THE UNIVERSITY AS A CATALYST FOR ECOLOGICAL TRANSFORMATION

Aneta Andrzejczyk,

Ewelina Lojewska, PhD

International Projects Department,

Office for Research, Strategies & Development

Medical University of Lodz

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MEDICAL UNIVERSITY OF LODZ

The Challenge of Sustainability in Higher Education

- An "average" EU university student or staff member is responsible for **roughly 1–3 t CO_2e annually**
- **Average EU per capita footprint** (all sectors, consumption-based, 2022): **10.7 t CO_2e/year**
- ☞ So universities contribute **9 – 33 %** of an average EU person's carbon footprint

Universities act like small cities:

- High energy & water use, waste, transport emissions
- Main impact areas: buildings, labs, mobility

Universities focus on research and education — but their environmental footprint is significant and often ignored.

The Challenge of Sustainability in Higher Education

Sustainability efforts are growing…

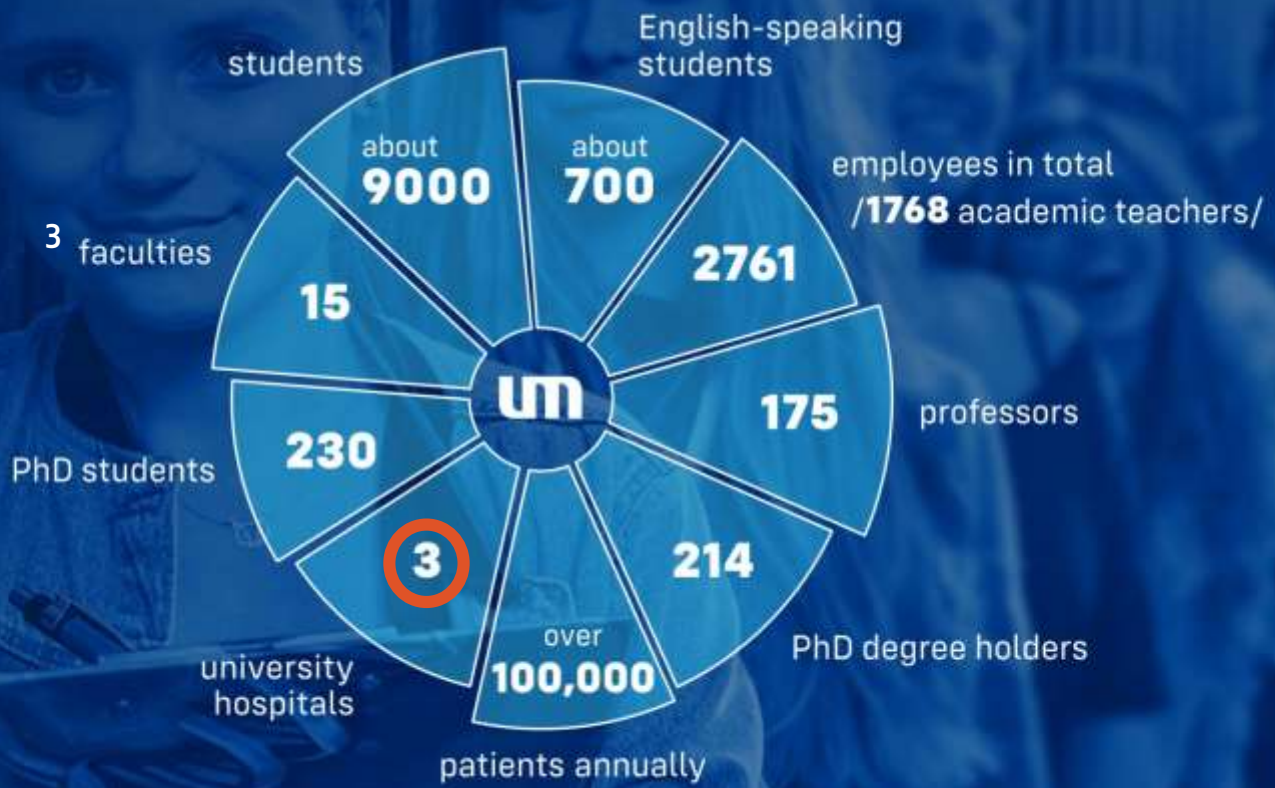
- Green buildings, transport, waste cuts, SDG-based curricula
- **But:** Often fragmented, symbolic, and lacking proper monitoring

What's needed?

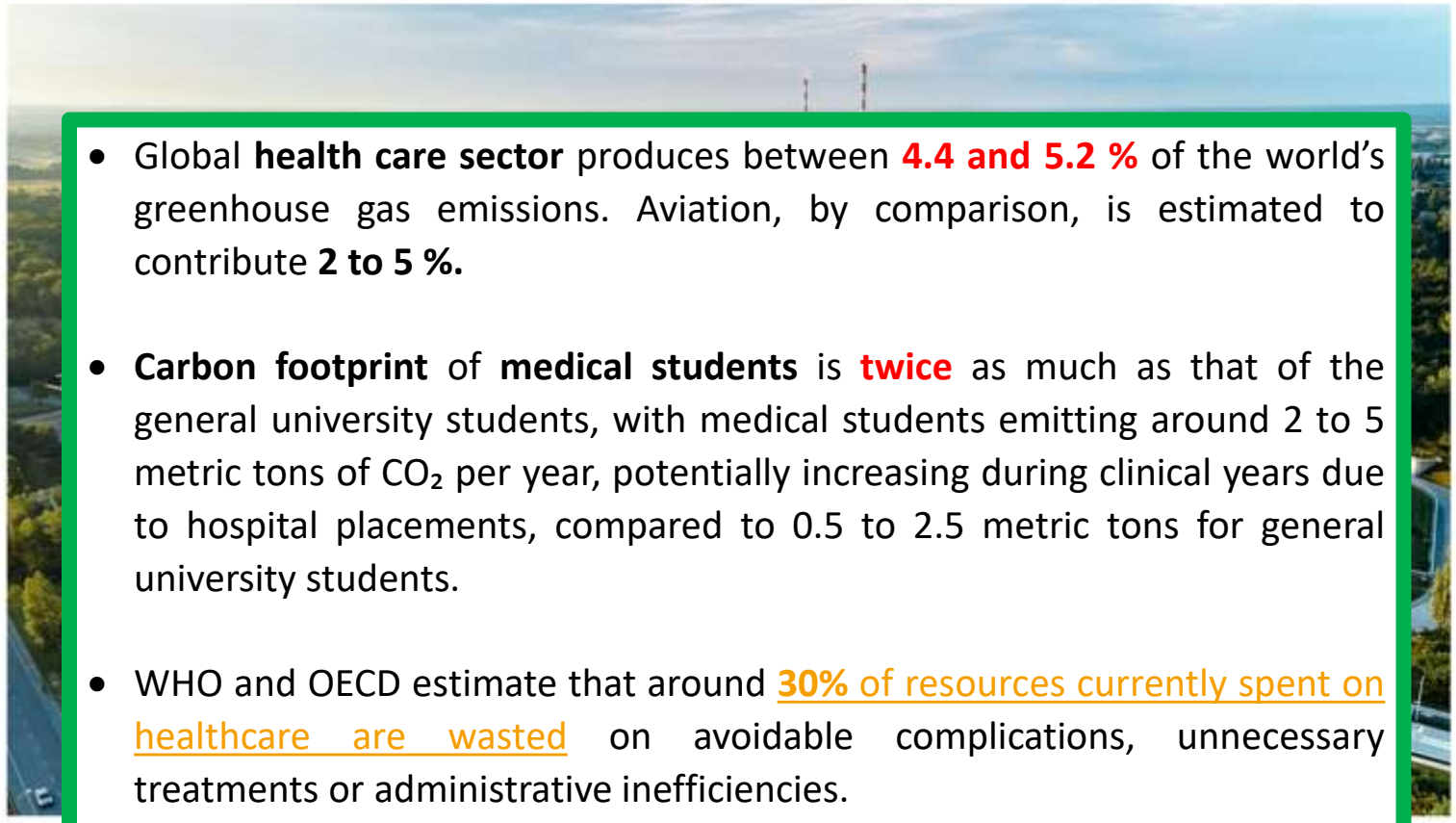
- Standardized tracking (CO_2 Scopes 1–3, water, waste)
- Sustainability Office with budget and mandate
- Real student/staff engagement & action beyond slogans

MEDICAL UNIVERSITY OF LODZ

MUL FACTS and FIGURES



CKD Campus: Challenge & Opportunity in One



- Global **health care sector** produces between **4.4 and 5.2 %** of the world's greenhouse gas emissions. Aviation, by comparison, is estimated to contribute **2 to 5 %.**

- **Carbon footprint** of **medical students** is **twice** as much as that of the general university students, with medical students emitting around 2 to 5 metric tons of CO_2 per year, potentially increasing during clinical years due to hospital placements, compared to 0.5 to 2.5 metric tons for general university students.

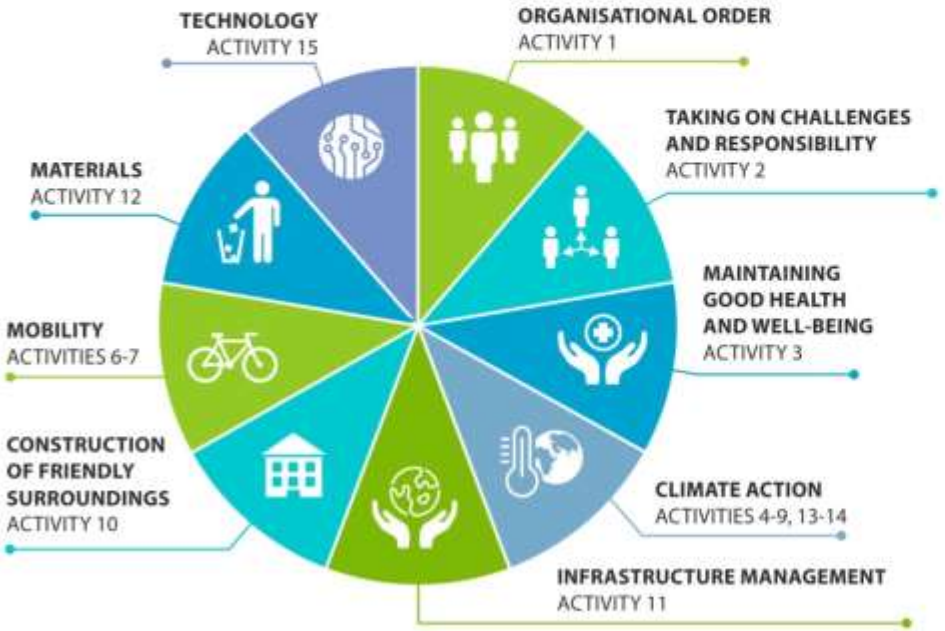
- WHO and OECD estimate that around **30%** of resources currently spent on healthcare are wasted on avoidable complications, unnecessary treatments or administrative inefficiencies.

What is EcoUMED?

- University-wide sustainability initiative at the Medical University of Łódź, Poland (MUL)
- Aims to reduce environmental impact through infrastructure, education, and policy
- Fully aligned with the UN Sustainable Development Goals (SDGs)

SOCIAL RESPONSIBILITY IN SUSTAINABLE DEVELOPMENT OF MEDICAL UNIVERSITY OF LODZ

VISION Implementation of sustainable development in the university management, teaching programme and other activities so that it becomes part of social, environmental and financial excellence of Medical University of Lodz



ECOUMED ACTIVITIES:

1. **Responsible University management based on the organisational order and creation of friendly surroundings**
2. **Establishing the University standard and value via innovative research and development projects**
3. **Improvement in the employees' and the students' performance to support integrated health care**
4. Energy-efficient and passive construction
5. Improvement to the energy efficiency of the existing infrastructure
6. Support for integrated primary care via renovation of the area and infrastructure installation
7. Sustainable on-site traffic system at the campus
8. Installation of renewable sources of energy in the buildings
9. Increased effectiveness of water and sewage management
10. Sustainable Management of Construction Projects System
11. Monitoring and management of MUL premises via dedicated Building Management System (BMS)
12. Designing an integrated process of municipal and medical waste management
13. Promotion of healthy habits and pro-environmental attitudes in the students and inhabitants of Lodz region
14. Implementation of the initiative for natural environment protection
15. Exploration of technology and digital platforms

Why EcoUMED stands out?

- One of the most developed university sustainability programs in Poland
- Combines infrastructure + education + behavior change
- A replicable model for other institutions

https://eco.umed.pl/en/

SCAN ME

Goal 1: *Modernization of buildings*

OUR PAST SUCCESSES IN ENVIRONMENTAL PROTECTION

Our concern for the environment and natural resources resulted in the Medical University of Lodz carrying out complex thermo-modernisation of a number of its buildings to reduce emission of harmful gases and negative impact on the natural environment and the health of inhabitants of Lodz.

MUL buildings thermo-modernisation in figures:

18	**thermo-modernised** buildings
55 588	**m²** thermally insulated walls and roofs
4 085	**m²** replaced windows, doors and glass panels
12	**sets** of new central heating installation
8	**buildings** equipped with BMS
2661	**mg/year** reduction in CO_2 emission
25,7	**mln** in total spent on thermo-modernisation

Eco-efficient infrastructure!

The university has allocated over **PLN 25 million** for all activities supporting environmental protection over a period of **5 years**!!!

Goal 2 *Creating new "green" infrastructure*

Location of sensors in smart buildings!

Passive building

RES installations (renewable energy sources)

Low-energy laboratories

Green Wall

GOAL 3: *Looking for new solutions*

Value-Based Health Care &

CO-CREATING

- **ECO CPR - an ecological phantom for teaching basic resuscitation procedures (inventors Dr. Filip Jaśkiewicz, Dr. Marcin Cierniak, Dr. Rafał Dobruchowski, Dr. Przemysław Sękalski)**
- **Health Labs 4 Value Interreg CEE project**
- **LIVING LAB with medical kiosks**

Promoting Behavioural Change!

Goal 4 *Eco-thinking*

"Erasmus+ Programı kapsamında Avrupa Komisyonu tarafından desteklenmektedir. Ancak burada yer alan görüşlerden Avrupa Komisyonu ve Türkiye Ulusal Ajansı sorumlu tutulamaz."

2 charging stations for electric cars at CKD Green Campus

6 bicycle parkings (120 m2) at CKD Green Campus

56 water dispensers at different MUL locations

- Reduction in consumption of approximately 141,000 half-litre bottles per year

Academia Engagement

- EcoUMED includes staff and students in eco-projects through:

- EcoUMED Ambassadors

- Workshops, debates, and conferences

- Volunteering in green campaigns and educational outreach

- Sport activities (bicycle trips)

GATEKEEPER as an example of green project on campus

UNIWERSYTET MEDYCZNY W ŁODZI

GATEKEEPER

Aplikacja

Moje zdrowie na co dzień

POBIERZ Z Google Play

Pobierz w App Store

Problem: Patient non-adherence

Consequence:
1. Increased usage of medical resources
2. Increased pharmaceutical waste

Solution: Adherence-enhancing mobile app

Continuation: projects started in 2025….

Collaborative action and research for engagement, persistence and adherence in treatment & health

https://cordis.europa.eu/project/id/101192133

innovative health initiative · COCIR · efpia · EuropaBio · MedTech Europe from diagnosis to cure · Vaccines Europe · Co-funded by the European Union

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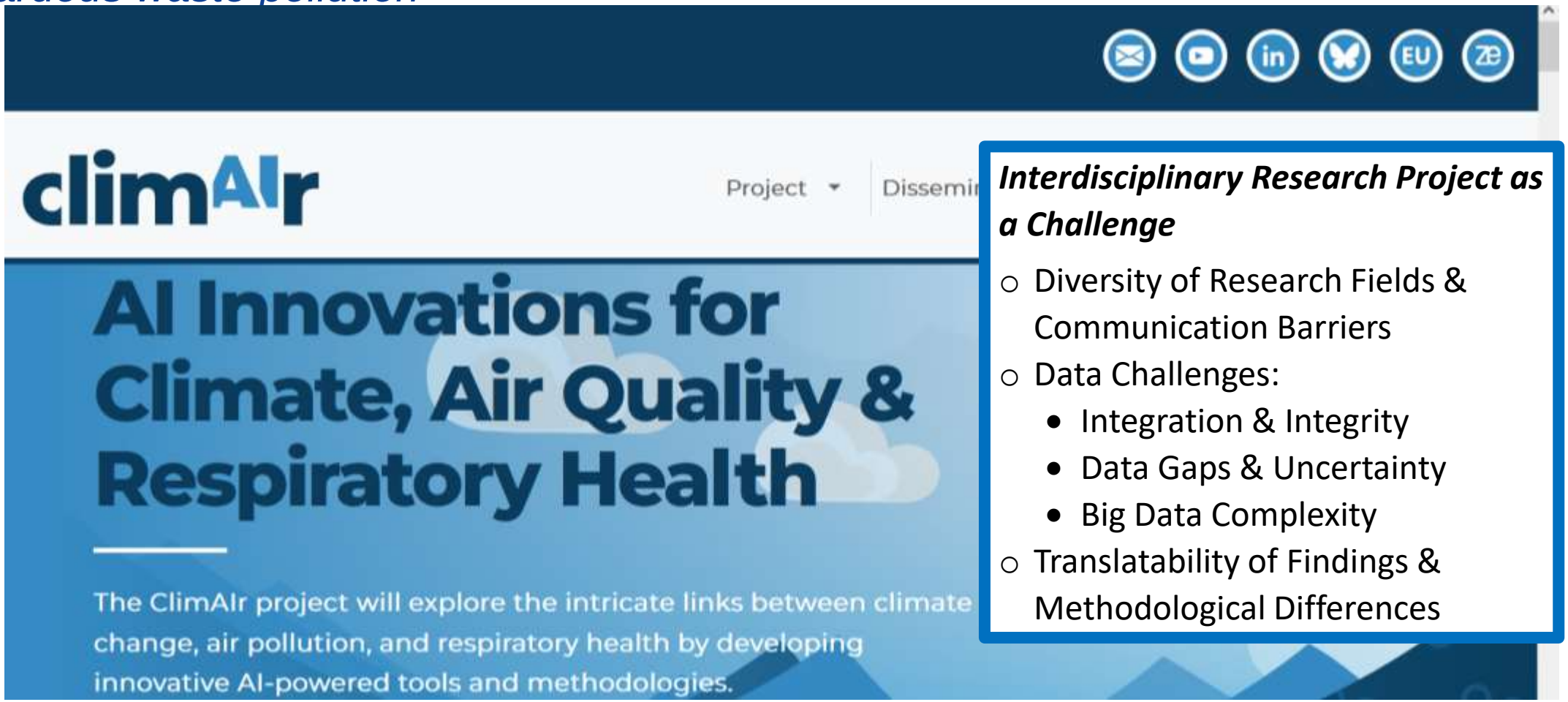
ENKORE ECO HEALTHCARE

New IHI project ENKORE aims to tackle the environmental impacts of the health sector by developing an eco-design framework for single-use medical devices and their packaging.

innovative health initiative · COCIR · efpia · EuropaBio · MedTech Europe from diagnosis to cure · Vaccines Europe · Co-funded by the European Union

ClimAIr, HORIZON-HLTH-2024-ENVHLTH-02-06-two-stage: The role of environmental pollution in non-communicable diseases: air, noise and light and hazardous waste pollution



Interdisciplinary Research Project as a Challenge

- Diversity of Research Fields & Communication Barriers
- Data Challenges:
  - Integration & Integrity
  - Data Gaps & Uncertainty
  - Big Data Complexity
- Translatability of Findings & Methodological Differences

Questions and sharing ideas