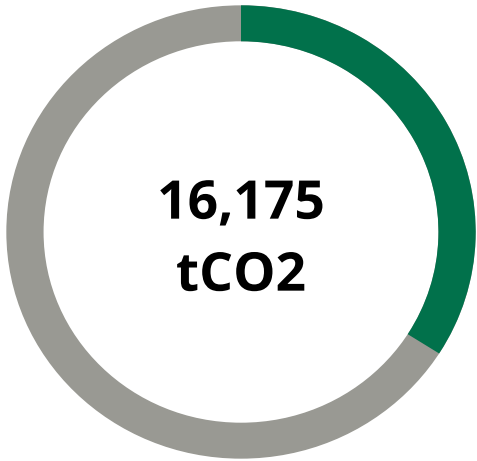


SELF FINANCING SMART BUILDINGS



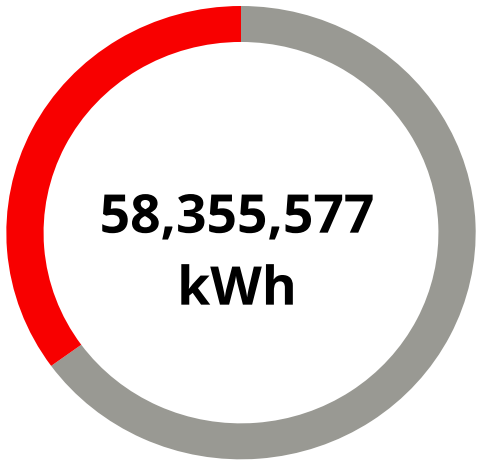
What are the problems?



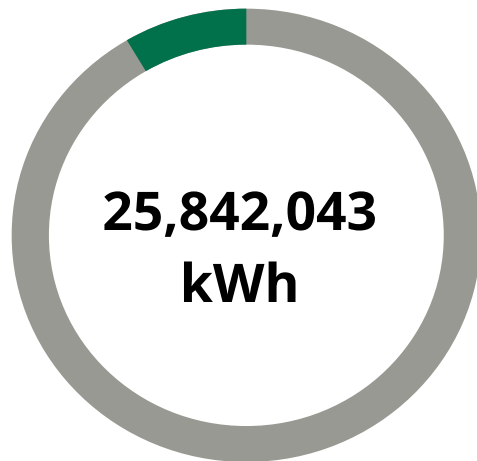
Total Emissions
34% ✓



EU's Energy Performance of Buildings Directive that mandates achieve a highly energy efficient and decarbonised building stock by 2050, might come to the UK



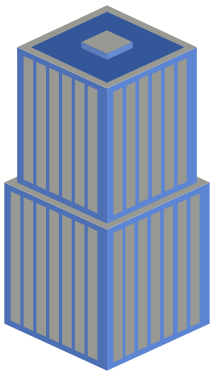
Gas Usage
35% ^



Electricity Usage
8.5% ✓



Building Floor Area
43% ^



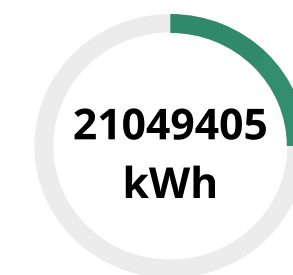
New Buildings
6 PROPOSED SITES ^

What can UoB do?



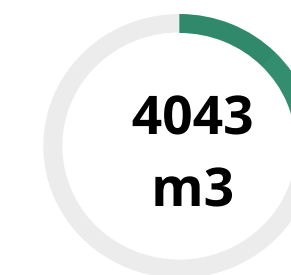
Build Smarter Buildings & Refurbish Old buildings to make them smarter

Impact at University of Bath



Reduction in
Energy Usage

25%✓



Reduction in Total
Water Usage

25%✓



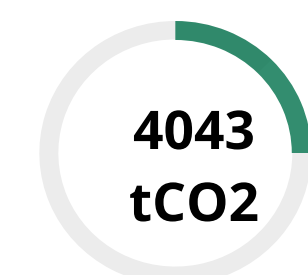
Enhance the user
experience, safety



Ensure
Compliance to
The Energy
Performance of
the Building
Directive



Create a living
lab to teach
students about
sustainable
buildings



Reduction in
Total Emissions

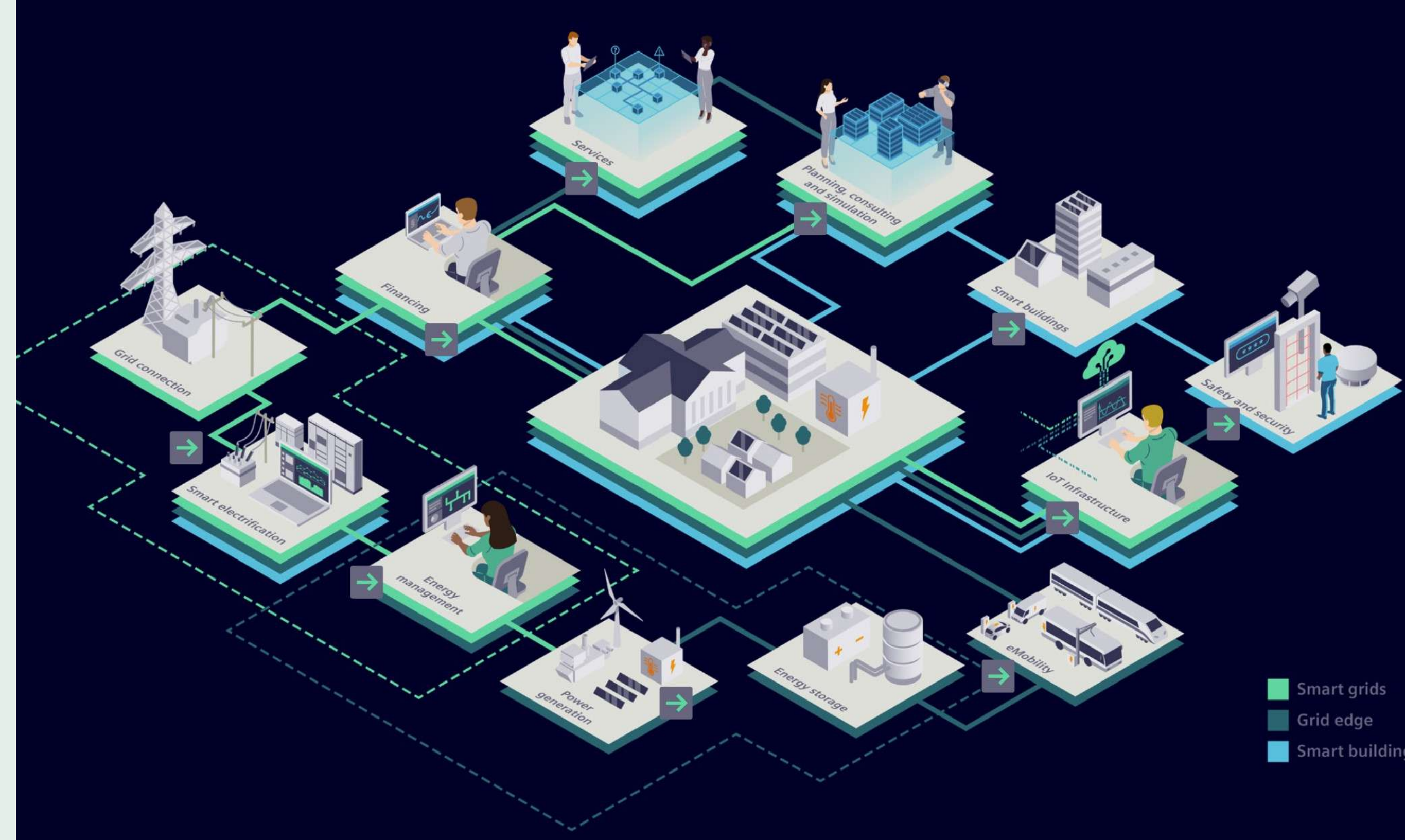
25%✓

What are Smart Buildings?



- It uses technology to enable efficient and economical use of resources, while creating a safe and comfortable environment for its occupants
- Well being of occupants can be enhanced with user experience apps, air quality monitoring, smart lights, thermal screening at entry
- Already implemented by University of Birmingham & UCL

Smart Buildings at UoB



Source: Siemens, <https://new.siemens.com/global/en/markets/urban-communities/higher-education.html>

Control Features:

- Power & Lighting
- H-VAC & Thermal Screening
- Water & Waste
- Security & Fire alarm systems
- Generate power

Benefits:

- Reduce energy consumption & cost
- Improve well beings of occupants



How can we self-finance smart buildings?

Finacing Methods



Smart Building as a Service (SBaaS)



Sustainability Bonds

Finacial Incentives



Revenue Generation



Cost Savings



How to start making buildings smart?

- **Digital twins through Building Control Software using in-house resources**
- **Collect feedback to educate users and the system to deliver optimal experiences**
- **Enhance the understanding of the buildings and ability to make informed decisions**



Conclusions



25% Reduction in emissions

0 Upfront costs

1000+ Graduates & Post Graduates through living labs

100% Chance to Increase Reputation, user experience & safety

**Thank
You!
Q & A...**

