have high levels of solar reflectance and thermal emittance, which work together to absorb less heat.

To sum it up, going green brings in a host of advantages that construction industry simply cannot ignore. Sustainable construction technologies are constantly being developed for wide scale and more affordable distribution, what with the increasing demand for green buildings that underpin the optimistic outlook for the future of Green Building.