

Using the GHG Protocol and Science Based Targets to implement our *Strategic Plan - Sustainability*

Ben Anderson (University of Southampton, UK)

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- University of Southampton Strategic Plan – Sustainability
- How we're using the Greenhouse Gas (GHG) Protocol
- How we're using Science Based Targets
 - To benchmark our GHG reduction targets
 - To develop additional GHG reduction targets
- *Work in progress*



The Goals



Sustainability Strategy Goal One | University of...

Achieve net zero emissions for **Scope 1 and Scope 2** by 2030



Sustainability Strategy Goal Two | University of...

Measure our total emissions footprint and set targets for **Scope 3 emissions** reductions



Sustainability Strategy Goal Three | University of...

Set a **business travel** emissions reduction target and implement an appropriate action plan



Sustainability Strategy Goal Four | University of...

Ensure that sustainability is a part of every **University education** programme by 2025



Sustainability Strategy Goal Five | University of...

Make sustainability a cornerstone of UoS' **research and societal impact**



Sustainability Strategy Goal Six | University of...

Implement a sustainable and ethical **investment** policy

Goal 1 & 2: What do we need to do?

- Choose a baseline (2018/19)
- Measure/estimate emissions
 - **Scope 1** – direct control
 - **Scope 2** – purchased energy
 - **Scope 3** – supply chain
- Set targets
 - Scope 1 & 2 already set: **net zero by 2030**
 - Scope 3 **tbd**
- Go!

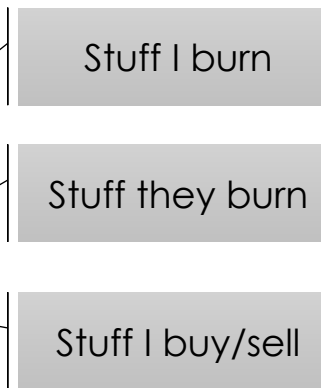
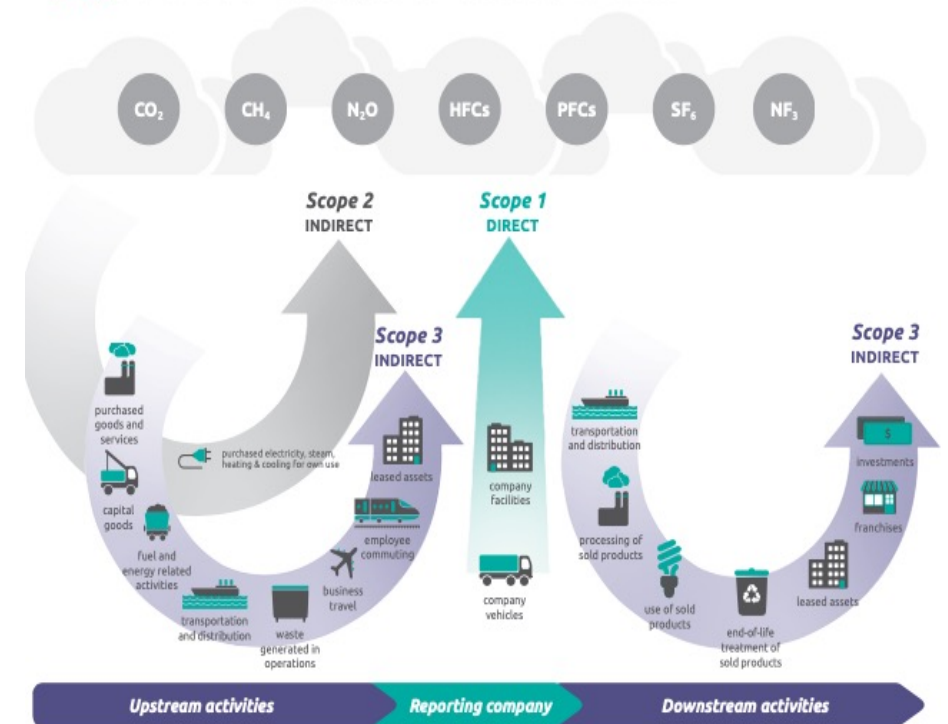


Figure [1] Overview of GHG Protocol scopes and emissions across the value chain



Source: Figure 1.1 of Scope 3 Standard.

Extensive guidance: <https://ghgprotocol.org/guidance-0>

Baseline Scope 1 & 2 Emissions

• Scope 1 (2018/19)

	2018-19
Scope 1: Stationary combustion	13,223
Scope 1: Mobile combustion	191
Scope 1: Fugitive emissions	?
Scope 1: Process emissions	?
Total	13,414

(T CO2e)

Decarbonise heat?

Switch to renewables?

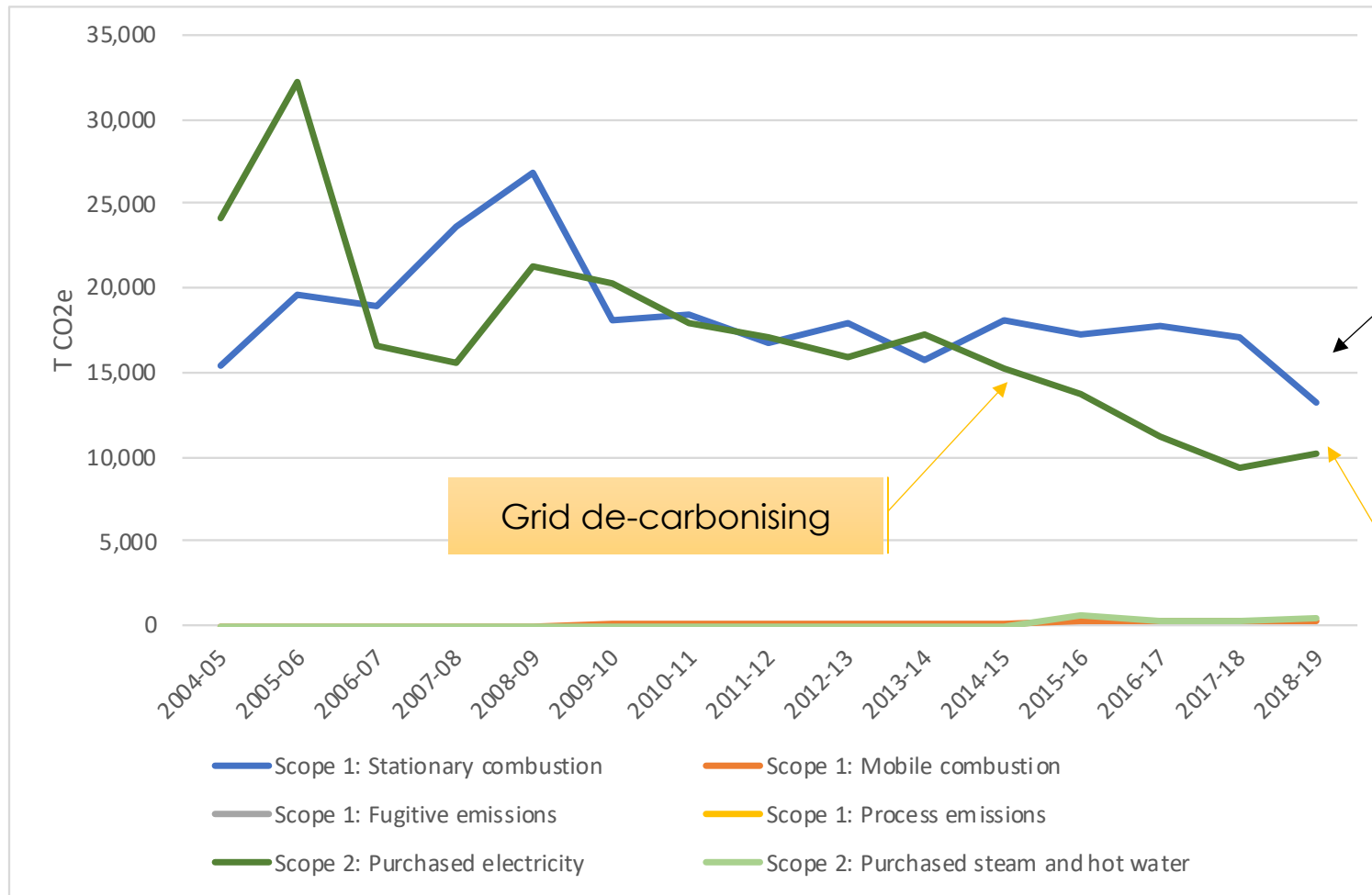
• Scope 2 (2018/19)

	2018-19
Scope 2: Purchased electricity	11,204
Scope 2: Steam & Hot water	434
Total	11,638

(T CO2e)

Exclusions apply: Science Park

Scope 1 & 2 Emissions trends



All Scope 1 & 2 emissions:
 39% reduction since 2004-5



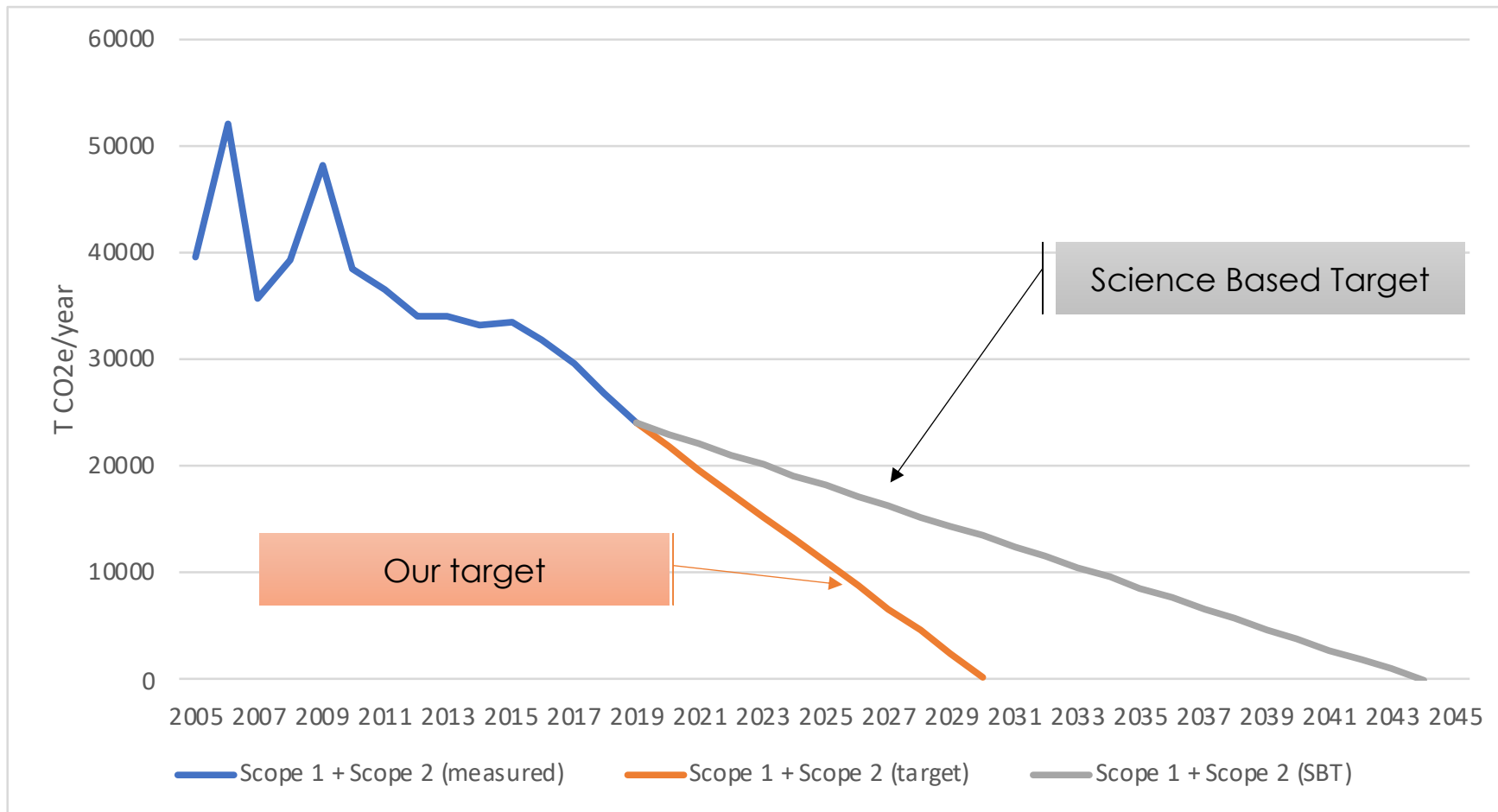
All non-residential Scope
 1 & 2 emissions: 46%
 reduction since 2004-5

Grid de-carbonising

CHP troubles

Exclusions currently apply: Science Park

Benchmarking our Scope 1 & 2 Targets



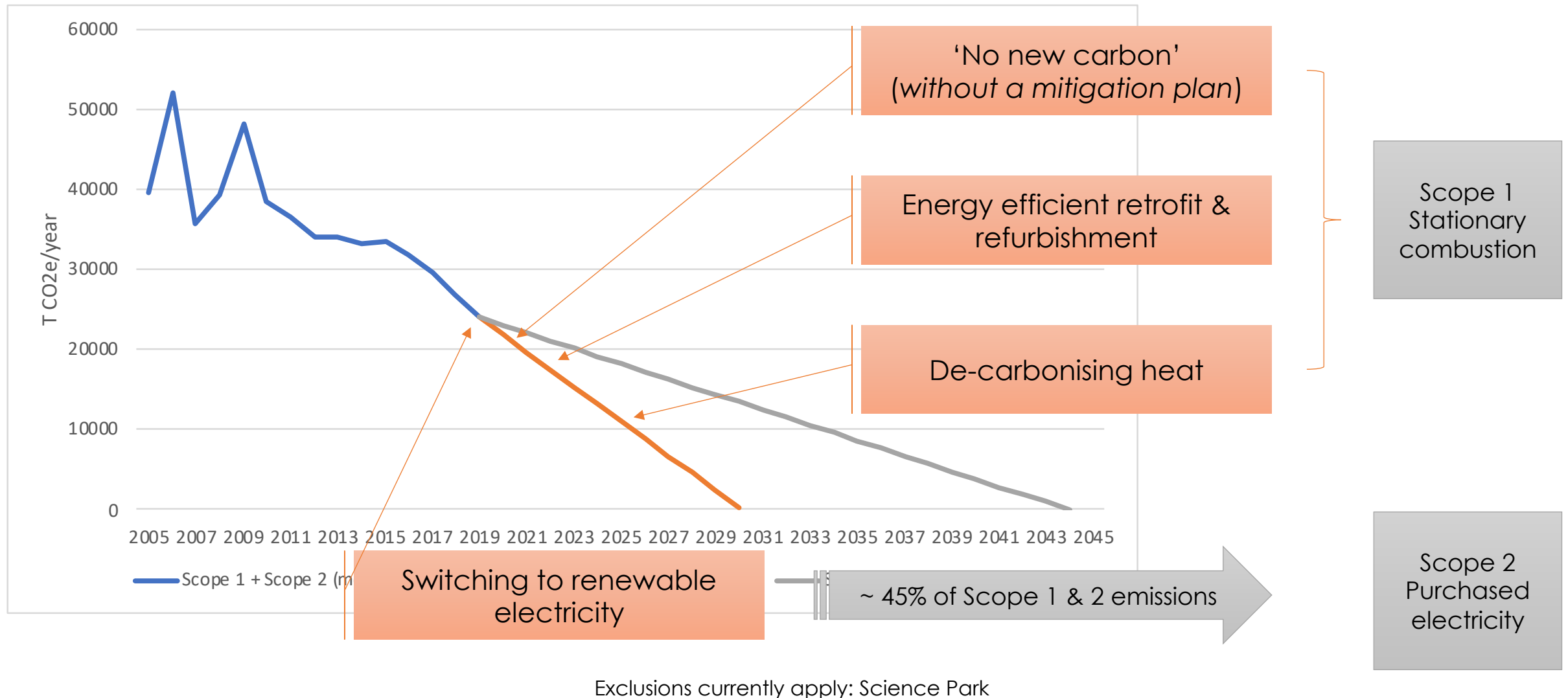
Exclusions currently apply: Science Park

Targets are considered 'science-based' if they are in line with what the latest climate science deems necessary to meet the goals of the Paris Agreement – limiting global warming to well-below 2°C above pre-industrial levels **and pursuing efforts to limit warming to 1.5°C.**"

(<https://sciencebasedtargets.org/how-it-works>)



Meeting our Scope 1 & 2 targets



But what about Scope 3?



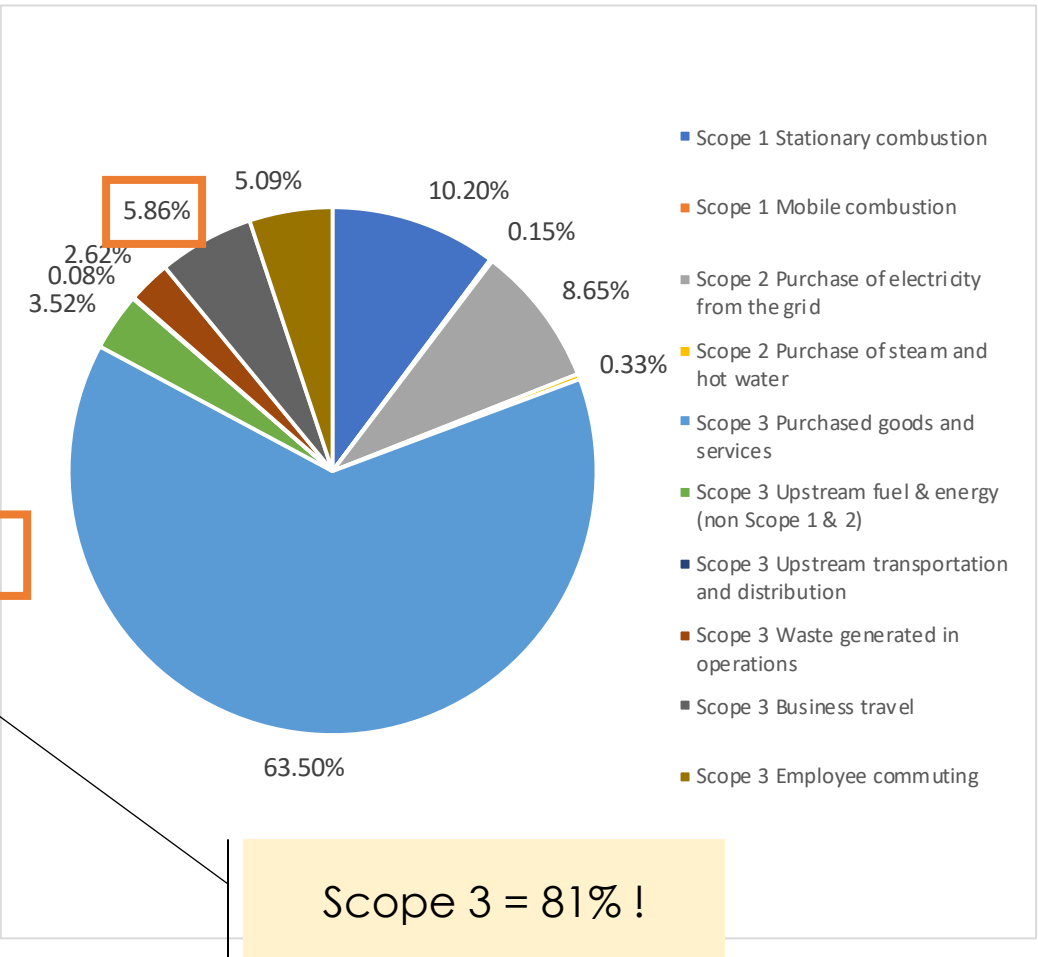
Image: #banksy

- Scope 3 “may contribute **up to 60%** of total emissions in some higher education settings” (O. Robinson et al., 2015)

Southampton
research!

All Scope estimates 2018/19

Scope	Category	T CO2e	%
Scope 1	Stationary combustion	13,223	10.2%
Scope 1	Mobile combustion	191	0.2%
Scope 2	Purchase of electricity from the grid	11,204	8.6%
Scope 2	Purchase of steam and hot water	434	0.3%
Scope 3	Purchased goods and services	82,300	63.5%
Scope 3	Upstream fuel & energy (non Scope 1 & 2)	4,566	3.5%
Scope 3	Upstream transportation and distribution	100	0.1%
Scope 3	Waste generated in operations	3,400	2.6%
Scope 3	Business travel	7,600	5.9%
Scope 3	Employee commuting	6,600	5.1%
Sum		129,600	
Additional: student commuting (UG)		6,522	
Additional: student commuting (PG)		5,881	



Exclusions currently apply:

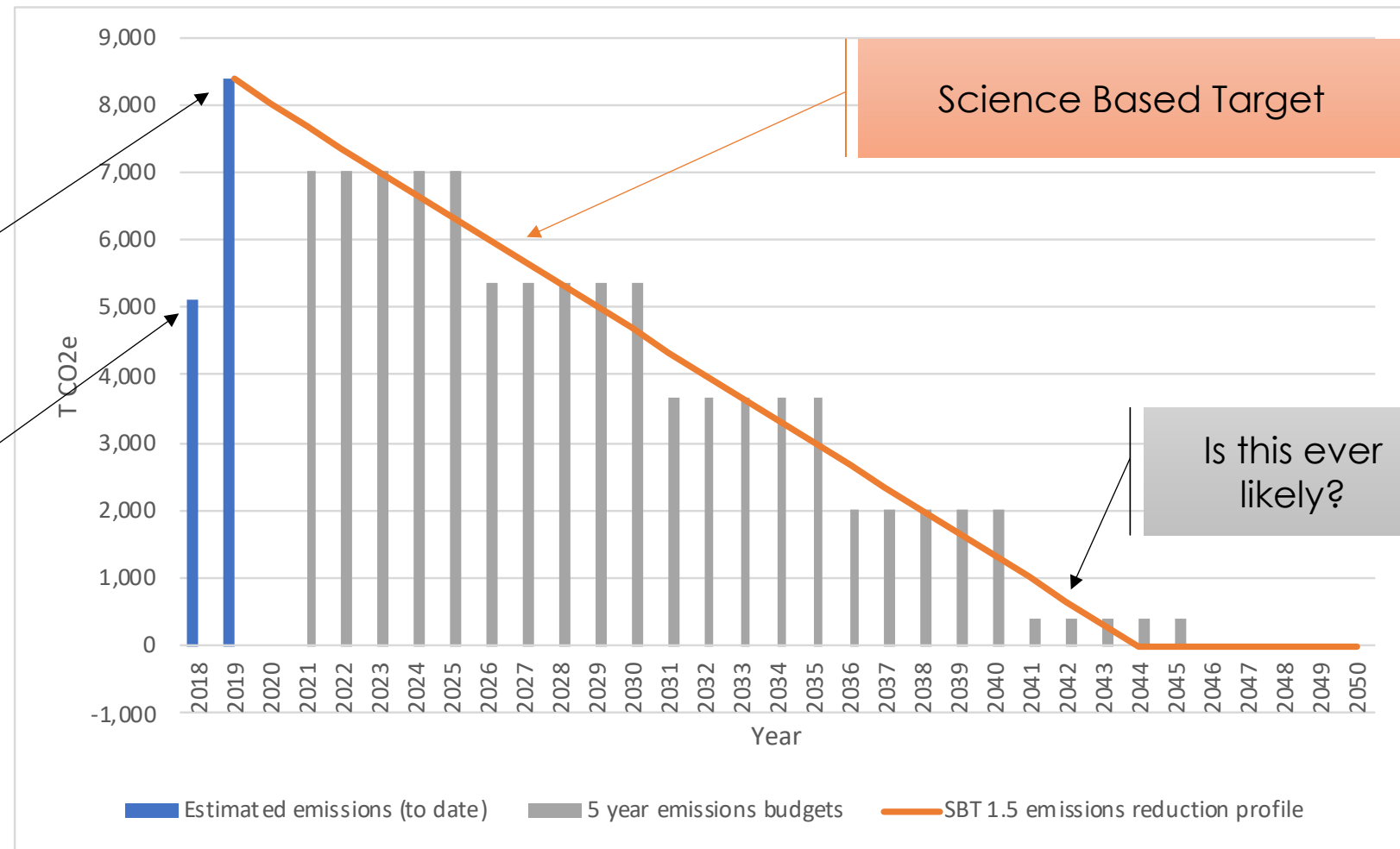
- Scope 1: Science Park
- Upstream leased assets: NOC, UHS & Malaysia
- Downstream leased assets: Science Park

Scope 3: Business Travel (Goal 3)

- What if?

Revised estimates (travel booking data)

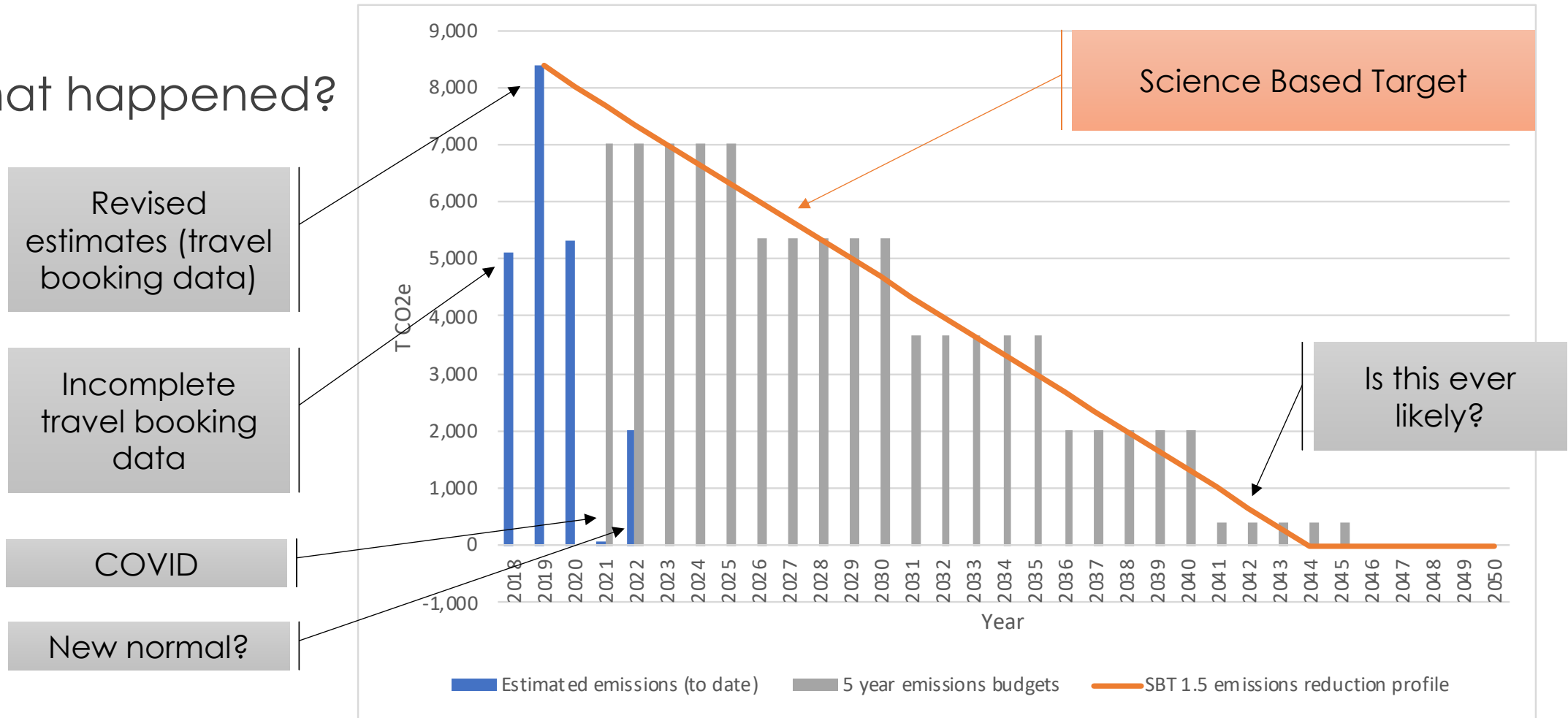
Incomplete travel booking data



Exclusions currently apply: own vehicle use, taxi, ferry , 3rd party & own payment

Scope 3: Business Travel (Goal 3)

- What happened?



Exclusions currently apply: own vehicle use, taxi, ferry , 3rd party & own payment

In conclusion

- GHG Protocol - work to do on:
 - Fugitive emissions
 - Upstream and downstream leased assets
 - Investments
- Science Based Targets
 - Transparent target-setting method ←
 - Robust to science
- 2019/20 & 2020/21 emissions estimates
 - Expected Autumn 2022
 - Watch this space



Can't answer "how do we get there?"





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