

# Retrofit and Repurposing



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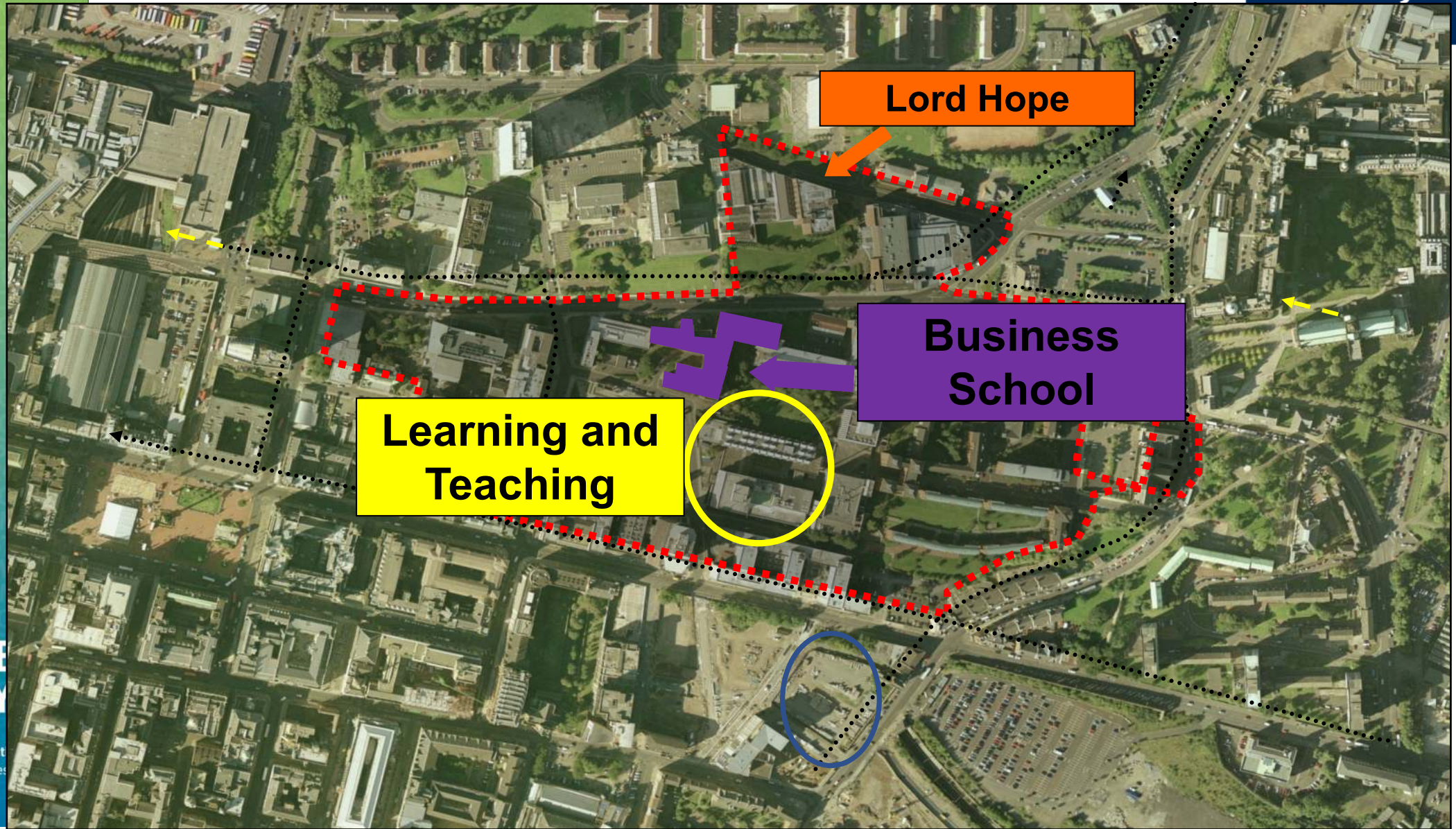
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# Buildings Refurbished



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# Business School Masterplan

Project	Stenhouse, SWD & SBS
Stage	Detailed Design (RIBA Stage F)
Programme	Site Start November 2012 Completion July 2014
Budget	£21.2M
Scope	16,000m <sup>2</sup>
Status	Design & Tender Preparation Progressing





# Humanities Faculty Lord Hope Building



Project	HASS Single Campus
Stage	Completion (RIBA Stage L)
Programme	Site Start November 2011 Completion July 2012
Budget	£14M
Scope	7005m <sup>2</sup> of 8200m <sup>2</sup> total
Status	Operational & on budget.



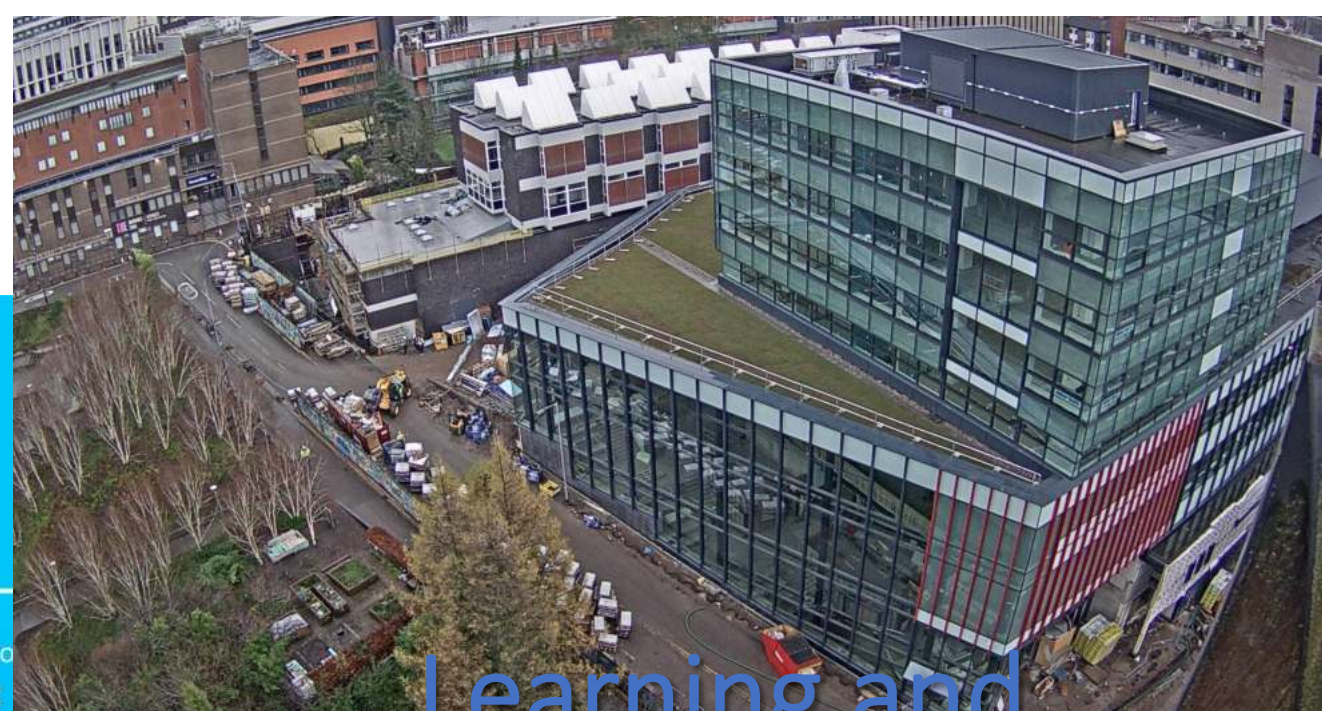
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# Saving 67% Embodied Carbon

University of Strathclyde,  
Learning and Teaching Building



Learning and  
Teaching Building  
- reuse of two  
buildings into  
one, 2021  
operational

total: 9,170,000kgCO<sub>2</sub>e

M&E Fit out  
2,500,000kgCO<sub>2</sub>e

Substructure,  
superstructure & facade  
6,670,000kgCO<sub>2</sub>e

Notional new build comparison

Carbon Saved  
6,170,000kgCO<sub>2</sub>e

total: 3,000,000kgCO<sub>2</sub>e

M&E Fit out  
2,500,000kgCO<sub>2</sub>e

Substructure, superstructure & facade  
500,000kgCO<sub>2</sub>e

Notional New Build

Actual



# Repowering our Buildings – e.g. Solar PV

- TIC 90kW
- Strathclyde Sport 50kW
- Sir William Duncan 49kW (contract awarded)
- James Weir 44kW (contract awarded)
- Ross Priory - Technical Feasibility underway for 6MW array (grid constrained)

Building	System Size (kWp)	Year 1 Generation	No. of Panels	No. of Inverters	System Orientation	Module Inclination
James Weir	44	38,878	160	2	South 192°	10°
Curran	139.15	122,194	506	5	South 174°	10°
Duncan Wing	48.95	43,155	178	2	South 191°	10°
James Blyth Court	101.2	99,662	368	4	South 180°	35°
Graham Hills Building	257.95	227,285	938	10	South 192°	10°

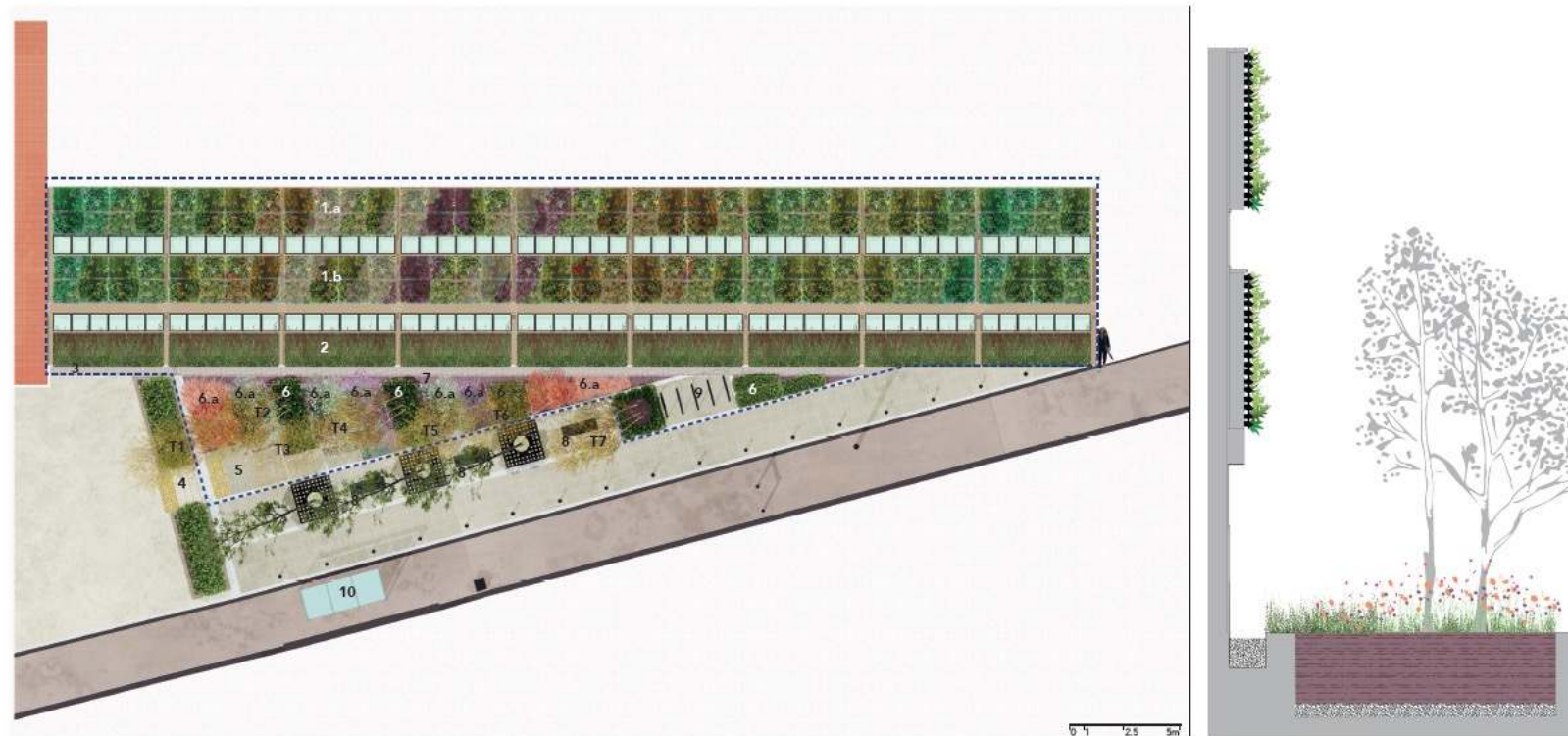




# Living Walls Retrofit on Cathedral Street, Glasgow



1. Henry Dyer Building, *Proposed*



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# Reimagining our city – the 'Climate Corridor' vision (High St. Transformation)



High Street today



High Street future





# Conclusions – tackling the climate emergency

- Take a whole systems approach
- Provide clear signals, vision and leadership – be bold
  - Sector needs to be clear on its climate and sustainability strategies
  - Estate development evidentially matched to climate targets
  - More renewables generation for campus and community – energy and climate resilience
  - Climate adaptation – managing change that is already locked in
  - Empower our students and communities of practice to ‘act’
- Collaborate, collaborate, collaborate - especially in dense urban centres
- Build the pipeline of climate investments that also deliver for community, skills, jobs, social justice
- We need to source development funding to unlock pipeline of investment. This should be a central policy thread.

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