

## Introduction

After three years in the making, E-CON: Ecology Conscious Economy, is being launched in 2024 with it's (provisionally named) Understanding Emissions - UE - Project. This project foundation paper is released to selected friends as an invitation to help expand our UE project committee and/or contribute suggestions as to how project objectives may be fulfilled and funding needs met.

## Project Overview

**Promoters:** Christopher Craig (E-CON Founder) and Andrew Holt (E-CON Research and Design).

**Objective:** Enable the Irish public to understand and visualise Irish CO<sub>2</sub> emission data in a comprehensible and relatable way.

**Why?:** Improved understanding fosters greater climate action and pressures government to maintain emission targets.

**How?:** By designing and developing a CO<sub>2</sub> emissions data visualization aid (physical and/or digital).

## Problems with Current Irish CO<sub>2</sub> Emissions Data Messaging

The project targets the following root problems:

### Incomprehensible Data:

Fact: Scientists and politicians discuss CO<sub>2</sub> emission data in metric tons.

Problem: Most people struggle to understand the CO<sub>2</sub> ton weight/size/volume/density relationship.

Fact: CO<sub>2</sub> emission data is often in the thousands, millions, billions, & trillions of tons of CO<sub>2</sub>.

Problem: Humans struggle to understand and visualise large numbers.<sup>1</sup>

### Small Nation Excuse:

Fact: Small nation emission data is small compared to global emission data (0.1% of global).<sup>2</sup>

Problem: Irish CO<sub>2</sub> emission data can easily be seen as insignificant.<sup>3</sup>

## Project Precedents

Prior CO<sub>2</sub> one ton emission visualization projects:

### 1: Assorted Inflatables:

Inflatable balloon structures that have been used to visualise the physical size (556.2m<sup>3</sup>) of one ton of CO<sub>2</sub>.



**2: CO2 Cube at COP-15, Alfio Bonanno & Christophe Cornubert, Copenhagen, 2009:**

Multimedia cube used to visualise the physical size (556.2m<sup>3</sup>) of one ton of CO<sub>2</sub>.

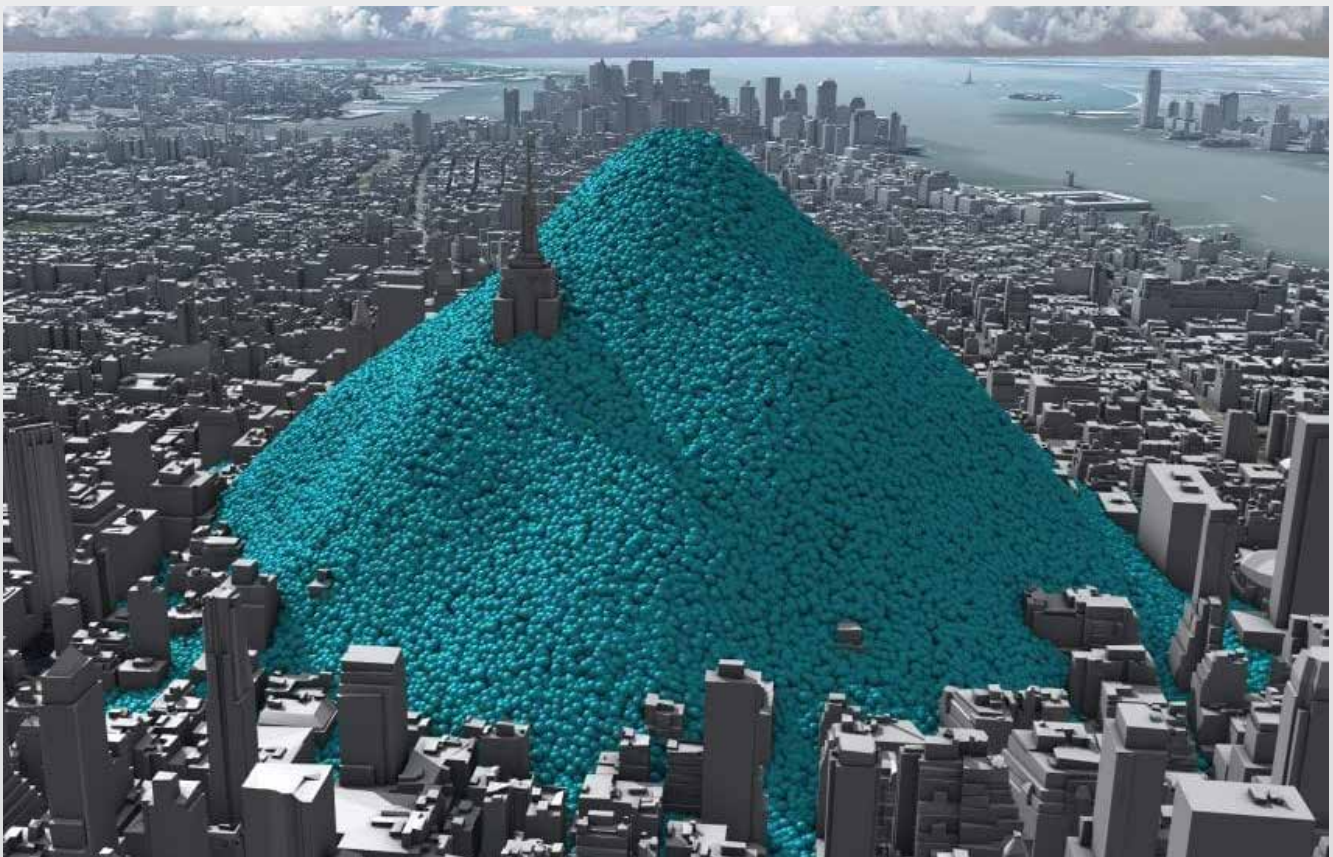
[View the CO2 Cube](#)



**3: New York Emission Visualisation Video, Real World Visuals, 2012:**

Blue spheres demonstrate the physical size (556.2m<sup>3</sup>) and rate of CO<sub>2</sub> ton accumulation.

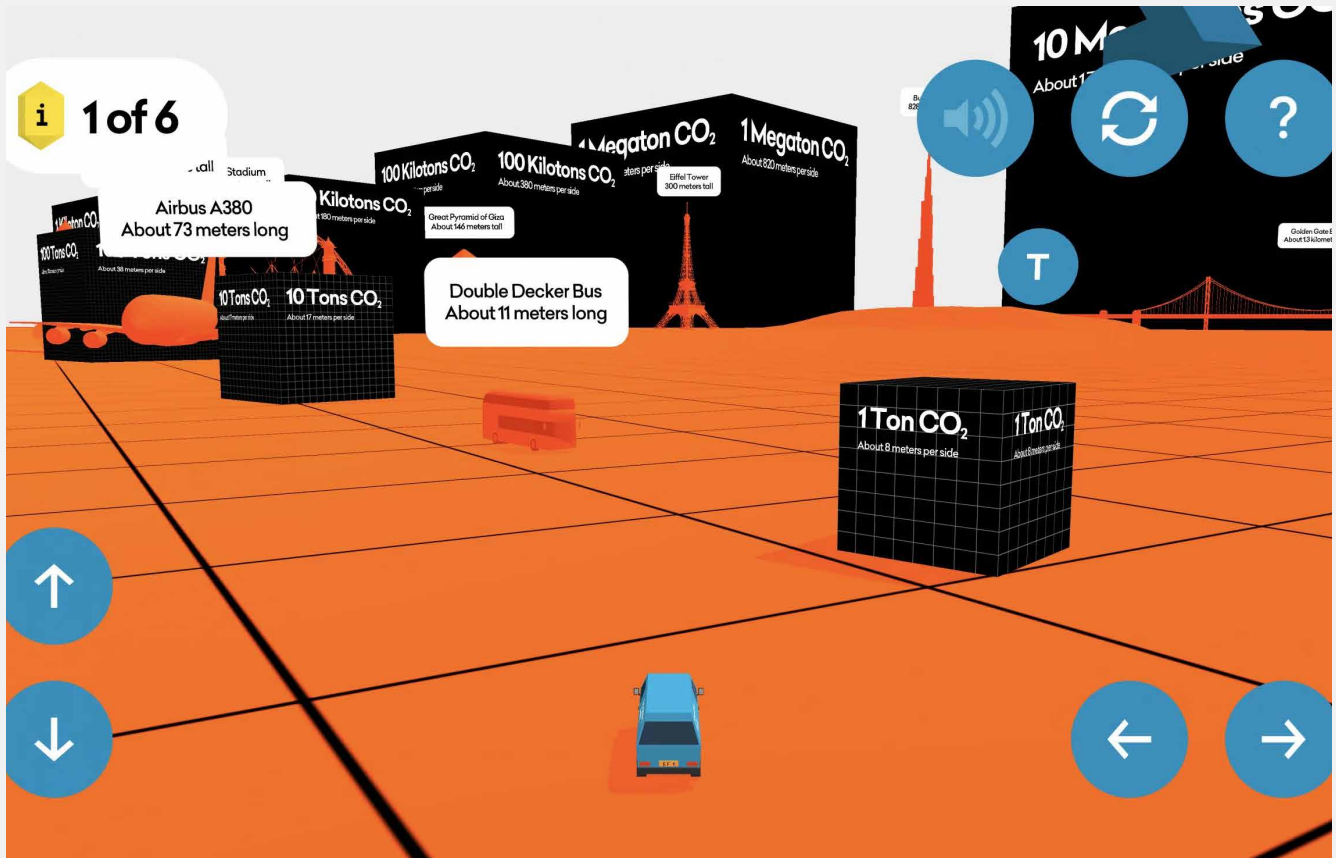
[View the Video](#)



**4: 'Seeing CO2' infographic game, Extraordinary Facility, 2021:**

See tons of CO2 set in contrast to the size of an average car.

Visit Seeing CO2 Project Site



**Project History**

Christopher Craig's 'One Ton CO2 Balloon' idea - as presented in a Toastmasters Climate Change Mitigation CCM speech at the Engineer's Club of Ireland, captured the imagination of TCD Physical Sciences student Eoin McMahon. This led to the foundation of E-CON and its association with TCD and its desire for an outreach climate education center for school trips – lead contact Dr. Marcus Collier, Connecting Nature Coordinator, School of Natural Sciences, TCD.

E-CON's focus to date has been The Dublin Eco Barge, now designed and costed by Prolines Naval Architects, for mooring near the TCD International Innovation Hub in the proposed International Maritime Canal Quarter, both in Grand Canal Dock, Dublin, and/or other international locations. Learn more at [www.e-con.ie](http://www.e-con.ie).



*E-CON's Dublin Eco Barge Design*

A Hydrogen Balloon, 556.2 m<sup>3</sup> capacity, to be stored on and launched from the Dublin Eco Barge was costed by Cameron Balloons, cost €130,000 + VAT. When it was discovered Ireland does not license Hydrogen Balloon pilots, Chris designed the lower cost alternative 'One Ton CO<sub>2</sub> Bamboo Cube' for various possible project locations.

Andrew Holt, a TCD graduate and design student at IADT has been working on E-CON and associated projects to ready them for re-launch in 2024 with the benefit of the international learning from similar projects elsewhere.

E-CON is funded by Hibernicus Projects Ltd. and Andrew Holt Design.



*The Hydrogen Balloon Concept*



*The One Ton CO<sub>2</sub> Bamboo Cube Concept*

## Source Notes

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2. Our World in Data. (2022). *Share of Global CO2 Emissions, 2021*. Available at: <https://ourworldindata.org/explorers/co2?time=latest&facet=none&country=CHN~USA~GBR~IND~RUS~DEU~SWE~NOR~FRA~IRN~IRL&Gas+or+Warming=CO%E2%82%82&Accounting=Production-based&Fuel+or+Land+Use+Change=All+fossil+emissions&Count=Per+country&Relative+to+world+total=true> (Accessed: 14 Nov. 2023).
3. Sargent, N. (6 Nov. 2021). *Analysis: The argument that Ireland is too small to take climate action doesn't hold up*. Available at: <https://www.thejournal.ie/analysis-ireland-pull-climate-weights-5592322-Nov2021/> (Accessed 14 Nov. 2023).

## Image Sources (in order of appearance)

1. Wikimedia. (13 Jun. 2009). *1 Tonne Co2*. Available at: [https://commons.wikimedia.org/wiki/File:1\\_Tonne\\_Co2.JPG](https://commons.wikimedia.org/wiki/File:1_Tonne_Co2.JPG) (Accessed: 19 Nov. 2023).
2. myclimate. (14 Jun. 2018). *X*. Available at: <https://twitter.com/myclimate/status/1007241578455412736> (Accessed: 19 Nov. 2023).
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6. MAHB. (3 Jan. 2023). *Carbon Visuals*. Available at: <https://mahb.stanford.edu/library-item/the-climate-impact-of-your-neighborhood-mapped/attachment/carbon-visuals/> (Accessed: 19 Nov. 2023).
7. Extraordinary Facility. (Jan. 2021). *Seeing CO2*. Available at: <https://www.extraordinaryfacility.com/seeing-co2/> (Accessed: 19 Nov. 2023).