



الجامعة اللبنانية
كلية الهندسة





SESSION 1: Energy Challenges & Industry Needs
9:45 AM – 10:45 AM

Moderator: Sabine Khalil

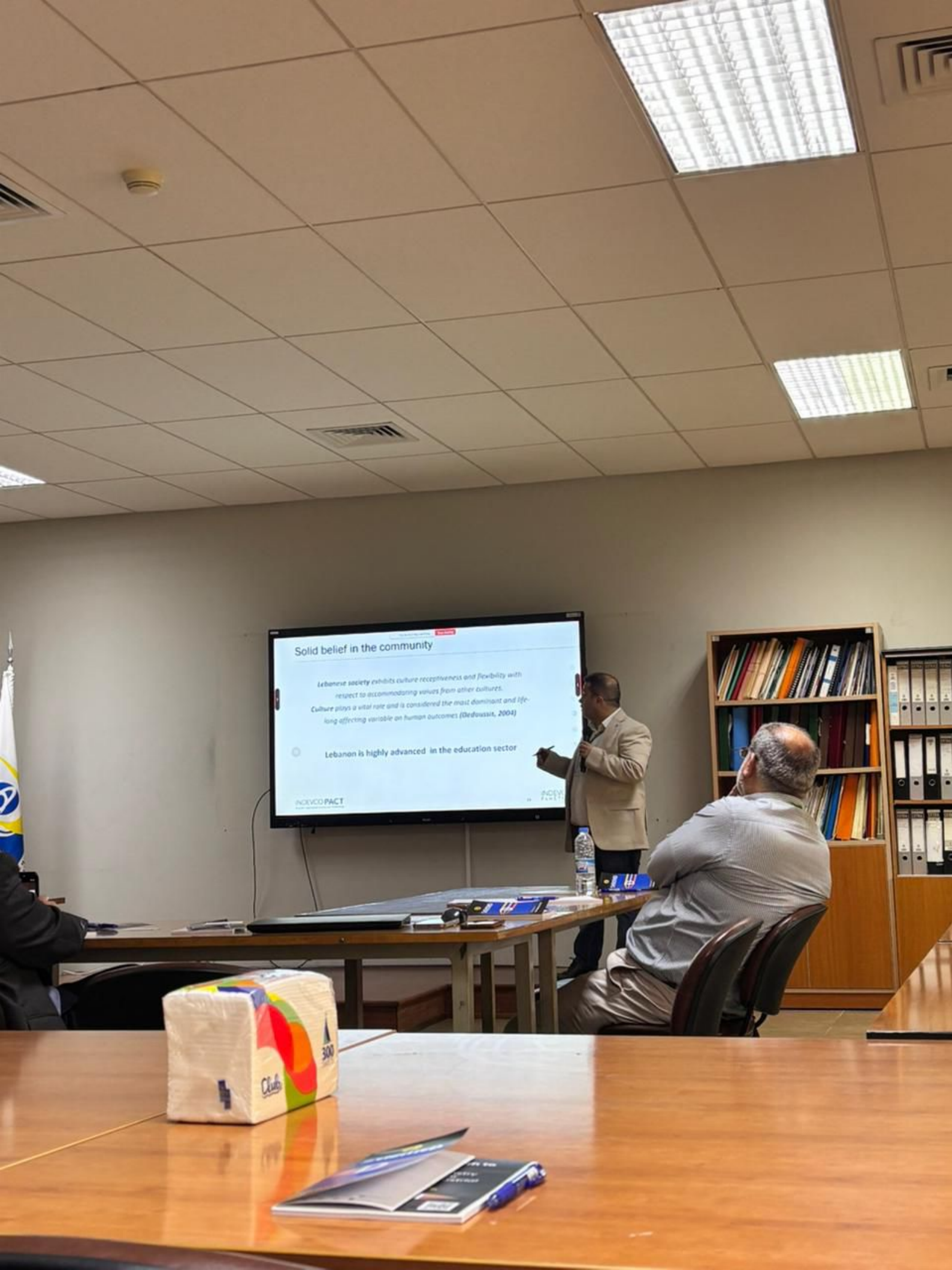
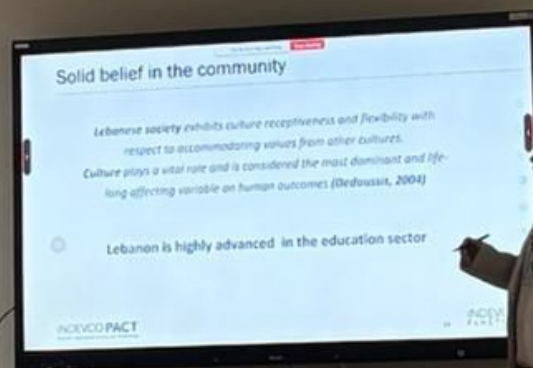
Objective: Identify and discuss the most pressing energy challenges and industrial needs faced by companies, utilities, and organizations across the region.

Presenters – Industry representatives:

- Alain Akiki – INDEVCO GROUP
- Saïid Khawand – SOLICAR & GEMAYEL FRERES
- Dr. Bassam Taki – TAKOM SAL

Outcome: Define key energy-related key points and areas where academic collaboration can drive innovation.





Solid belief in the community

*Lebanese society exhibits culture receptiveness and flexibility with respect to accommodating values from other cultures.
Culture plays a vital role and is considered the most dominant and life-long affecting variable on human outcomes (Hedreus, 2004)*

Lebanon is highly advanced in the education sector

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From Research to Market: Strengthening Academia-Industry
Collaboration for Energy and Industrial Innovation

Presented by: Saïid KHAWAND

TRKOM
TRAKOM

Micro Grid technical benefits

Ability to transmit energy for long distances	Ability to monitor and control all diesel generators and tanks	Voltage profile enhancement
Energy losses reduction	Low maintenance	Decreasing the Spinning Reserve and Hot Reserve
Diesel saving or cancelling operation in some cases	Increased cold reserve	Ability to replace or add large generator





SESSION 2: Academic Research Solutions
11:00 AM - 12:00 PM

PART 1



DR. SABINE SAAD is a specialist in Energy and Climate, Consultant in Energy Transition and Energy Regulations. Dr. Sabine Saad is the Director of the Ecological Transition Department, Responsible for the Regional and International Cooperation at ALMEE, and the co-founder of Zerkhema. She is a professor at the Faculty of Engineering of the Lebanese University, Saint-Joseph University, and the University of Salamanc.

RS
SIS
IS



SESSION 2: Academic Research Solutions
11:00 AM – 12:00 PM



Dr. Dana Al Battouni
Moderator

DR. DANA AL BATLOUNI is a Design Consultant at the American University of Beirut, and the founder of MAIAZ, a design firm that champions research-driven solutions across sectors. She holds a PhD from the Cardiff School of Art and Design, where her research explored knowledge creation in university-industry collaborations.

Before establishing her firm, Dana was an Assistant Professor and Program Director at AUB's Maroun Semaan Faculty of Engineering and Architecture, where she worked to advance design education and interdisciplinary collaboration.

Her work focuses on strengthening the role of design research across sectors in Lebanon and beyond. Guided by a human-centred and systems-oriented approach, Dana helps organizations shape products, services, and interventions that balance user needs, stakeholder perspectives, and the complexities of their wider ecosystems.

RS
SIS
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SIMENG – Computational Green Material Design



Staff
(Production of about 100 tablets per day)

Job Title	Professional Description	Number of Employees
Factory Manager	Oversees the entire factory operations, ensures production goals are met.	1
Production Manager	Manages the production line, schedules work, and supervises production workers.	1
Assembly Line Workers	Assembles listed components according to specifications.	22
Production Supervisor	Supervises shifts and ensures smooth production flow.	1 (11 per shift)
Maintenance Manager	Oversees the maintenance of machinery and equipment.	1
Technicians	Diagnose and repair machinery and equipment.	1
Quality Control Manager	Ensures that all products meet the required quality standards.	1
Quality Control Operators	Inspect products at various stages of production to ensure quality standards.	2
Marketing and Sales Manager	Develops marketing strategies and oversees sales operations.	1
Web and Social Media	Manages the website and social media presence.	1
Administrative Staff	Handles administrative tasks such as record keeping and correspondence.	3
Purchasing Manager	Oversees the purchasing of raw materials and components.	1
Logistics Manager	Manages inventory, storage, and shipping of finished products.	1
Logistics Coordinator	Coordinates the supply chain and logistic activities.	1
HR Manager	Manages resources, recruitment, and employee relations.	1
Accountant	Handles financial records, budgeting, and accounting tasks.	1
Cleaning Staff	Ensures cleanliness and hygiene in the factory.	2
Security	Ensures the security of the premises and personnel.	1
Total		30

Staff
(If the total of about 100 students per day)

Job Title	Responsibilities	Number of Staff/Students
System Manager	Oversee the entire facility operations, initiate production goals etc. etc.	1
Production Manager	Manage the production line, coordinate work, and equipment production meeting	1
Assembly Line Workers	Coordinate work and ensure smooth production flow	100
Production Supervisor	Oversee the maintenance of machinery and equipment	1
Quality Control Manager	Inspect the quality of products sent to the market daily	1
Quality Control Supervisor	Inspect products of various stages of production to ensure quality	1
Marketing & Sales Manager	Develop marketing strategies and maintain sales operations	1
Marketing & Sales Supervisor	Manage the online and print media activities	1
Customer Service Manager	Coordinate distribution, bulk order and retail buying and merchandising	1
Administrative Staff	Oversee the purchasing of raw materials and components	1
Inventory Manager	Manage inventory, storage, and shipping of finished products	1
Warehouse Manager	Coordinate the logistic chain and logistics activities	1
Production Line Worker	Coordinate assembly, installation, and equipment maintenance	1
Quality Control Supervisor	Inspect various products, packaging, and assembly work	1
Marketing & Sales Supervisor	Coordinate and manage the sales	1
Customer Service Supervisor	Coordinate the purchase and personnel	1

Directive

Empower Communities through Technological Sovereignty
to develop energy autonomy, water sovereignty and food security along with resilient cooling strategies.

The industry is the enabler to pilot, cultivate innovation, and strengthen community-owned and decentralized and integrated systems as a pathway towards development

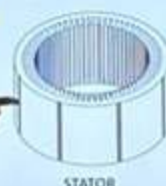
AMERICAN UNIVERSITY OF BEIRUT
HAWA AND ABDEL A MAHMOUD
INSTITUTE OF ENERGY AND NATURAL RESOURCES

Thermal and mechanical modelling of a reluctance synchronous machine

INTERNAL GEOMETRY



ROTOR



STATOR

