



CitA | **TECHLIVE** 2022

Challenge, Change, Learn

Welcome to TechLive 2022

by CitA, Ireland's premier
multidisciplinary construction
network.



Achieving Limerick's 2050 Vision:

How digital twin technology is supporting the drive towards net-zero cities



www.iesve.com



Susan Pierce

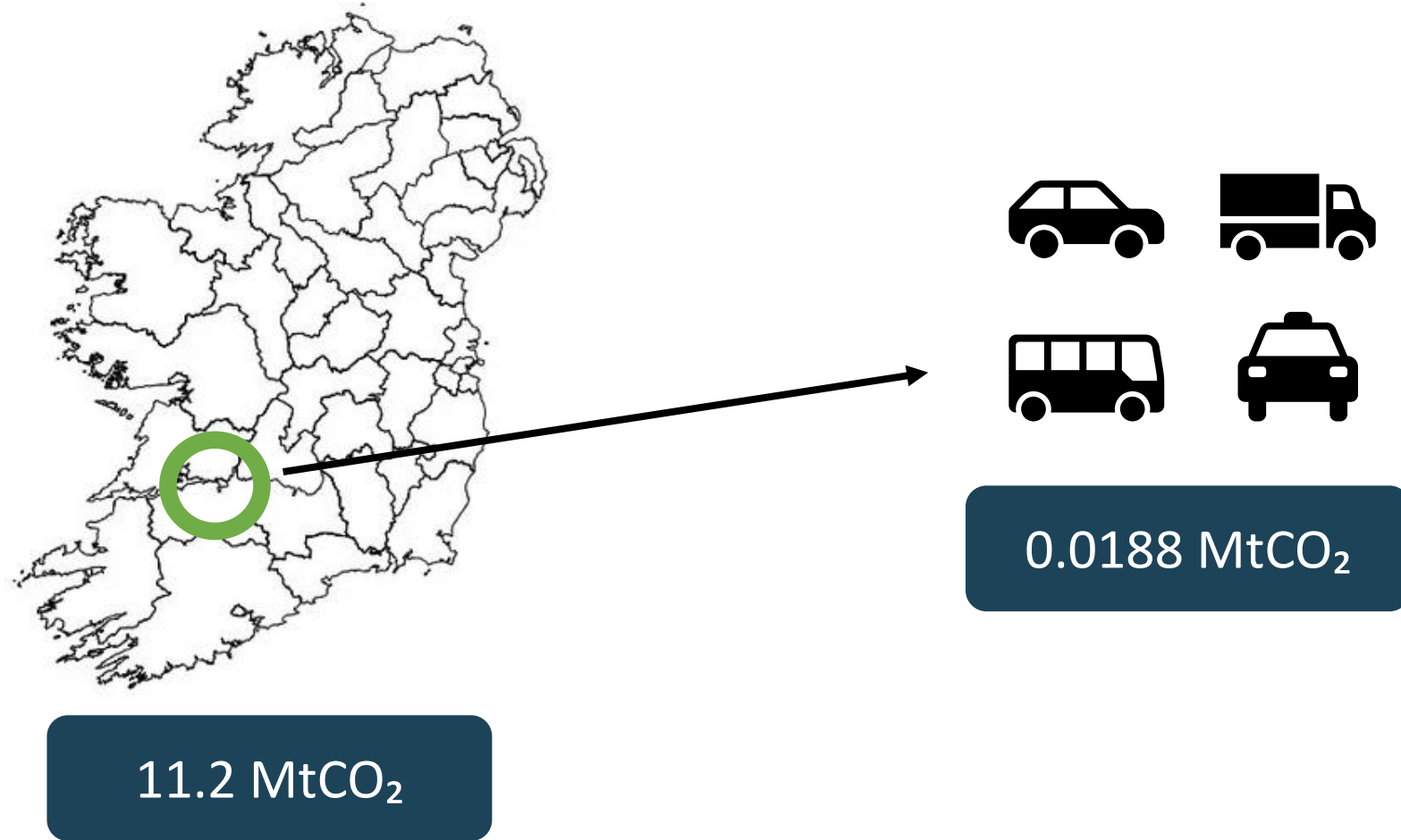


susan.pierce@iesve.com

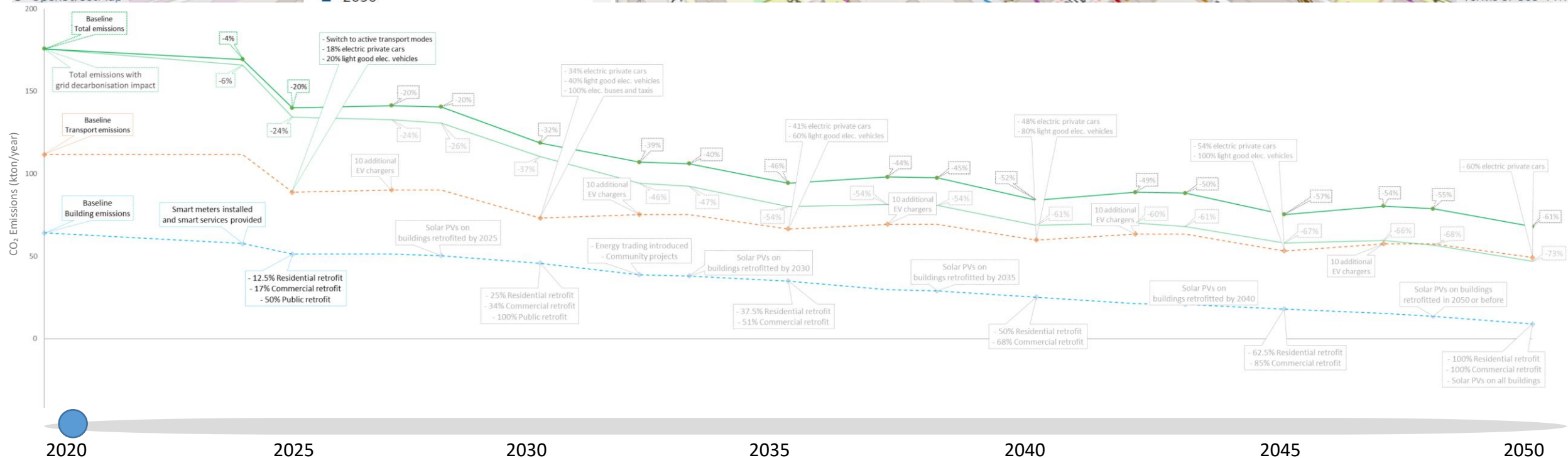








SEAI Energy in Ireland (2021)





- Installed in all buildings as planned by 2024 emissions
- Smart services provided to building owners
- 10% saving on CO₂ emissions



Climate Action Plan (2021)



Average EUI

270 kWh/m²

METRICS VIEWER

Data Range

Min. value

Max. value

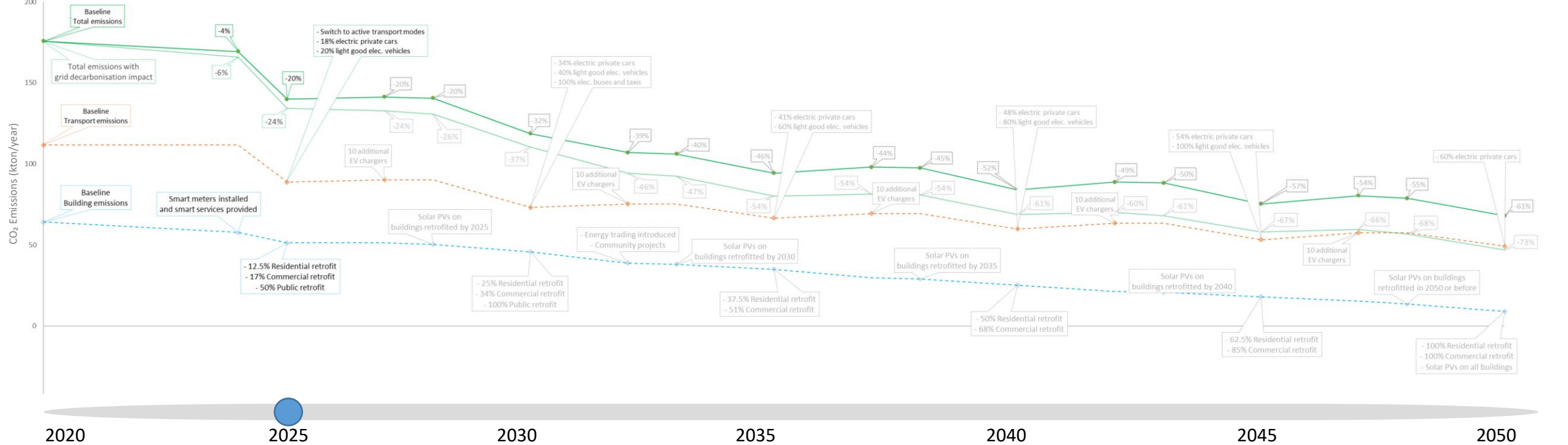
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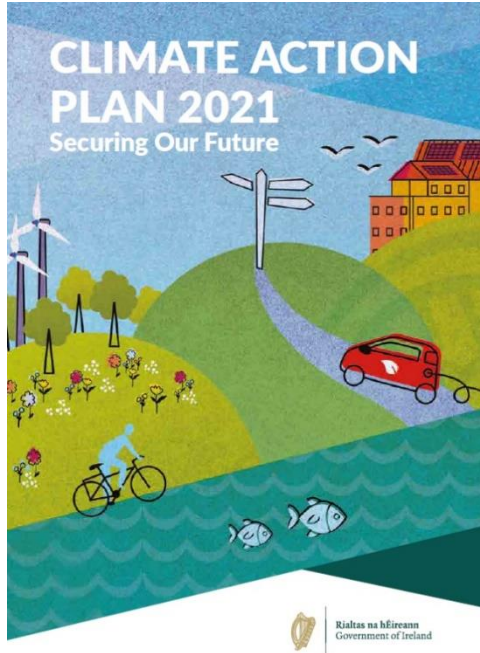
All

With values

Retrofit year

- 2025
- 2030
- 2035
- 2040
- 2045
- 2050





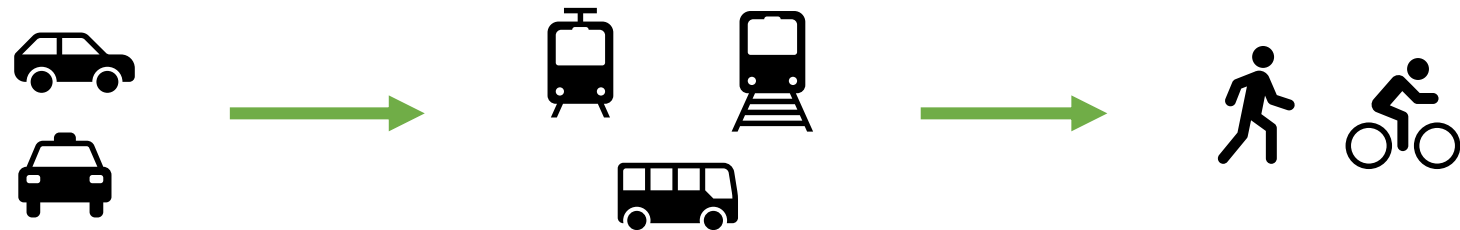
Transport targets:

- 60% of private cars electric by 2050
- More public and active transport journeys

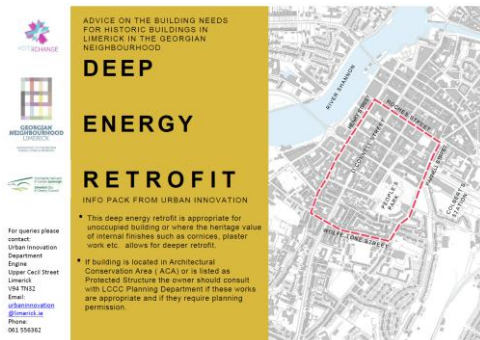
Electrification of vehicles



Change in transport modes

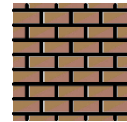


Climate Action Plan (2021)
Electric Vehicle Roadmap

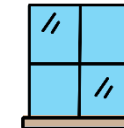


Building targets:

- 500,000 homes to B2 BER nationally by 2030
- Global developed cities retrofit at a rate of 2.5% per year to 2050
- All public sector buildings to B2 BER by 2030



- 50 mm external wall inner insulation



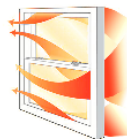
- Double glazing with U-value of 1.6 W/m²K



- 100 mm roof insulation added



- Full LED lighting upgrade

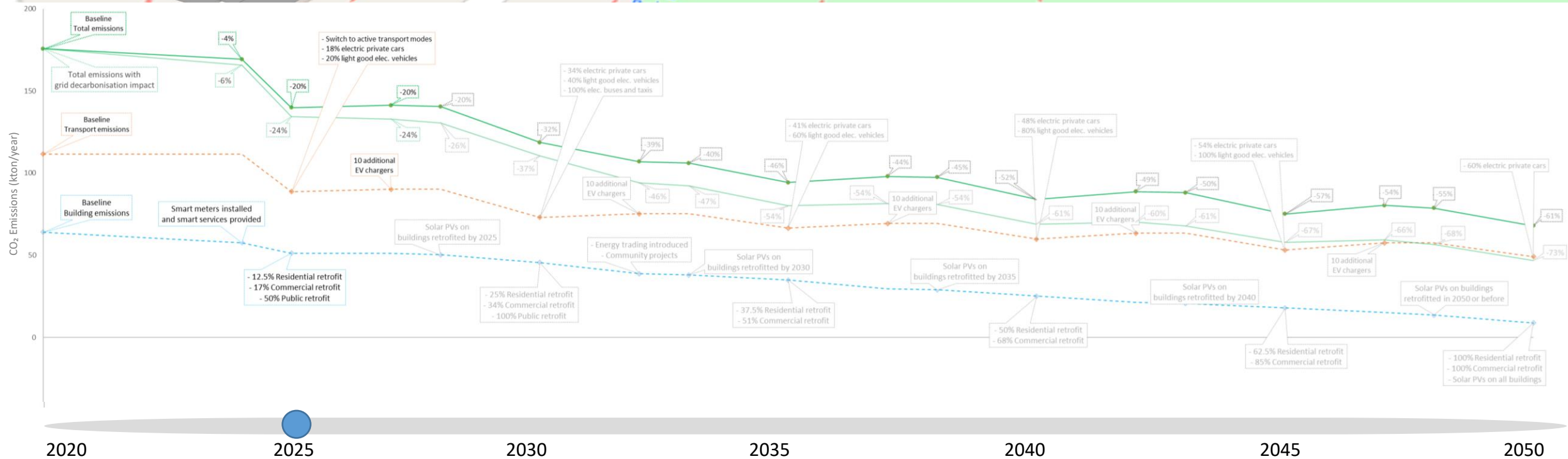
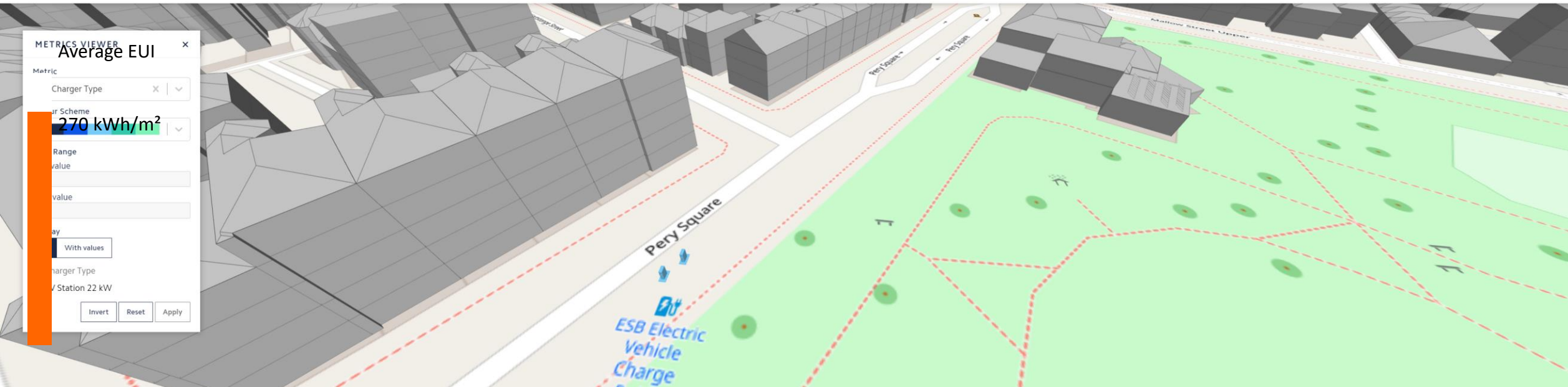


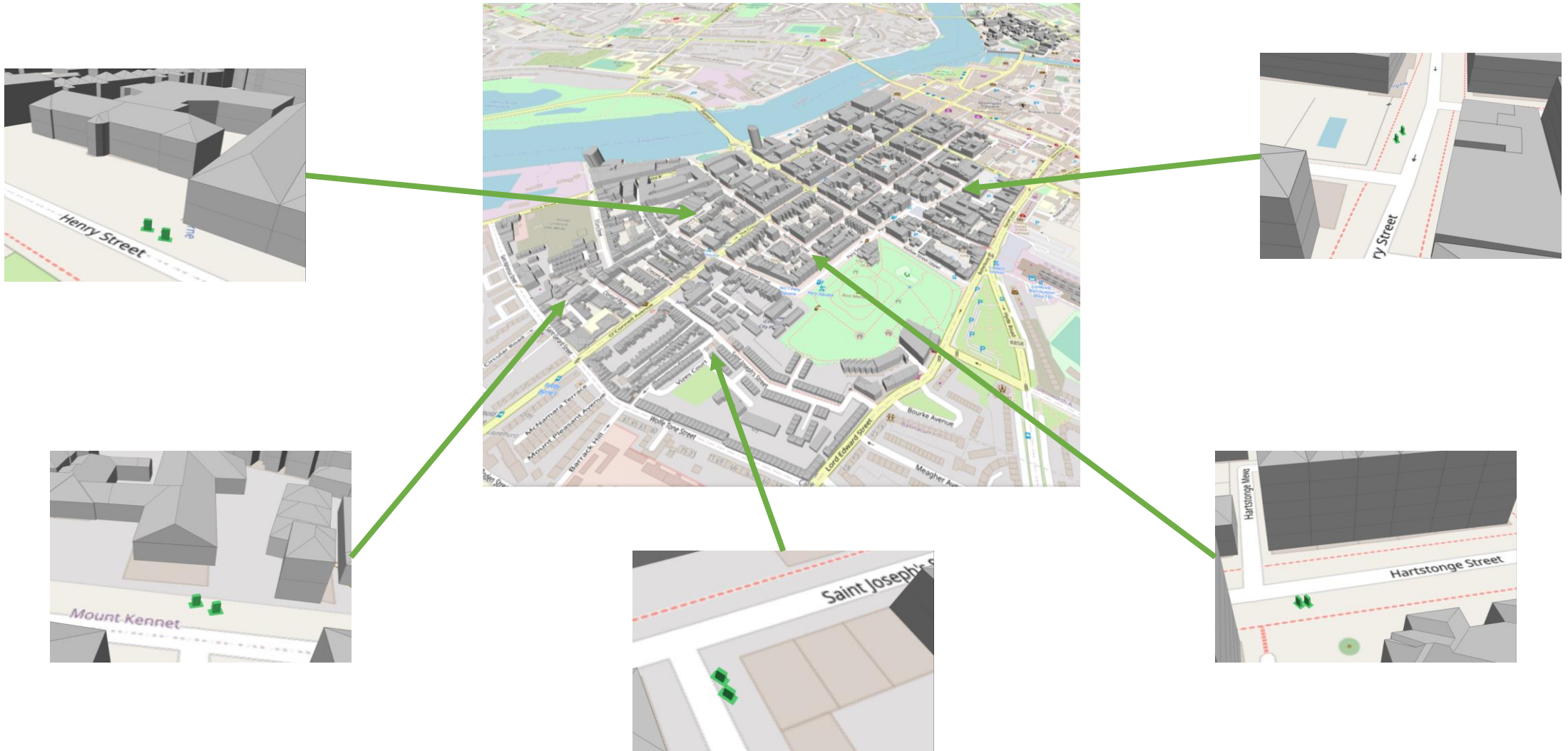
- Reduction in heat losses and rate of infiltration



- Air source heat pump (CoP 2.5) for space heating and domestic hot water

Climate Action Plan (2021)
IEA Net Zero by 2050 (2021)





Average EUI

237 kWh/m²

214 kWh/m²

METRICS VIEWER

Data Range

Min. value

Max. value

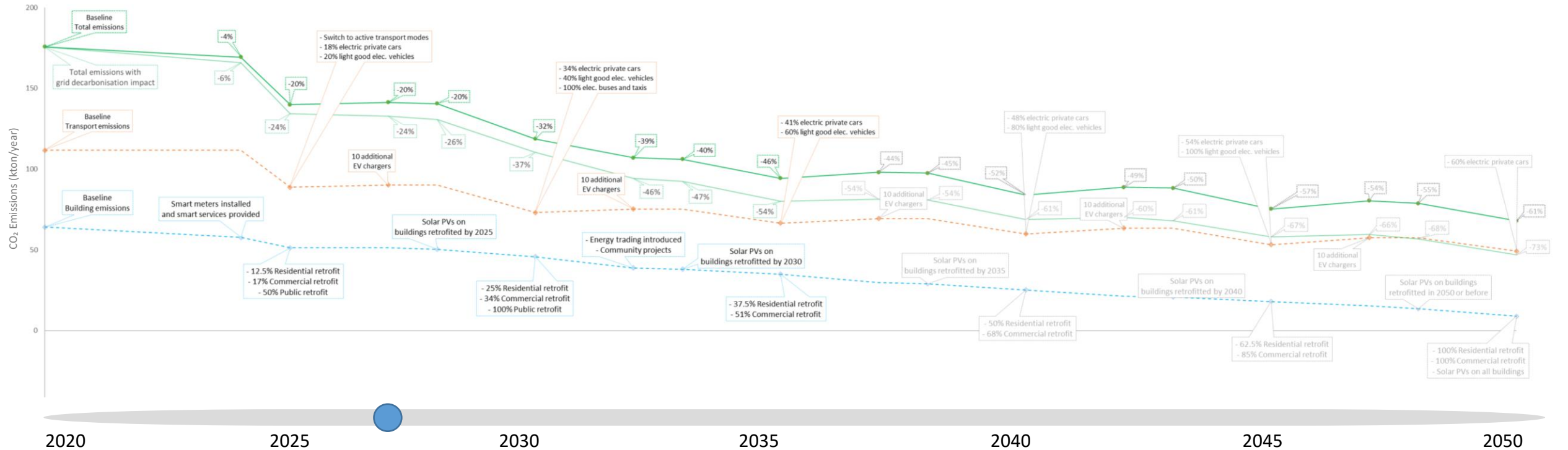
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All

With values

Retrofit year

- 2025
- 2030
- 2035
- 2040
- 2045
- 2050





Energy Trading



Community Projects



Estimated 15% reduction in carbon emissions



Average EUI

214 kWh/m²

184 kWh/m²

165 kWh/m²

140 kWh/m²

METRICS VIEWER

Data Range

Min. value

Max. value

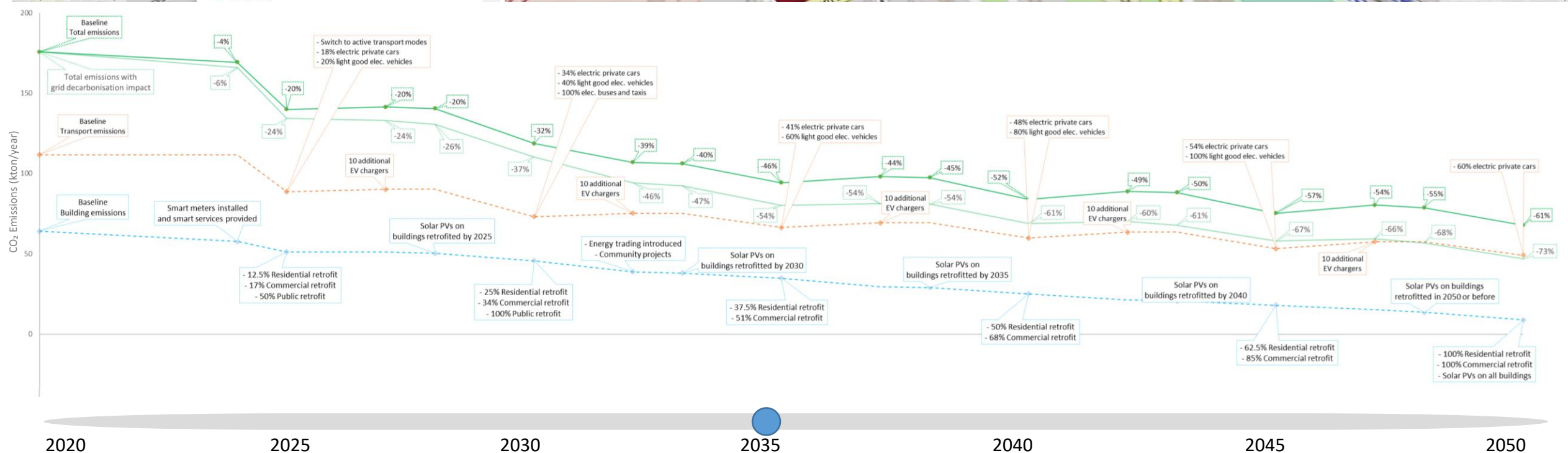
Display

All

With values

Retrofit year

- 2025
- 2030
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- 2040
- 2045
- 2050





Next steps:

- Enrich the model with information from residents
- Update with plans and progress over time
- Extend the analysis to include embodied carbon and life-cycle emissions



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