

Solarpunk Against the Climate Crisis

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Declaration of Originality

This dissertation is submitted by the undersigned to the Institute of Art Design & Technology, Dun Laoghaire in partial fulfilment of the examination for the BA (Honours) 3D Design, Modelmaking & Digital Art. It is entirely the author's own work except where noted and has not been submitted for an award from this or any other educational institution.

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Abstract

Climate change is a massive problem, and though we are making changes to better cope with the evolving problems that it brings, we may not be changing fast enough. While we have the necessary components to achieve what is needed in terms of economy, and technology, there is not enough social pressure against the higher-ups in society who have the power to make the changes necessary. The best way to create that social pressure is through influencing the public, show them that there are methods present and give hope towards a bright future. There is a heavy need for hope today, media is flooded with horror dystopian stories of climate destruction, the news incites fear, and people are giving in to apathy. The need for stories that inspire hope is apparent, as the need to visualise a hopeful future, and that's where solarpunk comes into the picture. Solarpunk is a genre of climate fiction that was thought up in 2012 and quickly evolved from an idea to a genre of writing, then to an art movement, to a social revolution. There are interesting and diverse ways of life shown throughout the genre, including an earth-focused nation in *Ecotopia*, nanotech solar tattoos in *Sun in the Heart*, and more realistic things like the high-altitude wind farms that are in many solarpunk paintings and illustrations. Technologies like high-altitude wind farms, solar-energy stained glass windows and zero-emission travel all are in development and currently exist. Solarpunk gives an artistic life to this technology, it advertises them to the public making them sell, making them profitable, which currently is the only driving force for mass change. Profit drives change in today's capitalist economy, and harmful energies yield more profit right now than clean renewable which is the reason change is so difficult right. Solarpunk has a variety of philosophies and technologies that society can take inspiration from

and implement in order to meet the requirements needed to overcome the climate crisis and create a rich, sustainable, and colourful future.

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Introduction

The climate crisis is a looming danger and needs to be taken incredibly seriously. We are in an era of information; media and stories are accessible in copious amounts.

Yet the amount of art and stories depicting a hopeful and prosperous future compared to dystopian, is not only discouraging, but a clear sign of our apathy, or a rather pessimistic view towards the future of our planet. Despite our clearly defeatist view on our current circumstances, a small genre of science fiction exists to inspire hope into the viewers that this doesn't have to be the case, and if given the proper weight, could inspire the masses to take a stand against the dystopian path we romanticise. Solarpunk; the genre in question, is a literary and artistic climate-fiction that focuses on sustainability, community, generativity, and creativity to depict a sustainable future and inspire a more optimistic perspective of our potential impact on the environment. Solarpunk began as a genre of science-fiction in writing, but has quickly reached far beyond the realm of text and stories and into visual and physical forms, from the visualisation of cities, fashion, and technological advancements, to a full-fledged movement of people changing their own lives and daily routines to help this vision come to fruition. There's a community of people who truly see the solarpunk genre as a possible solution to our current problems. They have come together in festivals, conventions and even forum pages to explore and learn about their hopeful views and visions and continue to expand on the genre as a whole. The community consists of optimistic members who hope that the future sees society take on the anti-capitalist, communitarian and agrarian ideologies explored in many of the solarpunk stories. For example, the solarpunk community on Reddit counts over 100,000 members who discuss actionable procedures, technological breakthroughs

and policies that are in line with the movements ideals, as well sharing their own art¹.

We have the necessary technology to tackle the dangers of climate change and help limit the rise of global temperature and eventually, lower the temperature to pre-industrial levels. The organisation Carbon Tracker put out a report in 2021 that showed current technology could produce 100 times as much electricity from solar and wind than our current global demand. The report concludes:

"The technical and economic barriers have been crossed and the only impediment to change is political."²

The most powerful way to enact change is in the hands of the people, and one of the strongest ways to influence the people is through art. The required technology is available, in order to make them accessible we need artists to both advertise to the masses, influence the need for change, and create ways to integrate the technology into daily life. The solarpunk genre presents ideas and inspirations to combat some of the aspects we need to tackle in pursuit of climate conservation. From the governing politics of Ernest Callenbach's *Ecotopia*, to the plethora of sci-fi technologies in the *Sunvault* and *Solarpunk Seasons* anthologies, solarpunk gives us a reason and a blueprint for what comes next. This thesis aims to bring solarpunk to light and display some of the technologies we have/are developing that chime with solarpunk ideals as well as technologies from solarpunk fiction that are somewhat grounded in realism. It aims to list solarpunk characteristics and what makes the genre unique, especially in comparison to its better-known sister genres of steampunk and cyberpunk. The main sources used in this paper include Mediums *Solarpunk: A*

¹ "R/Solarpunk." *Reddit* <https://www.reddit.com/r/solarpunk/>. Accessed 16 Feb. 2023.

² Carbon Tracker. "The Sky's the Limit: Solar and Wind Energy Potential." *Carbon Tracker Initiative*, 15 Feb. 2022, <https://carbontracker.org/reports/the-skys-the-limit-solar-wind/>. Accessed 16 Feb. 2023.

Reference Guide which acts as a compilation of events and sources in the solarpunk timeline, Ernest Callenbach's *Ecotopia*, Juan Reina-Rozo's *Art, Energy, and technology: the Solarpunk Movement* from the International Journal of Engineering, Social Justice, and Peace, as well as academic journals and reports on upcoming developments in technologies.

Chapter One: What is Solarpunk?

Solarpunk is a literary genre, visual aesthetic, art movement and socio-environmental rebellion. It is a movement that envisions a better future and constructs operational strategies to attain it.

“At its core, Solarpunk is a vision of a future that embodies the best of what humanity can achieve; a post-scarcity, post-hierarchy, post-capitalist world where humanity sees itself as part of nature and clean energy replaces fossil fuels.”³

This is the third statement given in the *Solarpunk Manifesto*, a community-made book of values that solarpunks follow. The *Manifesto* explains the motives and ideals behind the movement. To live life alongside nature as opposed to against it. The *Solarpunk Manifesto* acts as a guide to Solarpunk for writers, artists, and practitioners to follow for them to do justice to the genre/movement.

³ “A Solarpunk Manifesto.” *Regenerative Design*, 2014 <https://www.re-des.org/a-solarpunk-manifesto/>, Statement 3



Fig. 1 Illustrated cover of the anthology *Multispecies Cities: Solarpunk Urban Futures*

Adam Flynn's "Solarpunk: Notes toward a manifesto" was one of the main inspirations for the written manifesto.⁴ He wrote this blog as how he envisioned the movement would push the future forward toward an ecotopia and the steps he saw needed to be taken to realistically achieve it. The term ecotopia was first coined by Ernest Callenbach in his 1975 novel by the same name. Ecotopia refers to a utopian state of society that is ideal or perfect in both an environmental and societal sense. Utopias have a fictitious character and contain representations or views that are not based on reality. They do not report on reality but are based on invented elements and are usually moulded in the form of a story. In the eyes of an ecological utopia, abundance of material products does not create happiness and perfection is not compatible with excess.

⁴ Flynn, Adam. "Solarpunk: Notes toward a Manifesto." *Project Hieroglyph*. 2014, <http://hieroglyph.asu.edu/2014/09/solarpunk-notes-toward-a-manifesto/>

Ecotopia is an incredibly influential novel for solarpunk culture and the green movement.⁵ The novel is set in Ecotopia, a state founded through the merging of northern California, Washington and Oregon after they seceded from the “Union.” The story follows William Weston, the first ever American visitor 20 years after the founding of Ecotopia. Although sceptical, Weston aims to report all his findings objectively, observing the differences in governing that the state enforces. He shares opinions on Ecotopia's laws to enforce the earth-friendly agenda which include; energy-efficient mini-cities to eliminate urban sprawl, zero-tolerance pollution control, tree worship similar to old paganism, ritual war games as a form of sporting entertainment and a woman dominated government. The government also instituted many peaceful revolutions and worker rights changes in comparison to the Union, such as the twenty-hour work week and encouraging employee ownership of farms and businesses. These laws and policies are some that are discussed within the solarpunk community as being changing points in the pursuit of a more realistic, hopeful future. Having self-sufficient cities cuts out the need and cost of a national grid and gives power generation to the community as opposed to being commercially owned. Compact cities produce fewer emissions as they tend to have a better public transport infrastructure, greater energy efficiency and allow for more green spaces. People in sprawling cities have further to travel to access work and public amenities, with this comes significant traffic congestion and increased air pollution.

“The New Climate Economy finds that compact growth, as opposed to urban sprawl, can generate \$7 trillion in economic savings between now and 2050.

⁵ Norton-Kerston, Justine. “The Solarpunk Future: Five Essential Works of Climate-Forward Fiction.” *Tor.com*, 30 Sep. 2021, <https://www.tor.com/2021/09/30/the-solarpunk-future-five-essential-works-of-climate-forward-fiction/> line 29

In fact, bold climate action overall—including low-carbon growth in cities—can yield at least \$26 trillion in economic benefits between now and 2030.”⁶

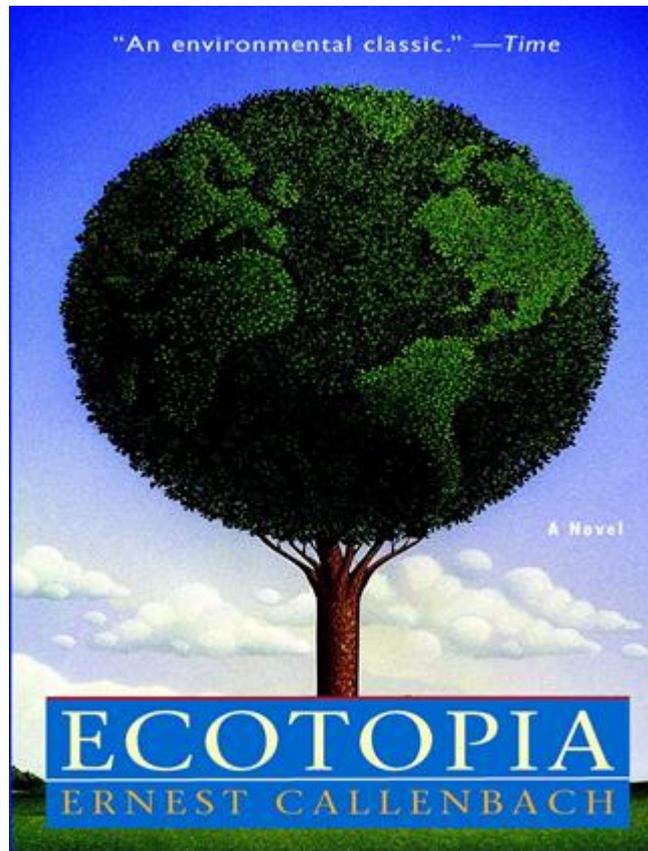


Fig. 2 Illustrated cover of Ecotopia by Ernest Callenbach

“Solarpunk is about finding ways to make life more wonderful for us right now, and more importantly for the generations that follow us”⁷, a sentiment that all solarpunks share. Solarpunk aims to extend human life on a species level through genetic engineering, and lessening stress through an abundance of nature and automation as opposed to the likes of cyberpunk, wherein human life is extended on an individual basis through technology, virtual reality, cyberspace, and cybernetic modification.

⁶ Haddaoui, Catlyne. “Cities Can Save \$17 Trillion by Preventing Urban Sprawl.” *World Resources Institute*. 15 Nov. 2018, <https://www.wri.org/insights/cities-can-save-17-trillion-preventing-urban-sprawl>

⁷ “A Solarpunk Manifesto.” *Regenerative Design*, 2014 <https://www.re-des.org/a-solarpunk-manifesto/>, Statement 10

Through the solarpunk genre, futurism is not nihilistic like cyberpunk, or fantastical like steampunk, it is obtainable: it is about efficiency, ingenuity, community, and generativity.⁸

“Solarpunk draws on the ideal of Jefferson’s yeoman farmer, Gandhi’s ideal of swadeshi and subsequent Salt March, along with countless other traditions of innovative dissent.”⁹

Satyagraha, a non-violent demonstration of resistance, is an ideal shared by solarpunks that is drawn from Mahatma Gandhi’s swadeshi movement, a self-sufficiency movement that contributed to his succession in the development of Indian nationalism. Solarpunk is drawn to satyagraha as it is a non-destructive, non-violent but firm and proud demonstration of resistance or revolt that has been used directly and indirectly throughout history, one indirect instance being the American Civil Movement to abolish racial segregation, discrimination, and disenfranchisement throughout the United States in the 1950’s.

The term solarpunk was initially created in 2008 by an anonymous author of the Republic of Bees blog¹⁰ wherein the author shared their fascination with a prototype German hybrid fuel/sail cargo ship named the Beluga Skysail, though the premise of solarpunk has existed in media since the golden age of sci-fi (1930-1970).¹¹ The ship

⁸ Williams, Rhys. “Solarpunk: Against a Shitty Future.” *Los Angeles Review of books*, Mar. 2018, <https://lareviewofbooks.org/article/solarpunk-against-a-shitty-future/> Line 44

⁹ Flynn, Adam. “Solarpunk: Notes toward a Manifesto.” *Hieroglyph*, 4 Sept. 2014, <https://hieroglyph.asu.edu/2014/09/solarpunk-notes-toward-a-manifesto/>

¹⁰ “From Steampunk to Solarpunk.” *Republic of the Bees Blog*, 27 May 2008, <https://republicofthebees.wordpress.com/2008/05/27/from-steampunk-to-solarpunk/> Line 19

¹¹ Norton-Kerston, Justine. “The Solarpunk Future: Five Essential Works of Climate-Forward Fiction.” *Tor.com*, 30 September 2021, <https://www.tor.com/2021/09/30/the-solarpunk-future-five-essential-works-of-climate-forward-fiction/>. line 27. Date Accessed 30 Nov. 2022

gave the author inspiration for a steampunk alternative fiction where technology is more inspired by modern and near future technology as opposed to Victorian mechanics like the Difference Engine and steam-power. In a solarpunk setting the world uses renewable energies like solar, wind, water, and bioenergy to generate the required global energy, as opposed to steampunk's approach of steam power or like the modern-day reliance on fossil fuels. The use of renewables brings older technologies back into the limelight such as wind-sail and watermills to help produce electricity on a global scale, but through means not yet implemented into today's society, such as high-altitude wind farms, orbital solar stations, geothermal power plants, and large-scale solar farms.

The question still stands, what makes solarpunk unique? The best way to answer this is to break it down. The solar in solarpunk refers to the use of renewable sources for global energy production; solar, wind, water and geothermal (nuclear energy in the form of nuclear fusion is also a debated source of energy in the solarpunk community as it is far cleaner than nuclear fission, just still early development at the time of writing). As well as this, solar also refers to the brightness and optimism the genre promotes, with its bright colours, focus on community, and reliance on the symbiotic relationship between humanity and nature, both in a visual and philosophical aspect. Solar is the light of day, a juxtaposition to the rainy, claustrophobic post-urban sceneries of the dystopian cyberpunk setting. In cyberpunk, nature is rarely seen through the dank cityscapes of concrete, steel and neon. Technology in a cyberpunk setting, like CD Projekt Red's game *Cyberpunk 2077* or Phillip K. Dick's novel *Do Androids Dream of Electric Sheep* and its film-adaptation of *Blade Runner*, is seen as

inhumane and cold, whereas in a solarpunk setting technology is bright and beautiful, as shown in The Lines' *Dear Alice*, and technology like robots and drones are seen playing with children, being seen and treated as part of the community. The punk in solarpunk is about rebellion, counterculture, post-capitalism, de-colonialism, and enthusiasm. It is about going in a different direction than the mainstream, which is full of nihilism and contempt to the growing problem of global warming and the danger that follows, making the movement vastly different from the modern-day reliance on media and capital. The punk is there to outline the opposition that begins with infrastructure as a form of resistance. In order to steer away from the nihilistic path society is heading towards, changes need to be made in many aspects of the current infrastructure of society; energy, transport, emissions, how we see and treat nature, capital greed. Solarpunk is sometimes depicted as a utopian fiction, though this goes against the punk nature of the movement as a utopia is, by definition, anti-punk. A utopia is perfect, and with perfection there is no need nor motive to challenge the status quo which is what punk is all about. A good solarpunk setting is one that is progressing toward a utopia, one that still houses imperfections and contradiction through policies, moral uncertainties, and necessary pollution in the process of creating a utopia.

Solarpunk is not only a genre used in books and media, but it also acts as an ecological rebellion, an uprising of hope against the daily despair that these times bring. It works as a countercultural rebellion to diverge from literary pessimism, seen most frequently in cyberpunk works, in a way to show how the future can be brighter than the present. As the aesthetic grew, it reached out of the realm of art and literature to become a genuine philosophical and activist movement. There has been

an outburst of “Guerrilla Gardening” across the globe where solarpunks and permaculture pioneers use seed bombs and create gardens on abandoned and uncared for urban areas as a form of protest or direct action to provoke environmental change.



Fig. 3 Eco-Seed Bomb Bag, seedbomb.ie

A well-known practitioner of guerrilla gardening in the solarpunk community is a man named Adam Purple. In the mid-1970s he built and tended to his own Garden of Eden. He created this community garden/farm out of an abandoned lot in the poor Lower East side of Manhattan. Over the course of 10 years, he cultivated a massive free-to-use farm containing a wide range of crops such as corn and tomatoes, a fruit orchard, as well as berry bushes that scaled the walls of a neighbouring housing complex. Purple would haul debris and building materials away from the site himself, while also collecting horse manure from Central Park to bring to the garden by himself.



Fig.4 Children playing in the rubble of a demolished apartment complex inc. Adam Purple

Purple began this 10-year project after seeing his neighbours' children out playing in a pile of rubble. He remembered his childhood playing in the woods of Missouri and believed that those kids deserved more than a dirty, dangerous, debris-filled play area and very shortly after began creating his garden. Though this garden provided food for many poor families in the area, its lifetime was sadly cut short. The city of New York never officially recognised Purple's garden, the Garden of Eden space was always labelled as vacant by them and, despite pleas from the community, the entire garden was razed with bulldozers. On January 8, 1986, 5 hard years of exhausting work to create a gorgeous 15000 square feet garden, farm, and safe space for an entire community was destroyed in a mere 75 minutes to make way for residential development.

1976



1978





Fig. 5 Timelapse of the Development of Adam Purple's Garden of Eden

Solarpunk calls for societal change to implement the large-scale decisions needed to pull humanity away from the climate crisis, leaving behind the greed-driven competitive capitalist views of today's society in favour of a community-focused society, with intentional communities or trading-focused civilisations more akin to socialism than capitalism.

Solarpunk-inspired events continuously pop up around the world, increasingly so in the face of the rising threats of climate change. There are several events where community members gather to share art, music, technologies, and ideas including the Solarpunk Summit, which takes place yearly in October in Austin, Texas. This shows the genre can bring people together, and if given a bigger audience, has the potential to influence cultural change on a large scale.

There are two common visions of the future in popular culture and future-fiction. One is a stale, grey, heartless utopia, devoid of human character or charm, sprawling with glass and steel mega-structures and futuristic technologies and transportation, a

monoculture of perfect lines, whose only personality is being sleek, clean, and having perfect order. In its own eyes it is the peak of human production, the product of complete order and perfection. Whereas the other is a dystopia, where cities are overcrowded and filthy, or in complete ruins, controlled by a totalitarian state or mega corporations. Neither of these options appear appealing: controlled, heartless utopia or a broken, merciless dystopia.

The thing that makes solarpunk stand out amongst other punk-fiction and future-fiction is its focus on art, generativity, and the integration of nature into society. Where cyberpunk explores self-expression through body modification and artificial evolution, solarpunk embraces the natural form and encourages people's self-expression to flow through art and music, as technology is built to give humanity the chance to be as creative as possible, not having to worry about working to make a living through a capitalistic society.

Though solarpunk never had a particular political ideology, it has been embraced by libertarian ideologies of all kinds, such as post-civilization anarchism, social ecologists, and green socialists. The philosophy of solarpunk and the politics of anarchism were practically made for each other, anarchism emphasises personal freedom and collective liberation from hierarchies, authoritarianism, and exploitation. It seeks common ownership, voluntary cooperation, horizontal organisation, and mutual aid. Anarchism has often been ahead of its time on many political issues, from LGBTIQ and women's liberation and it has been proved that ecology has been no different as seen from subgenres of anarchy such as green anarchism and vegan-anarchism. Anarchism and solarpunk are complementary as both tend to explore the possibilities of liberatory technology, the localization of

production, equal rights for all living beings, an end for wasteful and destructive production, and a reorientation of our relationship with nature, work, technology, and ourselves. Solarpunk's political ideology also takes heavy inspiration from social ecology. Social ecologists imply that the present ecological crisis has its roots in human social problems, and that the domination of human-over-nature stems from the domination of human-over-human. Solarpunk aims to remove the human-over-human social hierarchy through vegan-anarchism, which encompasses viewing the state as unnecessary and harmful to animals, both human and non-human and creating a common equality for all living beings. Vegan-anarchists view social obstacles within society to be interconnected, from racism, sexism, and statism to human supremacy. One aspect that makes solarpunk especially unique in contrast to cyberpunk and steampunk is its openness to spirituality. Solarpunk has a generally positive outlook on spirituality, and an inclusive outlook too. Solarpunk emphasises equality in all aspects of life.

Chapter Two: Solarpunk in Visual Media

Solarpunk takes a whole different approach in future world building, focusing on community, the arts, and renewable energies. Creativity and nature drive the solarpunk world and the aesthetic is constantly evolving. The visual aesthetics of the genre include cities bursting with vegetation, radical designs for renewable energy infrastructures and solutions to the struggle of ensuring a thriving, sustainable future for the planet.



Fig.6 “Unnamed” by Imperial Boy (Teikoku Shōnen) Source

The genre is a healthy and vibrant vision of a future world full of greenery and sustainability. As written in proposal eighteen of the *Solarpunk Manifesto*,

“The visual aesthetics of Solarpunk are open and evolving. As it stands, it is a mash-up of the following:

- 1800s age-of-sail/frontier living (but with more bicycles)
- Creative reuse of existing infrastructure (sometimes post-apocalyptic, sometimes present-weird)
- Appropriate technology
- Art Nouveau
- Hayao Miyazaki
- Jugaad-style innovation from the non-Western world

- High-tech backends with simple, elegant outputs.”¹²

Hayao Miyazaki’s work is an incredible example of the visual and philosophical tropes and values of the solarpunk (as well as steampunk) genre, specifically in his works *Laputa: Castle in the Sky* and *Nausicaä of the Valley of the Wind*. The 1986 movie *Laputa: Castle in the Sky* is Miyazaki's third movie, which takes heavy inspiration from one of the chapters in the 1726 book *Gulliver's Travels*. The movie follows Sheeta, the heir to the throne of the mythical city Laputa, and Pazu, an orphaned miner who stumbles across Sheeta as she falls from the sky, protected by her magical amulet. The film also features a rich cast of colourful characters, such as the sky-pirates that later take in the protagonists on their search for Laputa, and the inhabitants of the chasm mining town in which Pazu lives. The film also boasts a rich array of interesting and nature-esque technology, a trope largely used in solarpunk art and literature. A large amount of the film takes place on the Tiger Moth and the Air Destroyer Behemoth airships, owned by the Sky-Pirates and the unnamed government/army forces respectively.

¹² “A Solarpunk Manifesto,” *Regenerative Design*, 2014 <https://www.re-des.org/a-solarpunk-manifesto/>. Proposal 18. Accessed 12 Nov. 2022

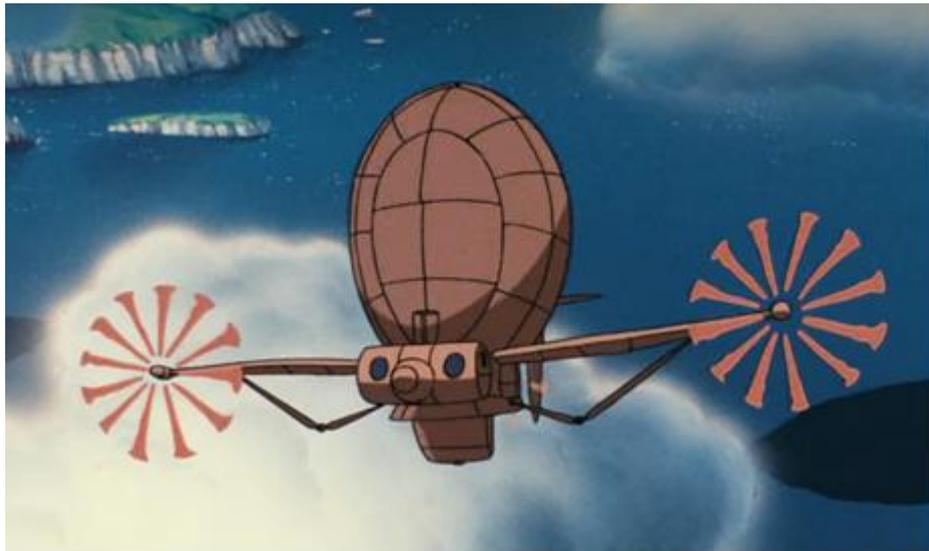


Fig. 7 Tiger Moth Airship, home of Dola's gang (sky pirates), Studio Ghibli's Castle in the Sky

The Tiger Moth is the airship owned by Dola's pirate gang, which is a blimp-like airship constructed from metal, wood, and fabric. It has the appearance of a bird and takes its name from the garden tiger moth. The airship contains a crow's nest that can disconnect to become a kite, and a hanger which holds four Flaptors, a smaller and more nimble aircraft used for scouting, raiding, and releasing smoke to help with evasion and escape against enemies.



Fig. 8 Flaptor Scout aircraft used by the Sky Pirates, Studio Ghibli's Castle in the Sky



Fig. 9 Flaptor Scout Aircraft releasing smokescreens to flee, Studio Ghibli's Castle in the Sky

The latter part of the movie takes place on Laputa, a stunning floating island that hosted an ancient kingdom that dominated the world prehistory. The island was no more than just a myth to most people, but was once seen by Pazu's father, who was able to get a photograph and spent the rest of his life to search for it again until his death prior to when the movie takes place. Sheeta is a descendant of the Laputan royal family. We find out in the climax of the movie that the main antagonist, Colonel Muska, is biologically related to her and a descendant of the royal line of Laputa and seeks to weaponize Laputa and its advanced technology to become king and dominate the world.



Fig. 10 Laputa, an abandoned ancient civilisation, Studio Ghibli's Castle in the Sky

Laputa is a massive floating island that is completely self-sustainable, with a massive greenhouse in the centre and farms, rivers, and these round-apartment style buildings. Laputa is tended to by robots as the inhabitants have long since passed away. The world the movie is set in can be related to the steampunk genre with the technology used by the characters up until we come across Laputa, which was a haven for nature and humans in its prime, drawing strongly from the solarpunk genre. The conflict of Castle in the Sky stems from the goals of the three main groups, all of which share the goal of finding Laputa for distinct reasons, The protagonists, Pazu and Sheeta, wish to find Laputa out of curiosity and legacy, Pazu is determined to finish his father's research and to prove wrong everyone who doubted him, and Sheeta wants to learn more about her culture and to realise her grandmother's stories, which can be related to solarpunk ideals. Muska wants to use the advanced technology of Laputa to weaponize Laputa and recreate the hegemony of the old nation with him as king, an imperialist ideal that directly contrasts with the solarpunk ideology. Dola and her pirate clan seek Laputa purely out of greed and to claim the vaults of ancient treasure the city holds for themselves, ironically being the only group to succeed in their goals as they loot much of the treasure before the destruction of the island.

The aesthetics of the home locations for the three groups is a nod to the personalities of the characters, Pazu is from a mining town built into a valley surrounded by lush hills. Although its people are visually poor in a material sense, they are all still full of vitality and care which shows through Pazu's hardworking but fun nature.



Fig. 11 Overhead view of Slag Ravine, Pazu's home, Studio Ghibli's Castle in the Sky

The opposite can be said for Muska though. The dull and rustic browns, greys, and an aura of aggressive uniformity of Tedis, the coastal military fort town in which the army resides, shows through in Muska's strict, selfish, and uncaring personality, his hatred of plant-life in Laputa can also be linked to the lack of vegetation in the fort.

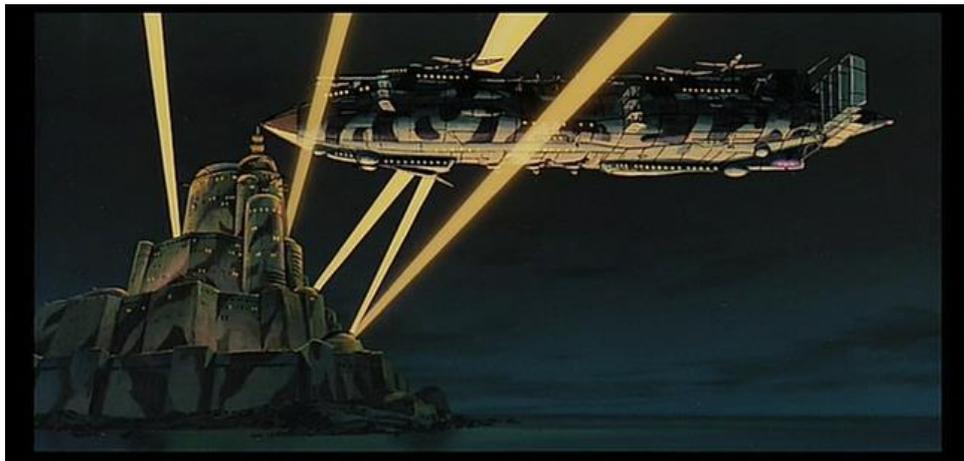


Fig. 12 Tedis, the military outpost-town Muska's army resides, Studio Ghibli's Castle in the Sky

While the film's overall ecological message is somewhat hidden, once realised it has a remarkably mature philosophy for a more-so child-centric movie. The clash of philosophies is a notable example of conflicts that fit the solarpunk genre, making links to the fight against militarism, tyranny, capitol greed, and the eventual ecocide that occurs with the destruction of Laputa. Miyazaki has a plethora of stories that follow a similar, and in most cases a deeper and more complex, plot that uses the

relationship between humanity and the natural world, and how technology tends to draw us to destroy and/or tame nature to further progress, and how nature fights back against technology.

Nausicaa of the Valley of the Wind is Miyazaki's first big film, released in 1984, which takes the triad relationship of humanity, nature, and technology very literally. Our titular protagonist Nausicaa lives in a lush and verdant valley village where resides an ecologically responsible community that lives comfortably with renewable clean technologies as well as in peace with the Ohmu, a giant insectoid race that roam the toxic wastelands the rest of the planet has become.



Fig. 13 Overhead view of the Valley of the Wind, Studio Ghibli's *Nausicaa of the Valley of the Wind*

The environmental collapse and eventual creation of the Ohmu and the "Sea of Decay" is implied to be the result of nuclear war rather than a natural ecological collapse, which could have been influenced by the Cold War that was happening during the film's creation. It can be said that if the movie was made today the film just as well could have the implied nuclear war replaced with human-driven ecological-destruction (climate change) without any noticeable difference. The Valley of the Wind is the ideal solarpunk rural village, self-sustaining, lush and with a big emphasis on community and nature. The plot follows Nausicaa, a young

princess of the Valley of the Wind as she forages in the Sea of Decay in search of resources to help her village and eventually finds herself as an intermediary between the various warring states which live around the small amounts of habitable land on the Earth. The militaristic state of Tolbekia seek out a weapon of the Old World to destroy the Sea of Decay and return the Earth to humanity but Nausicaä is determined to find a peaceful solution.



Fig. 14 Nausicaä comes across an Ohmu shell in the Sea of Decay, Studio Ghibli's Nausicaä of the Valley of the Wind

In the middle of the film, we learn that the poisonous Sea of Decay acts as a century-long process to heal the world's pollution and corruption after it had become too polluted, as below the surface layers of the forest lies layers of vast crystal chasms, where the poisons of the miasma have become harmless, sterile crystals that form a kind of primordial sand. These layers are named the Vaults and both the air, and the water is pure. Knowing this we as the audience sympathise with the corruption and Nausicaä's people, who wish to not harm the Sea of Decay, as doing so will cause a tidal wave of Ohms to rampage across the earth, ultimately spreading more of the corruption after their deaths.



Fig. 15 The ceiling of the Vault layer that allows matter purified by the Sea of Decay to sift through, Studio Ghibli's Nausicaa of the Valley of the Wind



Fig. 16 Purified sand falling through the ceiling of the Vault, Studio Ghibli's Nausicaa of the Valley of the Wind

At the end of the film Nausicaa puts her life at risk to play peacemaker between the militaristic human factions and the fungal Ohmu and ends the war. The Ohmu return to the Sea of Decay, the Old-World weapon is destroyed, and the people of the Valley return to rebuild their village. We are left at the end of the credits with this gorgeous image that shows the true reason of the fungus and how Nausicaa had impacted the future of the world, as we see a plant sprout from the sand of the Vault next to Nausicaa's headdress. This film holds a message about ecological awareness that is more vital now than ever before.

“Described as a manifesto of ‘radical ecological ethics’ by Thomas Giddens in *Law and Justice in Japanese Popular Culture: From Crime Fighting Robots*

to Duelling Pocket Monsters, Hayao Miyazaki's film calls for humankind to find a way to coexist with the natural world in a balanced and sustainable way."¹³



Fig. 17 End credit scene showing the vaults as creating life, Studio Ghibli's *Nausicaa of the Valley of the Wind*

Studio Ghibli's *Nausicaa of the Valley of the Wind* is the quintessential solarpunk movie, with a selfless and nature loving hero and a dangerous world threat that resonates with our current ecological crisis. The film explores an optimistic story of cohabitation with nature and the peaceful and successful opposition against militaristic authoritarianism.

“By envisioning a tale of ecological awareness and pacifism, Miyazaki created a hero who can exercise compassion as much as she can wield a firm hand on whoever threatens to thread over nature to regain their status. In between these two forces, Nausicaa finds her strength, and with that she shines as the Earth's saviour.”¹⁴

¹³ Scateni, Ren. “In this age of ecological crisis, Nausicaa’s message is more vital than ever.” *Little White Lies*, 25 Nov. 2019 <https://lwlies.com/articles/nausicaa-of-the-valley-of-the-wind-studio-ghibli-ecological-message/> Line 36

¹⁴ Scateni, Ren. “In this age of ecological crisis, Nausicaa’s message is more vital than ever.” *Little White Lies*, 25 Nov. 2019 <https://lwlies.com/articles/nausicaa-of-the-valley-of-the-wind-studio-ghibli-ecological-message/> Line 64

A recent addition to the visual solarpunk repertoire that has seeped its way into popular culture comes from an advertisement for Chobani Yogurt named *Dear Alice* by the London based animation studio The Line.



Fig. 18 Large blimp turbines and solar panels power houses and neighbourhoods

Dear Alice is a beautifully animated vibrant reimagining of our agricultural future, teeming with colours and clean technologies. Floating wind turbines, ivy-laden solar panels, fruit picking robots and cloud generating sprinklers are shown, but despite the impressive catalogue of advanced technologies, the entire setting – bursting with vegetation, cheerful characters, and picturesque agrarian meadows – feels incredibly human and grounded.

The short shows a utopia that is not one addicted to the perfection of technological advancement and clean sleek concrete jungles, but one that is lush, full of life, and builds on top of the chaotic imperfections and beauty of nature, a solarpunk haven.



Fig. 19 A city bustling with greenery and vertical garden/office buildings.

The architecture shown remains as a traditional American farmhouse style with the addition of a two-story barn that also functions as a greenhouse. In the distance we see sprawling solar farms that weave through farmland leading toward a tall, sleek city with skyscrapers bustling with greenery and vertical farms.



Fig. 20 A Cow using the shade from a solar panel to avoid heat stroke.

The Line did an incredible job highlighting the community and technology solarpunks wish to pursue, though the cloud creating sprinkler technology is a bit far-fetched, it really emphasises many of the proposals given in the *Solarpunk Manifesto*, notably proposal 15:

“Solarpunk is about youth maker culture, local solutions, local energy grids, ways of creating autonomous functioning systems. It is about loving the world”¹⁵ and proposal twenty,

“Solarpunk envisions a built environment creatively adapted for solar gain, amongst other things, using different technologies. The objective is to promote self-sufficiency and living within natural limits.”¹⁶



Fig. 21 Cloud condensing irrigation for watering berry crops

One of the real beauties of this animation is that, as an advertisement, it is part of popular media and seeing something so perfectly influenced by and true to solarpunk in popular media shows that some companies are genuinely interested in a healthy future and potential ecological rebellion in a non-greenwashing way, and that brands as big as Chobani are happy to spread the visions that solarpunks have for the world, and to spread the ideology and genre as a whole.

¹⁵ A Solarpunk Manifesto, Regenerative Design, 2014 <https://www.re-des.org/a-solarpunk-manifesto/> Proposal 15

¹⁶ A Solarpunk Manifesto, Regenerative Design, 2014 <https://www.re-des.org/a-solarpunk-manifesto/> Proposal 20



Fig. 22 Machine picks peaches for a communal food bin

Chapter Three: Solarpunk Reality

Solarpunk is recognisable through its beautiful, lush cities and cool futuristic technologies, but not all technologies and architectures shown within the genre are purely fictional, or unrealistic. In the modern day we see glass everywhere, from our cell phones to the windows of skyscrapers. There is an estimated area of 5-7 Billion square metres of glass surfaces in the US.¹⁷ Michigan State University is pioneering research into transparent solar cells, led by Richard Lunt, the Johansen Crosby Endowed Associate Professor of Chemical Engineering and Material Science. Lunt claims that the transparent solar cells, if used on the estimated area of glass in the US mentioned above, has the potential of supplying 40% of the energy demand of the US, which is about the same output as rooftop solar units. Paired together both have the potential to supply almost 90% of the US energy demand. Transparent solar glass has the potential to turn skyscrapers into solar farms which in a solarpunk world is preferred as it preaches self-generativity and excess energy created can go back to the communal solar grid or be stored.

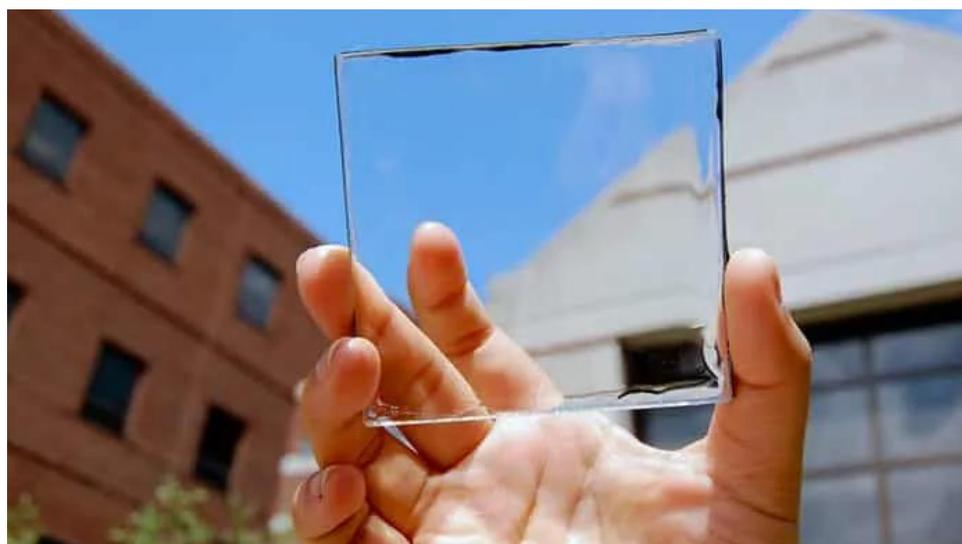


Fig. 23 Transparent Solar Glass, photo by Richard Lunt, MSU

¹⁷ Lunt, Richard. "Transparent Solar Technology Represents 'Wave of the Future.'" *MSU Today*, 23 October 2017, <https://msutoday.msu.edu/news/2017/transparent-solar-technology-represents-wave-of-the-future> Line 26

The setback of transparent solar glass is the current efficiency, where mainstream crystalline photovoltaics have an energy conversion efficiency of 30-40%, transparent solar glass struggles to hit the 10% efficiency mark. If transparent solar photovoltaic glass was less expensive, we would be able to make up for the less efficient conversion with a much higher surface area as for skyscrapers, there is a massive difference in the glass surface area that could generate energy in comparison to rooftop solar panels, though as mentioned having both rooftop solar as well as solar glass would generate a huge amount of energy that could feed into buildings in the block surrounding of the skyscraper.¹⁸ The more efficient the energy output, the less transparent the glass. But MSU has made incredible progress since the beginning of their research. In 2014 MSU's 80% transparent solar panels had an energy conversion rate of less than 1%, but in 2021 they had increased this to just over 10% conversion. Within the next few decades there is potential for this to increase more. The solar glass used in MSU is supplied by Ubiquitous Energy, founded by Lunt himself. These solar cells work by harvesting energy from infrared and ultraviolet light while letting visible light through. It does this by using total internal reflection to bounce the UV/IR light towards converters that lie along the rim of the window.¹⁹ The transparent solar coating is made from light-absorbing dyes sourced from non-toxic, earth abundant materials, like pigments found in fabrics and paints.

¹⁸ Aouf, Rima S. "Ubiquitous Energy to make transparent solar windows a global standard." *Dezeen*, 16 September 2022, <https://www.dezeen.com/2022/09/16/ubiquitous-energy-aims-transparent-solar-windows-global-standard/> Line 42

¹⁹ Ren, Y., Zhang, D., Suo, J. et al. Hydroxamic acid pre-adsorption raises the efficiency of co-sensitized solar cells, *Nature*, vol. 612, 2022, pp. 60-65, <https://doi.org/10.1038/s41586-022-05460-z>. Accessed 30 December 2022

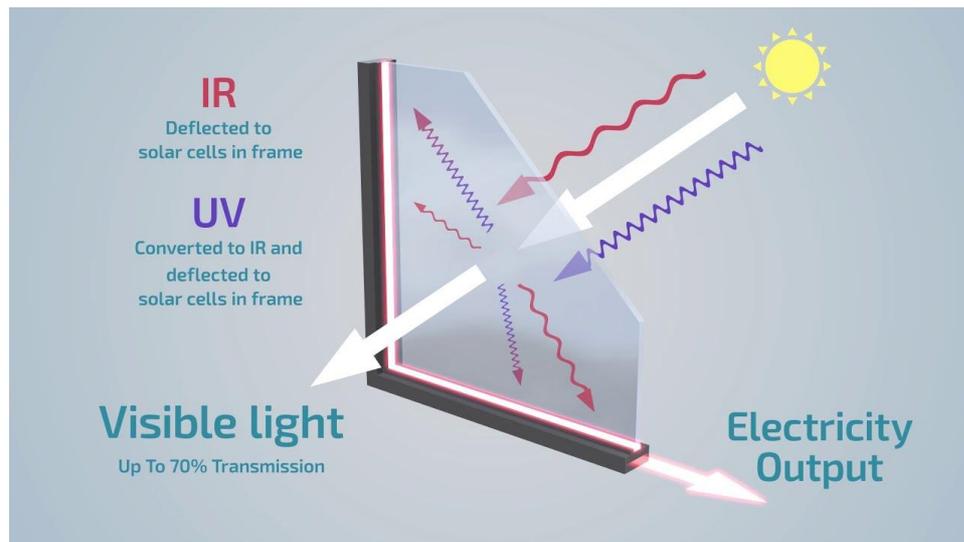


Fig. 24 Diagram of ClearVUE Solar Glass, ClearVUE Source

Companies like Onyx Solar (Spain) and ClearVue PV (Australia) are dominating the commercial transparent solar market. Onyx has two types of solar glass, amorphous silicon PV glass and crystalline silicon glass. Their amorphous silicon solar glass produces more power in overcast weather, offers a range of light transmittance levels up to 30% and is completely customisable for specific architectural needs. It also boasts good sound and heat insulation as well as great UV absorption. The Coca-Cola/Femsa Headquarters in Monterrey, Mexico, benefits from a massive 588m² facade of Onyx's amorphous silicon photovoltaic glass which generates approximately 17,200 kWh of energy and prevents the release of over 11 tons of CO₂ into the atmosphere (see Fig. 24).



Fig. 25 Coca-Cola/Femsa Headquarters, Monterrey, Mexico

Scientists in Switzerland have had a breakthrough efficiency record for transparent solar cells in 2022 resulting in a power conversion efficiency (PCE) of 28.4% to 30.2% in a wide range of ambient light intensities.²⁰ They achieved this by adding a layer of hydroxamic acid to be absorbed into the surface of the film used in the dye-sensitized solar cells. These DSC's have been named Grätzel cells and are low-cost. These cells are transparent and absorb light across all spectrums not just UV/IR, they are easily manufactured and can be made in a range of colours for minimal cost difference.

²⁰ Ren, Y., Zhang, D., Suo, J. et al. Hydroxamic acid pre-adsorption raises the efficiency of co-sensitized solar cells, *Nature*, 2022, <https://doi.org/10.1038/s41586-022-05460-z>

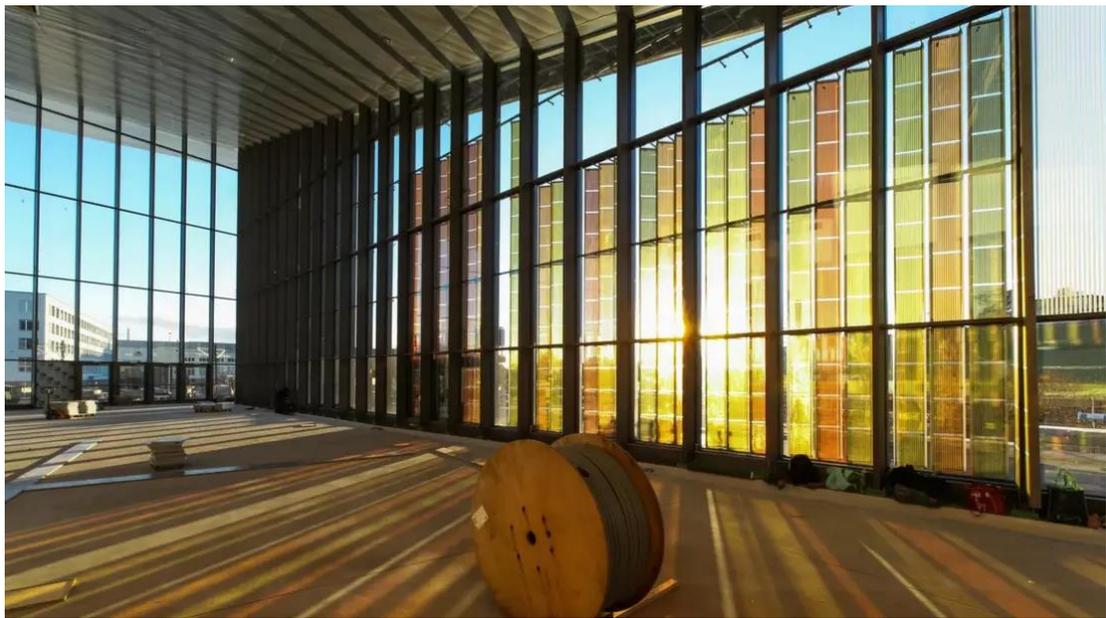


Fig. 26 Grätzel cells installed at the SwissTech Convention Centre (credit: Alain Herzog)

The Grätzel cells are notably in use at the Swiss Tech Convention Centre and the Copenhagen International School, where 12000 blue-hued transparent solar panels provide around 300 megawatt hours of electricity per year, meeting over half of the school's annual energy needs (see Fig. 25 and 26).

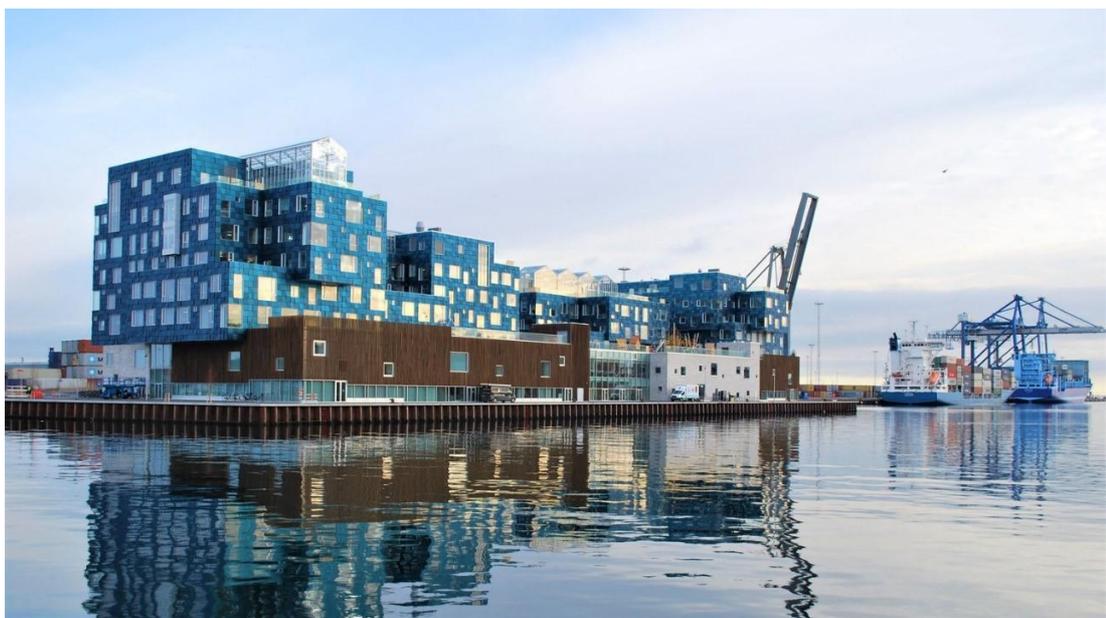


Fig. 27 Copenhagen International School, Copenhagen, Denmark

To tackle the climate crisis massive changes must be made in most industries, with the transportation industry causing the highest amounts of emissions in 2020. The below graph shows emissions of CO2 in billion metric tons from 1970 to 2020, we will need to cut carbon emissions by about 60% by 2050 to keep on track with EPA’s climate budgets.

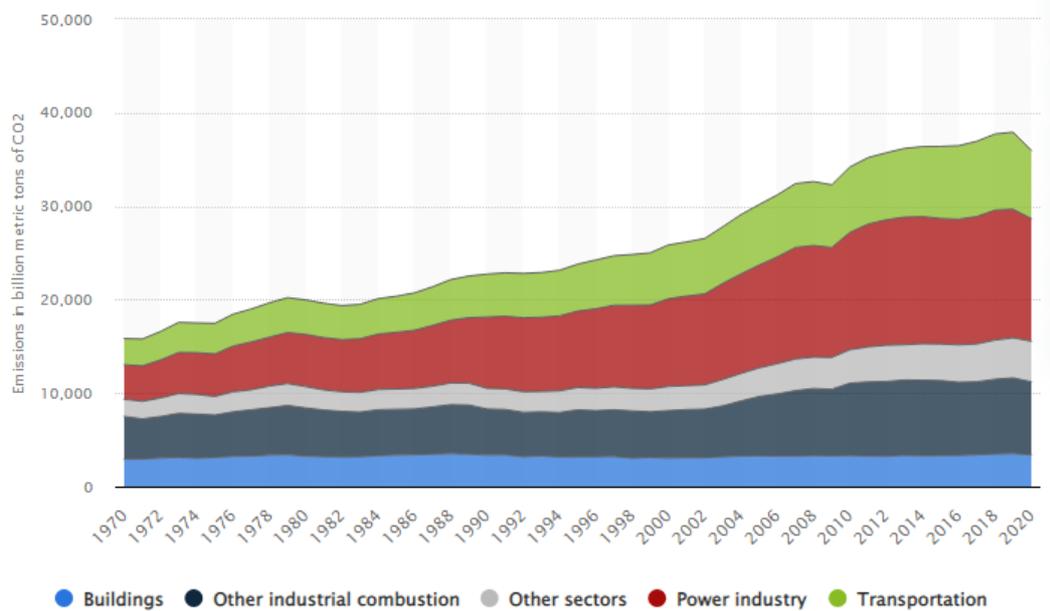


Fig. 28 “Global carbon dioxide emissions in 2020, by sector “, [Statistica.com](https://www.statista.com)

The question stands, what changes can we realistically make to the transportation infrastructure to efficiently cut down CO2 emissions as well as being effective in both urban and rural area.

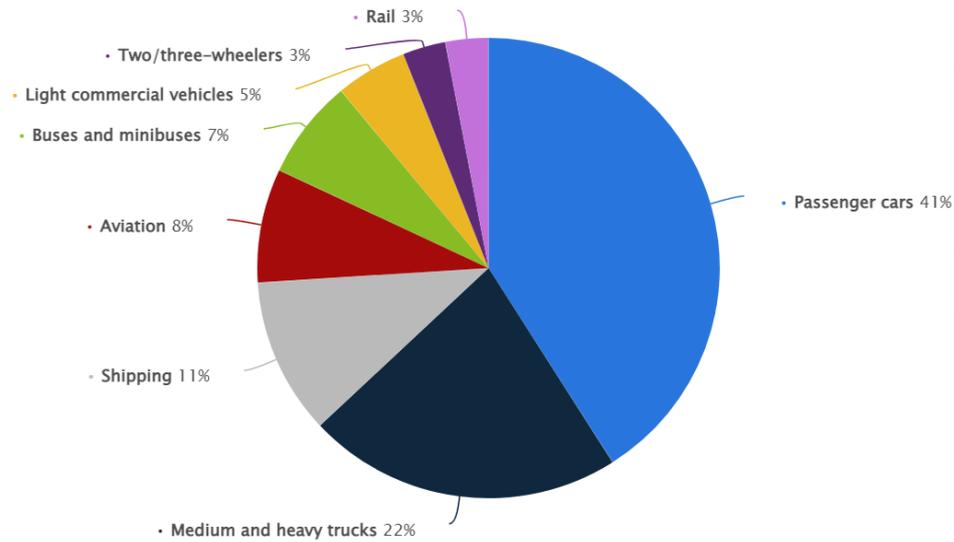


Fig. 29 “Distribution of carbon dioxide emissions produced by the transportation sector worldwide in 2020, by subsector”, [Statistica.com](https://www.statista.com)

One of the most obvious choices of change would be to replace fuel-based cars with electric cars, but with an ever-rising population there would still come the problem of not enough highway space. Flying cars and hover taxis are mentioned by Phillip K. Dick in his critically acclaimed novel *Do Androids Dream of Robotic Sheep*, and movies like *The Fifth Element*, and *Star Wars*. A company that took heavy inspiration from hover cars is *Volocopter*, a German aerospace company that is focused on creating a low-cost ‘flying taxi’ infrastructure for urban travel. The 2011 company specialises in the design and fabrication of electric vertical take-off and landing (eVTOL) in the form of personal air vehicles for use as public-transport in heavily urbanised areas. Volocopter prides themselves on their quiet, fast, zero emission transport, and plans to set up its own air-taxi infrastructure in Paris, Rome, Singapore and Neom, planning to expand into the United States.

Volocopter covers a range of industries and infrastructures, they engineered the VoloDrone, a fully electric heavy-lift cargo drone that can carry up to 200kg, making it perfect for parcel delivery, heavy-load movement for construction, shore-to-ship

deliveries, and can be deployed to provide disaster relief, air rescue, or to support humanitarian aid efforts. The VoloCity is their patent urban air taxi that will act as a zero-emission urban transport system.



Fig. 30 VoloCity electric vertical take-off and landing urban mobility vehicle.

They have the VoloRegion which is like the VoloCity but with the intention to connect suburbs and centralised urban areas in a swift and efficient way, and the VoloPort which will act as a hub for both VoloCity and VoloRegion aircraft, and any more aircrafts they create in the future.



Fig. 31 VoloRegion medium range eVTOL suburban transport

The VoloPort acts as a train station or taxi-rank of sorts as there will be multiple VoloPorts positioned at key traffic junctions within a city, such as airports, train

stations, office districts and shopping districts. In 2019 Volocopter revealed the world's first VoloPort in Singapore, the prototype allowed the company to assess customer interaction and experience.



Fig. 32 VoloPort modular building prototype, Singapore

Volocopter, with its flagship electric VTOL aircraft, the Volocopter 2X, is determined to make flying cars an everyday solution instead of an expensive indulgence. By 2035 the company aims to deploy dozens of VoloPorts across Singapore, with the intention to manage around 10,000 customers a day. They do not plan to create an entire infrastructure for the air taxis, in the end Volocopter plans to have their eVTOL's land in any carpark or accessible area, already preparing for a future where VoloPorts are obsolete.

Air-taxis and zero-emission public transport may be the answer to domestic transport's harsh CO2 emissions, but how can society adapt to the mass emissions caused by the aviation industry without impacting tourism? An unlikely answer stems from an older technology developed and used throughout the 20th century.

The airship, dirigible and zeppelin were aircrafts deployed mostly throughout World War 1 as both a weapon and supply transport. Zeppelins, a rigid body airship, proved to be incredibly durable especially in the German raids on England during the late

1910's, though they lacked accuracy and information gathering due to cloud cover. Post-war the airship development continued in Germany as passenger vessels. In the 1930's the Hindenburg was built as an extraordinarily successful cross-Atlantic airship but was tragically destroyed in a televised accident at Lakehurst, New Jersey, which led to a dramatic fall in confidence in airships as a whole and resulted in the end of their "golden age".

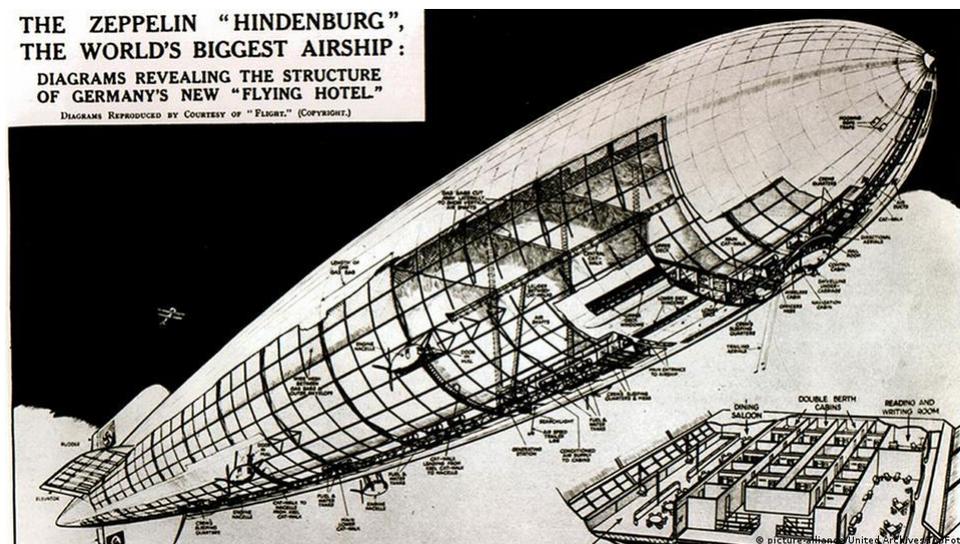


Fig. 33 Hindenburg interior structure diagram

As airships use the buoyancy of lighter-than-air gases like hydrogen and helium, they cause zero carbon emissions which sounds like a perfect reason to revive the industry in the modern day where society needs to release as little carbon into the atmosphere as possible. One British company, Hybrid Air Vehicles, laid out a series of flights that would enable city-hopping trips aboard its Airlander 10 aircraft. These routes include Liverpool to Belfast, Oslo to Stockholm and Barcelona to Palma. HAV claims the carbon footprint of these kinds of flights is just a tenth of the emissions caused by similar journeys on conventional aircrafts.



Fig. 34 Interior prototype for the HAV Airlander 10

Professor of aerospace engineering at the University of Texas John-Paul Clarke says, “I’ve long believed that hybrid airships would be best placed to disrupt global shipping given their volumetric capacity, the increasing desire for rapid delivery than by ship with a proportionally lower increase in transportation cost.”

as cargo transportation by airship is faster than by large freight ships.²¹ Though the problem with airships comes from the gathering of helium, and the expensive fabrication of airships. Helium is an expensive gas and is obtained through oil and gas extraction, meaning a future airship industry that is built on a CO2 heavy extraction process is not ideal in the grand scheme of a solarpunk, carbon-negative world.²² Hydrogen could act as a suitable alternative to helium, it is a renewable gas, can be created through green means and is cheap. Hydrogen, however, carries a negative reputation after the Hindenburg Disaster in 1937, but after 80 years

²¹ Taylor, Ian. *The new age of the Airship*. BBC Science Focus, 30 June 2021 <https://www.pressreader.com/uk/focus-science-and-technology/20210630/282046215054243> Line 71

²² Taylor, Ian. *The new age of the Airship*. BBC Science Focus, 30 June 2021 <https://www.pressreader.com/uk/focus-science-and-technology/20210630/282046215054243> Line 94

scientists and engineers have been able to understand hydrogen in a safer, more efficient way. Airbus, one of the leading aerospace corporations in the world, have even revealed a hydrogen fuelled aircraft that they plan to make commercially available by 2035.

Solarpunk cities strive to be the perfect weld of technology, beauty, and nature. They achieve this with sprawling visually appealing skylines, efficient and vast public transport infrastructures, and self-generating solar, wind, and food farms within or directly outside the city. Giant stained-glass solar-windowed skyscrapers would create a colourful skyline with gorgeous light filtering, a sprawling subway system with magnet/hyper-loop trains and air-bus systems on the surface will free up the necessary space for green areas, removing the need for high density roads and highways. Advanced dirigibles and airships would act as one of the main ways of long-distance transportation being able to dock right in the middle of the city through skyscraper stations reminiscent of the Hexgates from the Netflix show Arcane, also resulting in less noise and greenhouse gas pollution than the likes of planes and helicopters.

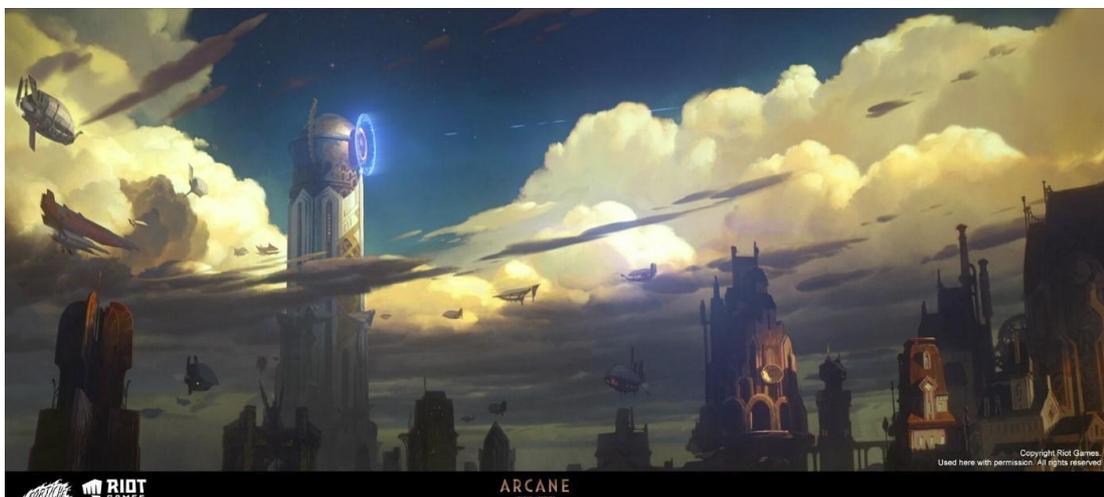


Fig. 35 Screenshot of the hexgate port from Arcane, Riot Games in collaboration with Netflix

By putting resources into the right places, it is realistically possible to make this ideal solarpunk city a fully-functioning, culture-rich, megacity in real life.

Conclusion

Solarpunk holds the blueprints to a hopeful future and provides the seeds we need to sow in order to create a safe world for generations to come. Through solarpunk optimism can prosper over apathy and cynicism, and through visualisation solarpunk can be introduced to the masses to inspire and teach. By analysing solarpunk through stories, film, art and the online community, this thesis has concluded that solarpunk has the potential to influence society in a positive way. Utopian fiction is often regarded with little importance in both current media and political spheres. Though today there is a strong need for “counterimages” of an alternative society, one that is not nihilistic and grungy like cyberpunk, but one that advertises beauty and hope, that embraces becoming a part of our world, rather than destroying and distancing ourselves from it. Ecological utopias represent a most pertinent form of social critique; they can truly function as a rich source of ideals for a different arrangement of contemporary society. These stories exist and have existed in the solarpunk genre as seen through Studio Ghibli’s oeuvre, a large amount of the stories in the various anthology series' and through the stories shared by the online solarpunk community. Solarpunk has become a hopeful climate movement with influence in the arts, technology, architecture, agriculture, and media. Though it is not well known by the masses, in bringing solarpunk to the forefront through current media like movies, tv-shows and docu-series' it is possible to influence change in the wider world through inspiring an audience to do more for their local communities, making the climate crisis feel less overwhelming and manageable, while still being regarded with great importance. The government from Callenbachs’ *Ecotopia* approach to combat urban sprawl and energy efficiency in creating mini-cities is a great concept, but making

our cities more compact and eliminating urban sprawl will generate a tremendous amount in economic savings between now and 2050.

As mentioned in Chapter 2, Hayao Miyazaki has been telling stories of fantastical and unrealistic worlds with incredibly relatable meanings and mottos. *Nausicaa of the Valley of the Wind* is a movie bursting with meaning that is relevant today. The Ohmu can be seen as a representation of the drastic changes needed to combat the climate crisis, barging through the warring kingdoms in pursuit of a bigger goal: the purification of mankind's pollution. The Ohmu can also be related to nature in its never-ending evolution and ability to adapt and overcome. Nature will always try to reclaim what it has lost, in the film's case: spreading the Sea of Decay. Society should sympathise with nature and be more like Nausicaa and help nature be at its best so life can flourish alongside it.

Dear Alice acts as a perfect representation of a solarpunk setting in terms of technology and attitude towards community and nature. The short combines technologies explored in this thesis such as; the greenhouse/barns solar windows & solar panels, high-altitude wind turbines, airships can be seen in the distant megacity, and the city is compact and tall as opposed to a wide sprawling one. The short shows how an efficient and bright community can evolve through solarpunk ideals. The world of *Dear Alice* uses drones to deliver groceries, robots and machines to help collect apples and crops and electric public transportation, but it feels like all this technology is just a part of daily life, and a part of the community. Apple picking drones already exist that use AI to determine the health of the fruit before picking, Volocopter and Amazon are working on delivery drones and airships are being developed and modernised by Hybrid Air Vehicles.

Technology is another aspect that is core to solarpunk, technologies key role is to alleviate the time and stress of work to free up time for people to pursue creativity without completely replacing the need of manual labour. Solarpunk embraces the natural form and encourages people's self-expression to flow through art and music. Technology shown in the *Dear Alice* short was the most grounded and realistic from the examples explored in chapter two; from sprawling solar farms, to the array of solar panels co-existing with livestock. High altitude wind turbines help local power generation alongside the solar glass present on the farm's greenhouses. Machines and automatons help collect and transport crops and goods while expressing also character, making them feel alive One of the closing quotes from the short is "We plant the seeds so that our grandchildren can enjoy the fruit.", that is precisely what needs to happen in society today. In the case that energy production becomes localised through community farms, and is not owned commercially to be used as a profit-machine, energy poverty in these areas will be reduced, communities will begin moving away from investing in fossil fuels and will create a more circular economy, helping the move towards a less capitalist focused society as explored in solarpunk works and ideals.

The transportation sector is another roadblock in the fight against climate change. Contributing 17.7% of Ireland's total emissions in 2021, the transportation sector is a difficult infrastructure to retrofit to allow for more carbon negative alternatives.²³ Urban sprawl increases distance to amenities leading to increased traffic congestion, needing more car infrastructure and causing more CO2 emissions. Eliminating urban sprawl and increasing public transport will help alleviate these problems, but much

²³ "Transport", *Environmental Protection Agency*, 2021 <https://www.epa.ie/our-services/monitoring--assessment/climate-change/ghg/transport/>

more change needs to be made in the aviation and maritime sectors too. Airships and dirigibles have the advantage of reaching locations with difficult access in the middle of a continent. This could reduce the cost of transportation of goods produced by or delivered to cities far from the coast as well as the emissions created from the transportation. Countries that do not have access to the ocean would also benefit from airships, as they would not have to rely on intermediary countries. Airships can also transport more cargo at a faster rate than typical commercial freighters using the same jet streams. At the time of writing, the energy consumption of airships is four times higher than in maritime shipping, this is due to energy being released while the compression and depressurization of hydrogen/helium during descent and ascent. If they were developed in a way that all energy released during lift is reused during descent the energy consumption of the airship would fall to zero.

The most powerful way to enact change is in the hands of the people, and one of the strongest ways to influence people is through the arts; movies, music, illustrations, and writing. We have the technology necessary for the change to renewables and to help ease climate change, though we need artists to inspire the public and make these technologies both known and accessible. The solarpunk genre can inspire these changes through many aspects of society, all that is needed is a boost in popularity, for punk to become mainstream. The climate crisis is the biggest danger to both humanity and the natural world, and in order to accomplish what the climate crisis demands, society must create stories of a hopeful future, stories that carry popular weight and motivate people to do what it takes to make the world a safer place for future generations. The more we visualize the genre, the more digestible it becomes to the masses, allowing its influence to affect daily life and showing that the future is

not as bleak as mass media so often reiterates. The solarpunk genre can inspire these changes through many aspects of society, all that is needed is a boost in popularity, for punk to become mainstream.

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