Carbon Enforcement Drone

Context

After years of ignorance, global warming became an immediate danger to the planet causing devastating extreme weather that struck many countries around the world. Those affected began to prioritise environmental sustainability to prevent the disaster from occurring again. As one of the affected regions, Bribie Island has transitioned into the City of Bribie and has become a disciplined society, focused on the health and wellbeing of the natural environment. After many years of following a disciplined lifestyle and displaying unwavering dedication to sustainable living, Bribie has become a bastion of eco-friendly technology and infrastructure.

The city has implemented strict preservation laws that are designed to reduce emissions and mitigate the effects of global warming. The city features a natural sanctuary designed to protect the local flora and fauna while also assisting in the relocation of animals that have lost their habitats from the results of the extreme weather. The city is a hub for many different species to coexist with humans as the city's architecture supports the health and safety of the animals.

The local government has employed the use of technology to enforce the new age of sustainability. Every building on Bribie incorporates eco-conscious designs that minimise carbon emissions and maximises energy efficiency. By embracing clean energy solutions like solar and wind power, the city shuns those that exceed the legal carbon emission limit.

To keep the city free from excess carbon emissions, the local government has looked to a new government service called the Carbon Enforcement Agency (CEA) and has equipped them with the advanced Carbon Enforcement Drone (CED). The CED is an AI-operated aerial surveillance and collection device, designed to roam the city, alerting the CEA if exceeding levels of carbon emissions are found. Once alerted, the CED will hover over the high-emission area and begin collecting the carbon. As this occurs, agents are deployed to the location to investigate the cause of the high level of emissions. After the CED has cleaned the area of excess carbon emissions it will return to the CEA headquarters where the carbon containment tank will be emptied.

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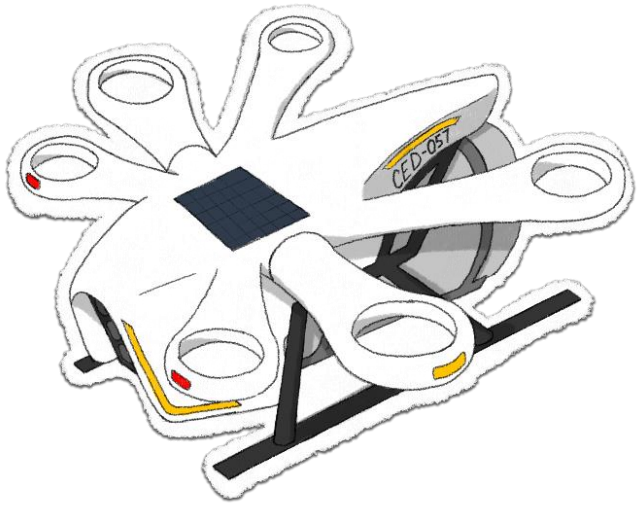
Design Concept

The CED is a large aircraft designed with a sleek appearance carefully to create a non-threatening atmosphere when in the presence of citizens. To ensure visibility and safety during its flight, high-visibility flight strips are present on all sides of the pristine white surface, constructed from lightweight carbon-fibre materials for exceptional durability and maneuverability. The CED features six bladeless propellers that enhance its aerodynamic efficiency while minimising noise pollution. The two center propellers rotate to allow for linear flight. Its large, removable carbon containment tank is discretely integrated into the CED's sleek design and is locked into place by a locking mechanism on either side of the drone. Carbon intake vents are strategically positioned at the front of the design and lead into an internal capture chamber and by using Direct Air Capture technology, the carbon is collected into the containment tank and excess air is released through the air vent on the underside of the CED. Finally, with the incorporation of a solar panel, its energy efficiency is increased allowing it to prolong its flight time.



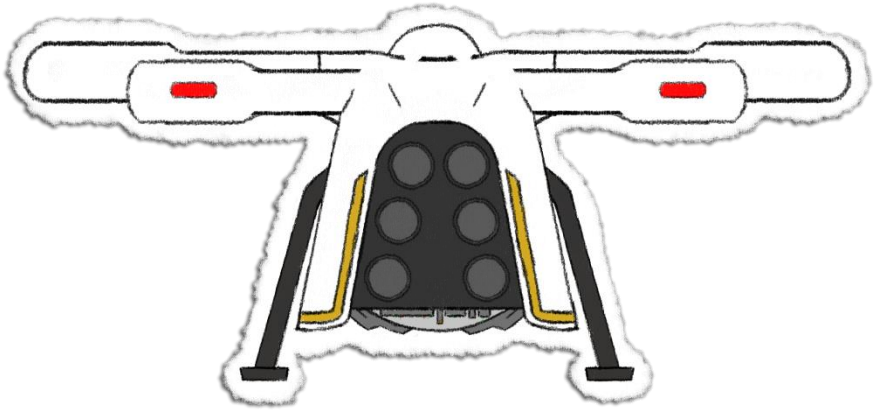
Design Provocation

The CED challenges the status quo by taking a proactive approach to surveying and enforcing the carbon emission limits. The CED intends to address environmental concerns and encourage citizens to engage in sustainable practices by utilising advanced technologies. This innovative design seeks to provoke socio-technical themes of social responsibility, environmental accountability, and technological innovation creating a collective commitment to the protection of the world and its ecosystems. However, the drone itself raises concerns about the ethical implications of using drones for monitoring reasons.

The presence of the CED serves as a visible reminder of the necessity of environmental responsibility, not only for humans but for the well-being of all life on Earth. Its design guarantees that the lives of individuals and the natural behaviour of animals remain undisrupted, whilst operating. However, when citizens encounter the drone, it draws attention to the constant advocacy of carbon emission regulations This generates discussions about environmental stewardship and the importance of protecting the ecosystems that support the residents of Bribie as well as the island sanctuary's diverse animal population.

Within the community, the role of the CED causes discussion about individual and collective responsibility. It urges citizens to take an active role in protecting the environment for the well-being of all life by embracing sustainable practices, reducing dependency on fossil fuels, and minimising the effects of climate change in order to prevent history from repeating.

The CED acts as a catalyst for discussions on the responsible use of technology in environmental protection. The implementation of monitoring technologies on board the drone sparks discussions regarding privacy concerns. By raising these issues, the CED encourages society to critically examine the balance between technological advancement and environmental stewardship. Its design is an emphasis on technological innovation and provokes discussion on the broader application of emerging technologies in promoting sustainability. It sparks debate regarding the role of renewable energy sources and energy-efficient infrastructure in reducing the city's carbon footprint. The advanced design of the CED encourages society to collaborate in order to explore more innovative solutions for a sustainable future as it is a symbol of possibility and progress.



In conclusion, the Carbon Enforcement Drone challenges the status quo by proactively surveying and enforcing carbon emission limits. Acting as a visible reminder of the necessity of environmental responsibility and generating discussion about environmental stewardship and ecosystem protection. The presence of the CED pushes citizens to embrace sustainable practices and minimise their reliance on fossil fuels, sparking debate about individual and collective responsibility. Furthermore, the CED causes ethical concerns regarding the use of drones for monitoring, pushing society to critically examining the balance between technology and environmental stewardship. Overall, the CED provokes discussion about the broader application of emerging technology in promoting sustainability, and it serves as a symbol of possibility and progress toward a more sustainable future.