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Faculty of Design

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BACHELOR'S THESIS

on the topic:

Development of a modern poster on the theme of carbon

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ABSTRACT

In recent years, excessive greenhouse gas emissions have led to abnormal global climate patterns, rising temperatures, and melting of ice in the Antarctic and Arctic, heightening the risk of climate crises. Promoting a green and low-carbon transition in the economy and society is a crucial path to address climate change, as well as an essential approach to advancing ecological civilization construction, high-quality economic and social development, and enhanced environmental protection.

In recent years, the alarming escalation of greenhouse gas emissions, primarily resulting from human activities such as industrial processes, deforestation, and the burning of fossil fuels, has significantly disrupted global climate systems. This anthropogenic interference has triggered a cascade of abnormal weather patterns, including more frequent and intense heatwaves, droughts, floods, and storms, posing severe threats to ecosystems, biodiversity, and human societies worldwide.

The polar regions, particularly the Antarctic and Arctic, have become the proverbial canaries in the coal mine, with their rapidly melting ice sheets and glaciers serving as stark indicators of the pace at which our planet is warming. This melting not only contributes to rising sea levels, threatening coastal communities and infrastructure but also disrupts ocean currents and weather patterns, further exacerbating the global climate crisis. The loss of reflective ice cover also accelerates warming through a feedback loop known as the albedo effect, where less sunlight is reflected back into space, leading to increased absorption of heat by the Earth's surface.

As the world's second-largest economy, China has experienced substantial greenhouse gas emissions amidst its rapid development, ranking first globally in such emissions. Achieving carbon peak and carbon neutrality has thus become the most pressing ecological issue. China has set the task of reaching carbon peak by 2030 and carbon neutrality by 2060, clarifying its development goals.

As individuals, how can we contribute to these carbon peak and neutrality targets? This graduation project focuses on the research and design of basic daily low-carbon living practices, including the creation of a low-ca.rbon lifestyle IP image, design of low-carbon lifestyle posters, information visuali.zation design for low-carbon living, and font logo design.

Keywords: Low-carbon lifestyle; IP image design; Information visualization design; Conference visual design.

CONTENTS

Introduction

Since the dawn of the Industrial Revolution, humanity has witnessed an unprecedented surge in greenhouse gas emissions, with carbon dioxide assuming a leading role in this dramatic escalation. This exponential rise, fueled by industrialization, urban sprawl, and population growth, has set in motion a chain reaction of global proportions. The atmospheric concentration of these gases, acting akin to a thickening blanket, traps heat and disrupts Earth's delicate climatic balance, giving birth to a phenomenon known as global warming. This climatic upheaval is not a passive change; it actively reshapes the face of our planet, altering weather patterns in profound ways. Natural disasters, once relatively predictable, now occur with heightened intensity and greater frequency, from devastating hurricanes to prolonged droughts, severely impacting agriculture, threatening food security, and reshaping human settlements and ecosystems.

The Intergovernmental Panel on Climate Change (IPCC)’s Fifth Assessment Report serves as a clarion call, underscoring the urgency of our predicament. It emphasizes that only through substantial and sustained efforts to curb greenhouse gas emissions can we hope to mitigate the looming risks of climate change. The report underscores the need for a paradigm shift in how societies produce and consume energy, highlighting that the window for action is narrowing.

In the context of this global crisis, China, as the world's foremost emitter of carbon dioxide, finds itself at a critical juncture. Its meteoric economic rise, though awe-inspiring, has been accompanied by a proportional increase in emissions. The year 2021 bore witness to a 6% year-on-year growth in carbon dioxide emissions, further amplifying the pressure on the nation to recalibrate its development trajectory. The traditional model of “extensive” growth, characterized by unchecked resource exploitation and pollution, is increasingly untenable. China's commitment to transitioning towards a greener, more sustainable path is not merely an

environmental imperative but also a strategic necessity for its continued economic prosperity.

The concepts of "carbon peak" and "carbon neutrality" are thus not abstract targets but actionable milestones in this journey. They embody a strategic roadmap that charts a course towards a future where economic growth and environmental stewardship coexist harmoniously. Achieving these goals necessitates a collective effort, transcending national borders and involving every stratum of society. From individuals making conscious choices to adopt low-carbon lifestyles to industries embracing circular economies and clean technologies, each action contributes to a collective momentum towards a more sustainable world.

Individuals hold the power to effect change through simple yet impactful actions such as using public transport, adopting renewable energy at home, reducing waste, and supporting eco-friendly products. These choices, when multiplied across populations, foster a culture of environmental consciousness and pave the way for a low-carbon circular economy. This economic model, by design, minimizes waste and promotes resource efficiency, thereby reducing the carbon footprint associated with production and consumption.

Ultimately, the pursuit of "carbon peak" and "carbon neutrality" is about more than mitigating climate change; it is about fostering a transformation that leads to high-quality social development. It envisions a world where economic progress does not come at the expense of the environment, but rather enhances it, ensuring a habitable planet for future generations. Every step taken towards this vision, no matter how small, is a stride towards a sustainable future where humanity and nature thrive in harmony.

Chapter I
Topic Introduction

A low carbon lifestyle is an essential and proactive approach to daily existence that revolves around minimizing carbon emissions in every aspect of life. It serves as a guiding principle, encouraging individuals and communities to adopt habits and choices that result in reduced greenhouse gas production, thereby contributing to the global effort against climate change. For a country like China, with its immense population, even small changes at the individual level can aggregate into substantial reductions in overall emissions, playing a pivotal role in realizing the ambitious targets of reaching carbon neutrality and peaking carbon emissions.

At its core, transitioning to a low carbon lifestyle encompasses a wide array of actions that touch upon various aspects of our routines. Low-carbon transportation, for instance, promotes the use of bicycles, walking, public transport, or electric vehicles over traditional gasoline-powered cars, significantly cutting down on emissions from the transportation sector. This not only reduces carbon footprint but also alleviates traffic congestion and improves air quality in urban areas.

Garbage recycling and waste reduction are another crucial element of low carbon living. By separating recyclables from general waste, individuals can promote resource conservation and efficient use, turning waste into a resource that feeds back into the production cycle. Composting organic waste further contributes to reducing methane emissions from landfills and provides a natural fertilizer for gardens and agriculture.

Water resource reuse and conservation measures are equally important. Simple acts such as fixing leaky faucets, using water-efficient appliances, and adopting rainwater harvesting systems can lead to significant water savings. These practices not only alleviate pressure on freshwater resources but also reduce the energy

required for water treatment and distribution, indirectly contributing to carbon emission reduction.

Furthermore, adopting energy-efficient practices at home, such as using LED light bulbs, improving insulation, and opting for renewable energy sources like solar panels, can drastically cut down household energy consumption and associated carbon emissions. Embracing digital solutions over paper, supporting local and seasonal food, and reducing meat consumption in favor of plant-based diets are additional ways individuals can contribute to a low carbon lifestyle.

Indeed, low carbon living is more than a mere concept; it embodies a dynamic set of actions and choices that collectively drive change. It is a call to action, urging each one of us to be mindful of our ecological footprint and to actively participate in creating a greener, cleaner environment. By making conscious decisions and integrating low carbon practices into our daily routines, we not only contribute to mitigating climate change but also foster a healthier and more sustainable future for ourselves and generations to come. In essence, the low carbon lifestyle transforms from being a noun that defines an ideal into a verb, representing the continuous efforts we undertake towards a more harmonious coexistence with nature.

1.1 Reason and determination of topic selection

As the wheels of economic progress continue to accelerate and urban landscapes transform under the banner of industrialization, the dynamics of carbon emissions have become a focal point of global concern. In this era of unprecedented growth, China stands at the forefront, acknowledging the pressing need for sustainable development by outlining ambitious targets: achieving carbon neutrality and peaking carbon emissions in the near future. These national commitments echo a global call for action, underscoring the pivotal role every individual must play in shaping a greener tomorrow.

Embarking on a journey titled "Carbon Outlook for the Future," we venture into exploratory territories akin to "Exploring the Future," where the central investigation revolves around the environmental pollution caused by carbon dioxide emissions. This research endeavor delves deep into the intricate relationship between human actions and the ecological footprint they leave behind. By examining the minutiae of daily life, from commuting choices to consumption patterns, the study illuminates how individual behaviors cumulatively influence the planet's atmospheric health.

The overarching design of this research is meticulously crafted to reflect not just the essence of low-carbon living but also to cast a forward-looking gaze upon the future of our ecological environment. It serves as a beacon, guiding us towards understanding the ripple effects of our actions today on the world of tomorrow. By weaving together scientific data, behavioral analyses, and real-world examples, the project paints a vivid picture of the potential outcomes, both optimistic and grim, awaiting our planet based on our current trajectory.

The research methodology incorporates a blend of quantitative assessments, such as analyzing carbon footprints associated with various lifestyle choices, and qualitative evaluations that explore attitudes, motivations, and barriers to adopting low-carbon lifestyles. This dual approach ensures a comprehensive understanding of how personal choices can be recalibrated to reduce environmental harm.

Furthermore, "Carbon Outlook for the Future" goes beyond academic inquiry; it aspires to be a catalyst for change, empowering individuals with knowledge and practical strategies to minimize their carbon footprint. By emphasizing the interconnectedness of personal actions with broader environmental consequences, it fosters a sense of collective responsibility and inspires proactive steps towards a more sustainable existence.

In essence, the project encapsulates a hopeful narrative, envisioning a future where mindful living and conscious decision-making converge to create a world less burdened by carbon emissions. It underscores that each individual choice, however

small, contributes to a larger tapestry of change, paving the way for a cleaner, healthier, and more resilient planet. Thus, "Carbon Outlook for the Future" is not merely a research topic; it is a clarion call for transformative action, guiding us towards a more sustainable and harmonious coexistence with our environment.

1.3 Introduction to Topic Content

The initiative aims to innovatively incorporate Intellectual IP image elements into the promotion of low-carbon lifestyle behaviors, leveraging the power of visual storytelling and engaging design to inspire and educate the public. By focusing on four key aspects of daily life—garbage recycling, resource recycling, water conservation, and low-carbon travel—the project seeks to create a compelling narrative that encourages individuals to adopt more environmentally friendly habits.

Information visualization techniques will play a pivotal role in this endeavor, transforming complex data and statistics into easily digestible visuals that effectively communicate the impact of individual actions on the environment. Through infographics, interactive charts, and animations, the campaign will illustrate how small changes in daily routines can cumulatively lead to significant reductions in carbon emissions and promote sustainable living.

Poster design, as a powerful tool for visual communication, will be creatively utilized to showcase the designed IP characters embodying the spirit of low-carbon living. Each character could represent a different aspect of the low-carbon lifestyle, personifying garbage recycling, resource efficiency, water-saving, and eco-friendly transportation. These visually appealing and relatable characters will serve as ambassadors, engaging audiences and inspiring behavioral change through their stories and adventures, making the concept of low-carbon living more accessible and appealing.

In addition to these outreach efforts, the project also plans to organize a Low-Carbon Environmental Protection Peak Conference, where stakeholders from various sectors, including government, academia, industry, and civil society, can converge. The conference will serve as a platform to discuss, share best practices, and strategize on how to accelerate the transition towards a greener society. The design of the conference, from branding materials to the layout of the venue, will reflect the low-carbon ethos, using eco-friendly materials, energy-efficient lighting, and minimizing waste generation, thus walking the talk.

A highlight of the conference could be an exhibition featuring the IP-inspired designs and posters, showcasing the creative ways in which these characters promote low-carbon behaviors. Interactive workshops and panel discussions could also be organized, where participants learn about practical steps they can take in their daily lives and engage directly with the IP characters, further reinforcing the message of low-carbon living.

Ultimately, by integrating these visually captivating IP elements into the promotion of low-carbon lifestyles and through the strategic organization of the conference, the project endeavors to create a lasting impact. It aspires to not only raise awareness about the importance of low-carbon living but also to foster a cultural shift where environmentally responsible behaviors become the norm, thereby accelerating the greening of our ecological environment and paving the way for a sustainable future.

1.4 Topic research and research methods

The interdisciplinary scope of "Carbon Outlook for the Future" necessitates a multidimensional approach, weaving together insights from environmental science, psychology, sociology, and design studies. This holistic strategy aims to craft compelling visual narratives that resonate deeply with audiences, fostering a broader

understanding and engagement with the imperative of low-carbon lifestyles. Here's an expanded explanation of the methodologies outlined:

Literature Reading Method This foundational step involves immersing oneself in a vast corpus of literature that spans across various disciplines pertinent to the topic. Researchers will comb through academic journals, monographs, and reputable online sources to gather comprehensive data on the theoretical underpinnings and practical implementations of low-carbon living strategies worldwide. By meticulously categorizing and synthesizing this information, they will establish a solid groundwork for understanding the contextual complexities, challenges, and successes in promoting low-carbon practices.

Comparative Research MethodTo enrich the design perspective, a comparative analysis of similar projects will be executed. This includes a meticulous examination of domestic and international creative works focusing on low-carbon lifestyles, specifically delving into case studies on low-carbon travel. Each work will be assessed based on its conceptual framework, thematic relevance, and execution, with a keen eye on identifying elements that resonate with the target audience. Lessons learned from both the triumphs and setbacks of these initiatives will inform the development of a robust and impactful visual strategy for "Carbon Outlook for the Future."

Comprehensive Research MethodGoing beyond desk research, this method employs a blend of qualitative and quantitative techniques, such as on-site observations, surveys, and big data analysis. The goal is to grasp the tangible impacts of greenhouse gas emissions on ecosystems, economies, and societies. By grounding the research in real-world evidence, the project will achieve a higher degree of precision and relevance, ensuring the visual communication strategies devised are not only aesthetically pleasing but also empirically grounded and persuasive.

Case Analysis Method A critical component involves deconstructing successful promotional campaigns and designs that have effectively communicated environmental messages. By dissecting the narrative structures, aesthetic choices, and cultural nuances employed in these works, researchers will distill key elements that resonate with diverse audiences. This understanding will inform the creation of culturally sensitive and impactful visuals tailored to the "Carbon Outlook for the Future" narrative.

Discussion MethodCollaborative dialogue plays a pivotal role in refining ideas and enhancing the project's depth. Frequent brainstorming sessions and critiques with faculty members and peers facilitate the exchange of perspectives and the identification of blind spots. This iterative process of reflection and refinement ensures that the project evolves dynamically, addressing potential weaknesses and capitalizing on strengths. The outcome is a well-rounded, meticulously considered visual communication strategy that effectively encapsulates the urgency and promise of a low-carbon future.

In,this multi-faceted research approach combines rigorous scholarship with creative innovation, ensuring that "Carbon Outlook for the Future" not only informs but also inspires, mobilizing individuals and communities towards a more sustainable tomorrow.

Summary of the chapter I

Low-carbon living focuses on daily practices that reduce carbon emissions, aiming to support the nation's progress towards carbon neutrality and peak carbon targets. Given China's substantial population, even minor emission reduction efforts, when aggregated, significantly contribute to curbing total greenhouse gas emissions. Therefore, adopting measures such as choosing low-carbon transportation, actively

participating in waste sorting and recycling, and efficiently utilizing water resources are vital for fostering a greener and fresher living environment.

This project intends to integrate IP character design, promoting low-carbon lifestyle practices in an engaging and entertaining manner. Leveraging infographics and creative posters as visual communication tools, it centers around four key daily actions: waste classification and recycling, resource circulation and renewal, water conservation, and eco-friendly commuting. These creative expressions aim to deeply instill the value of low-carbon living. Additionally, it outlines a foundational framework to facilitate a Low-Carbon Environmental Summit, further propelling the exchange and popularization of low-carbon concepts, thereby accelerating the transition of our social ecosystem towards greener standards.

While public awareness and initial implementation of low-carbon lifestyles have shown positive signs, there remains considerable room for improvement, particularly in embedding this consciousness into daily habits and encouraging broader participation. In other words, although the start is promising, the challenge lies in making low-carbon ideology an instinctive behavior for everyone and inspiring collective involvement among communities – a realm with ample potential for growth.

Chapter II

2.1. Causes of low-carbon lifestyle

Low carbon, also known as low-carbon in English, aims to reduce greenhouse gas emissions, especially carbon dioxide. Low carbon lifestyle emphasizes reducing energy consumption in all aspects of daily life, in order to reduce air pollution and alleviate the deterioration of the ecological environment. This concept was initially popular abroad and can be seen as an energy-saving, frugal, and economical lifestyle.

For industrial production, low-carbon means abandoning outdated production capacity and promoting energy conservation and emission reduction through technological innovation. For ordinary people, adopting a low-carbon lifestyle is not only a new attitude towards life, but also a reform of their past habits of wasting resources. It advocates starting from daily details, such as saving water, electricity, reducing fuel and gas usage, in order to achieve the effect of reducing carbon dioxide emissions.

Given the alarming pace of global climate change, it has become imperative for every individual to acknowledge their role and assume responsibility in mitigating its impacts. Adjusting one's lifestyle to align with low carbon principles and adopting eco-conscious consumption patterns are no longer choices but imperatives. By doing so, we embark on a journey back to fundamentals—embracing a way of life that is more attuned to nature, prioritizing health, and ensuring safety for present and future generations. The vision of a harmonious coexistence between humanity and the natural world, where both thrive without compromising the other's wellbeing, lies at the core of this low carbon ideology. It is a testament to our collective will to restore balance and secure a sustainable, resilient, and greener planet for posterity.

2.2 Positioning

1. Communicating and Popularizing Scientific Knowledge on Carbon Emissions through Information Visualization Design

In the quest for a greener planet, information visualization design emerges as a potent tool to disseminate scientific knowledge about carbon emissions and low-carbon living. This approach breaks down complex data into visually compelling narratives that resonate with a wide audience. Focusing on four key aspects—low-carbon transportation, waste recycling and utilization, maintaining a low-carbon lifestyle journal, and efficient water management—the design strategy aims to educate and inspire individuals to adopt eco-friendly habits.

Low-Carbon Travel: Visual representations such as interactive maps, infographics, and animations demonstrate the carbon footprint reduction achievable through cycling, walking, or using public transport compared to personal vehicles. These visuals underscore the benefits of carpooling, electric vehicles, and other sustainable modes of transport.

Garbage Recycling and Utilization: Through colorful diagrams and 3D illustrations, the process of waste segregation, recycling, and upcycling is demystified. Viewers learn how everyday items can be transformed into valuable resources, reducing landfill waste and greenhouse gas emissions.

Low-Carbon Lifestyle Diary: Engaging users in tracking their daily activities, a digital or printable diary format incorporates visual prompts for energy conservation, reduced paper use, and mindful consumption. Gamification elements, like badges or progress bars, incentivize positive behavior changes.

Water Resource Conservation and Utilization: Infographics and animated flowcharts illustrate the connection between water conservation and carbon reduction. Techniques for efficient water use at home, rainwater harvesting, and the role of sustainable water management in mitigating climate change are vividly presented.

2. Low-Carbon Lifestyle Poster Design: A Creative Visual StrategyPosters, with their blend of artistry and information, become powerful conduits for promoting low-carbon lifestyles. Each poster encapsulates a daily activity—such as turning off lights when not in use, using reusable bags, or eating locally sourced food—that contributes to reducing carbon footprints. By transforming abstract sustainability goals into relatable, aesthetically pleasing visuals, these posters facilitate immediate comprehension and emotional connection, spurring individuals to adopt more earth-friendly practices.

3. Creating an IP Image for the Theme: Deepening Public PerceptionDeveloping an Intellectual Property (IP) character or mascot dedicated to the low-carbon cause adds a layer of personality and memorability to the campaign. This character could be featured across all visual materials, becoming synonymous with the low-carbon lifestyle movement. Through its adventures, challenges, and successes, the IP image fosters an emotional bond with the audience, encouraging them to internalize and identify with the values of low-carbon living.

4. Design Materials for the Low-Carbon and Environmental Protection SummitTo elevate the discourse and impact of global sustainability efforts, meticulously designed materials for an international summit are crucial. These materials might include visually striking presentation decks, interactive exhibits, and brochures that highlight cutting-edge research, successful case studies, and practical guidelines for implementing low-carbon solutions. The summit's design elements should not only inform but also inspire attendees, media, and the broader public, catalyzing a global commitment towards a greener, more sustainable Earth. By showcasing innovative technologies, policy frameworks, and community initiatives, these materials play a pivotal role in disseminating best practices and accelerating the transition to a low-carbon economy.

2.3 Current research status at home and abroad

(1)Current situation abroad: From a regional perspective, Asia's carbon emissions have rapidly increased driven by economic growth in countries such as China and Japan, gradually becoming the world's largest carbon emitting region; The carbon emissions in North America and Europe have gradually decreased and entered a negative growth stage. Oceania, Africa, and Antarctica, due to their extremely low carbon emissions, will not be analyzed here. From the perspective of regional carbon emissions, Asia is currently the world's largest carbon emitting region, with carbon emissions far exceeding other regions. The main reason is that many Asian countries began large-scale economic construction after World War II. With the rapid economic development of countries such as China, Japan, South Korea, and India, the demand for energy, industrial products, etc. increased sharply, which led to a rapid increase in carbon emissions. Asia's carbon emissions surpassed North America in 1985 and Europe in 1992, becoming the region with the highest carbon emissions in the world. Carbon emissions increased from 1.646 billion tons in 1965 to 20.242 billion tons in 2019, a growth of more than 12 times. The annual carbon emissions in Europe and North America have gradually decreased since around 2008.

(2)Domestic situation: For a long time, China has actively participated in global governance, incorporating greenhouse gas emission reduction tasks into the national five-year plan and 2035 long-term goals. In terms of implementing policies, China's energy-saving and emission reduction actions have achieved significant results through a series of measures such as industrial structure adjustment, energy structure optimization, energy efficiency improvement, carbon market construction, and increased ecological carbon sinks. In 2019, China's CO2 emissions per unit of GDP (carbon intensity) decreased by 48.1% compared to 2005, with non fossil fuels accounting for 15.3%. It has already exceeded and exceeded the 2020 climate action target.

To further strengthen the response to the climate crisis and make greater contributions to the global carbon reduction process, China announced new national

independent contribution goals and long-term vision at the 75th United Nations General Assembly and Climate Ambition Summit. Compared to the National Independent Emission Reduction Contribution (NDC) plan submitted in 2015, carbon intensity has increased from "peaking around 2030" to "peaking before 2030 and carbon neutrality before 2060", the proportion of non fossil fuels has increased from 20% to 25%, and forest storage has increased from 4.5 billion cubic meters to 6 billion cubic meters. These new goals have multiple meanings and demonstrate China's active responsibility in responding to global climate change, which is conducive to promoting comprehensive green transformation and accelerating the formation of a clean, efficient, green, and safe modern governance system. Foreign research scholar Econometric modeling for energy losses and GHG emissions scenario: a governance case for toll digitization [J] Alexey Mikheev, Kanwar Muhammad Javed Iqbal, Irina Kapustina, Fida Hussain The E3S Web of Conferences article elaborates on carbon emissions, pointing out that global climate change not only affects biodiversity, but also threatens human health and well-being. As the main source of greenhouse gas emissions, enterprises play a crucial role in carbon reduction.

Summary of chapter II

Global warming poses a significant threat to biodiversity and jeopardizes human health and well-being. As major contributors to greenhouse gas emissions, businesses hold an indispensable role in driving emission reductions. In light of the pressing urgency of climate change, every individual bears the responsibility to adjust their lifestyle and consumption patterns, integrating low-carbon principles into daily routines, eschewing wastefulness, and embracing a natural, healthy, and secure way of life that fosters a harmonious coexistence between humans and nature.

To convey the significance of low-carbon living and disseminate knowledge about carbon emissions, information visualization designs are employed to educate and raise awareness among the public. Through the creation of low-carbon lifestyle

posters, visual representations of everyday behaviors are utilized to resonate with people's understanding and sentiments regarding low-carbon living.

The illustration of an IP character serves to visually imprint the concept of low-carbon living on the public consciousness, cultivating a deep-seated endorsement of this lifestyle. Designing promotional materials for low-carbon environmental summits further amplifies the dissemination of low-carbon knowledge and the promotion of eco-friendly behaviors, contributing to the advancement of a greener and more sustainable environment for our planet.

Rephrased without altering the original meaning:

Amidst the escalating crisis of global warming, which imperils biodiversity and endangers human health and welfare, corporations, being pivotal sources of greenhouse gases, are entrusted with a critical mission to spearhead efforts in curtailing emissions. Acknowledging the exigency of climate change, it is incumbent upon each individual to recalibrate their lifestyle choices and consumption patterns, embedding low-carbon principles into daily activities, shunning extravagance, and reverting to a lifestyle that is inherently natural, healthy, and safe, thereby restoring harmony between humanity and the natural world.

Through the medium of information visualization, the salience of low-carbon living and the rudiments of carbon emissions are communicated to the populace. Low-carbon lifestyle posters serve as visual conduits, translating everyday actions into compelling narratives that catalyze a shared cognizance and emotional resonance concerning low-carbon living.

The creation of an IP character is instrumental in etching the ethos of low-carbon living onto the public psyche, nurturing a heartfelt endorsement of this lifestyle choice. Additionally, crafting promotional materials for summits centered on low-carbon environmentalism bolsters the outreach of low-carbon education and the advocacy of environmentally conscious practices, propelling us toward a greener and more resilient planetary ecosystem.

Chapter III

Design process and results

3.1 Logo and font design

In the meticulous process of crafting logos and fonts for a low-carbon initiative, it is paramount to infuse every design element with a deep sense of ecological consciousness and sustainability. By harmoniously integrating these green concepts, we aim to convey a message that transcends mere aesthetics, resonating with viewers on an emotional and intellectual level.

The logo, in particular, serves as the visual ambassador for the low-carbon philosophy. Its design must be both symbolic and impactful, encapsulating the essence of environmental stewardship. Inspired by nature, our concept revolves around the motif of leaves, universally recognized as emblems of growth, renewal, and life itself. By employing a graphic overlap gradient technique, where ten identical leaf-shaped graphics are meticulously layered and rotated, we create a dimensional effect that symbolizes unity and progress in the quest for a greener world. Each leaf, transitioning from lighter to darker shades of green as they recede, metaphorically illustrates the journey towards a more vibrant and thriving ecosystem (visualize this in Figure 3-1 and 3-2). This gradient not only adds depth to the design but also serves as a visual narrative of the gradual yet persistent transformation towards a greener environment.

Complementing the logo, the custom font is meticulously crafted to embody the relaxed, approachable, and contemporary lifestyle that aligns with low-carbon ideals. Adopting a rounded typeface, we evoke feelings of warmth and inclusivity, mirroring the soft curves found in natural forms. This design choice fosters a connection between the written word and the organic world, suggesting that even in the simplicity of reading, one can engage in a low-carbon lifestyle. The rounded edges of each letter symbolize smooth transitions and effortless integration of eco-conscious habits into daily routines, encouraging individuals to perceive low-carbon

living not as a burden, but as an enhancement to their quality of life.In conclusion, the synergy between a thoughtfully designed logo, a complementary font, and a carefully chosen color scheme works collectively to create a lasting impression. They serve as visual reminders of our responsibility towards the planet, fostering immediate recognition and fostering a deep sense of belonging to a global community striving for a low-carbon future. Through such design, we aspire to make the idea of green living not just a slogan but a tangible, visually appealing reality that inspires action at every glance.

3.2 IP image design

The design concept revolves around a charming Q-version character, crafted to resonate with audiences of all ages. This adorable ambassador, with its wide-eyed innocence and cheerful demeanor, instantly captivates, communicating the message of environmental protection in a non-threatening, approachable manner. Clad in vibrant orange overalls, the character stands out in any setting, symbolizing energy, warmth, and, reflecting the enthusiasm required to drive change.

The strategic placement of the recycling logo on the character's chest acts as a badge of honor, emphasizing the core principles of reduce, reuse, and recycle. It serves as a visual cue, instantly associating the ambassador with eco-friendly practices and encouraging others to adopt similar behaviors in their daily lives.

The carefully curated color palette of yellow, green, and blue is a visual ode to the aspirations of a low-carbon future. Yellow, symbolizing sunshine and renewable energy, represents the hope for a cleaner, brighter tomorrow. Green, the quintessential color of nature, underscores the importance of preserving our ecosystems and biodiversity. Lastly, blue, reminiscent of clear skies and pristine waters, calls attention to the need for clean air and water conservation.

Together, these hues form a harmonious triad, encapsulating the essence of sustainable living and the three pillars of environmental stewardship. The design, as

depicted in Figure 3-3, not only showcases a visually appealing character but also tells a story of environmental activism through subtle yet impactful visual cues.

By incorporating such thoughtful design elements into the character's attire and accessories, the environmental ambassadors transcend mere mascots, becoming interactive educators and symbols of positive change. They serve as living embodiments of the green revolution, inspiring individuals to embrace low-carbon lifestyles and contribute to a healthier planet for all. This innovative fusion of technology, fashion, and environmental advocacy paves the way for a more engaging and effective approach to environmental education and awareness.

3.3 IP poster design

In the design of the main visual poster, select the four actions of the main visual for the poster design. The poster is designed in four aspects: garbage recycling, water conservation, low-carbon travel, and environmentally friendly living. The unified color tone is a blue and blue gradient with white font embellishments, which looks more eye-catching overall. At the same time, different forms of image in different action scenes are added to enhance the fun of the picture, making the overall image cute and lively. The overall layout is like IP characters slowly emerging from the background, highlighting the theme and four low-carbon lifestyles (see Figure 3-4).

3.3.1 Low carbon travel IP poster design

The design of the low-carbon travel themed poster takes the concept of IP image actions to new heights, ingeniously weaving together visual storytelling and environmental advocacy. Centered around the dynamic act of cycling, the poster captures the essence of an eco-friendly commute, where the IP character becomes the embodiment of change and sustainability.

3.3.2 Design of Environmental Protection Life IP Poster

The design of the eco-friendly lifestyle themed poster is an extension of the IP image, showcasing the happiness and satisfaction that low-carbon living brings to the public through its facial depiction and body dynamics, advocating for the gradual expression of eco-friendly living in daily life.

3.3.3 Design of Water Conservation IP Poster

The design of the water conservation themed poster is an extension of IP actions, dynamically depicting IP actions and repainting the IP image. The image shows the action of a character turning off the faucet, reflecting their spirit of water conservation and advocating for the protection of water resources and the concept of water conservation to the public.

3.3.4 Garbage classification IP poster design

The design of the garbage classification themed poster is an extension of the character's IP actions, presenting the dynamic actions of the character in garbage classification processing. The clothing is set in green as the main color, reflecting a low-carbon color, calling for people to carry out garbage classification processing and protect the natural environment.

3.4. Information poster design

In the design of information visualization, the focus is on four aspects: low-carbon travel, waste recycling, water conservation, and environmental protection. In the visualization of low-carbon travel, the focus is on showcasing the current situation of low-carbon travel in China and the carbon emissions of different modes

of travel. Introduce the popularization of garbage recycling science and the cultivation of garbage recycling habits in the visualization of waste recycling. In the process of conserving water resources, information on the pollution and unreasonable use of water resources is displayed. In the low-carbon lifestyle journal, people's daily behavior is shown to reduce carbon emissions. Intended to provide readers with a more concise and clear understanding of this type of information and how to practice low-carbon awareness in daily life. (See Figures 3-6 and 3-7)

The information visualization design adopts a 2.5D style for creation, making its content more clear and presented to readers.

3.4.1 Visualization design of low-carbon travel information

The theme of low-carbon travel information visualization showcases and presents four aspects: low-carbon travel science popularization, comparison of carbon emissions from different modes of transportation, analysis of the basic situation of low-carbon travel in China, and basic ways to reduce carbon emissions in daily life. A bar chart is designed to display the average carbon emissions of various modes of transportation, such as private cars, public transportation, bicycles, and walking, highlighting the advantages of low-carbon travel.

3.4.2 Low carbon lifestyle information visualization design

The visualization design of low-carbon lifestyle information will be introduced from the following aspects: the popularization of carbon neutrality and carbon peaking terms, the lifestyle of reducing carbon emissions, and the comparison of current carbon emissions data in China. Through the introduction of basic information and popularization, people can be guided to adopt a green lifestyle.

3.4.3 Visualization design of water resource conservation information

The visualization design for promoting water conservation awareness takes a comprehensive approach in addressing critical environmental issues, specifically focusing on water resource pollution, the alarming state of marine debris, and the cultivation of conservation-minded habits among the general public. By leveraging graphical representations and engaging visual storytelling, the aim is to transform complex data into digestible insights, fostering understanding and prompting action for a healthier aquatic ecosystem.

Recognizing the pivotal role of individual actions, this part employs illustrative guides and diagrams to educate on simple yet effective water-saving habits. These may include visual step-by-step instructions for installing water-efficient fixtures, charts comparing water usage between traditional and water-saving appliances, or infographics outlining daily routines that minimize water waste. Additionally, behavioral nudges, such as icons symbolizing successful water conservation practices, are used to motivate and reward individuals for adopting these habits.Each visual element is meticulously designed to make the content not just informative but also emotionally resonant. For instance, using icons that depict a single plastic bottle transforming into a menacing pile over time emphasizes the cumulative impact of individual actions. Personal stories or anecdotes, accompanied by illustrations, humanize the issue, showing how water pollution affects real lives and ecosystems.Through a series of detailed maps and charts, this section illustrates the geographic spread of polluted water resources across different regions. Using color-coding to denote levels of contamination, from lightly polluted blue to severely affected red zones, viewers can quickly grasp the severity and distribution of the issue. Interactive features allow users to zoom in on specific areas, revealing the types of pollutants present, such as industrial effluents, agricultural runoff, or plastic waste, and their sources.

3.4.3 Visualization design of water resource conservation information

The visualization design of water conservation information introduces the current water resource pollution problem, the current situation of marine garbage and marine pollution, and the cultivation of awareness of water conservation habits. It presents marine pollution in the form of charts, making the content more accessible and understandable, and drawing patterns more specific.

3.5 Poster design

The poster design series ingeniously utilizes geometric abstraction to convey profound ecological messages, encapsulating the essence of nature's cycles and humanity's responsibility within a visually captivating aesthetic. Comprising four distinct themes – the Cycle of All Things, the Cycle of Water Sources, the Cycle of Resources, and Low-Carbon Travel – this collection presents a holistic narrative on environmental sustainability.

The Cycle of All ThingsDrenched in a lush green hue, this poster symbolizes the interconnectedness of life on Earth. Geometric shapes inspired by flora and fauna merge harmoniously, forming a tapestry of life. Silhouettes of animals, leaves, and trees interlock, representing the delicate balance and mutual dependence within ecosystems. This design underscores the significance of biodiversity conservation and urges viewers to recognize their place within this intricate web.

The Cycle of Water SourcesEmbracing a tranquil blue palette, this poster highlights the vital role of water in sustaining life. Aquatic creatures, droplets, and waves are abstracted into geometric forms, illustrating the cyclical nature of the hydrological cycle. It emphasizes the need for responsible water usage and conservation, reminding us that every drop counts in maintaining the purity and abundance of our water sources.

The Cycle of ResourcesAdorned with a soft pink tone, this poster draws attention to finite resources and the necessity of their circular management. Shapes inspired by minerals, raw materials, and industrial products intertwine, reflecting the complexity of resource extraction, consumption, and recycling. It promotes the idea of reducing, reusing, and recycling, encouraging a mindset shift towards a more sustainable consumption pattern.

Low-Carbon TravelInfused with a vibrant yellow, this poster champions eco-friendly modes of transportation. Bicycles, electric vehicles, and public transit are abstracted into dynamic geometric compositions, celebrating the energy-efficient alternatives to traditional fossil fuel-based transport. It advocates for a low-carbon lifestyle, inspiring individuals to adopt greener travel habits for a cleaner, healthier planet.

Aesthetic Cohesion and Impactthroughout the series creates a cohesive visual identity, with each color and shape deliberately chosen to evoke specific emotions and meanings. The posters, though individually distinct, come together to form a compelling narrative on the urgency of environmental protection. By integrating graphics related to animals, plants, resources, and transportation, the series speaks directly to the viewer's everyday experiences, making the call for action both relatable and actionable.

Call to ActionThe underlying message of this series – that everyone has a role to play in environmental conservation – is reinforced by the vibrant and accessible design. It encourages viewers not just to admire the aesthetics but to internalize the message and translate it into practical actions. Whether it's conserving water, recycling waste, choosing low-carbon transportation, or advocating for biodiversity, the posters inspire a collective movement towards a more sustainable future.

3.5.1 Resource Recycling Poster Design

The design of the resource recycling poster ingeniously encapsulates the essence of nature's bounty within a minimalist, geometric framework. By distilling complex natural elements such as towering trees, lush green foliage, vast oceans, and fluffy white clouds into clean lines and shapes, the poster presents a visually striking metaphor for the harmonious interplay between humanity and the environment.Each geometric form is meticulously crafted to evoke the spirit of its natural counterpart: triangles and rectangles might represent the structured majesty of tree trunks and branches reaching towards the sky, while circles and ovals symbolize the fluidity of water and the soft curves of clouds. The use of a vibrant green palette for foliage and soothing blues for water bodies creates a visually soothing experience, reminding viewers of the inherent beauty and vitality of nature.In summary, the resource recycling poster design is a masterful blend of artistry and advocacy. It not only celebrates the beauty of nature but also imparts a powerful message about the urgent need for responsible resource management. By translating the complexity of environmental issues into a visually compelling and easily digestible format, it inspires viewers to adopt a more conscious and sustainable lifestyle, fostering a collective commitment to protect and regenerate the natural world.

3.5.2 Poster design for water source circulation

The poster design for water transportation recycling is a re creation of water conservation elements. Reasonable recycling of water resources can better reduce carbon dioxide emissions. The overall color tone is green, highlighting its low-carbon and environmentally friendly theme.

3.5.3 Poster design for the cycle of all things

The theme design of the poster on the cycle of all things adopts elements of natural animals and plants, and overlays and deforms geometric shapes to make the

poster more layered and designed. The overall color tone of the poster adopts a blue-green tone, which not only looks forward to the future but also exudes a green atmosphere.

3.5.4 Low carbon travel poster design

The innovative design of the low-carbon travel poster seamlessly intertwines contemporary society's embrace of new energy solutions, painting a vivid and inspiring picture of green transportation. This visual narrative thoughtfully spotlights the integration of cutting-edge technology with environmental consciousness, underscoring the pivotal roles of new energy vehicles and wind power generation in shaping a sustainable future.

Incorporated into the backdrop, towering wind turbines stand tall against the skyline, their blades spinning rhythmically in the breeze. These symbols of clean energy generation serve as a testament to humanity's quest for alternatives to conventional power sources, emphasizing the harmony between technological advancement and environmental preservation. The turbines are strategically placed amidst lush greenery, indicating how renewable energy infrastructure can coexist with nature, preserving ecosystems while powering modern lifestyles.Additionally, the poster integrates informative graphics and statistics, subtly educating viewers on the dramatic reduction in carbon emissions achievable through the adoption of new energy travel.

Infographics might compare the carbon footprint of traditional gasoline-powered vehicles to their electric counterparts, or showcase the impressive capacity of wind farms to offset carbon emissions.Ultimately, the low-carbon travel poster design is a compelling visual testament to the potential of new energy solutions in revolutionizing the way we travel. It serves as a beacon, inviting viewers to envision and participate in a greener, cleaner future where sustainable travel is not just a concept but a lived reality. By celebrating the integration of green new energy into

our daily lives, it encourages a collective shift towards more responsible and environmentally considerate choices.

3.6 Conference VI Design

The design requirements for conference VI refer to the corresponding visual image design based on the theme, objectives, and characteristics of the participants during the organization of the conference. It aims to convey the information and concepts of the conference through visual imagery, enhance the image and attractiveness of the conference, and better achieve the promotional and dissemination goals of the conference.

The design combines the main slogan of Carbon Hope Future with the theme of the 2024 Low Carbon Environmental Protection Summit, and redesigns the font to give it a sense of design. The conference body adopts a combination of blue and green colors, which not only match the theme but also the environmental tone, giving it a sense of future design.

The conference materials are designed as work permits, large screen designs, conference manuals, check-in areas, handbags, signage, etc., covering the basic materials included in the current overall conference. (See Figures 3-9, 3-10)

3.6.1 Conference screen design

Conference screens, also known as intelligent conference screens, interactive touch screens, or conference display systems, are modern conference equipment that integrates high-definition display, touch control, multimedia playback, remote collaboration, and other functions. Widely used in various meetings, lectures, exhibitions, and decision-making management occasions, it can significantly improve conference efficiency and interactivity. For the theme of the low-carbon environmental protection summit, gradient colors are used for design, and curves with different curvatures are superimposed and transformed to give it a sense of design and highlight the theme.

3.6.2 Design of Meeting Work Permit

Blue Badges for Attending Delegates: Symbolizing the clarity and openness of the sky, the blue badges are designated for the heart of the summit—attending delegates from around the globe. These individuals represent various sectors, from government officials and corporate leaders to academics and environmental activists, all gathered to share insights, forge partnerships, and drive the global conversation on low carbon solutions. The calming blue hue signifies trust, professionalism, and the collective quest for a sustainable future.

Orange Badges for Staff Members: Reflecting the vibrancy and energy of innovation, orange badges identify the dedicated staff working tirelessly behind the scenes to ensure the smooth operation of the summit. From coordinators managing logistics to technical support personnel ensuring seamless presentations, these individuals are the backbone of the event. Orange represents their enthusiasm, adaptability, and the critical role they play in bringing together ideas and people for impactful change.

Green Badges for Media Staff: Inspired by the vitality of nature, green badges denote members of the media who are instrumental in disseminating the summit's key messages and achievements to a wider audience. Journalists, photographers, and broadcasters wearing these badges have the crucial task of documenting the event and amplifying the voices advocating for environmental protection. Green symbolizes growth, renewal, and the importance of transparent communication in fostering global environmental awareness.

3.6.3 Meeting Seat Card Design

The conference card design ingeniously mirrors the aesthetic and thematic essence of the 2024 Low Carbon and Environmental Protection Summit, ensuring a consistent and impactful visual identity throughout all aspects of the event.

Positioned strategically in the upper right corner, the conference theme text commands immediate attention, leveraging its placement in accordance with design principles that guide the viewer's eye towards key information.

Adorned with the same futuristic font that characterizes the summit's promotional materials, the theme text appears crisp and modern, its unique styling serving as a visual echo of the summit's forward-thinking objectives. The choice of placing it in the upper right corner not only follows standard reading patterns but also breaks the conventional layout norms, adding a touch of novelty and emphasis to the card's design.

3.6.4 Conference font design

The theme of this conference is the 2024 Low Carbon and Environmental Protection Summit. The font design for 2024 will be redesigned and transformed to highlight its futuristic feel. The theme of the conference will be combined with the Carbon Outlook Future theme, forming the theme font design for this conference.The color palette for the theme font is carefully chosen to reinforce the summit's message. A combination of cool blues and vibrant greens reflects the colors of our planet, symbolizing clean energy, eco-friendliness, and the vitality of nature. The use of metallic accents or gradients adds a futuristic touch, signifying innovation and progress.

Summary of chapter III

In the phase of logo and typography design, the central concept revolves around intertwining the theme of low-carbon living with a green perspective, ensuring that the designs are both iconic and distinctive enough to be easily memorable and directly reflect the core message of green and low-carbon living.

The character design adopts a chibi-style figure as its embodiment, with an overall style leaning towards cuteness. This character is designated as an environmental ambassador, featuring an environmental monitoring helmet and clad

in orange overalls. Prominently displayed on the chest is a recycling symbol, reinforcing the theme of environmental protection. The color palette consists of yellow, green, and blue, with yellow symbolizing grasslands, green representing lush forests, and blue depicting clear skies and oceans, collectively embodying the three colors envisaged for a low-carbon future.

Within the realm of information visualization, the focus is on four dimensions: low-carbon commuting, waste recycling, water conservation, and eco-friendly living habits. Specifically, the low-carbon commuting visualization highlights the importance of low-carbon travel, compares the carbon emissions of various modes of transportation, provides an overview of the current state of low-carbon commuting in China, and offers practical suggestions for reducing daily carbon footprints.

The poster design ingeniously utilizes geometric elements to encapsulate a series of four posters centered around the themes of "circularity of all things," "water cycle," "resource recycling," and "low-carbon commuting." Each design is rich in meaning, not only showcasing the beauty of nature's perpetual cycles but also emphasizing the pivotal role of low-carbon actions in sustaining these cycles, achieving a harmonious blend of aesthetics and educational value.

Conclusion

I have personally gained a much clearer comprehension and heartfelt recognition of the importance of low-carbon awareness. This newfound understanding allows me to see the world through a greener lens, appreciating how even my smallest actions can contribute positively to the planet's wellbeing. I'm now more attuned to identifying opportunities in my daily routine where I can make eco-conscious decisions and inspire others to do the same.

My analytical skills have been notably enhanced, and I find myself thinking more creatively and divergently. Delving into the intricacies of low-carbon lifestyles has trained me to dissect complex environmental problems and explore multifaceted solutions. I can now analyze situations from various viewpoints, considering not just the environmental impact but also the economic and social implications of different choices.

My aesthetic sensibilities and proficiency in design software have seen significant improvement. Engaging in the creation of low-carbon lifestyle promotional materials has not only refined my artistic taste but also sharpened my technical skills. I now confidently utilize software tools to translate my visions into visually compelling graphics, effectively communicating the beauty and necessity of sustainable living to a broad audience.

My personal life has been deeply impacted by this heightened environmental awareness. I'm more mindful of the environmental footprint I leave behind, constantly seeking ways to reduce waste, conserve energy, and choose eco-friendly alternatives. This mindfulness has led to positive changes in my daily habits, making sustainability an integral part of who I am and how I interact with the world around me.

I now grasp, more than ever, the paramount significance of low-carbon living for the Earth's environment. Understanding the dire consequences of high carbon emissions on climate change, the delicate balance of ecosystems, and human welfare, I feel a profound sense of duty to live and promote a low-carbon lifestyle. This understanding fuels my determination to be an active participant in preserving

our planet, knowing that every step towards sustainability counts in securing a livable future for generations to come.

The graduation project is a test of entering society, a manifestation of the knowledge learned in four years of university. It is the longest class, the most tedious design, the most diverse style, and the most learned design. It is also a perfect test for the content learned in four years. From a logo, an image, a composition, a poster, and so on, after countless revisions and failures, a complete graduation project has been formed. This cannot be separated from the help and support of teachers and schools. Every word spoken by the mentor is of great help to oneself now and in the future. The teacher's words are like taking oneself from the bottom of the well to the outside world, constantly trying and accepting different ways.

The graduation project is not only the crystallization of personal academic journey, but also a witness to the warmth and support of teachers, classmates, friends, and various sectors of society. Here, I sincerely express my gratitude to everyone who has helped me on my academic journey. I would like to express my special gratitude to my supervisor, who has devoted tremendous patience and wisdom to every step of the process, from the inception of the topic selection to the construction of the paper framework, to the in-depth implementation of the research, and finally to the final writing. Despite the heavy workload, he never forgot to provide me with meticulous guidance through various means, including phone and email, helping me overcome numerous obstacles in my research, ensuring that I can steadily move forward on the journey of exploring knowledge, and avoiding many unnecessary twists and turns.

Finally, I would like to express my deepest gratitude to all the teachers and friends who have encouraged, educated, and supported me in various dimensions of learning and life over the past few years. The four years of college and the four months of sprinting preparation that followed closely together, although the duration was vastly different, constituted an indispensable chapter in my life. The freshman's youthfulness feels like yesterday, and in the blink of an eye, we have reached the threshold of graduation. Looking back, what we should be most grateful for is the

nurturing kindness of our alma mater and the teaching of our teachers. It is they who have endowed us with the power of knowledge and shaped us to become pillars of society, collectives, and families.

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APPENDICES

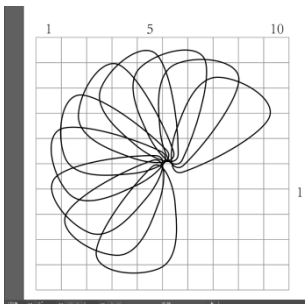
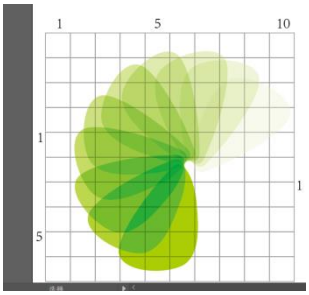


Figure 3.1



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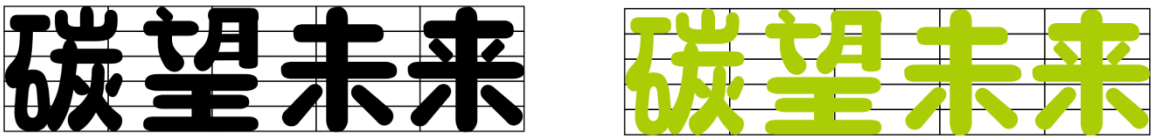

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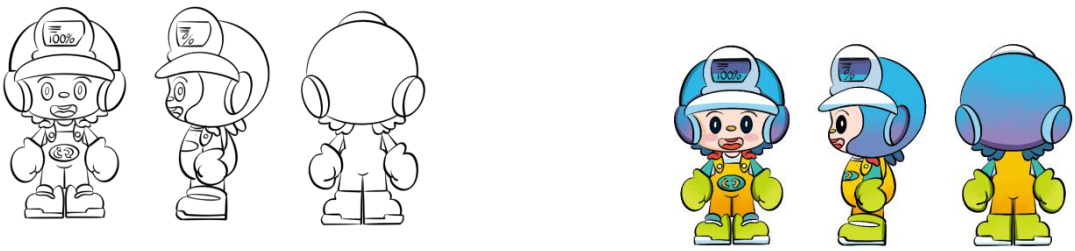


Figure 3.4

Figure 3.5

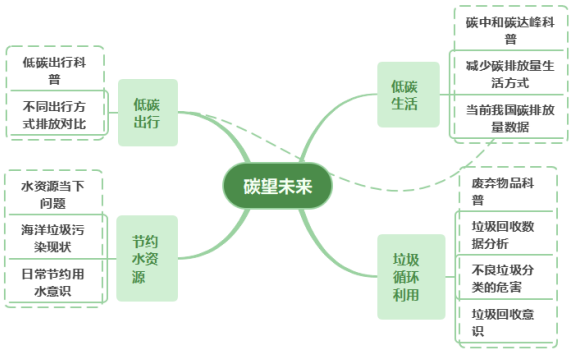
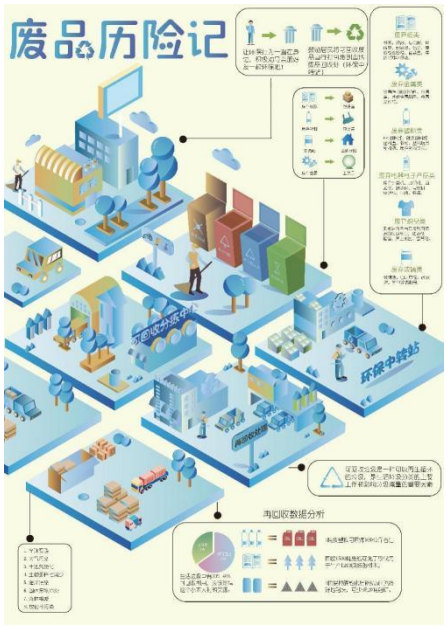
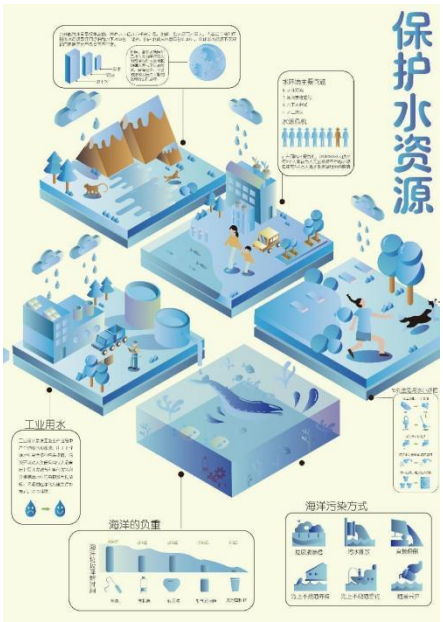
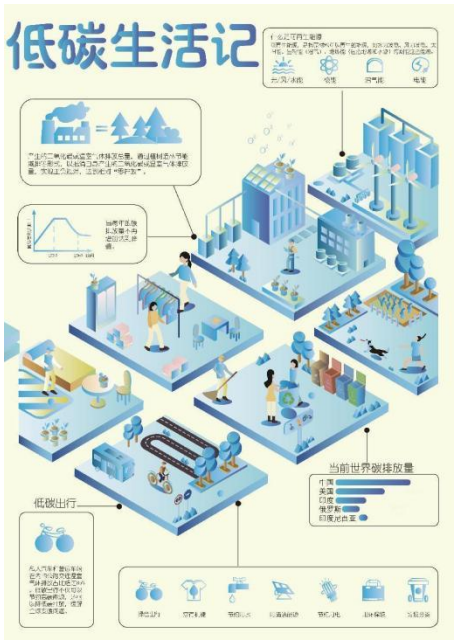

碳望未来
低碳出行
低碳出行科普
不同出行方式排放对比
节约水资源
水资源当下问题
海洋垃圾污染现状
日常节约用水意识
低碳生活
碳中和碳达峰科普
减少碳排放量生活方式
当前我国碳排放量数据
垃圾循环利用
废弃物品科普
垃圾回收数据分析
不良垃圾分类的危害
垃圾回收意识

Figure 3.6


废品历险记
环保中转站
海回收数据分析


保护水资源
工业用水
海洋的负重
海洋污染方式


低碳生活记
当前世界碳排放量
低碳出行

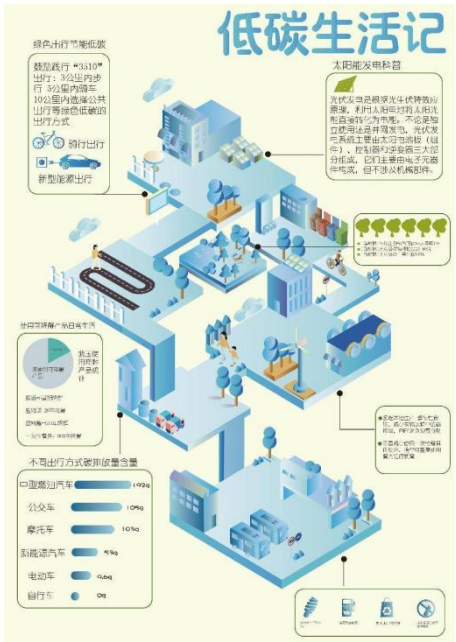

低碳生活记
绿色出行节能低碳
骑行出行
新型能源出行
太阳能发电科普
不同出行方式碳排放量含量

Figure 3.7

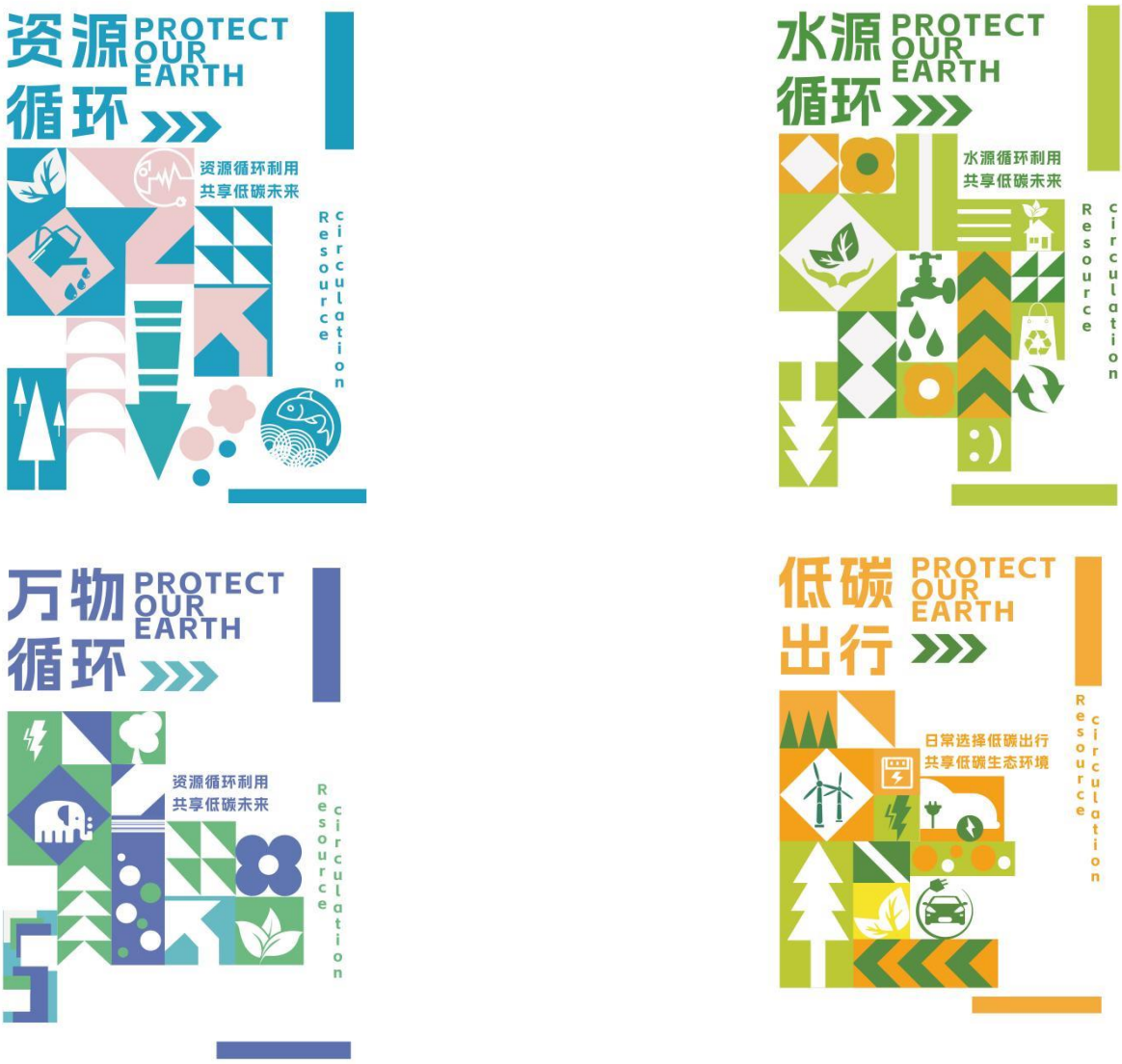


Figure 3.8

碳望未来 | 2024 低碳环保峰会

Figure 3.9


碳望未来
2024 低碳环保峰会
会议手册
指示牌
签到处
碳望未来
签到处
RECEPTION
工作证
参会代表
Delegate
工作人员
Staff
媒 体
Media
手提袋
碳望未来
席卡
张先生
zhangxiansheng

Figuer 3.10