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SENIOR PROJECT

Green Middelburg

Utilizing Solarpunk aesthetics in environmental activism posters

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Introduction

The current state of the environment around the globe is deeply concerning and does not seem to improve. Annual CO2 emissions have been growing rapidly; over 35 billion tons are emitted each year (Ritchie & Roser, 2024a). Air pollution was the third biggest risk factor for deaths in 2019, and millions of people die from air pollution each year (Ritchie & Roser, 2024b). Now, more than ever, there is a need for change in how society consumes, transports, discards, and lives. Personal changes in everyday life can already help to make the world more sustainable. This might be achievable through the utilization of Solarpunk. Solarpunk is a new and upcoming movement in art, speculative fiction, fashion, and activism, which focuses on what a sustainable future could look like, and how to get there (The Solarpunk Community, 2019). The movement emphasizes the usage of green energy, small communities, and a positive outlook on the future. Since Solarpunk is a relatively new movement, there is a gap in academic research. This project aims to partly fill this gap, by researching the movement and applying its ideas and values to a creative poster project. These posters are aimed at the local Middelburg community to inspire them to include more sustainable practices in their everyday life, with a focus on solar panels. This project researches the question: How does the integration of Solarpunk aesthetics in community activism posters impact the adoption of sustainable practices among homeowners in Middelburg? To answer this question, literature will be critically evaluated to learn about the theories in the relevant fields of Solarpunk, poster aesthetics, and art activism. This project examines how Solarpunk aesthetics in posters might stimulate community involvement and drive action toward sustainability, specifically focusing on the adoption rates of solar panels in Middelburg. While this stimulation could not be researched, it is argued that Solarpunk can be a useful tool to stimulate ecologically friendly practices. This link should be researched further, and future research could focus on the long-term effects of such posters.

Literature Review

Solarpunk Origins

Solarpunk, as a movement, has existed for a relatively short period. The term Solarpunk was first coined on the blog *Republic of the Bees* in 2008 as a proposal for a new literary genre, its creation based on Steampunk. The blog entry describes the Beluga Skysail, a cargo ship that uses sail power in addition to engine power, which inspired the creation of the new term. The Solarpunk movement started developing in 2011 in Brazil, with the first call for Solarpunk writings (Reina-Rozo, 2021). In 2013, the first collection of Portuguese Solarpunk stories was published: *Solarpunk – Histórias ecológicas e fantásticas em um mundo sustentável* (Lodi-Ribeiro, 2013). Since then, many more stories have been written, and Solarpunk ideas and the community have grown incredibly through the internet, specifically on the platforms Tumblr and Reddit, as well as on blogs and forums.

Solarpunk has always existed in relation to other sci-fi and futuristic movements such as Steampunk and Cyberpunk. In the 2008 blog post (Republic of the Bees), it is explained that the idea of Solarpunk derived from Steampunk, how the Steampunk movement bases its imaginative futures on the usage of steam machines in the modern world, and how Solarpunk replaces this with sustainable, natural energy. The author further describes how "Solarpunk ideas, and Solarpunk technologies, need not remain imaginary" as they have a "hope of someday living in a Solarpunk world" (Republic of the Bees, 2008).

One of the most well-known Tumblr posts of the Solarpunk movement is that of artist Olivia Louise (2014) on her Tumblr page *Land of Masks and Jewels*, in which she provides four illustrations of possible Solarpunk fashion styles, which have Victorian and Art Nouveau aesthetics, and contributes ideas for buzzwords and what a Solarpunk world could be like; she proposes that children will be taught both technological skills and artesian skills such as that of blacksmiths and jewelers. The outfits all include a yellow color, reminding us of the

solar in Solarpunk. Furthermore, the drawings showcase Solarpunk's values of diversity, as the four people drawn all have different ethnical backgrounds. Louise's drawings and text are still referred to in new Solarpunk publications and writings. The text shows the lack of a definition for Solarpunk at the time, as Louise describes how she imagines the Solarpunk aesthetics to be based on Art Nouveau, Victorian, and Edwardian aesthetics, instead of the smooth, sterile, and geometrical look of the shared idea of futuristic technology and world-building. Due to the primitive state of the Solarpunk movement at the time, it is understandable that writers and creators were still developing their ideas and sharing them on the internet as they went. What is remarkable about Louise's post is the amount of traction it got. The impact Louise's blog post has had on the movement can be seen in essentially all depictions of Solarpunk futures, as well as in the Solarpunk Manifesto, where under point 18 on visual aesthetics, Art Nouveau is part of the description along with other movements and ideas. The blog post still gets 'reblogged' on Tumblr by other Solarpunk users, two of whom write "This is perhaps the original post that started the Solarpunk trend!" and "Here it is. Where it all began."

Another significant piece of media of the movement is a text by researcher Adam Flynn (2014) called *Solarpunk: Notes toward a manifesto*. In this article, Flynn describes the difficulty of living in a world where there is green consumerism everywhere and where those with political power fail to work on climate change. He describes how the Solarpunk movement wants to improve life for us now and for the generations to come, and that the future will be possible through repurposing material that we already have instead of breaking everything down and building new structures or creating new objects. Furthermore, Flynn explains that Solarpunk is punk as it is "an opposition that begins with infrastructure as a form of resistance" (Flynn, 2014). This relates to the point of repurposing, as Flynn sees the need to reuse existing infrastructure instead of breaking it down if it is unused. Flynn

concludes the article by saying “Solarpunk is a future with a human face and dirt behind its ears” (Flynn, 2014). Many ideas mentioned in this article would later return in the official Manifesto (The Solarpunk Community, 2019), such as four important key points of the movement: ingenuity, generativity, independence, and community. Flynn’s article mainly focuses on the infrastructure of Solarpunk futures, yet also mentions the visual aesthetics and refers to Louise’s blog post (2014). Solarpunk has further developed since the publication of Flynn’s article through many forums, blog posts, and articles, into what The Solarpunk Community (2019) describes as “at once a vision of the future, a thoughtful provocation, a way of living and a set of achievable proposals to get there”.

Solarpunk Ideas

With a basis of the Solarpunk history set, let us now focus on the ideas and values of Solarpunk. What does Solarpunk stand for? In an examination of Solarpunk by author RoAnna Sylva (2015), the name Solarpunk is broken down into two parts, “solar” and “punk”. In “solar”, Sylva finds connotations of light and day, which opposite the dark of today’s world and the night of Cyberpunk dystopias, as well as sun and healing, a natural energy that can support our future and heal and include marginalized people; the disabled, the poor and homeless, people of color, and LGBTQIA+ people. In “punk” she finds Rebellion, Counterculture, Enthusiasm, and Individuality. The first two words relate to going against the mainstream and creating a counterculture of hope, joy, and caring. The latter two words entail that the Solarpunk movement is full of energy, and fun, and open for everyone to be who they are, a safe place for all.

As mentioned before, in 2019 the official Solarpunk Manifesto was published by The Solarpunk Community. The Manifesto consists of 22 points which range from aesthetics to philosophical ideas. In the Manifesto, The Solarpunk Community (2019) states that “Solarpunk is a movement as much as it is a genre: it is not just about the stories, it is also

about how we can get there". They envision a future in which humanity has moved on from capitalism, scarcity, hierarchies, and the Anthropocene. This future thus involves community-based relationships, a world without the constant need for money, and a balance between humans and non-humans. The Solarpunk community is inclusive and diverse, as they include "all cultures, religions, abilities, genders and sexual identities" (The Solarpunk Community, 2019). They are against mass-produced products and instead advocate for growing your own food, mending and making your own clothing, and building your own furniture. Furthermore, they call this future an optimistic utopia, and aim for self-sufficiency within nature's limits, using only environmentally friendly energy such as solar energy, wind energy, and water energy, and they seek harmony between nature and technology. Due to these themes, it can be concluded that Solarpunk is an anarchist movement (Gillam, 2023), as its post-capitalist and post-hierarchal ideas align with the mindset of anarchism. The Solarpunk Community describes that it aims for solutions and not just warnings, which is a refreshing mindset that is certainly needed in our current society, where we hear about one effect of climate change after the other. Solarpunk is all for equality, meaning it looks for solutions that tackle environmental racism, disability, and a lack of representation.

One may read the paragraph above and think the values and ideas of Solarpunk are too optimistic, naive, and utopian. Optimism does play a big role in the Solarpunk community. Specifically, Solarpunks seem very sure that everyone in society will be willing or able to make these big, life-changing switches. An example is the community-based aspect of Solarpunk, which seems hard to reach in the current society as we are so globally interconnected, through trade, transportation, and the internet. While community-based ideas seem plausible in the sense of growing your own food, it is less likely for society to banish all transportation connecting cities and villages, as well as peaceful living without any sort of hierarchy or presidents in power who make sure there are no crimes. Furthermore, an

unfortunately large amount of people still do not believe in climate change and would oppose anything ruled to help this cause, especially if it were to change their daily lives. Hopefully, people will gradually realize the seriousness of the current situation of the world more and more, and thus they will be more open to making positive changes. These changes can and will be gradual and will therefore make the transition less difficult. Thus, these ideas may seem unplausible but do not have to happen overnight. It shows a hopeful optimism, which is not a bad trait. As they also say themselves, they are Solarpunks because the only other options are denial or despair. Their optimism gives them the hope and energy to come up with creative solutions to make a better and more positive future possible.

Solarpunk does not seem naïve, as the movement is aware of the current state of the world and proposes to find solutions and work with the tools available to humanity instead of doom thinking and imagining dystopias, which is often what environmental news is accompanied with. Solarpunk values are what today's society needs to keep moving forward; without any hope, creativity, or change, there is no future. Solarpunk innovations and ideas are grounded in reality; they take the current world as a starting point and move forward from there. While there is a utopian aspect at play, it is difficult to say if society would ever reach this point. As mentioned before, a world without any hierarchies seems rather impossible, knowing the vices of mankind.

These Solarpunk ideas and values as seen in the Solarpunk Manifesto take influence from Afrofuturism, retrofuturism, and utopianism (Johnson, 2020). Its cultural diversity comes from Afrofuturism, as the Solarpunk movement includes a variety of represented ethnicities and genders. This representation of genders can be seen in the story "The Boston Hearth Project" by T. X. Watson (2017), in which the protagonist uses zie/zir pronouns instead of she/her or he/him. Another example is the protagonist from the story "Dust" by Daniel José Older (2017), whose sexual organs change involuntarily every day. The clothing

illustrated by Louise (2014) also shows clear non-Western elements and people of different ethnicities. Many Solarpunk ideas of what the future can look like derive from retrofutures, as they were once simply a vision of the future that we never accomplished. Elements from retrofutures that come back in Solarpunk include monorails and glass architecture combined with much greenery.

In his article, Klata (2022) researches what motives and narratives can be found in Solarpunk stories. His analysis covers seven short stories from various anthologies, and he found motifs of solar imageries, sustainability, the strife for ecological solutions, hope, a post-apocalyptic setting, and elements connected to queer, feminism, and social justice. Stępień (2021) analyses Solarpunk stories to better understand the Solarpunk view surrounding social organization and finds that Solarpunk requests a social organization that is more egalitarian and progressive in which there is no need for gender identity or gender division of labor.

One of the big events within the Solarpunk movement is the Solarpunk conference. This conference is a yearly one-day virtual event (Solarpunk Conference, n.d.-a). The founders created the conference to "push people to think about Solarpunk more broadly, not only as art or fiction or action, but as all three" (Solarpunk Conference, n.d.-a). One of their goals is to make the conference accessible to as many people as possible. Because of this, there are three different admission tickets. The normal ticket is $45, the supporter ticket is $85 and includes a ticket for someone who cannot afford a ticket themselves, and the third ticket option is a supported ticket, where people with limited means can buy a ticket for however much they want. The supporter tickets help make the supported tickets available as they cover the costs. Furthermore, everyone with a ticket gets a raw recording of the conference, making the full conference accessible to those who may need to leave early, arrive late, or are in a different time zone (Solarpunk Conference, n.d.-b). the conference

allows people from the community to come together and discuss their research, praxis, and thoughts. The conference is held online via Zoom, for the conference itself, and Discord, for the viewers and speakers to chat and connect during and after the conference. In 2023, the conference ran for 9 hours and hosted 18 speakers (Schuller, 2023).

The Solarpunk community also hosts events to come together in person and share ideas, and visions, and create together. One such instance is the Solar Punk Festival, hosted by Ellery Studio in Berlin, Germany, In 2018. This festival was a two-week event during which international illustrators and researchers worked together to create new ideas for balanced and environmentally friendly futures through art and scenarios (Ellery Studio, n.d.).

The Other Punks

As stated before, Solarpunk has always existed in relation to Cyberpunk, and through its extension, this includes Steampunk as well. Cyberpunk existed long before Solarpunk and is a science fiction movement focused on futures with digital, virtual worlds that play a large part in society. Humans are often partly connected with computers and the digital worlds they create, through chips, mechanical body parts, or other means. Cyberpunk literature focuses on the lower middle class, which includes characters such as hackers, drug users, skateboarders, etcetera (Butler, 2001). Cyberpunk has had a significant influence on today's culture, causing inspiration for movies such as Bladerunner and The Matrix (Latham, 2019). Similar to Solarpunk, Cyberpunk's roots are found in literature. Four key Cyberpunk themes were created and foreshadowed by authors from the New Wave science fiction movement in the 1960s and 1970s, namely "(1) the emergence of an information economy, with all its complex impact on the social order, in particular the spread of cybercrime and forms of info-warfare; (2) the resultant hypercom-modification of culture and the attendant growth in cyborgized lifestyles; (3) the proliferation of synthetic realities, to the point that simulated experience has begun to supplant the real thing; and (4) the possibility of a transhumanist

"uploading" of consciousness, allowing individuals to abandon the mortal "meat" in favor of a virtual existence as discorporate data" (Latham, 2019, p. 8). Through these themes, we can explore the differences between Solarpunk and Cyberpunk. Both movements sprout from science-fiction literary genres, and both have developed into movements encompassing values and visions for the future. Cyberpunk generally has a dystopian view and often gets compared with today's society (Latham, 2019), whereas Solarpunk has a more utopian view and tries to create ideas and solutions rooted in the current state of society. As seen in the above-mentioned themes, Cyberpunk focuses on technological advancements and is concerned with transhumanist ideas in which technology and human bodies get combined. Solarpunk is interested in technologies as well yet focuses on how technologies could be made sustainable and help produce green energy and create greener lifestyles. The Solarpunk movement only agrees to use technologies if they are sustainable and is therefore against devices such as cars and other tools with a wasteful production process behind them. Cyberpunk instead embraces these technologies to an extreme and merges them with human life. Solarpunk envisions a world where humans and nature co-exist in harmony, where greenery is part of buildings, whereas Cyberpunk envisions the world as using more simulated experiences to such a degree that it starts to replace reality, as stated in theme 3.

Another well-known 'punk' movement is Steampunk. The movement started as an alteration of Cyberpunk and now encompasses print fiction, film, music, gaming, and fashion (Nevins, 2019). It is inspired by the Age of Steam and Electricity and continuously evolves. People are drawn to this retro-futuristic movement because it offers a contrast to the mainstream styles of recent decades, where cars, mobile phones, and other technologies all have the same sleek look (VanderMeer & Boskovich, 2014). The movement includes literature, film, music, art, fashion, and both material and digital cultures (Miller & Taddeo, 2012). The relationship between humans and machines is an important part of the movement.

Steampunk imagines what the world would look like if steam and electricity remained the primary industrial sources of power (Brummett, 2014). It is difficult to pinpoint an exact definition of the movement as it is ever-evolving and spread across many different mediums, but Victorian aesthetics, the importance of steam machines, and the role of innovation all play a big part in the movement across all mediums.

In a sense, Solarpunk can be seen as a combination of Cyberpunk, Steampunk, and new elements not seen in either movement. From Cyberpunk, Solarpunk took an interest in futuristic technologies. From Steampunk, Solarpunk took its interest in Victorian styles. But where Cyberpunk's technologies play an enormous role in everyday life and get intertwined with human life and body, Solarpunk's technologies are not as foregrounded as they are integrated with nature and most often used to generate green energy and as tools for everyday life. Where Steampunk's Victorian styles can be seen in every aesthetic of the movement, in their use of steam technologies and visuals of gears and big wheels, Solarpunk only lightly uses Victorian styles as inspiration for clothing designs and the usage of stained windows in city and building designs. New elements of Solarpunk that are not seen in either the Cyberpunk or the Steampunk movements are the focus on nature and sustainable initiatives, a focus on communities and collectives instead of individuality, a positive outlook on the future, and ideas that are grounded in our current reality, which can become a reality now or in the near future.

Solarpunk Debates

While the Solarpunk Community claims to bring solutions and not just warnings, the worlds envisioned in their stories are often seen as too fantastical by scholars who have critically evaluated the movement and its literature. To get to a world in which humanity solemnly relies on solar energy and other ecologically friendly energies, the solar panels would first need to be manufactured, which is an industrial process that still creates

emissions. The process often does not happen on-site - at the location where the solar panels will be placed - meaning transport creates even more emissions (Williams, 2019). In his article, Williams explores Solarpunk as a literary genre and voices indulging critiques on the envisioned future the stories create, focusing on how they could be translated into reality. Williams questions the eco-friendliness of this process, as the emissions overshadow the solar energy gains. This is a valid concern and should be considered more in the Solarpunk community. One possible solution to this problem could be building solar panels on-site more often, lowering the emissions from transportation. However, the carbon footprint of solar panels is roughly 12 times less than natural gas and 20 times less than coal (Wigness, 2023). A world in which solar and other green energies were the only energies used would thus already be much better for the climate. Furthermore, it takes around 2-3 years to offset the life-cycle emissions of solar panels (Wigness, 2023), whereas they can be used for many more decennia. The emissions thus do not overshadow the energy gained by solar panels if they stay in use for longer than 3 years, which would not be a problem in a Solarpunk world. Solar panels do have a larger carbon footprint than hydro, nuclear, and wind energy (Wigness, 2023). Yet Solarpunk worlds are always envisioned using multiple sources of energy, including wind and hydroenergy. To reduce emissions, wind and hydro energy could be used more often than solar energy.

Williams also notices that some Solarpunk stories have a danger of leaning too much toward utopian totalitarianism, in which there is a clear cut between good and bad. This, of course, does not mirror reality, as various morals and ethical conducts create grey areas in which there is no clear right or wrong. It is important to remember, however, that the fiction stories part of Solarpunk are not the only texts and visions of what such a world would look like. They are specific visions of authors within the movement, and in the end remain fiction. It is hard to believe that an actual Solarpunk world would adhere to strict rules on what is

morally good or bad. Instead, it seems more logical that a society with Solarpunk morals would consider problems case-by-case and look at what is best for the humans, nature, and ecosystems in the area.

Furthermore, Williams questions how much freedom there can be in a Solarpunk world when this world causes limitations due to ecological knowledge and limited resources. Since Solarpunks advocate for a balance between humans and non-humans, the freedom we experience in the current world when it comes to food, construction, and crafting, would be very different in a Solarpunk world where we must be cautious of eco-systems, endangered species, and more. This thus goes against the measure of freedom. While this might go against the 'freedom' we now have as a society and species, being more mindful of the ecological systems would help us to be a part of nature again instead of us humans seeing ourselves as the species on the top of the pyramid. Historically, we have always been part of the ecological circle, and it was by our own doing that we started envisioning ourselves as the superior species. While this change of mindset cannot and will not happen overnight, it would not bring about harm and can only have positive effects on the nature around us if we were to be more mindful of our limited natural resources. This changing mentally would of course be at a slow pace, yet I believe it is not impossible.

Finally, Williams notes that many Solarpunk stories use fantasy elements that provide solutions for big societal changes that may not be easily feasible in reality. In one Solarpunk story, fallen-off dragon scales are used as sustainable solar panels, a product that would otherwise have to be mass-produced to maintain energy for the entire population of the earth. This is a way for these stories to imagine such futures, but in reality, we need to find realistic solutions to create the necessary, big societal changes toward a more sustainable world. This does not mean that none of the Solarpunk ideas and values are realistic. These stories use creative solutions for real-life problems that are indeed difficult to solve. This again relates to

the fiction element of these Solarpunk stories. However, solutions can be developed to solve these problems realistically. As examined in the paragraph above, a combination of solar, hydro, and wind energy can be used to generate energy for our society. Solarpunk's innovative nature showcases the possibilities the future holds and the possibilities for new technical developments to sprout. The fiction stories showcase the need for these developments but should not indicate a negative view of the problems and should instead inspire hope and optimism to strive toward solutions.

Crosby (2023) proposes that Solarpunk is an anti-antiutopia; our current capitalistic and neo-liberalist world is an antiutopia, which goes against envisioning alternative futures. Solarpunk, as an anti-antiutopia is the solution needed because it is impossible to create a better future if we cannot imagine a better future. Crosby thus argues for Solarpunk initiatives to both help imagine a better future and to create concrete interventions to put out in the world. Even though Crosby's article shares the hopeful theme of Solarpunk, he ends with a warning, where he suggests that Solarpunk ideas will have to get rid of their punk aspects to become reality, as self-contained societies cannot lead to change in the entirety of humanity. This is indeed something that would be a big change from our current ever-connected society. Our world has become interconnected with all countries and cultures, and communication has never been as simple and accessible as it is today. It is thus not strange for Crosby to propose the removal of a community-based society. One can wonder how positive it is for us as humans to be so interconnected with everyone. As a species, it would be unlikely that we were meant to obtain this amount of connection across the globe. Yet due to the technological advances we have made in the recent decennia, it is almost impossible to imagine returning to a society existing out of communities. Yet, in a way, our current world is made of communities. Communities of countries, of cultures, of those with similar interests, of small villages and big cities. In this way, our world is not that different from a Solarpunk world.

The communities of a Solarpunk world are perhaps smaller, and more focused inwards, but they do not seem as impossible when compared to the current communities. It will never be as social and community-focused as the pre-historic communities of hunters and gatherers, but that would be impossible to strive for.

Gillam (2023) suggests that for Solarpunk to maintain and grow their community, Solarpunks should promote 4 pillars of justice: social justice; justice across generations; justice across communities; and justice for non-humans. These pillars fit in well with the existing Solarpunk values and it is not unlikely for Solarpunks to incorporate this into their vision. Justice for non-humans already plays a big role as Solarpunks battle for the appreciation and conservation of nature and animals. Justice across communities is in part seen in the importance Solarpunk places on diversity and inclusivity. Overall, these four pillars are good steps that the Solarpunk community can consider implementing.

Within the community, Solarpunk visions do not always align. Wegener (2023) researched the opinions of Reddit users on the Solarpunk subreddit. She found 4 common themes in the analyzed data; 1) Solarpunk as a Positive, Useful, and Superior Mindset, 2) Solarpunk as a community that shares responsibility for the climate and the people, 3) Solarpunk as Sustainability that is Strenuous and Unattainable, and 4) Solarpunk as a State of Being Enabled by the Circumstances of the Person. What is striking, is how the latter two themes seem to clash. Within theme 3, the Reddit users discuss their sustainable practices in day-to-day life, and how they are aware that these practices cost a lot of effort and that there is always more they could do. For them, it seems impossible to be truly Solarpunk due to personal circumstances such as health, or location. In the 4th theme, however, Reddit users comment how they feel that they are Solarpunk just by living in an area or country in which sustainable practices are integrated into daily life, such as good public transport and biking lanes, or having well-isolated homes. Wegener also cannot find this final theme in scientific

Solarpunk literature. It seems to be the complete opposite of Solarpunk ideas and values since it would be hollow and effortless to be Solarpunk simply by location. It is thus quite interesting to see this duality in Solarpunks, where some see it as an ever-ongoing process of the possibility of doing more and others see it as something easily fulfilled by the circumstances of their environment or country. While it is positive to live in an environment that fosters sustainable practices in its landscape, Solarpunk always encourages people to include more ecological and green practices wherever and whenever available. The users discussed within the 4th theme could and should look more towards those from the third theme as inspiration, as there is always more that can be done.

Solarpunk Reality

While not every aspect of Solarpunk values is completely realistic or can be incorporated into society, Solarpunk ideas do provide useful building blocks towards a more sustainable world, with creative new inventions that can already be used in our current society. One such idea of how Solarpunk ideas can become reality is the Bosco Verticale in Milan (Johnson, 2020; Crosby, 2023), which translates to "vertical forest"; two skyscrapers in Milan with a total of 800 trees on both towers, spread over 3,000 m² of urban surface (Stefano Boeri Architetti, n.d.-b). While the vertical forest in Milan was the first of its kind, the architecture studio has created more vertical forests around the world, one of which is located in Eindhoven in The Netherlands, called "Trudo" (Stefano Boeri Architetti, n.d.-a). In a Solarpunk world, all buildings would follow the example of the Bosco Verticale, where architecture integrates nature wherever possible. Crosby, in his article in the Journal for Architectural Research (2023), discusses some more examples of Solarpunk ideas that can be found in existing archeology. Firstly, he describes the Bronzeville Community Microgrid in Chicago, a group of buildings that all have solar panels on the roofs and that share the power, creating an island separate from the larger utility grid of the city. Furthermore, Crosby

mentions the Sen̓áq̓w project in Vancouver, a building project that will bring 6,000 new rental homes to the city, and when completed it will be the largest net-zero residential project. The plan has been created to help the Indigenous community, and the environment surrounding the buildings will dishearten the use of cars by only providing parking spaces for 10% of the homes. Lastly, the Singapore "nature ways" are mentioned; lines of trees that connect parks throughout the city, totaling 90 miles and 50 percent of the city.

Another sustainable building that fits in with the ideas of Solarpunk is the Depot Boijmans Van Beuningen. Opened in 2021, it is the first art depot open to the public (Museum Boijmans Van Beuningen, n.d.). The depot was built using sustainable materials, it uses underground thermal storage, saves rainwater to use for the roof garden and the flushing of the toilets, and the solar panels on its roof provide the depot with all the electricity it needs.

Solarpunk City is an ongoing project which aims to document the process and design of Solarpunk projects online, to make it more accessible for others to complete the projects (Solarpunk City, 2023). While the website currently only includes one open-source design, the website contains a list of possible future projects, such as vertical gardens and roofs, urban beekeeping, renewable energy microgrids, and sustainable building materials. Another interesting website is Low-tech Magazine. While the magazine does not call itself Solarpunk, it fits nicely in the movement: the magazine looks back at technologies of the past and how they can help design a sustainable society (De Decker, n.d.-b). It was founded in 2007, and since 2018, the website has run on a solar-powered server located in Barcelona, Spain (De Decker, n.d.-a, De Decker, n.d.-b). Because the website is solar-powered, it reduces energy usage, and it can run throughout the night if the server battery is not drained. Only during long periods of cloudy weather, the server goes down and the website is unreachable.

There are already companies that incorporate Solarpunk views in their work; an example is Verne Global, a company that has data centers in Iceland that run on 100%

renewable energy (Smith, 2021). Another company that uses Solarpunk values is Open Source Ecology, located in the US, which shares its designs of industrial machines such as ovens and tractors for free online, and production costs for the products are much lower than the commercial prices (Smith, 2021). These examples show that Solarpunk ideas help encourage companies and architects to innovate and incorporate more sustainable practices in their creation process and output.

Solarpunk Art and Projects

To get a sense of how Solarpunk is visualized and used in current projects and culture, the literature review focuses on six instances of projects and artworks. While Solarpunk is a recent and still upcoming movement, art with similar ideals and values has existed long before its creation. This is exemplified in the MoMA exhibition Emerging Ecologies: Architecture and the Rise of Environmentalism (Museum of Modern Art [MoMA], n.d.), which ran from September 17th, 2023, until January 20th, 2024. The exhibition includes architectural works from six decades and focuses on the relationship between architecture and the environmental movement in the United States. The drawings, pictures, and models show buildings in green landscapes, intertwined with nature. *Stanford Torus Interior View*, a work by Don Davis from 1975, shows what a space settlement could look like. The work gives a Solarpunk feeling, as futuristic buildings are nestled in a landscape of green hills covered with diverse flora; a clear blue river divides the landscape into two sides. The settlement seems to be walk-friendly, with no depictions of vehicles such as bikes or automobiles. A lone boat is depicted on the river in the background of the work. It would not be surprising if this boat, just like the houses of the settlement, would run on sustainable energy. Together, these elements show the resemblance of Solarpunk values and aesthetics.

A contemporary Solarpunk artist is Vincent Callebaut, a Belgian architect. His designs include “Biomimetic and plus-energy buildings that produce their own power,

vertical forests, pollution-removing towers and boats, floating cities and oceanscrapers, vertical food farms" (Callebaut, n.d.-b). On his website, Callebaut explains that he sees it as a necessity, and not a trend, to create eco-responsible lifestyles and battle against climate change. He has created over 50 projects, of which several are in construction. One of his projects is called Dunes, created for Ostend in Belgium (Callebaut, n.d.-a). The design features villas made from bio concrete (from mollusk shells) nestled in the dunes, each with dune grass on their roofs and big windows. The villas have natural-looking curves inside that remind of pebbles and shells, and some of the walls are covered in moss and other greenery. By using shellfish shells as materials for the concrete, the villas enable a blue circular economy with low environmental impact. All the features described by Callebaut in his projects and his visions show a very clear alignment with the Solarpunk movement.

The Land Art Generator Initiative (LAGI) is a nonprofit organization that aligns itself with Solarpunk values. Its slogan is "Renewable energy can be beautiful" and it brings together disciplines of urban planning, renewable energy, environmental justice, creative placemaking, and public art (Land Art Generator Initiative, n.d.-b). It supports artistic projects that are not only aesthetically pleasing works of art but that also generate green energy. LAGI organizes design competitions and focuses on education and publications, as well as the construction of aesthetic renewable energy infrastructure (Land Art Generator Initiative, n.d.-a). A Solarpunk world can be envisioned with structures like those from the LAGI design competitions. One of these LAGI artworks is the *Arch of Time*, created by architect and artist Riccardo Mariano and to be placed in Houston, America (Land Art Generator Initiative, 2023). The artwork is a sundial that, at the same time, will be able to generate electricity through solar modules on the sculpture's exterior. It was created for the LAGI design competition held in 2019 and was chosen by the city of Houston to be implemented. The arch will be 100 feet tall, and the sun can shine down through it on the

ground below through circular windows, casting light displays in different places throughout the day. The *Arch of Time* will generate 400,000 kWh per year and will pay back its carbon footprint (from its creation) during its lifetime. LAGI artworks such as the *Arch of Time* are perfect examples of Solarpunk values combined into possibilities and projects feasible in the now. It would not be surprising to see more similar projects in a Solarpunk world that is focused on using sustainable and green energy. THE LAGI projects are an innovative way to include visually pleasing power generators in populated areas that allow for the generated power to be used locally.

A well-known video in the Solarpunk community is an advertisement made by Chobani (2021), an American Greek yogurt company. The advertisement uploaded on Chobani's YouTube account is 30 seconds long with the title "Eat today, feed tomorrow", although a longer version of 1 minute and 19 seconds has been placed online by THE LINE (2021), who produced the advertisement, with the title "Dear Alice". The advertisement depicts an animated world that seems to have jumped out of every Solarpunk's dreams; the landscape exists out of lush farmland and fields filled with solar panels, the city in the background features skyscrapers filled with greenery, wind turbines hanging in the air through air-balloon-like structures to create wind energy, people are shown harvesting fruits and vegetables, children get transported through a hovercraft-like school bus, and the people make use of drones, robots, and automatic harvesting machines. The main character's home seems to be a wooden cottage filled with green plants and a picnic table outside is shown filled with only organic food, consisting of homegrown vegetables, fruit, and (presumably) home-baked bread. The style of the video reminds of Studio Ghibli, a Japanese film studio that creates anime films. The advertisement also depicts Solarpunk's envisioning of diversity as the people around the picnic table have varying ethnicities, skin colors, and ages. One of the attendants is a humanoid robot who seems to be made of metal and clay and has some

moss on its shoulders and neck, and an older man has a robotic leg. The clothing worn by the people is mostly contemporary, with some futuristic elements. They wear t-shirts, overalls, bandanas, summer hats, relaxed-fitting pants, and sneakers. One of the characters wears a black top with grey patches stitched on her arms and shoulders, giving it a technological and futuristic look. Some of the shoes worn also look more futuristic due to their sleek design, as they look like elongated sneakers that only stop at the lower legs. All the technology seen in the video seems to make use of holographic displays and is integrated with nature as all the machines are covered in light moss. The advertisement's audio includes a voice-over by the mother of Alice, the main character, reading a letter that we later see on Alice's fridge. THE LINE's extended video includes extra shots that are not in the Chobani version, as well as some extra sentences of the voice-over. The extra scenes seem to be mostly scene-setting or letting shots play out longer. Some of the extra scenes include an energy-generating water wheel, a cow laying in the shadows of solar panels in a field, Alice making herself a coffee, and a construction of four long poles on the corners of a field of crops that together generate a raincloud to water the crops.

The only thing that seems to be out of place in this Solarpunk world is the Chobani products. In the advertisement we see the main character eat a fruit-flavored yogurt out of a small plastic container, her giving her child a plastic bottle filled with juice, we see a plastic bottle of Chobani coffee creamer and a plastic cup of yogurt on the picnic table, a drone flies in with an oat milk carton (made from cardboard but lined with plastic and with a plastic lid), and in the main character's fridge, we see another bottle of juice, two small plastic containers with fruit-flavored yogurt, and a plastic bottle with cold brew. To imagine that the people in this world would still create and use products in plastic containers sounds like satire in a sense. Throughout the video, the sustainable lives of the people are clearly shown, from their home-grown vegetables to their green energy. This clashes entirely with all the plastic

containers. Furthermore, Chobani's products are made from cow's milk. The people in the depicted world seem to be vegetarian, evident from the overflow of fruits and vegetables and the absence of meat on the picnic table. It would not be a stretch to argue that people living in a Solarpunk world would also be vegan and try to limit the usage of animal products. Ecologically, this would be logical, as most animal products are gained by disturbing the natural order and creating more gasses and waste than necessary. This is especially true for cow's milk, which is supposed to be made only for the calves of the cows. This would only seem applicable if a cow made too much milk for its calves, although it would seem more likely that it could be cooled and stored to feed other calves later than for humans to drink it or use it to make other products. It thus seems unlikely for a company like Chobani to exist in this world. Solarpunks have also found this flaw in the video, and one user, Waffle To The Left (2021), uploaded a 'decommodified' version of the advertisement. This 'clean' version of the advertisement does not contain any of the branding on the packaging of the milk, juice, and yogurt products. Instead, they are left blank. The background music from the advertisement is removed, and instead, the video uses a realistic soundscape that matches what is being depicted. Without the music, the video becomes more realistic and makes the viewer feel like they could step through the screen and be part of the depicted world. The soundscape brings an essence of life to the video that the background music in the original advertisement was never able to achieve. Many Solarpunks thank the user for this new version of the video in the comment section. One user, named chocolatefeverdreams4228, writes: "Erasing the brand from the Solarpunk video is one of the most Solarpunk things one can do".

Another well-known artwork in the Solarpunk community is an illustration by artist Rita Fei called Solarpunk (Fei, n.d.). The digital drawing depicts a Solarpunk city on a sunny day with a dark-skinned girl sitting on a rooftop in the foreground of the illustration. The

buildings of the city feature big stained-glass windows, golden details in balconies and windows, and greenery on top of roofs. The city features infrastructure that focuses on pedestrians and cyclists, and there is no car in sight. Water streams from a pond into a waterfall, possibly to create energy. In the sky, two flying windmills hang, the same structures seen in the Chobani video, and a track high up in the air transports a futuristic-looking train. The girl in the foreground looks up to three brightly colored parrots that seem to fly into the illustration from the left side. She wears a red tank top, green loose-fitting pants, a blue piece of fabric wrapped around her waist over her pants, and green sandals. She seems to be sketching her surroundings in a sketchbook and wears gold jewelry and sunglasses. The illustration gives a sense of peace, serenity, and awe to the viewer, as the city is lush with greenery but not overflowing with buildings, cars, or people. Fei's artwork is often used on websites that explain what the Solarpunk movement entails, as it perfectly depicts all the Solarpunk ideals and values.

Another interesting Solarpunk project is Loftia; a Solarpunk game currently in development. It will be a Massively Multiplayer Online (MMO) game, in which players live together on a floating island, and can decorate their apartment, go on group quests, and celebrate holidays in the game (Loftia, n.d.). The game trailer titled 'Loftia – Official Announcement Trailer' (Loftia, 2023) showcases the game, in which player characters are seen walking around a big, green floating island with many buildings, wind turbines, and plants. In the middle of the square, there is a greenhouse-like structure made of hexagon and pentagon-shaped glass and solar panels. One of the tasks shown in the trailer is the creation of a flying wind turbine, as seen in the other Solarpunk artworks mentioned above, for which players must collect materials by completing quests to complete the stages of the building process. Players can grow crops and flowers in a futuristic-looking atrium and have an animal companion that walks around with their character and can help find items during quests.

Together with other players, you get the opportunity to dive into environmental studies in the game and talk with the other players through a chat box. The game shows the community and collaboration values of the Solarpunk movement, as all the quests are only achievable through collaboration, and tasks, such as the construction of the wind turbine, are worked on collectively. Even the less Solarpunk-esque aspects of the game, like decorating your apartment, can be done together with other players, showcasing the communal values of Solarpunk. The game is expected to come out in late 2025 and allows Solarpunks to experience the world they hope to someday live in.

Poster Aesthetics and Sustainability Communication

For the second half of the literature review, the focus shifts to posters, communication, and environmental activism. Posters are often used as a medium for cultural trends and as an effective way of communication (Pryshchenko, 2021). The components of a poster are: "originality, compliance with the status of the product or service, clarity with consumer groups, aesthetics, variability of graphic language, metaphorical thinking" (Pryshchenko, 2021, p.29). Contemporary designs of posters are often individual or based on specific styles but interpreted freely. Climate organizations and movements use posters, both online and as billboards or stuck on walls, as calls for action to improve the environment. One such organization is Greenpeace, which fights for a green and peaceful future (Greenpeace International, n.d.-b). It organizes events, protests, petitions, and poster competitions. One of these poster competitions was an international contest held in 2016 named the Arctic Frontiers Poster Contest. It gained over 2000 submissions, which can be viewed online (Greenpeace International, n.d.-a). The winning poster is titled Save the Arctic, made by Sara Medina Rodriguez from Spain, who was 18 years old at the time of submission. The poster depicts a whale silhouette in the center, surrounded by a white glow that changes into a light blue, and in the edges of the poster into a dark blue. On the upper left corner of

the poster, the title of the artwork is placed in a white text font. The poster is visually simple but can spark an emotional reaction from the viewer. The whale seems to be alone in the dark depths of the ocean, its own body causing a white glow. The poster thus shows the importance of marine life and in a way, their helplessness against the rising temperatures and melting of the Arctic.

Another campaign from Greenpeace is the Climate Justice campaign, which has its own website with information on how local campaigns can unite under this global identity (Greenpeace, n.d.-a). The website includes different assets such as the chosen colors for the campaign, typography, iconography, and digital templates such as profile images and banners. By uniting local campaigns, Greenpeace helps create a united front which improves the credibility of local campaigns. Another sustainability movement that often utilizes posters and banners is Extinction Rebellion, which will be discussed in more detail in the upcoming section. The current project utilizes posters because of their popularity and effectiveness as environmental communication. This project is focused on local initiatives, however, as the posters are meant for the Middelburg community and its surroundings.

Doyle (2024) proposes to rethink environmental and climate communication as a form of care. This shift creates more conscious assets to respond to environmental crises with care. Doyle reflects on projects where she collaborated with artists and groups of young adults to create projects related to climate communication and practice climate learning/education and explains how this allows for the communicative dimensions of climate change to be applied through practice instead of being confined to the academic world. Bertaux (2017) argues that a need for action toward sustainability progress cannot only be communicated through scientific studies but instead should be complemented by the arts, to reach the public's heart. The arts can help stimulate empathy, motivation, and involvement in the public and therefore lead to motivation to change the current state of the

world and the environment. The current project follows both Doyle's and Bertaux's argumentation as the posters created apply academic research in the posters and do this by utilizing art.

Environmental Activism in Posters

To bring action into the world, activists often use artivism, a combination of art and activism. Artivism strives to change the world through direct action rather than representation (Jordan, 2017). Artivists from Extinction Rebellion's (XR) Dutch branch emphasize the notion of transformative imagination. One of their goals is to foster radical hope while also embracing fear and uncertainty (Stammen & Meissner, 2024). In their study, Stammer & Meissner (2024) found that XR's artivism campaigns do not always communicate their ideas of transformative communication for audiences outside of their movement. Furthermore, audiences with little prior knowledge often misinterpret or overlook the symbolism and references made in artivism campaigns. Stammer & Meissner advise XR should aim for a balance between creating a salient image of climate change, articulating a specific call for action, and envisioning a positive outcome or alternative future. The current project is in line with Stammer & Meissner's advice as it utilizes artivism in the posters, hopes to create a specific call for action, and envisions a positive future through Solarpunk aesthetics.

In their study, Hidalgo-Downing and O'Dowd (2023) found that out of their corpus of 51 non-commercial, climate activist posters, only 4 projected exclusively positive values. 16 posters implied exclusively negative values, and 31 posters conveyed mixed values, meaning they showed a negative message but also included a positive invitation toward action. The themes found in the posters, from lowest to highest frequency, were activism, climate change, global warming, and pollution.

Hansmann and Steimer (2015) found that witty, environmentally-oriented posters are liked more and seen as more effective than authoritarian, environmentally-oriented posters.

In their study, they asked participants about their opinions on three different posters with different texts, but the same imagery. Poster A had the text “because waste has no wings”, poster B contained the text “pollution forbidden”, and poster C had “protecting the environment”. The study was conducted in Switzerland and the original text on the poster was thus in German. The image on all three posters is of a person throwing away their trash in a trash can, with a dark blue background and the image and text in white. The text on poster A was partly a reference to the slogan used in an energy drink advertisement widely known at the time when the study was conducted. Hansmann and Steimer conducted research on the posters through a questionnaire, letting the participants rate the posters on whether they liked the posters, in which category they perceived them, and whether they judged the posters to help people throw away trash properly in the future. Their study did not include an analysis of disposal behavior. The current project takes the findings from this study into account regarding the text used. The poster does not include authoritarian commands or texts and is friendly and inviting instead.

The strategy coordinator of Extinction Rebellion Sweden (XRsv) described in a semi-structured interview that art is used as an element to bridge between the tactics XRsv uses; art accesses people’s emotions (Fagerholm et al., 2023). The seven tactics XRsv utilizes are visualizing the invisible, reframing reality, decision dilemmas, guerrilla communication, using strong symbols, public space, and connecting stories. Decision dilemmas relate to situations where the reaction can contribute to activism online, and public space relates to the questioning of how public space is used and providing alternatives. Besides the semi-structured interview, Fagerholm et al. (2023) also conducted a case study on XRsv’s first 334 Instagram posts. They have used illustrations in 44 of the posts, 52 posts contain text with a plain background, and a total of 176 posts use images. Tactics to activate people in the posts can be seen by the usage of slogans and using ambassadors such as Greta Thunberg.

Furthermore, XRsv often uses documentary-style pictures to explain the ongoing global climate emergency. In conclusion, Fagerholm et al. state that the fXRsv online strategy fits in with the three-step design activism model described by Seliger (2014). Seliger's model includes informing, explaining, and activating people.

Another way to incorporate this model in design activism is through shockvertising, which uses "unusual combinations of elements in odd scenarios in order to attract audiences to a certain brand or to bring awareness to a certain public service issue, health issue, or cause" (Pérez-Sobrino, 2016, p. 259). One of the 6 billboard campaigns analyzed in Pérez-Sobrino's study depicts a brown human torso sticking out of the ground, its head cut off, which shows the inside of the neck has age rings like those of a tree. The campaign is called "Killing a tree is murder too" and was created by the WWF. Pérez-Sobrino finds that these shockvertisements depict the defenselessness of plants and animals, as well as an iceberg effect of these campaigns where only part of a complex scenario needs to be portrayed to evoke the full scenario and related emotions in the viewer's mind.

The current project goes against this common narrative of using shockvertising or negative values in environmental activist posters and instead optimizes Solarpunk's positive outlook on the future to create posters that visualize greener futures achievable through greener practices.

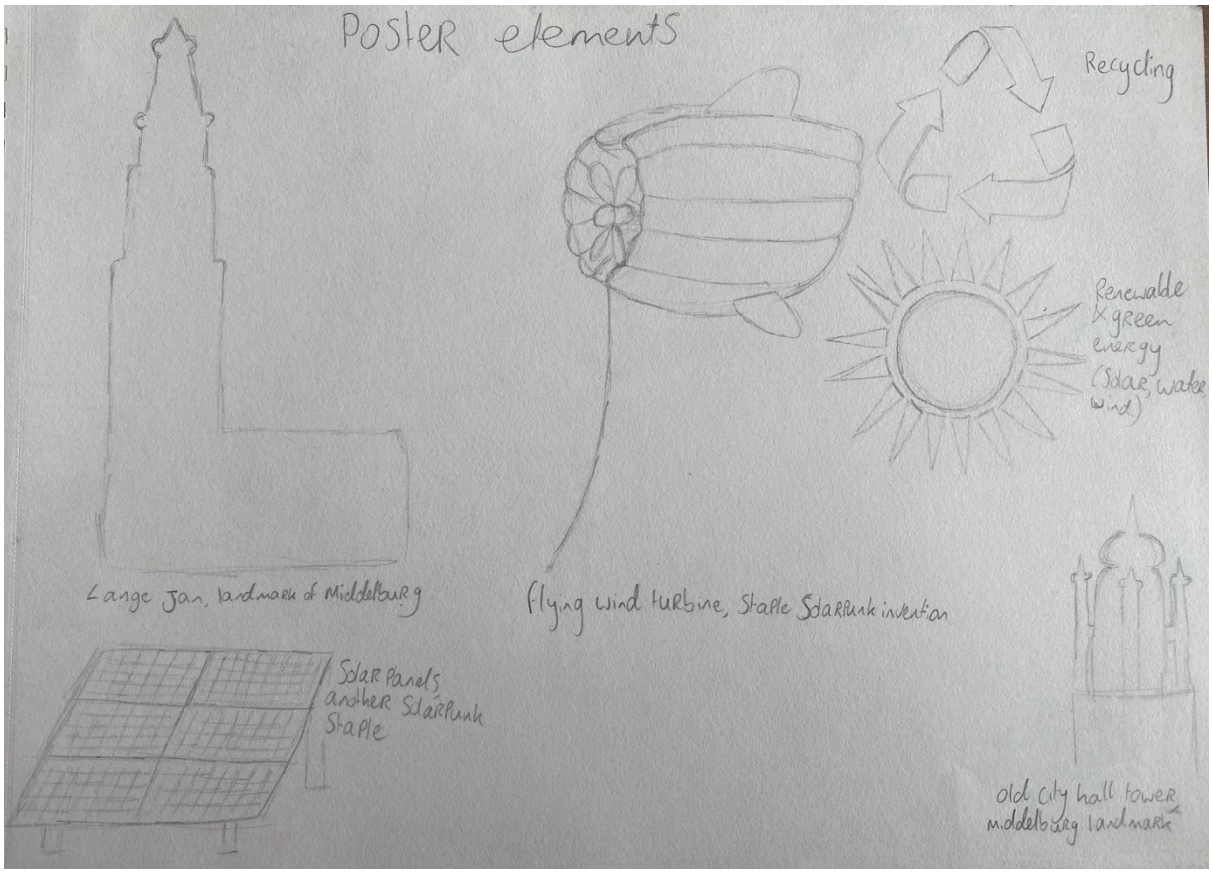
Climate change and other environmental issues are often conceptualized with metaphors and metonymies, to make these invisible issues visible. Environmental activism posters frequently use metonymies and metaphors in an Up-Down binary; they problematize consumption and its idea of 'more is better', or 'more is up' in the Up-Down binary (Cozen, 2013). The usage of these metaphors and metonymies thus often shows the negative values of our consumption-focused society, creating posters with negative messages. The current

project instead uses metaphors and metonymies to convey a positive message and to promote sustainable practices in everyday life.

Methodology

This project is an applied project, where the creation of posters is grounded in research, existing literature, and critical reflection. The process of this applied project is in line with Bloom's Taxonomy, which includes 6 hierarchal levels of thinking: learning, remembering, understanding, analyzing, evaluating, and creating (What Is Bloom's Taxonomy?, n.d.). The first 5 levels can be found within the literature review of this project, where current literature in multiple fields is explored and critically analyzed. The 6th level of creating can be found in the creation of the poster. The applied project consists of different stages. First, the research stage, in which the above literature review was developed, and information was gathered. The literature review does not only give an overview of existing knowledge and debates in the relevant fields but also includes discussions to further understand and critically reflect on the literature in relation to the project. It includes literature and research on culture, archeology, language, and arts, thus giving a broad and interdisciplinary overview. Posters were chosen as a medium for the project as they are often successfully used as a means of communication (Pryshchenko, 2021) by environmental organizations and movements. Solarpunk as a movement and aesthetic was the initial inspiration for the project, as it stands out from other science-fiction-based movements with its optimistic outlook on the future and inventions grounded in reality. Because of its positive depiction of a sustainable future, Solarpunk is an innovative aesthetic to utilize in positive posters that engage the local Middelburg community to practice sustainability. After the completion of the literature review, draft sketches for the project were made and the project went into the second stage, the creation stage.

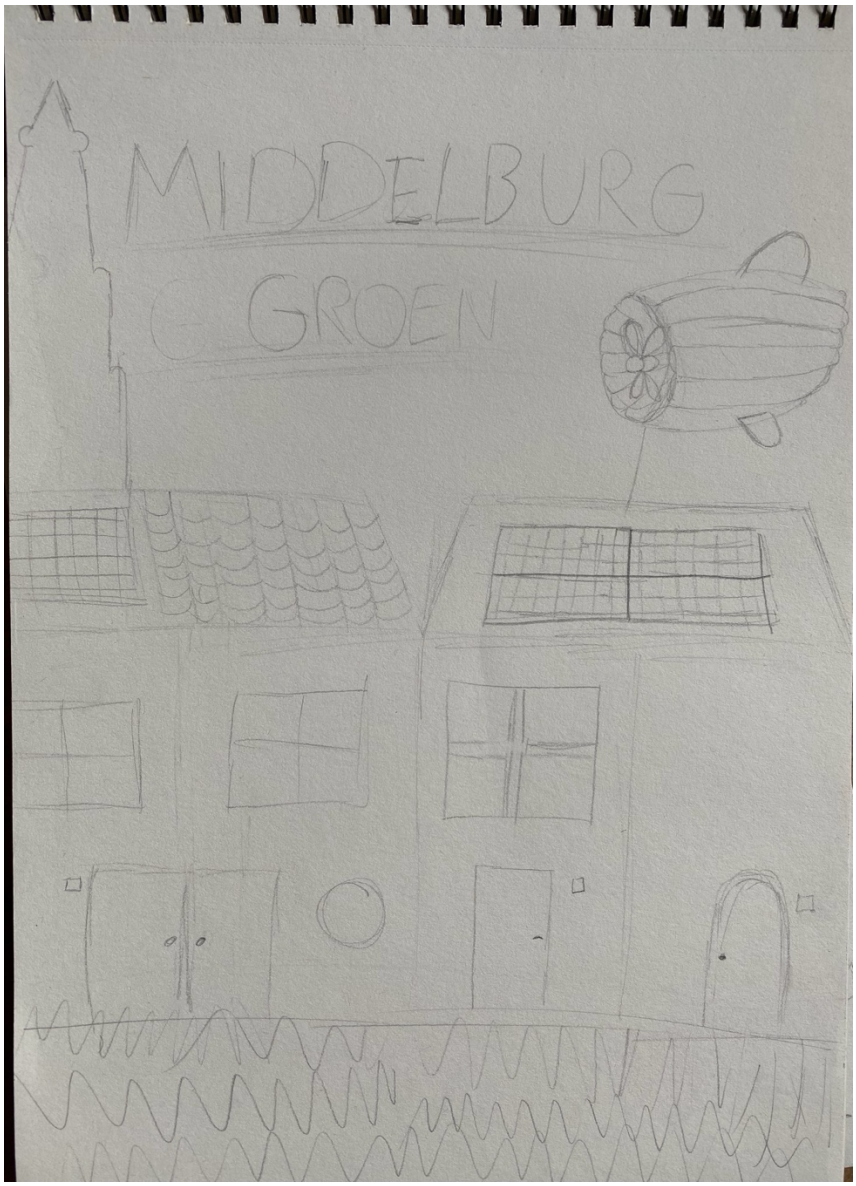
Figure 1



Note. A pencil sketch of possible poster elements.

The first sketch contains possible poster elements. These elements are taken from Solarpunk drawings and artworks, such as the flying wind turbines and solar panels, as well as landmarks from Middelburg such as the Lange Jan and the tower of the old city hall. The Solarpunk elements will be used to show a positive, green future that is achievable in Middelburg, whereas the landmarks will be indications that the poster has a local focus. After this first sketch of the elements, a sketch of the poster layout was made.

Figure 2



Note. A pencil sketch of the poster.

The poster sketch incorporates the different elements of the first sketch with elements to create a drawn landscape of a Solarpunk Middelburg, with space towards the top of the poster for a slogan. After this layout sketch, the final poster was created using the editing and design website Canva.

Figure 3

Note. The final poster in Dutch.

In the final poster, the composition and some of the elements have changed. Instead of the Lange Jan, the old city hall is placed in the background, an even clearer indicator of the Middelburg city center. Middelburg is depicted in a cartoon style on a sunny day. Two of the houses in the foreground of the poster have solar panels on their roofs. All the houses include plants either in the windows or on the outside of the houses, and, in the foreground, there is a field of grass. 'Middelburg' is written in an orange text font, to represent the orange color that the Middelburg municipality uses. "groen", in English "green", is in a green font that reminds of nature as the 'r' and 'o' have a leaf pattern within the font. On the bottom of the poster the text "saldeer voor de toekomst" is placed in a white text font, in English "supply for the future" (see Appendix for the English poster). The flying wind turbine was digitally drawn using the app Procreate, by using the wind turbines from the video "Dear Alice" (THE LINE, 2021) as inspiration. The other poster elements were taken from Canva's digital library of assets. In line with Doyle's (2024) and Bertaux's (2017) research, the poster was created after extensive academic research, thus combining the academic and the artistic worlds within this project. Furthermore, the poster aimed for a specific call for action, as advised by Stammer & Meissner (2024), namely the adaption of solar panels by people from the Middelburg community. The poster works against the commonly used negative values in environmental activism posters (Hidalgo-Downing & O'Dowd, 2023), by instead showing positive imagery in the poster to stimulate positive change. The poster also refrains from using shockvertizing, another commonly used method within environmental poster activism (Pérez-Sobrino, 2016). After this creation stage, the project moves into the discussion and conclusion stages.

Discussion

The poster uses Solarpunk imagery such as green urban landscaping, flying wind turbines, and solar panels, as well as a Middelburg landmark. Green is an important color and theme within the poster as it signals the green and sustainable message that it tries to convey. This is achieved through the green text, the plants inside and outside of the houses, and the green grass in the foreground of the poster. This green focus is further emphasized by the slogan “Middelburg Groen”, in English “Middelburg Green”, again focusing on the possibilities of a green future for the city. The solar panels are the focus of this poster, clarified through the text “saldeer voor de toekomst”. The poster thus calls viewers to invest in solar panels for the future of Middelburg. The airborne wind turbine and solar panels were chosen as Solarpunk elements as these have been two of the most prominent items in Solarpunk art and projects that were discussed in the literature review.

Limitations

This research, however, is subject to several limitations. Due to time constraints, opinions of the local community could not be assessed. Hypothetically, if time had allowed for research, qualitative research would have been done to assess the opinions of Middelburg locals regarding the posters. This would be done through non-probability, convenience sampling: through an online survey, as well as short interviews with people on the streets. Both the interviews and the survey would be available in Dutch and English. The in-person interviews would be semi-structured, with written down questions on an interview guide as well as follow-up questions where necessary. These questions would focus on the interviewees’ opinions regarding the posters with questions such as “Does this poster inspire you to change habits in your daily life?” and “What are your opinions on the Middelburg depicted on this poster?”. The online survey would consist of statements that participants would respond to using the following 5-point Likert scale: strongly disagree, disagree,

neutral, agree, strongly agree. An example of a statement that could be used in the survey is "This poster inspires me to be more sustainable in my everyday practices (by separating waste, recycling, reusing containers and plastic bags, etc.)."

Another limitation of this project is the inability to hang up the poster around Middelburg, again due to time constraints. Had this been possible, the poster could have been printed on recycled paper and placed around Middelburg on poster spots such as on Molenwater street, as well as at bus stops. The poster spot at Molenwater street seems to be a location where posters can be stuck without any permission beforehand. Bus stops and other places throughout the city, however, would have to be paid for and/or discussed with the municipality beforehand. Due to weather conditions, posters without protection would likely get damaged. This could be prevented by using waterproof paper for the posters, or by replacing damaged posters with new ones. For long-term use, waterproof posters would be a better solution as this takes less paper and is therefore more environmentally friendly. To envision what it would look like to have the posters up around Middelburg, the poster was photoshopped onto the poster spot at Molenwater street (see Figure 4). Besides the physical posters, the project could be continued online through the creation of social media accounts on platforms such as Facebook and Instagram, where a digital version of the poster could be posted, as well as other information on simple sustainable practices one can incorporate into their daily life. Possibilities for a collaboration with the Middelburg municipality could also be researched for further engagement with the local population.

Figure 4

Note. Picture in which the poster is photoshopped onto the poster spot at Molenwater street.

Due to the scope size and time limitations of this project, it was not possible to provide a full overview of previous research and literature within the fields of Solarpunk, environmental posters, sustainability communications, and artivism. Therefore, this research might not include important knowledge and/or studies within one or multiple of these fields, possibly leading to wrong assumptions within the literature review. Related to the previous limitation, this research did not have full access to all literature and research within the relevant fields. This, again, indicates the possibility of missing important academic works in the literature review. Both limitations thus reduce the strength of the literature review.

Finally, while the research was intended to be unbiased, a personal bias might have come into play regarding Solarpunk. The researcher has positive feelings towards the Solarpunk movement, thus potentially viewing the movement in a more positive light than usual. The research tried to avoid this bias by looking into criticism of the Solarpunk movement from a neutral standpoint. However, it is unfortunately impossible to completely evict biases within the research.

Conclusion

This project aimed to utilize Solarpunk aesthetics in environmental activism posters, aimed at the Middelburg community to promote sustainable practices, with a focus on the adaption of solar panels. Solarpunk, both as a movement and as a set of values and ideas, was critically explored in the literature review, as well as Solarpunk art and projects, poster aesthetics, and art activism. The hopeful nature and often-used imagery of Solarpunk were uncovered, as well as existing artistic projects or other projects that embody Solarpunk ideas and values. Furthermore, research into posters, environmental communication, and environmental artivism showed what posters entail, the need for more connection between academics and artists, a need for clear goals within artivism, and a tendency to portray exclusively negative emotions in environmental activism posters. The poster created envisioned a Solarpunk Middelburg, with a message to inspire the local community to invest in solar panels for the future. While opinions on the poster could not be gathered, this project has shown that Solarpunk aesthetics is a useful tool for creating positive environmentally activist posters.

As the current research was unable to do so, it is recommended that future research into the interdisciplinary field of this project focuses on studying the opinions of communities on locally targeted, environmentally activism-oriented posters. This could be done in Middelburg, as well as in neighboring cities like Vlissingen and Goes, to compare and analyze the opinions per city. Within this comparative study, different movements' aesthetics could be used to create a comparison, i.e. Solarpunk and Steampunk, to research which movement receives the most positive opinions from the local communities. The research could also research different types of posters: one focusing on solar panels, one focusing on recycling, and one focusing on reducing energy consumption. Furthermore, the effect of artistic inventions on communities' sustainability efforts, such as this project, is a highly

unexplored area of research. Thus, future research could focus on the effects of different types of artistic inventions to determine which has the best positive effect on a community. This research could again be done locally, within a city like Middelburg, or it could be a comparative study between different communities, like cities in Zeeland, to analyze and compare the outcomes of the interventions among the different communities per city. Another interesting focus would be on a national level, for example, The Netherlands. The artistic inventions researched in this study could be posters, street performances, and perhaps artworks placed in public.

Solarpunk is a new and growing movement and has thus not often been the focus of academic research. Further research should be focused on mapping the growth of this intriguing movement and its ideas and values both online and in person. The study could be a documentation of the growth within the movement over the span of a year, for example, or it could be historical research on big developments within the movement over the past five years. An interesting area of focus within such studies could be researching how Solarpunk is an inspiration to develop new sustainable inventions and what developments in green energy have been credited to Solarpunk.

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Appendix

Note. The final poster in English.