CLIMATE ACTION PLAN

AN-NAJAH NATIONAL UNIVERSITY

Introduction

As climate change continues to reshape communities and ecosystems worldwide, universities hold a crucial responsibility in leading transformative climate action. **An-Najah National University (ANNU)** recognizes this global urgency and is committed to achieving carbon neutrality well ahead of international timelines.

Located in **Nablus, Palestine**, ANNU serves as a regional hub for climate resilience, sustainability innovation, and green technology adoption. This updated **Climate Action Plan (CAP 2024–2028)** outlines the University's revised commitments to achieve **Net Zero emissions by 2028**, supported by verified data from the 2024 Carbon Footprint Report and the **Najah2Twin Smart Campus Dashboard**.

Aligned with the **United Nations Sustainable Development Goals (SDGs)—**particularly **SDG 7 (Affordable and Clean Energy)**, **SDG 11 (Sustainable Cities and Communities)**, and **SDG 13 (Climate Action)**—this plan provides a roadmap to accelerate decarbonization, embed climate literacy, and strengthen the University's contribution to Palestine's green transition.

1. Vision

An-Najah National University envisions a **carbon-neutral institution by 2028**, serving as a model of sustainability and innovation in higher education. Through data-driven management, renewable energy transformation, and inclusive engagement, ANNU strives to eliminate direct carbon emissions (Scope 1 & 2), minimize indirect emissions (Scope 3), and foster a culture of climate leadership across all campuses.

2. Baseline Assessment (2019–2024)

Indicator	2019 (Baseline)	2024 (Current)	% Change
Total GHG Emissions (tCO$_2$e)	5,774	417	−93%
Scope 1 (Direct)	515	254	−51%
Scope 2 (Electricity)	4,970	0	−100%
Scope 3 (Indirect)	289	163	−44%

Indicator	2019 (Baseline)	2024 (Current)	% Change
Electricity Generated from Renewables (kWh)	173,443	3,320,168	+1,815%
Electricity Purchased (kWh)	7,131,400	0	−100%
Gross Campus Area	540,404 m²	540,404 m²	—
Vehicle Fleet	14 fossil-fueled / 1 EV	5 fossil-fueled / 10 EV	—

Conclusion:
ANNU has effectively transitioned to a **100% renewable energy supply**, eliminated dependence on grid-purchased electricity, and drastically reduced emissions from fuel, refrigerants, and waste. These achievements form the foundation for the **Net Zero 2028** goal.

3. Objectives

3.1 Greenhouse Gas (GHG) Reduction

- **Achieve full Net Zero emissions by 2028** across all campuses.
- Maintain annual GHG reductions exceeding **90%** versus the 2019 baseline.
- Implement smart data-driven monitoring of Scope 1–3 emissions via Najah2Twin.

3.2 Energy Efficiency and Renewable Energy

- Sustain **100% renewable electricity generation** through expanded solar PV, solar water heating, and biogas systems.
- Improve building energy efficiency by **30%** through retrofits and automation.

3.3 Water Management

- Reduce total freshwater consumption by **25% by 2028** through rainwater harvesting, greywater recycling, and smart irrigation.
- Install smart water meters and leak-detection sensors campus-wide.

3.4 Waste Management

- Reduce waste sent to landfills by **50% by 2028**.
- Implement full recycling and composting infrastructure in all campuses.

3.5 Sustainable Mobility

- Replace all on-campus vehicles with electric or hybrid vehicles by **2026**.
- Establish EV charging infrastructure and expand car-sharing and e-shuttle systems.
- Reduce private vehicle use by **40%** through parking management and incentives.

3.6 Climate Literacy and Research

- Embed **climate and sustainability education** into every academic discipline by 2026.
- Expand climate-related research under the **Global Health and Environment Centers**.
- Develop postgraduate programs on **Climate Studies and Sustainable Energy**.

3.7 Community Engagement

- Launch annual **"Najah Climate Week"** for outreach and education.
- Partner with municipalities, schools, and NGOs to promote urban sustainability and reforestation.

4. Key Initiatives

A. Renewable Energy and Smart Energy Systems

- Expansion of solar PV to 4 MWp capacity across campuses by 2026.
- Deployment of the **Najah2Twin Smart Energy Management System** to monitor building-level consumption and renewable generation.
- Integration of **energy storage systems** to stabilize supply and improve resilience.

B. Green Buildings and Efficiency

- All new buildings to comply with the [Palestinian Green Building Guideline (2024).](#)
- Retrofit older structures (lighting, HVAC, insulation) to achieve **30% energy savings**.

- Implement smart occupancy sensors and climate-responsive design.

C. Sustainable Transport

- Electrification of all campus shuttles and logistics vehicles.
- Installation of EV charging stations and e-bike parking in all campuses.
- Launch of **Green Mobility Campaign** (Walk, Ride, Share).

D. Water Management

- Large-scale **rainwater harvesting systems** for irrigation and cleaning.
- **Greywater recycling** units in the New Campus and Faculty of Medicine.
- Conversion of green areas to drought-tolerant native species.

E. Waste Management

- **Campus-wide waste sorting**: paper, plastic, metal, glass, organics.
- **Composting units** to manage food and garden waste.
- **"Zero Single-Use Plastic"** initiative by 2026.

F. Research and Innovation

- Funded projects on **Water–Energy–Food (WEF) Nexus**, **Renewable Energy Storage**, and **Urban Climate Adaptation**.
- Establishment of a **Carbon Research and Innovation Hub** for emissions data analytics and offset design.
- Promotion of **Green Labs Initiative** to optimize resource use in research facilities.

5. Engagement and Collaboration

- Establishment of **Climate Action & Energy Committee** (2023) under the Deanship of Scientific Research.
- Collaboration with **Palestinian Energy Authority**, **UNESCO**, and **Erasmus+ partners** on carbon literacy and renewable energy.
- Student engagement through the **Sustainability Ambassadors Program** and **Green Campus Volunteers**.
- Public education through open lectures, workshops, and community-based projects.

6. Monitoring and Reporting

- Real-time monitoring of GHG data through the **Najah2Twin IoT Dashboard**.

- Annual publication of the **Carbon Footprint and Climate Progress Report** (since 2019).
- Third-party validation of emission data and renewable generation performance.
- Annual review of progress and recalibration of targets by June each year.

7. Financing and Implementation

- **Green Financing:** Leverage national and international funding mechanisms (UNDP, IsDB, EU Green Deal, Erasmus+, Horizon,,,etc).
- **Private Partnerships:** Collaborate with renewable energy companies for co-investment models.
- **Cost Savings:** Use savings from energy independence to reinvest in climate innovation.
- **Corporate & Alumni Sponsorships:** Encourage the private sector and alumni network to support reforestation, student projects, and clean technology initiatives.

8. Green Investments and Divestment Policy

ANNU commits to **divesting from fossil-fuel and carbon-intensive sectors** and redirecting investments toward:

- Renewable energy and clean technologies.
- Sustainable agriculture and eco-innovation startups (through **InnoPark**).
- Green construction, low-carbon transport, and circular economy ventures.

9. Net Zero 2028 Roadmap

Year	Milestone	Expected Outcome
2024	Verified 93% reduction achieved	Renewable generation surpasses total campus demand
2025	100% renewable operation maintained	Carbon offset pilot launched
2026	Full EV transition & zero single-use plastics	95% GHG reduction
2027	Smart optimization phase	Net negative emissions pilot (carbon-positive buildings)

Year	Milestone	Expected Outcome
2028	**Full Net Zero Emissions Achieved**	Carbon-neutral certification and community sharing of surplus energy

10. Commitment Statement

An-Najah National University affirms its **unwavering commitment** to climate action as a driver of academic excellence, community resilience, and national progress.
By achieving **Net Zero by 2028**, the University not only sets a benchmark for Palestine but also demonstrates how higher education institutions can lead regional transformation through **science, innovation, and sustainability-driven governance**.