TECGREMED RESULTS

Technical Green Engineering Skills for the Mediterranean Region

An-Najah National University

Spain –Valencia

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Content

- The presentation will tell a clear story:

1. Why TECGREMED was needed.
2. What the partnership set out to achieve.
3. What the ANNU implemented.
4. What results were achieved across the partnership.
5. What An-Najah National University contributed.
6. What impact, sustainability, and future opportunities emerged.

Why was TECGREMED important for An-Najah University?

There are many reasons:

1. Bridging the skills gap: Technical graduates needed more specialized, practical skills to meet the requirements of the Palestinian and international labour markets.
2. Promoting renewable energy: Palestine needs qualified technicians in areas such as solar energy, photovoltaic (PV) systems, installation, and maintenance.
3. Improving employability: The project helps young people, including vulnerable groups and refugees, gain skills that can improve their employment opportunities.
4. Modernizing technical education: It introduces updated curricula, training methods, and European expertise from partner institutions in Italy and Spain.
5. Supporting environmental sustainability: It promotes green engineering, energy efficiency, and environmentally responsible technologies.
6. Strengthening university–industry cooperation: It connects technical education with the real needs of companies and the local labour market.

WP1- Participation in Steering and Technical Committee Meetings

- An-Najah National University participated in the TECGREMED project Steering Committee meetings as an institutional partner. This participation contributed to:

- Reviewing the overall project progress and implementation status.
- Discussing project activities, milestones, and expected deliverables.
- Coordinating activities with European and regional project partners.
- Following up on the development of green-engineering curricula and training materials.
- Discussing training activities, capacity-building, and laboratory development.
- Contributing to project management, decision-making, and quality assurance.
- Addressing implementation challenges and agreeing on corrective actions.

ANNU's responsibilities and contributions

ANNU's role in the project can be summarized as follows:

Area	ANNU's contribution
Training	Providing specialized technical training
Education	Supporting green-engineering skills development
Human resources	Using academic and technical trainers
Industry	Preparing graduates for labour-market needs
International cooperation	Working with European and regional partners
Community	Offering free training opportunities to graduates

Comprehensive Analysis of Vocational Education and Training (VET) Programs in Green Engineering in Palestine

Under the TECGREMED project, An-Najah National University contributed to the assessment and analysis of the current status of Vocational Education and Training (VET) programmes in green engineering in Palestine.

The activity aimed to identify the strengths and weaknesses of existing technical and vocational education programmes, assess their alignment with labour-market needs, and identify opportunities to improve green-engineering education and training

Main areas of analysis:

•Review of existing VET programmes: Examining technical and vocational programmes related to renewable energy, energy efficiency, environmental sustainability, and green technologies.

•Labour-market needs assessment: Identifying the demand for green skills and technical competencies among Palestinian employers and industries.

•Skills-gap analysis: Identifying gaps between the competencies provided by existing VET programmes and the skills required by the green economy.

•Curriculum assessment: Evaluating the relevance of existing curricula and identifying opportunities to integrate green-engineering concepts and practical skills.

Signing of a Memorandum of Understanding (MoU) between the TECGREMED and Hisham Hijjawi College of Technology – An-Najah National University

As part of its commitment to strengthening technical and vocational education ... green engineering, An-Najah National University, through Hisham Hijjawi College of Technology in Nablus, established institutional cooperation with the TECGREMED project through the signing of a Memorandum of Understanding (MoU).

The MoU aimed to strengthen collaboration in developing green-engineering skills, promoting sustainable technical education, and improving the quality and relevance of vocational training in Palestine.

Main areas of cooperation:

- Developing and improving vocational training programmes in green engineering.
- Promoting specialized training in renewable energy and energy efficiency.
- Facilitating knowledge and expertise exchange between project partners and the College.
- Supporting capacity-building for trainers, technicians, and engineers.
- Strengthening practical and applied learning opportunities.
- Enhancing cooperation between the College and relevant labour-market stakeholders.
- Supporting the sustainability of project outcomes beyond the project implementation period.





WP3- Invitation to Tender: Procurement of Equipment for the Teaching and Learning Laboratory Funded by the TECGREMED Project

As part of the TECGREMED project implementation, An-Najah National University initiated a procurement process for equipping a specialized Teaching and Learning Laboratory funded by the project.

The purpose of this activity was to strengthen the College's technical and educational infrastructure and provide students, trainees, and instructors with access to appropriate equipment for practical learning and skills development in green engineering.





Participation in International Training Programmes

ANNU participated in project-related training programmes and capacity-building activities held in:

- Zarqa University, Jordan – participation in regional training and knowledge-exchange activities.
- Rome, Italy – participation in international training and technical capacity-building.
- Spain – participation in training activities and exchange of European expertise.
- Morocco – participation in international learning and knowledge-sharing activities.

These programmes provided opportunities for ANNU representatives to exchange experiences, acquire new knowledge and skills in green engineering and renewable energy, learn from partner institutions, and strengthen cooperation within the TECGREMED consortium.

The official TECGREMED project records support these activities in ANNU's project contributions. In particular, the project documented training activities in Italy and Spain in May 2025, and in Morocco in October 2025.

WP4- Organization and Delivery of Local Training Cycles

After participating in international training and capacity-building programmes in Jordan, Italy, Spain, and Morocco, An-Najah National University applied the knowledge and expertise gained to local training activities in Palestine.

The University organized several training cycles to build the capacities of technical graduates and professionals in green engineering, energy efficiency, and sustainable technologies.

1st Training Cycle: **Energy Conservation in Commercial and Industrial Sectors**- **Dates:** July 07–08, 2025

The first training cycle focused on Energy Conservation in Commercial and Industrial Sectors, aiming to develop participants' knowledge and practical skills in energy management and improve energy efficiency in commercial buildings and industrial facilities.

- The training addressed areas such as:
- Principles of energy conservation and energy efficiency.
- Energy consumption assessment and analysis.
- Identification of energy-saving opportunities.
- Efficient operation of electrical and mechanical systems.
- Energy management practices in commercial and industrial facilities.
- Reducing energy costs and environmental impacts.





2ND Training Cycle: Energy Economics fo Technicians and Engineers

Following the first training cycle on Energy Conservation in Commercial & Industrial Sectors, An-Najah National University organized a second training cycle entitled "Energy Economics for Technicians and Engineers."

The training aimed to deepen participants' understanding of the economic and financial aspects of energy systems and strengthen their ability to evaluate energy-related projects and investment opportunities.



Main training topics included:

- Fundamentals of energy economics.
- Energy costs, tariffs, and pricing mechanisms.
- Economic evaluation of energy projects.
- Cost–benefit analysis of energy-efficiency measures.
- Financial feasibility of renewable-energy investments.
- Payback period and investment assessment.
- Life-cycle costing and energy-saving calculations.
- Decision-making for sustainable energy investments.

Expected outcomes:

- Improved understanding of the relationship between energy consumption and economic performance.
- Enhanced ability to assess the financial feasibility of energy projects.
- Development of practical skills in evaluating energy-saving investments.
- Better preparation of technicians and engineers to support energy-efficiency decisions in commercial and industrial sectors.

3rd Training Course on Solar PV Systems Design and Installation under the TECGREMED Project



An-Najah National University, through Hisham Hijjawi College of Technology, organized a specialized training course entitled "Solar PV Systems Design and Installation" within the framework of the TECGREMED project.

The training aimed to develop the technical and practical competencies of Palestinian technicians and graduates in solar photovoltaic (PV) technologies, addressing the growing demand for qualified personnel in the renewable energy sector.

Main training objectives:

- Develop participants' knowledge of solar photovoltaic technologies and their applications.
- Build technical skills in designing solar PV systems.
- Enhance practical competencies in installing and connecting PV system components.
- Familiarize participants with system sizing, component selection, and performance considerations.
- Improve understanding of electrical safety and installation standards.
- Prepare qualified technicians to respond to the market.

Summary of ANNU's documented TECGREMED implementation activities

1. Project governance and coordination: Participation in Steering Committee meetings, project meetings….
2. International capacity-building: Participation in training programmes in Jordan, Italy, Spain, and Morocco.
3. Local training and knowledge transfer: Energy Conservation in Commercial & Industrial Sectors; Energy Economics for Technicians and Engineers; and Solar PV Systems Design and Installation.
4. Research and institutional development: Comprehensive analysis of VET programmes in Green Engineering in Palestine.
5. Institutional cooperation and infrastructure: Signing the MoU with Hisham Hijjawi College of Technology and purchasing equipment for the Teaching and Learning Laboratory.

These activities demonstrate ANNU's contribution to strengthening green-engineering education, developing technical competencies, and improving the quality of vocational education and training in Palestine.

Conclusion

An-Najah National University (ANNU), through Hisham Hijjawi College of Technology and An-Najah Innovation Park, has made significant contributions to the implementation of the TECGREMED project and the achievement of its objectives in promoting green engineering education and developing technical and vocational skills in Palestine.

Through its participation in project management and Steering Committee meetings, international training and capacity-building programmes, local training cycles, institutional cooperation, and the development of educational infrastructure, ANNU has actively contributed to strengthening the capacity of the Palestinian technical and vocational education sector.

The implementation of local training programmes in Energy Conservation in Commercial and Industrial Sectors, Energy Economics for Technicians and Engineers, and Solar PV Systems Design and Installation represents an important step in transferring the knowledge and expertise gained through international cooperation into practical training opportunities for Palestinian technicians, engineers, and graduates.

Overall, TECGREMED has provided ANNU with valuable opportunities to strengthen international cooperation, modernize technical education, improve practical training capacities, and contribute to preparing qualified human resources capable of responding to the growing demands of the green economy in Palestine.

Acknowledgment and Appreciation

An-Najah National University would like to express its sincere appreciation and gratitude to the TECGREMED project coordinator for the outstanding leadership, continuous guidance, coordination, and commitment throughout the project implementation.

Special thanks and appreciation are extended to the Universitat Politècnica de València (UPV), Spain, for its valuable leadership and contribution, technical expertise, academic support, and dedication to promoting international cooperation and knowledge exchange among project partners.

ANNU also highly appreciates the efforts and contributions of all TECGREMED consortium partners, including European and regional universities and institutions. Their collaboration, professional commitment, knowledge sharing, and continuous support have been essential to the successful implementation of project activities and the achievement of its objectives.

Finally, we extend our gratitude to all academic and administrative staff, trainers, experts, technicians, and trainees who contributed to the project's activities, particularly those involved in developing and delivering the training programmes and strengthening the University's teaching and learning facilities.

We look forward to maintaining and expanding these partnerships and building upon the achievements of TECGREMED to support future initiatives in green skills, renewable energy, energy efficiency, and sustainable development.