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OUR VISION IS:

“REDEFINING ENVIRONMENTAL EXPERTISE”

PORT OF DETROIT CASE STUDY

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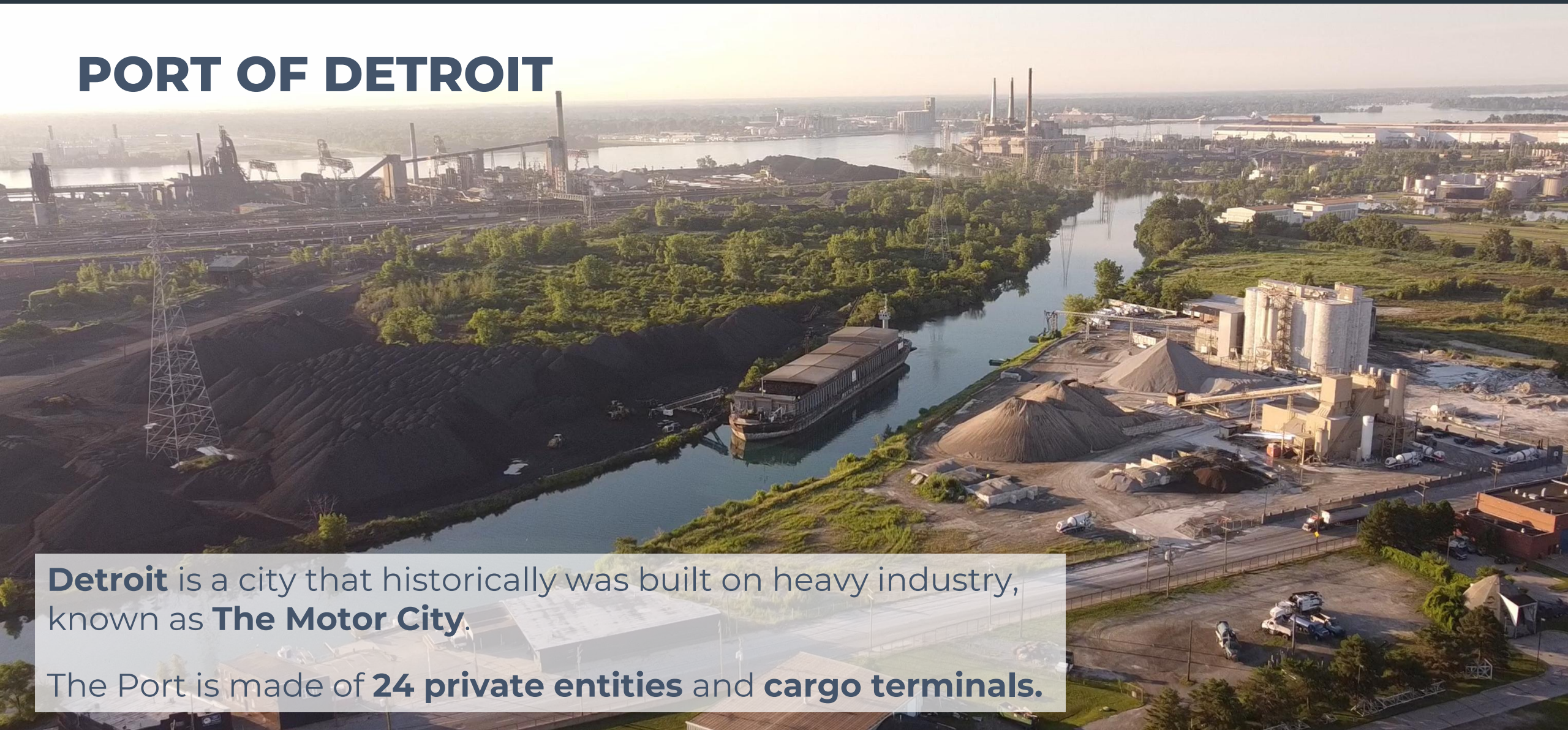
Presented to you by

EMILY ALEXANDER

PORT OF DETROIT



Detroit is a city that historically was built on heavy industry, known as **The Motor City**.

The Port is made of **24 private entities** and **cargo terminals.**

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PORT OF DETROIT DECARBONIZATION PLAN

Concentrated industrialization has led to **poor air quality** and heightened levels of respiratory illness.

The Port and related transportation and industry are seeking to **reduce their impact on the environment and health**.

The State of Michigan funded a **decarbonization study** in 2022.

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WHAT IS A CARBON ASSESSMENT?

PROJECT SCOPE

Develop the scope of your organizational boundary.

DATA COLLECTION

Collect your activity data to determine emissions.

QUANTIFICATION & REPORTING

Quantify greenhouse gas (GHG) emission and report the overall results.

ROADMAP TO NET ZERO

Develop a plan for your organization to reach net zero emissions.

PROJECT SCOPE

Any **terminal** or **entity** within the Port of Detroit utilizing the **Detroit River** and **River Rouge** to move goods

- 15 cargo terminals
  - Coal, cement, salt, etc.
  - Fueling center
- 9 essential services/entities
  - Coastguard, police, etc.
  - Tugboats

Emission Categories

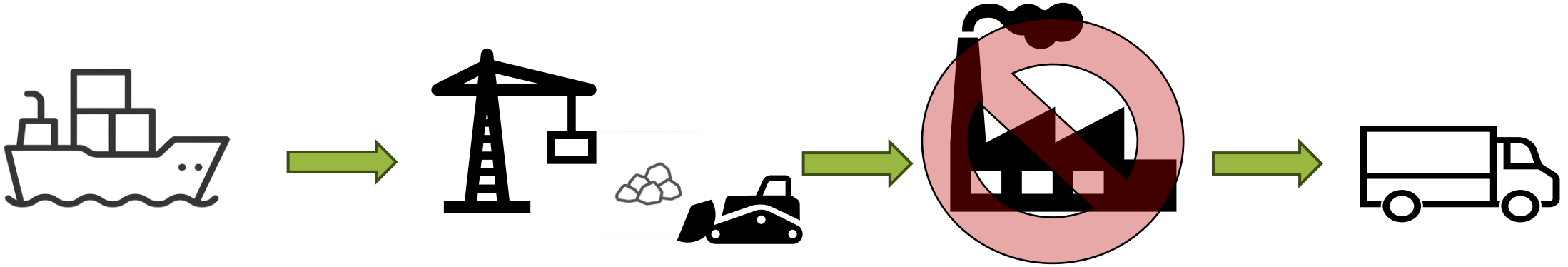
- Shipping
- Goods Handling
- Drayage
- Administrative

*Industrial Activity Excluded

DATA COLLECTION

Equipment list
Equipment use information
- gallons of fuel
- hours of operation
- kWh of electricity

Mode of transportation and related tonnage (in- and outbound)



Detroit River & River Rouge

Dock/Terminal

Co-located Industrial Operations

Delivery to Customer (Wayne County)

PROJECT RESULTS: 2022 BASELINE EMISSIONS

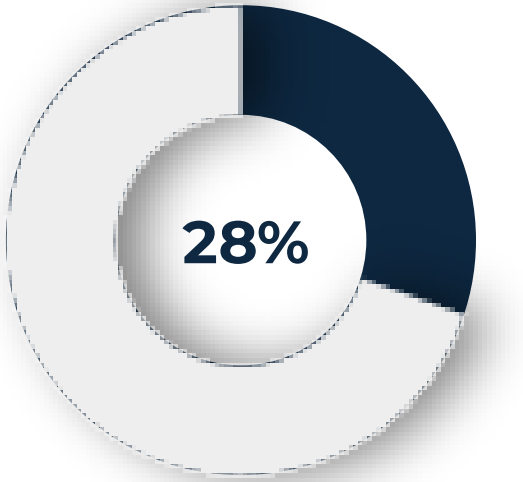
Greenhouse gas emissions reported in metric tons carbon dioxide equivalents ($t\ CO_2e$)

Total baseline emissions: ***30,269 $t\ CO_2e$***

Imagine Ford Field Filled up about 40 times with CO_2

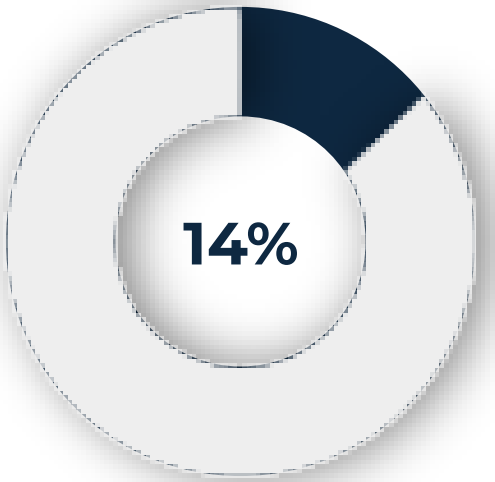
Shipping

8,425 $t\ CO_2e$



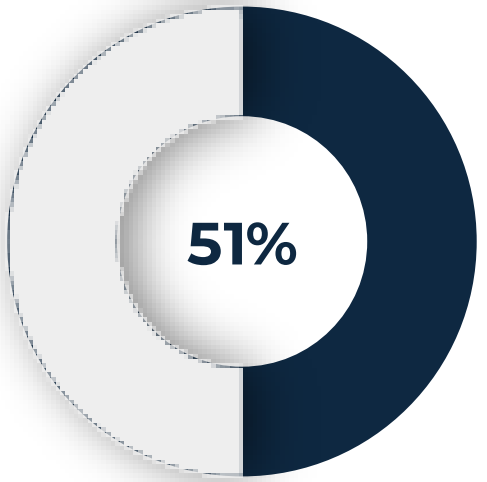
Goods Handling

4,145 $t\ CO_2e$



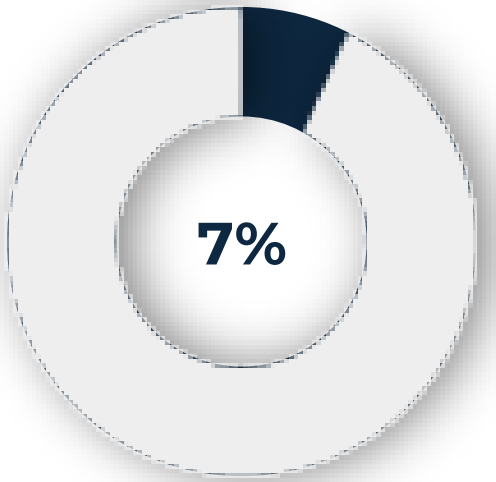
Drayage

15,430 $t\ CO_2e$



Administration

2,269 $t\ CO_2e$

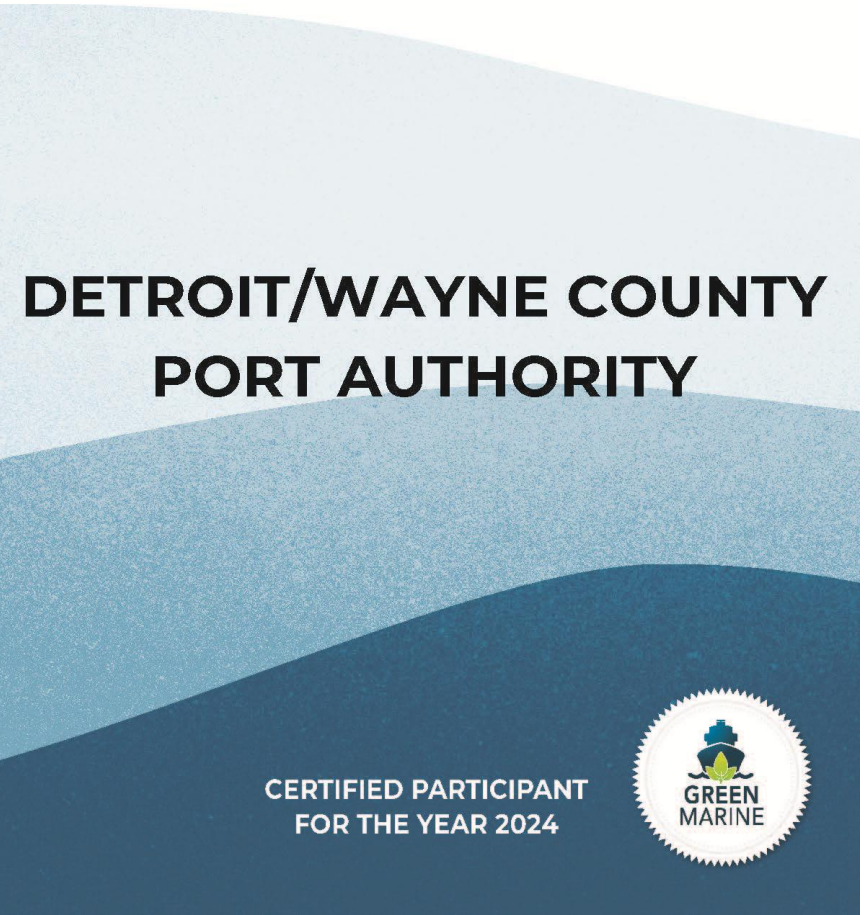


PROJECT RESULTS: STAKEHOLDER ENGAGEMENT

Low Carbon Port Committee
- Quarterly meeting with engaged terminals
- Education opportunities, discuss challenges

Community Advisory Board
- Community feedback opportunities
- Connect residents to businesses

Continued Terminal Engagement
- Re-audits on GHG emissions every 2 years
- Opportunities to partner for grant/government funding



PROJECT OUTCOMES & GRANT OPPORTUNITIES

Clean Ports Program Award

- $25 million to modernize port equipment and infrastructure, including electrify equipment and solar panels
- $3 million to study hydrogen fuel and shore power alternatives

Green Marine Certified in 2024

2024 GHG Assessment Results: *29,422 t* CO_2e

NET ZERO PORT BY 2040 TIMELINE

PORT OF DETROIT

BASELINE ASSESSMENT

In 2022, the Port of Detroit determined their baseline carbon emissions and set reduction targets.

EDUCATION & ENGAGEMENT

Continued relationship building and education of terminals and community on the decarbonization initiatives.

PROGRESS UPDATES

Regular updates to the emission inventory to track progress towards goals.

IMPLEMENTATION

The Port and terminals can continue to seek funding and implement low or zero emission technology as it becomes available.

NET ZERO BY 2040 GOAL

The Port aims to reach net zero emissions for shipping, goods handling, and drayage.

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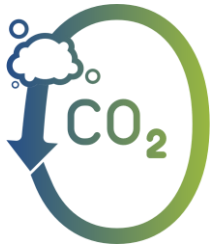
Thank you!

Any Questions?

Contact me if you want to talk anything sustainability-related:

EmilyAlexander@tunley-environmental.com



CARBON

BIODIVERSITY

WATER

TRAINING

COMPLIANCE

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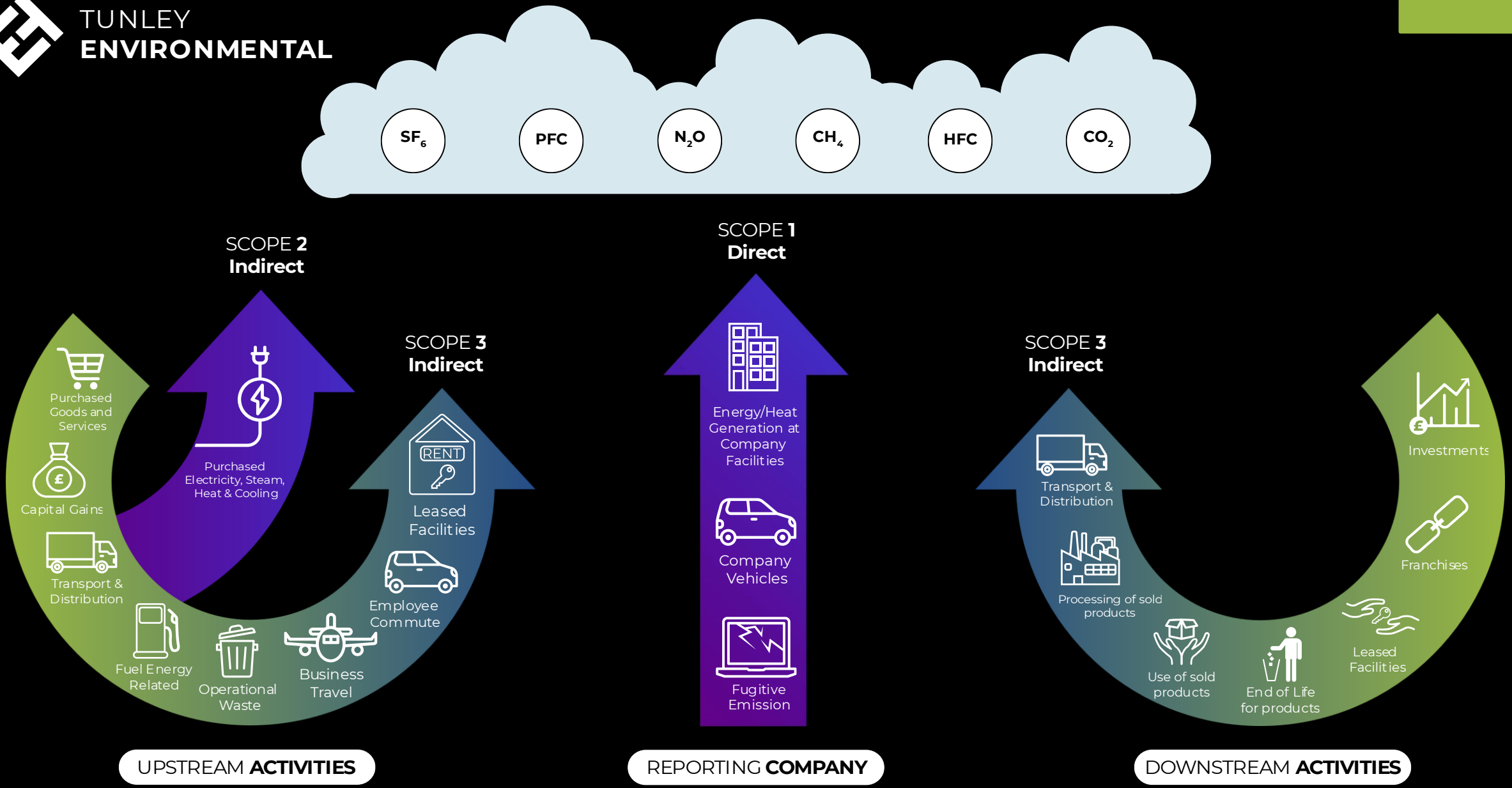

Find out more at www.tunley-environmental.com

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WHAT IS A CLIMATE RISK ASSESSMENT?

An assessment that quantifies **risk** due to **climate change** of your organization.

This assessment provides insight into **risk mitigation** strategies for your organization.

Risk Modeling

The top climate hazards in a given region will be considered in a climate risk assessment to assess the level of risk your organization has.

Adaptation Planning

Adaptation measures will be suggested based on the initial climate risk assessment. This plan will guide decision-making, shedding light on areas where climate resilience is most impactful.

Cost-Benefit Analysis

A high-level review of the financial impacts due to physical hazards when compared to implemented mitigation strategies and their cost benefits.

RISK & RESLIENCE ASSESSMENT