



CLIMATE POSITIVE CAMPUS



ST. GEORGE CAMPUS
CARBON AND ENERGY
MASTER PLAN



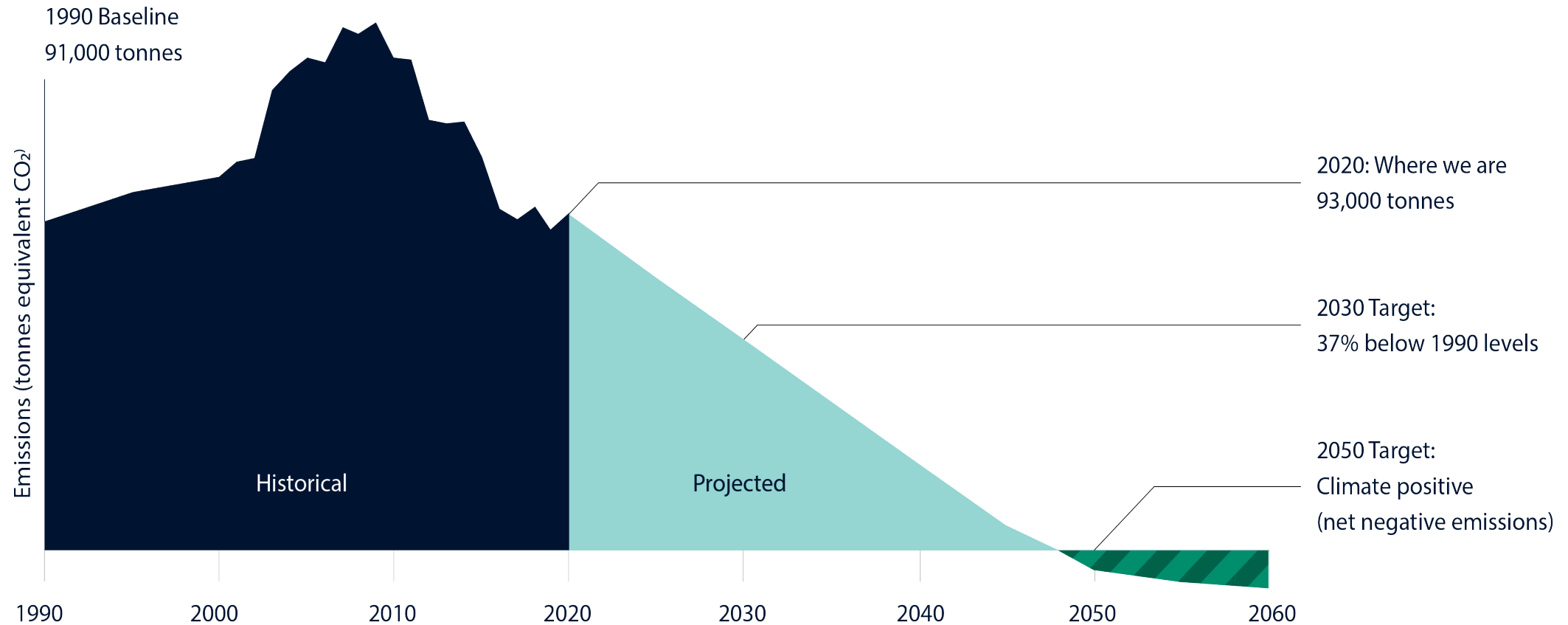


THE UNIVERSITY OF TORONTO ST GEORGE CAMPUS
WILL BECOME CLIMATE POSITIVE BY 2050.



UNIVERSITY OF
TORONTO

2050 CLIMATE POSITIVE TARGET ST. GEORGE CAMPUS

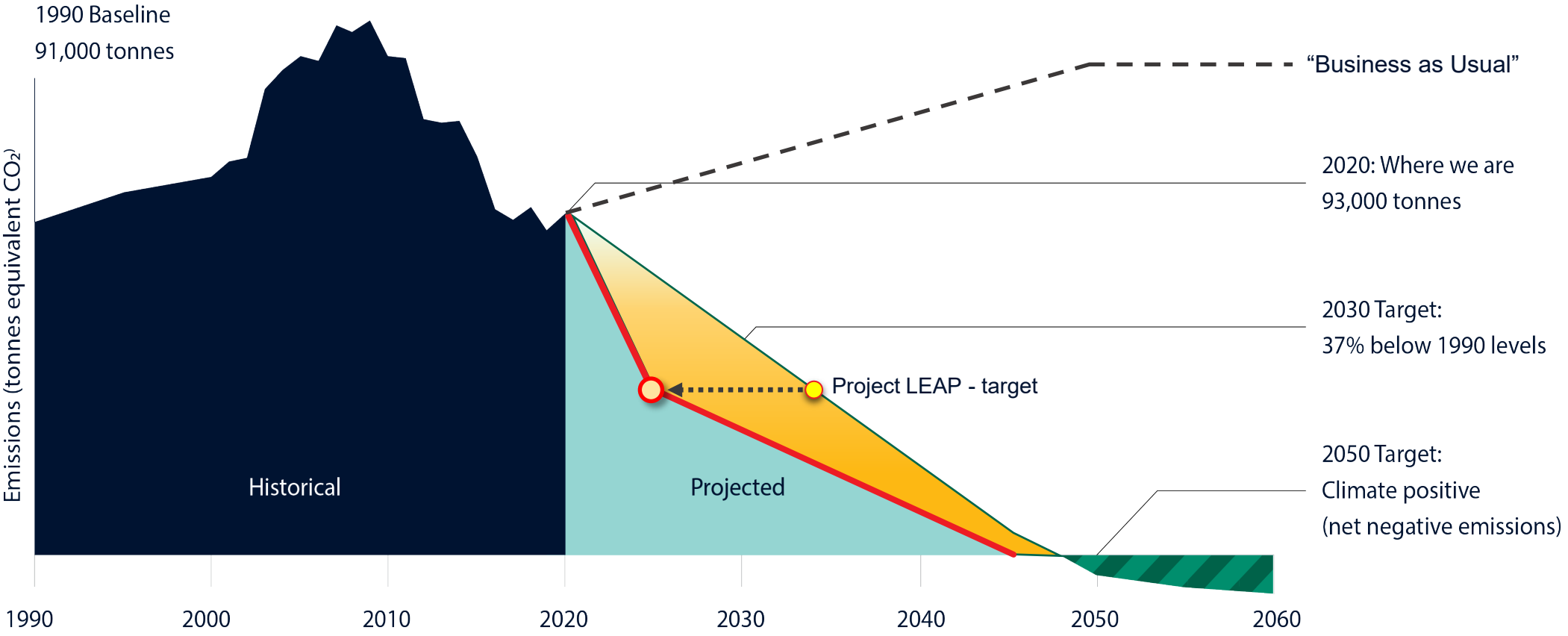




PROJECT LEAP

THE FIRST BIG STEP IN OUR
CLIMATE POSITIVE PLAN

PROJECT LEAP

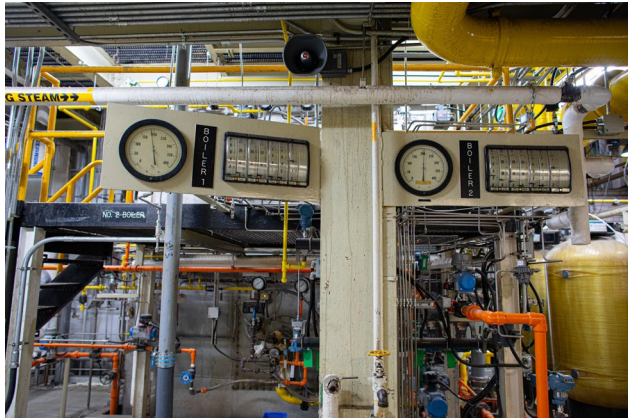


ONE PROJECT THAT ADDRESSES 55% OF OUR ANNUAL EMISSIONS

Highlights

- Reduces emissions by over 55%, or 48,300 metric tonnes in relation to 2021 levels
- Introduces electric boilers and high temperature heat pumps to accelerate transition away from fossil fuels
- Completion of Landmark geo-exchange mechanical, electrical fit-out and piping distribution
- Annual recurring savings from avoided carbon taxes to reach \$9.3M by the year 2030
- Mitigates \$30M in deferred maintenance liability

SUMMARY



District energy modernization

- Offset natural gas heating with electric boilers & industrial heat pumps
 - Central Steam Plant renewal and efficiency
 - Demand management and resiliency assets
 - Tie to geo-exchange / Energy storage
- ✓ Central Heating Plant
 - ✓ District Energy Network

Building retrofits

- Building energy optimization
 - Active heat recovery
 - Tie to geo-exchange / Energy storage
- ✓ Terrence Donnelly Centre for Cellular & Biomolecular Research
 - ✓ Leslie L Dan Pharmacy Building

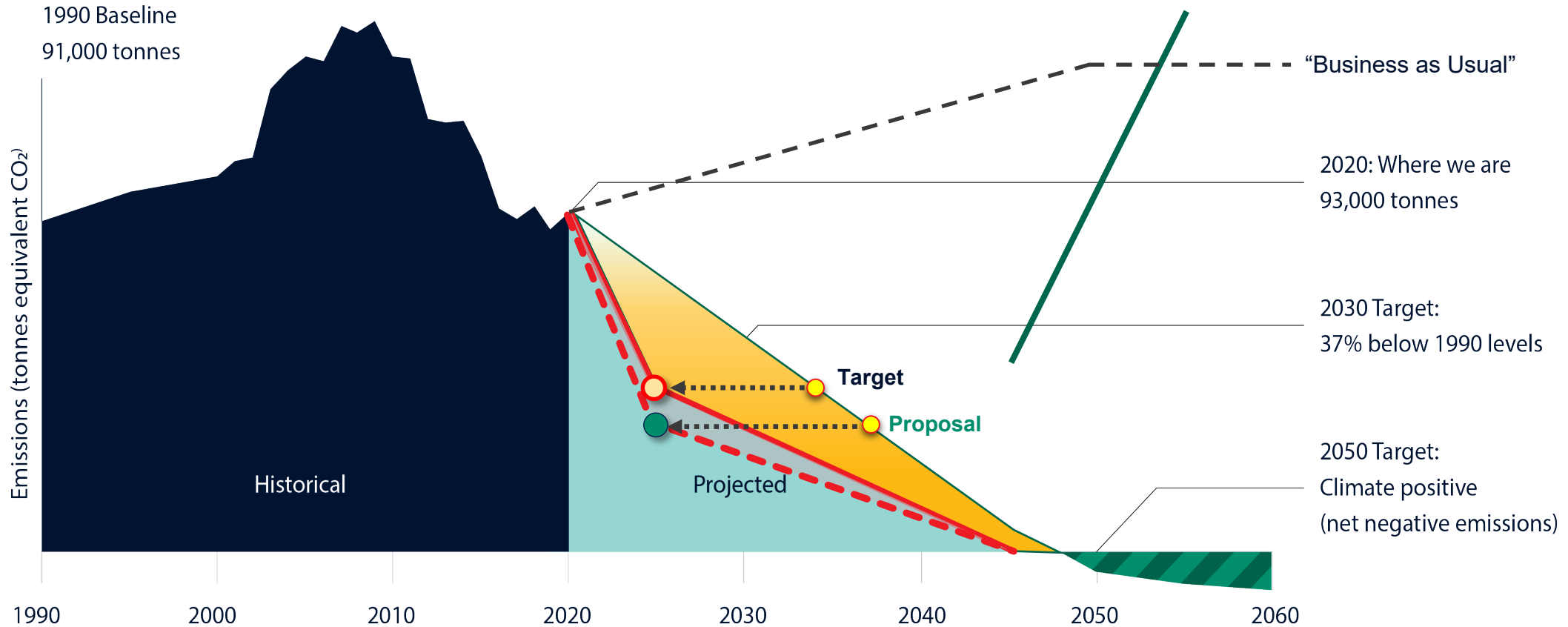
Landmark Geo-Exchange Integration

- Full fit mechanical fit out of heat pumps
 - Enables active heat recovery in lab exhaust
- ✓ MBS Chilled water plant connection
 - ✓ CCBR, Fitzgerald, Leslie L Dan Pharmacy
 - ✓ Central heating plant & high temp heating

PROJECT LEAP

Performance-based procurement: Impact

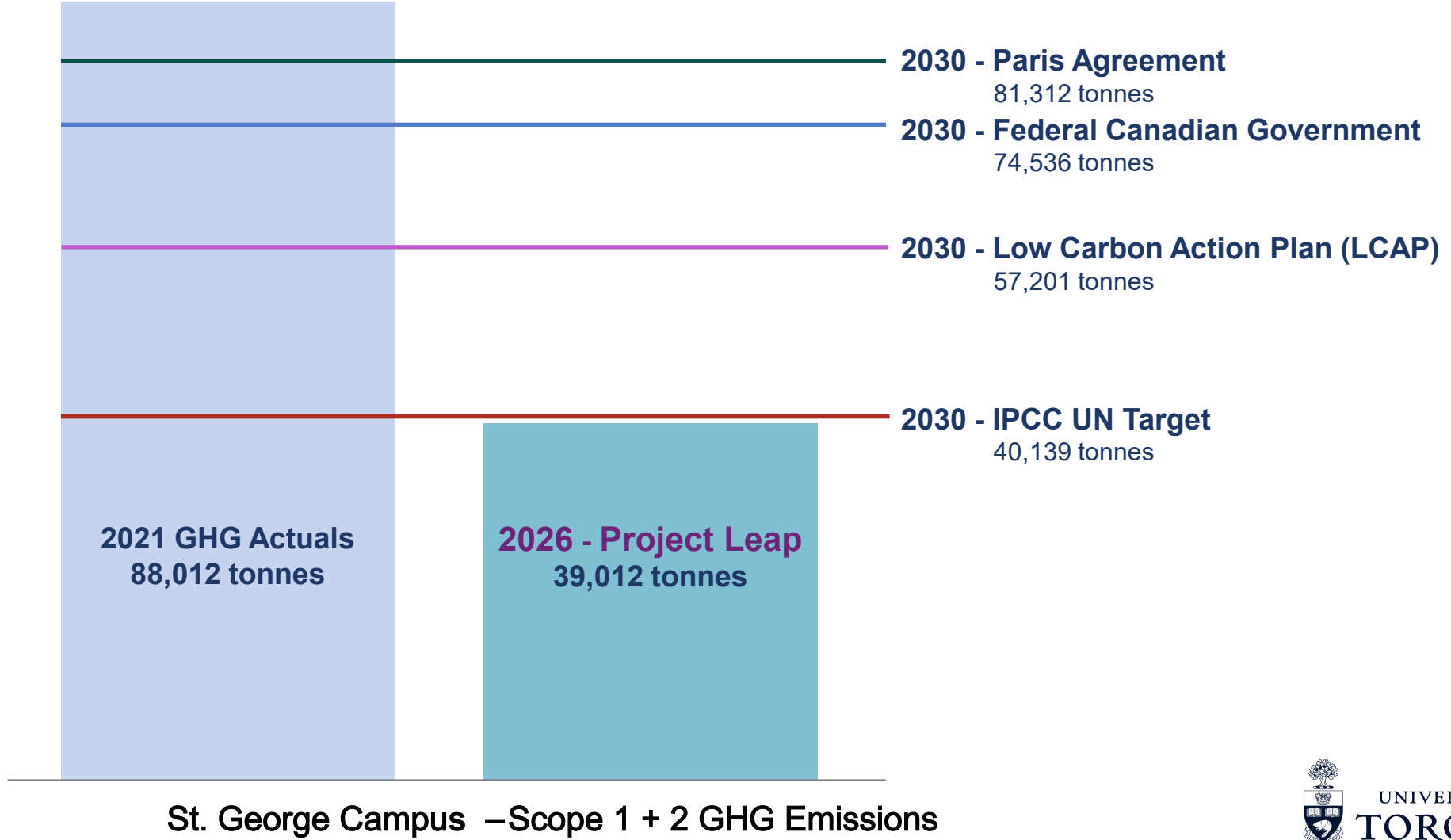
- ✓ Proposed solution advances climate positive strategy by 10 years
- ✓ Reduces an incremental 436,000 tons of carbon





ONE PROJECT THAT ADDRESSES 50% OF OUR EMISSIONS

PROJECT LEAP - TARGET COMPARISON





THANK YOU



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