



Taiwan's 2050 Net-Zero Emissions Transition



Net Zero Green Living: Key Strategic Action Plans (Draft)



管制考核及糾紛處理處





Outline



Foreword



Action Plan (Draft) Outline



Start Net Zero Green Living



Summary



One



Foreword



Promoting green life for all



Declare start of Green Life for All



Executive Yuan Council Report Promotes Inter-ministerial Cooperation



Citizens' green life in line with 2050 Net Zero Emissions





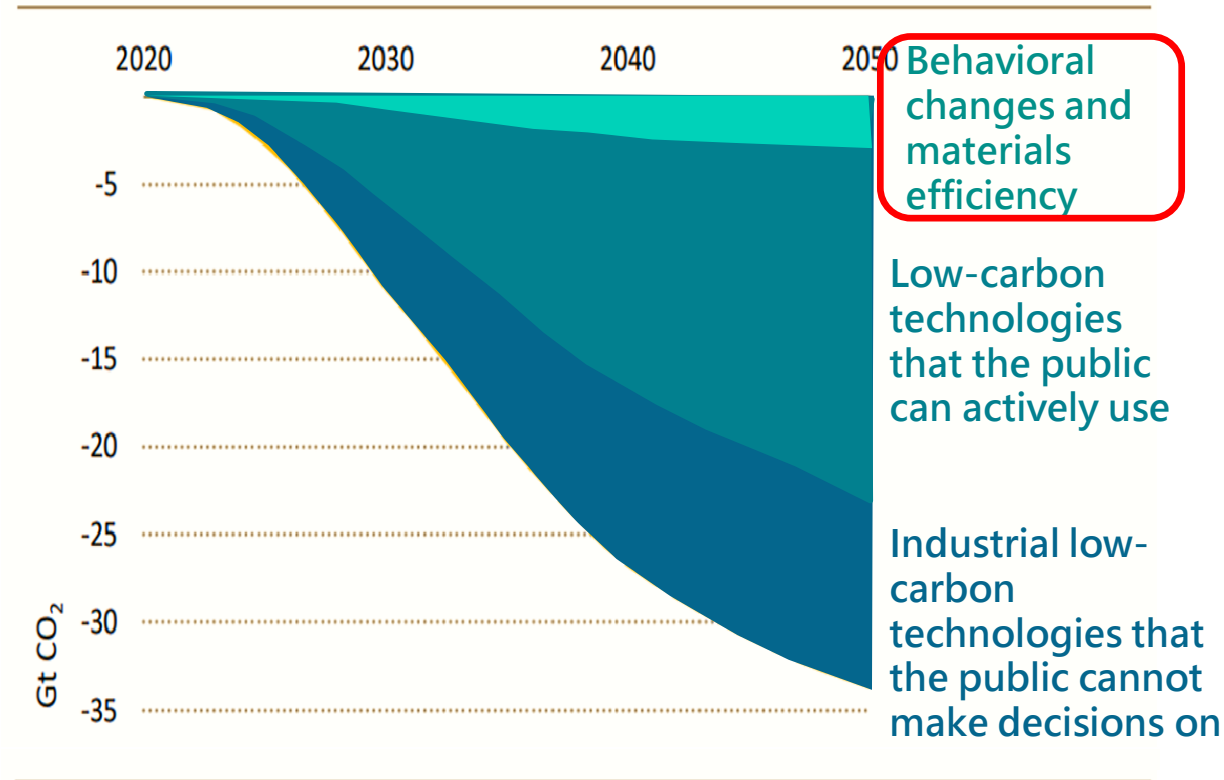
Two

Start Net Zero Green Living



IEA 2050 Net Zero Emissions Strategy

- Net Zero Emissions Reductions
 - ✓ <40% is due to the adoption of low-carbon technologies (eg. power generation, steelmaking, etc.)
 - ✓ About 1/2 emission reduction requires the deployment of low-carbon technologies and the **active participation of the public** (eg. solar water heaters, electric vehicles)
- The **final 8% reduction in emissions** comes from **behavioral changes** to reduce energy demand and improvements in **material efficiency**



(Net Zero by 2050: A Roadmap for the Global Energy Sector, IEA 2021/05) <https://www.iea.org/reports/net-zero-by-2050>

The 10th Key Strategy for Net Zero Transition: Net Zero Green Life

Behavioral change is key to reaching net zero

- According to "IEA Net Zero 2050: A Roadmap for the Global Energy Sector", revealing **behavioral change** is an important key strategy to achieve net zero emissions by 2050.
- The net-zero transformation starts with the promotion of "**net-zero green life**", and sets out green life guidelines to guide behavioral changes, including commercial and consumption behaviors generated in food, clothing, housing, transportation, education, entertainment, and shopping.
- Among them, food and transportation can be dealt with immediately to highlight the effect, greatly reducing the emissions of the housing, commercial and transportation sectors. It is the largest carbon reduction space in the international inventory, which promotes **changes in the industrial supply side** and reduces industrial carbon emissions.

The 4 transition paths for the 2050 Net Zero include **Life Transition**

- The 4 transition paths for the net zero challenge in 2050: "Energy transition continues," "Industrial transition accelerates," "Life transition starts" and "Social transition must be just."
- From now until 2050, to promote life transition, **6 major aspects of net-zero green life and 31 key promotion measures** are proposed.

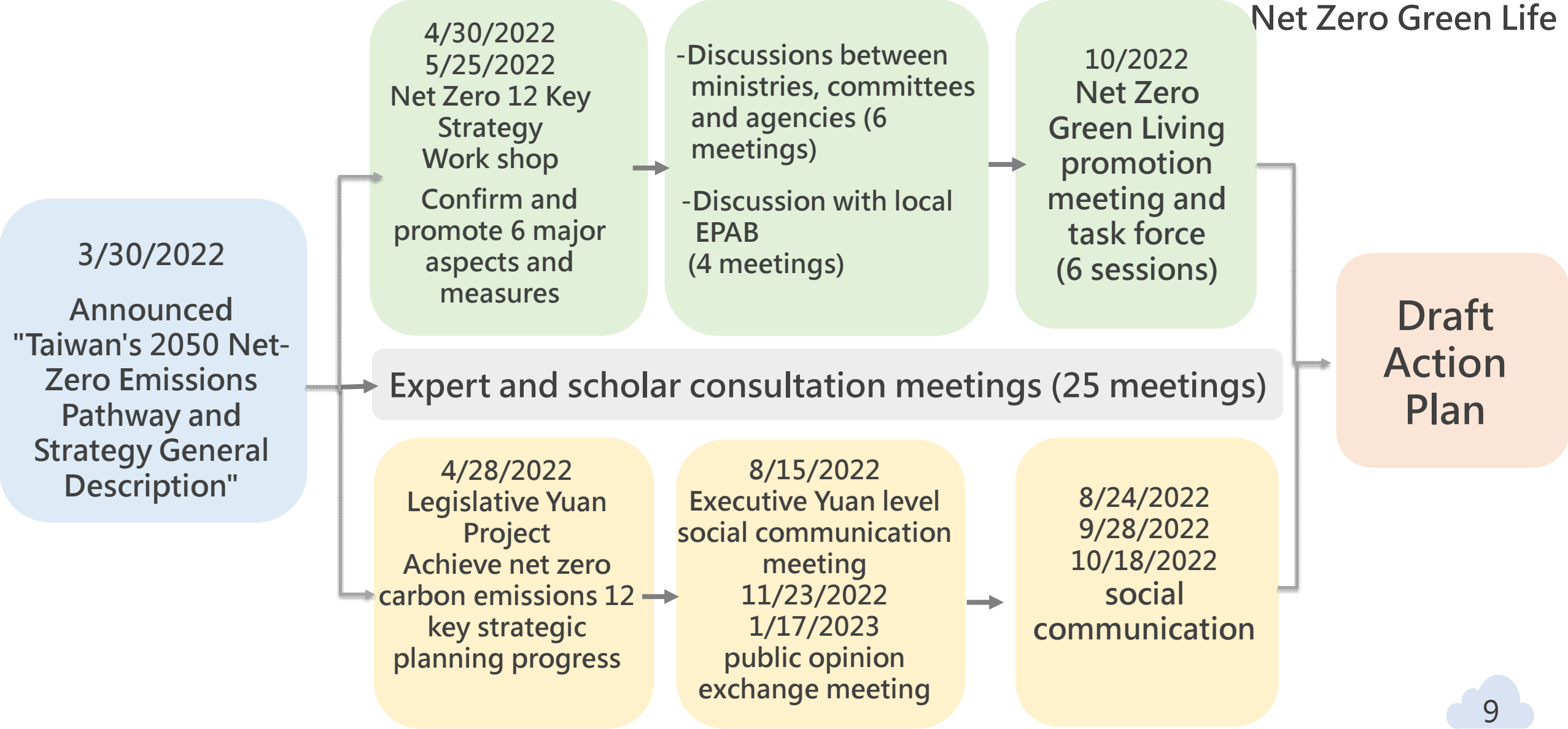
Three

Action Plan (Draft) Outline

1. The process of promoting the action plan (draft)
2. Action plan (draft) structure
3. Current Situation Analysis
4. Goals and Benefits - KPI
5. Promoting strategies and measures



1. The process of promoting the action plan (draft)



2. Action plan (draft) structure

Table of contents

1. Status analysis	Origin, handling status, problems and challenges	5. Promotion strategies & measures	Promotion of key strategies, measures and actions, implementation tools, regulatory review, incentive mechanism, manpower allocation and funding, and social communication planning
2. Goals and paths	Program objectives, overall performance indicators	6. Expected benefits	Environmental/economic benefit assessment
3. Promotion period	Short-term to 2030, mid-to-long term to 2050	7. Management & examination mechanism	Central and local authorities to promote the effectiveness of the control assessment and tracking mechanism
4. Promotion organizations & participation mechanism	Promoting the division of labor, public participation, and public-private collaboration	8. Conclusion	Assessment and future outlook involving a just transition

3. Current Situation Analysis (1/2)

Net zero transition must not only rely on technological development and innovation, but also the transition of life and the transition of people's thinking and behavior. Various countries have proposed relevant policies, strategies and measures.

UN ActNow

2019-2021

The United Nations regards "energy and transportation", "food" and "speak up" as the core of the ActNow campaign, and launched a guide for lazy people to save the world to promote personal net zero actions and achieve SDGs.

IPCC latest climate report

04. 2022

The latest report of the IPCC (Intergovernmental Panel on Climate Change) points out that before 2050, measures on the demand side and new service models on the use side can reduce the global greenhouse gas emissions on the use side by 40-70%.



Japan

2021

Japan has proposed the "2050 Carbon Neutral Green Growth Strategy" for 14 industries. The Ministry of the Environment is promoting the "Zero Carbon Action 30" for the public. In addition to reducing carbon emissions, it also meets the goals of SDGs.



IEA

2021

The International Energy Agency has proposed a net-zero emission path for the global energy sector in 2050, in which behavioral change is one of the key strategies.



EU

2008

The European Union launched the European Green Capital Award (EGCA) and the European Green Leaf Award (EGLA) to encourage cities to practice green growth.



USA

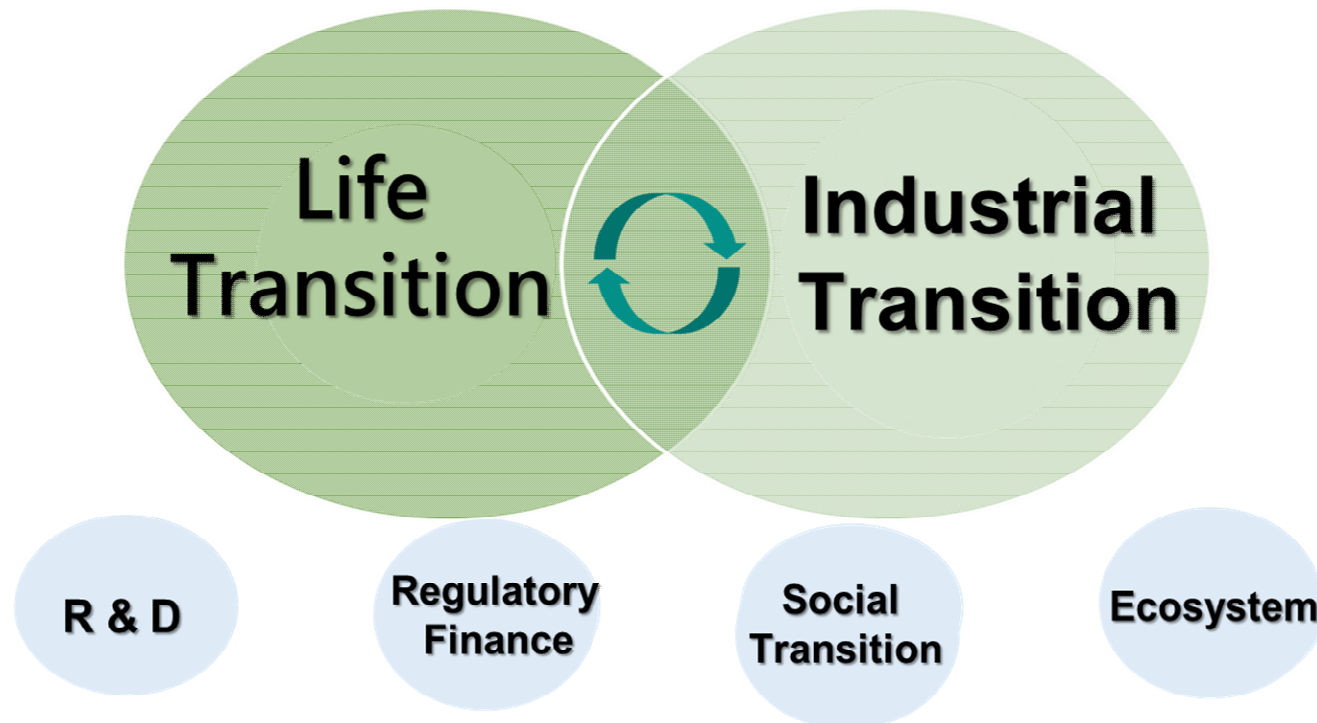
The U.S. EPA advocates Greener Living, which promotes life changes from transportation, to consumption to green campuses, and guides the public to reduce the impact on the environment in terms of behavioral choices.

3. Current Situation Analysis (2/2)

Net Zero Green Life

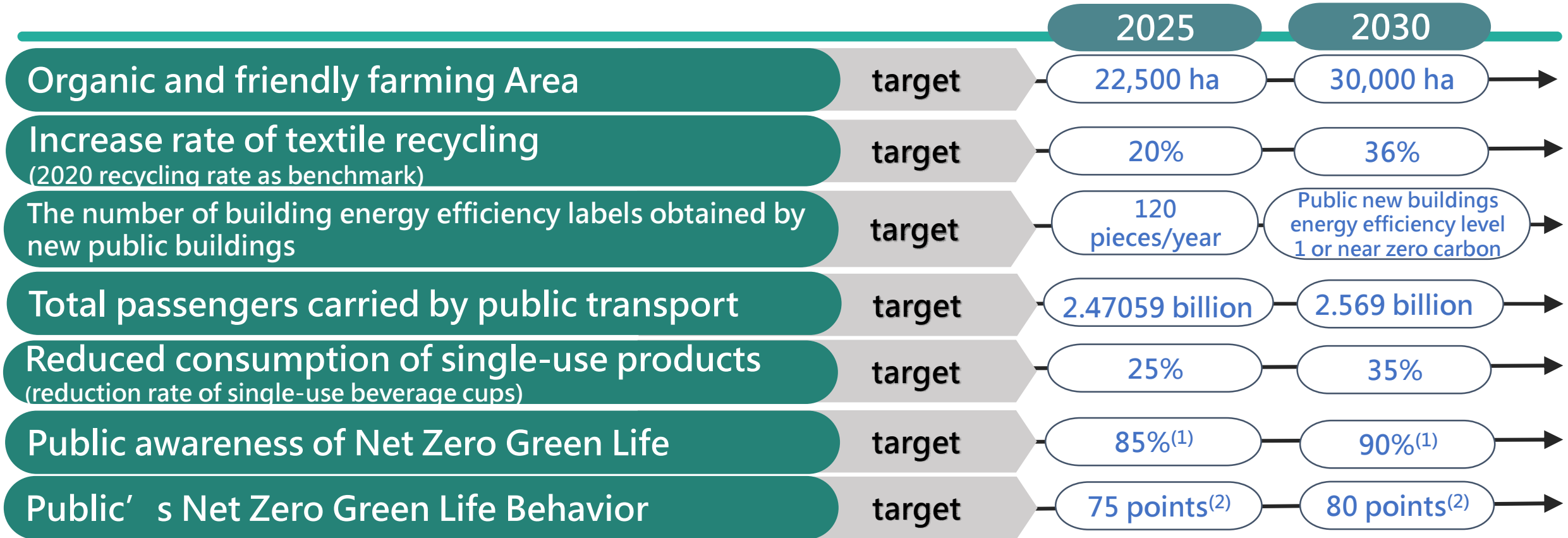
Problems and Challenges

- A **cross-ministerial integration mechanism** needs to be established
- Green life **multi-dialogue** and **behavior habit formation** must start
- The **business model** of green life needs to be stimulated by **technological creativity**
- **Life transition** is needed to drive **industrial transition**



4. Goals and Benefits -- KPI

Net Zero Green Life



(1) Citizens awareness of net-zero green life: Calculate the awareness percentage of the target value based on relevant questions.

(2) Citizens' net-zero green living behavior: 5-point scale is used for relevant questions to calculate the target score.



- Dialogue on life education for all to cultivate awareness of green life
- Improve living infrastructure, friendly green living environment
- Construct a life business model to drive the green life industry
- Expand green product services and encourage green living consumption
- Guide the public to change their behavior and improve the literacy of green life

5. Promotion strategies and measures (1/3)

Use instead of Own

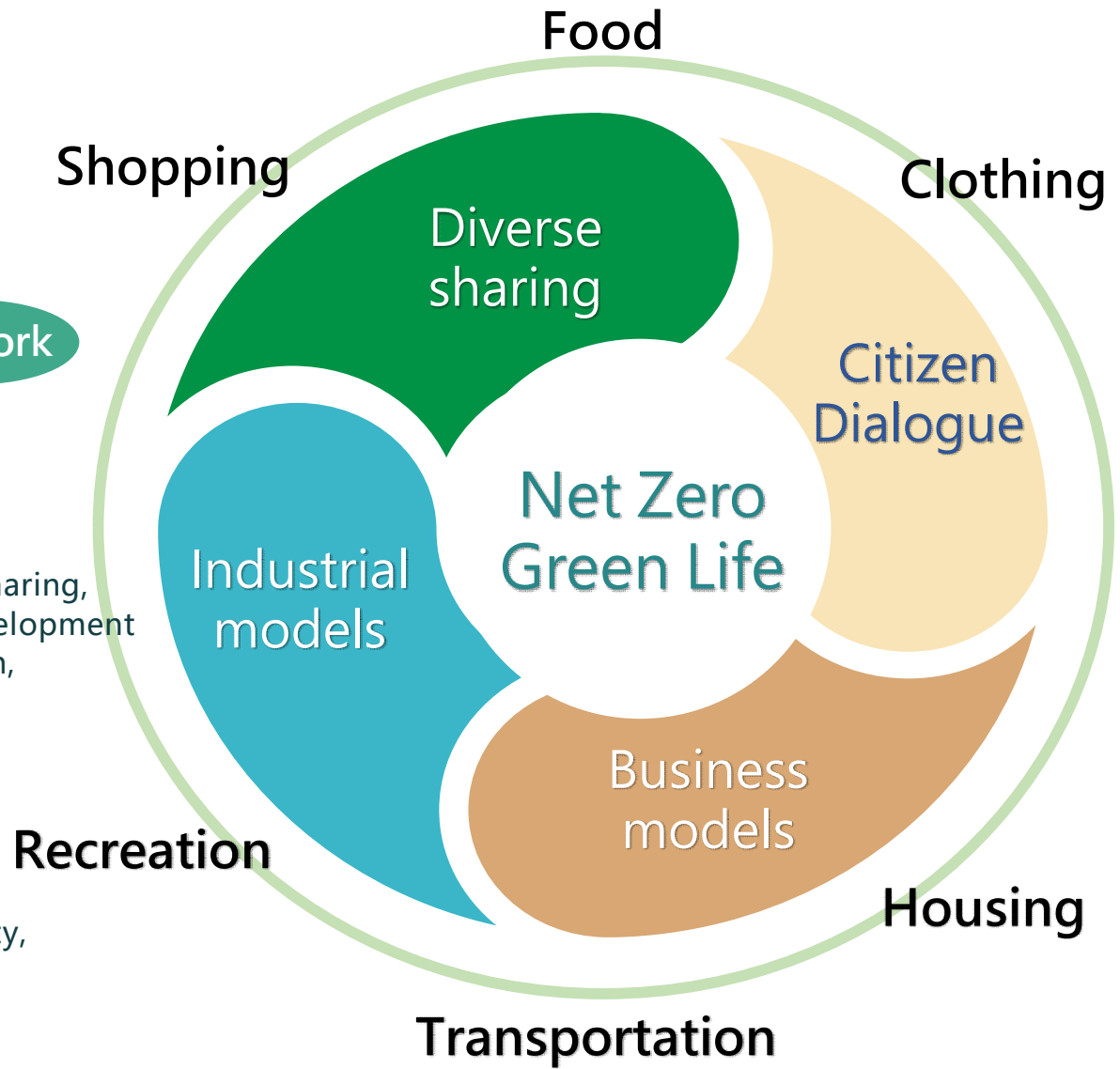
Expand green products,
Extend the service life of items,
Recycle components,
Replacing purchases with services

Low Carbon Transport Network

Convenient public transportation,
Improved pedestrian environment,
Improved cycling environment
Manage Private Vehicle Use,
Promote car-sharing and scooter-sharing,
Public Transportation Oriented Development
Reduce non-essential transportation,
Green Freight, green tourism,

Citizen Dialogue

Common goals, Shared responsibility,
Joint action, Low carbon exhibitions
Information disclosure,
Education for all



Zero Waste and Low Carbon Diet

Tableware sharing,
Zero waste green catering,
Local production & local sales,
Food safety

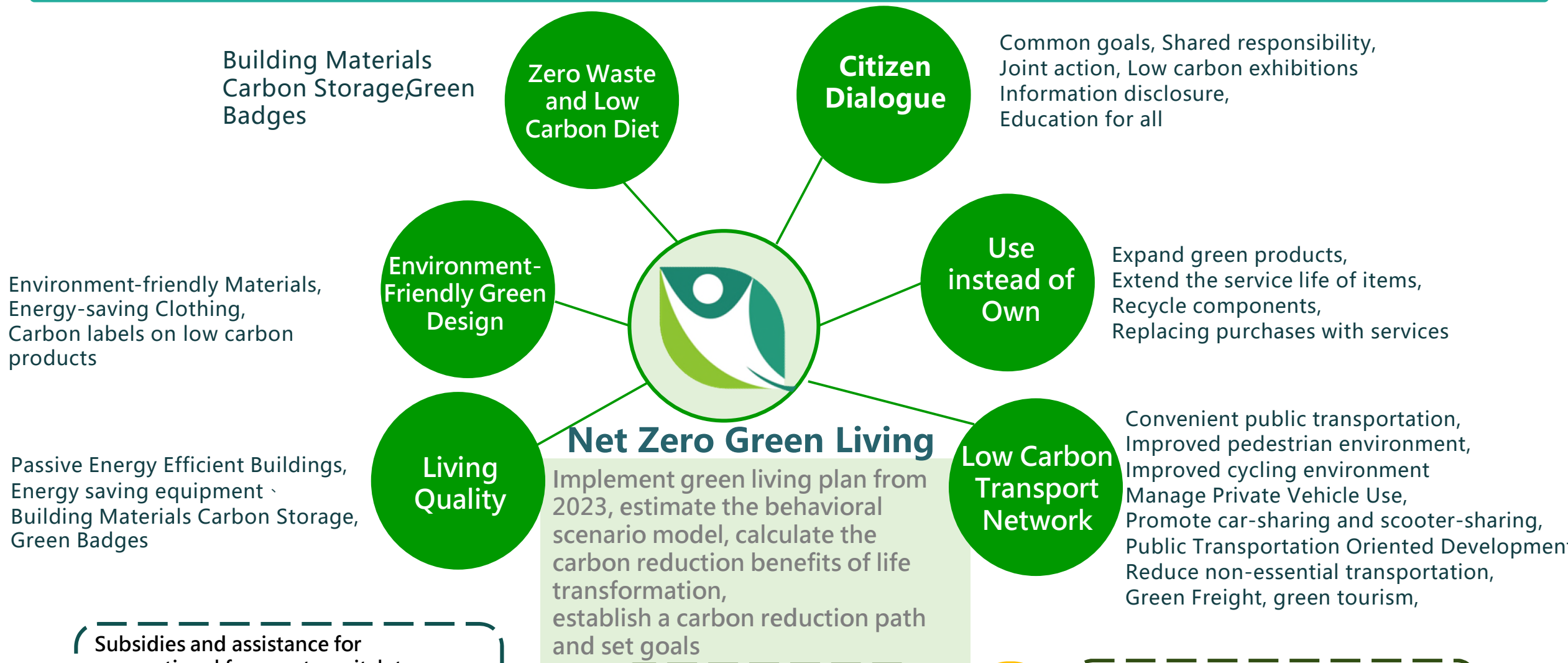
Environment-Friendly Green Design

Environment- Friendly Materials,
Energy-saving Clothing,
Carbon labels on low carbon products

Living Quality

Passive Energy Efficient Buildings,
Energy saving equipment
Building Materials Carbon Storage,
Green Badges

5. Promotion strategies and measures (2/3)



Subsidies and assistance for conventional farmers to switch to organic farming, Enhancing Citizen Participation in Behavioral Transformation Policy Planning



Develop various guidelines, Increase public awareness and behavioral change



Encourage the transformation of people's lives through incentives such as event rewards or environmental protection points

5. Promotion strategies and measures (3/3)

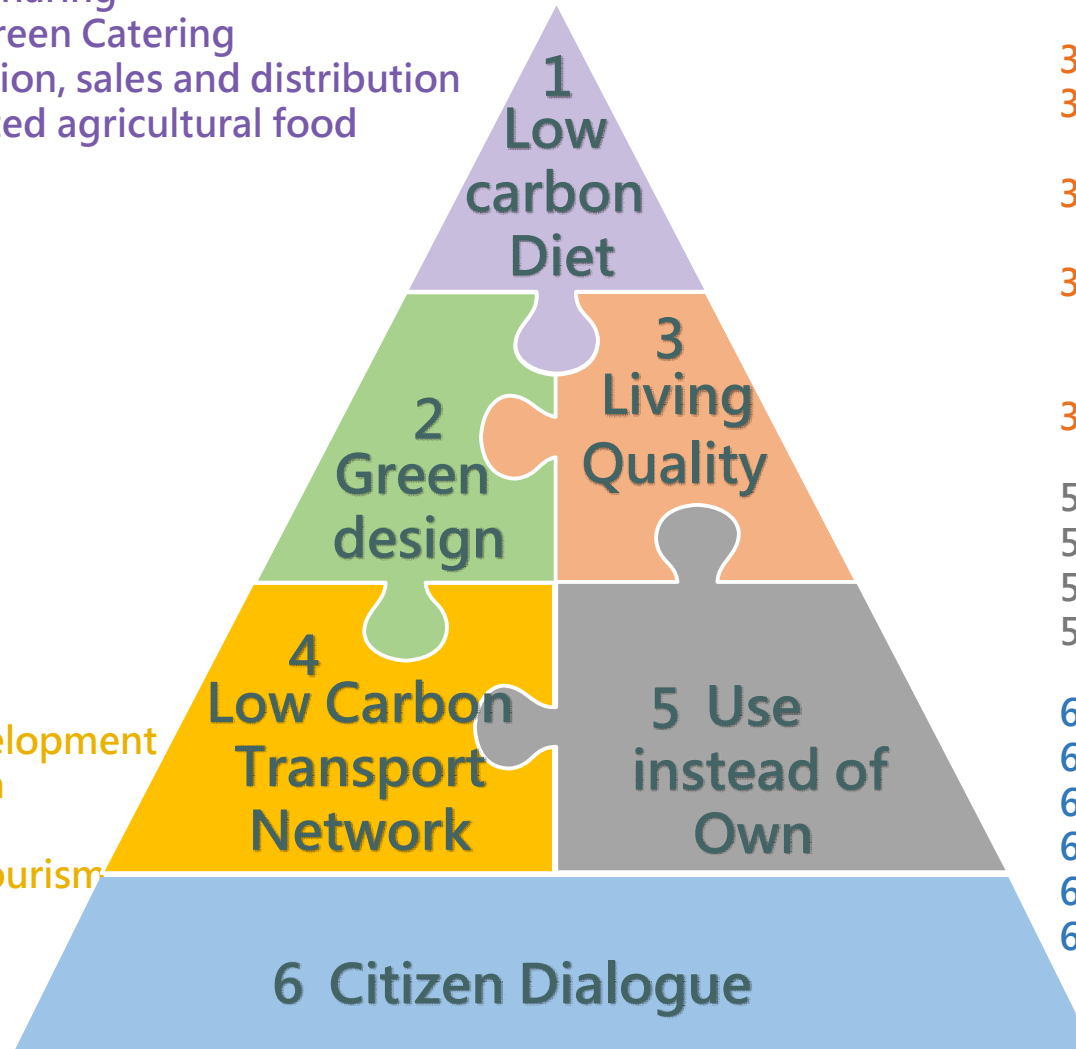
Net Zero Green Life

6 major aspects, 31 measures

- 1-1 Planned purchasing and tableware sharing
- 1-2 Zero Waste Catering Services and Green Catering
- 1-3 Constructing more efficient production, sales and distribution
- 1-4 Consumption of low-carbon cultivated agricultural food products

- 2-1 Clothing and daily necessities of environmentally friendly materials
- 2-2 Energy-saving clothing
- 2-3 Carbon labels indicate low carbon products

- 4-1 Convenient public transportation
- 4-2 Improved pedestrian environment
- 4-3 Improve Cycling Environment
- 4-4 Manage Private Vehicle Use
- 4-5 Car-sharing and scooter-sharing
- 4-6 Public Transportation Oriented Development
- 4-7 Reduce non-essential transportation
- 4-8 Green Freight
- 4-9 Promote green tourism and green tourism



- 3-1 Passive energy efficient buildings
- 3-2 Smart control introduction and deep energy saving
- 3-3 High-efficiency equipment and multiple power integration
- 3-4 Building materials carbon storage/ Carbon emission reduction in building operations
- 3-5 Eco-labels

- 5-1 Friendly Products
- 5-2 Extend the service life of items
- 5-3 Recycle components
- 5-4 Replacing purchases with services

- 6-1 Common goals
- 6-2 Shared responsibility
- 6-3 Joint action
- 6-4 Low carbon exhibitions
- 6-5 Information disclosure
- 6-6 Education for all

2030 Specific Actions (Draft)

-Zero Waste Low Carbon Diet

Promotion measures	Specific Actions
1-1 Planned purchasing and tableware sharing	<ul style="list-style-type: none">• Planned purchase• Tableware sharing
1-2 Zero waste catering services and green catering	<ul style="list-style-type: none">• Promote the concept of cherishing food• Chefs and future chefs adopt concept of cherishing food• Promote Eco-School "Sustainable Food" Environmental Pathway• Promote green dining
1-3 Constructing more efficient production, sales and distribution	<ul style="list-style-type: none">• Promote organic and environmentally friendly farming, and promote consumers to eat its products• Promote food agriculture education and establish zero-waste and low-carbon diet literacy• Promote the utilization of livestock manure as a resource
1-4 Consumption of low-carbon cultivated agricultural food	<ul style="list-style-type: none">• Establish consumer identification and industry operators' self-management knowledge of chemical substances with food safety risks and concerns

2030 Specific Actions (Draft)

-Friendly Environment, Green Fashion

Promotion measures

2-1
Environmentally friendly
clothing and daily
necessities

2-2
Energy-saving clothing

2-3
Carbon labels that highlight
low carbon products

Specific Actions

- Donate, transform, maintain and create new business models for secondhand clothes, encourage high-value business models for idle clothes, and increase the value of reuse
- Promote the production of energy-saving clothing and functional clothing
- Label carbon labels according to the carbon footprint of products to encourage purchase of low-carbon products

2030 Specific Actions (Draft)

-Raising the Living Quality

Promotion measures	Specific Actions
3-1 Passive energy-efficient buildings	<ul style="list-style-type: none">Promote green building advocacy
3-2 Smart control introduction and deep energy saving	<ul style="list-style-type: none">Promote smart building publicity
3-3 High-efficiency equipment and multiple power integration	<ul style="list-style-type: none">Promote high-efficiency equipment and disseminate energy saving knowledge
3-4 Building Materials Carbon Storage/Carbon emission	<ul style="list-style-type: none">Carbon storage in building materials (Already included in the "Energy Saving" key strategic action plan)
3-5 Eco-labels	<ul style="list-style-type: none">Promote green officesPromote eco-labelled hotelsPromote the use of environmental protection labels, environmentally friendly products and energy-saving, water-saving, and green building material label products

2030 Specific Actions (Draft)

-Low-carbon transport network (1/3)

Promotion measures	Specific Actions
4-1 Convenient public transportation	<ul style="list-style-type: none">• Improve public transport services• Diverse promotion of public transport
4-2 Improved pedestrian environment	<ul style="list-style-type: none">• Revise relevant design codes for sidewalks to expand walking space• Subsidies to optimize the walking environment
4-3 Improved cycling environment	<ul style="list-style-type: none">• Create a barrier-free bicycle transfer service environment• Subsidize counties and cities to build demonstration bicycle path networks• Improve the riding environment for cycling to school• Optimize the bicycle tourism environment

2030 Specific Actions (Draft)

-Low-carbon transport network (2/3)

Promotion measures	Specific Actions
4-4 Manage Private Vehicle Use	<ul style="list-style-type: none">• Strengthen the supply and demand management of vehicle parking and reasonable rates• Promote low-carbon transport zones to encourage the use of low-carbon vehicles• Promote and encourage manufacturers in science parks and industrial areas to reduce private transportation• Strengthen the inspection norms and enforcement strength of high-carbon-emission vehicles• Allow gasoline and diesel prices to be determined by market mechanism
4-5 Car-sharing and scooter-sharing	<ul style="list-style-type: none">• Rolling review of laws and regulations related to integrated development of stations and surrounding areas• Local governments formulate relevant supporting regulations for public transportation-oriented land use in urban planning around public transportation stations

2030 Specific Actions (Draft)

-Low-carbon transport network(3/3)

Promote measures	Specific Actions
4-6 Public Transportation Oriented Development	<ul style="list-style-type: none">• Encourage county and city governments to promote car and scooter-sharing services• Encourage county and city governments to promote ticket integration and transfer preferential schemes between car-sharing operators and other green modes of transportation
4-7 Reduce non-essential transport	<ul style="list-style-type: none">• Promote distance living• Review of expansion of green transport incentive mechanism
4-8 Green freight	<ul style="list-style-type: none">• Promote carbon reduction in the operation and management of freight forwarders
4-9 Promote green tourism and green travel	<ul style="list-style-type: none">• Promote "Taiwan Tourist shuttle"• Promote green tourism• Optimizing Green Tourism Services

2030 Specific Actions (Draft) - Use instead of Own

Promotion measures	Specific Actions
5-1 Friendly products	<ul style="list-style-type: none">• Promote the use of environmentally friendly raw materials and clean production• Use safer household or industrial chemicals
5-2 Extend the service life of items	<ul style="list-style-type: none">• Prudently evaluate the demand for supplies, extend the use as much as possible, recycle old things, and purchase recycled materials• Strengthen the collection, transportation, processing and reuse of huge furniture• Enhance waste mattress recycling
5-3 Recycle components	<ul style="list-style-type: none">• Sustainable material flow management• Responsible disposal of electrical appliances• Promote the use of secondary materials
5-4 Replacing purchases with services	<ul style="list-style-type: none">• Reward/encourage product sharing economy service

2030 Specific Actions (Draft) - Citizen Dialogue (Education)

Promote measures

Specific Actions

6-1
Common Goals
6-2
Shared Responsibility
6-3
Joint Action

- Formulate green living guidelines to guide public behavior change
- Handle awards such as the National Enterprise Environmental Protection Awards and encourage participation from all walks of life
- Communicate to all stakeholders, including industry, the public, youth, and civic groups
- Combine local industry creation, invest in green life and amusement park industry chain
- Design a way to calculate green lifestyle and household carbon footprint

6-4
Low carbon exhibitions

- Promote the use of low-carbon materials and digitalization of data in arts and cultural performances
- Promote the use of low-carbon materials and digitalization of data in exhibition activities

6-5
Information Disclosure

- Disclose information related to promotion results and benefits
- Promote the integrated behavior analysis of business intelligence and the Internet of Things, and promote the carbon reduction of enterprises, individuals and families
- Enhance the application of climate services across domains

6-6 Education for All

- Formulate and promote teaching materials for education for all

5. Promoting Strategies and Measures

Social communication planning

Net Zero Green Life

Leaving no one out as benefits are shared

Lifestyle Transition

Industrial Transition

Just Transition

Behavior Transition



Four

Summary



Summary

In the face of 2050 net zero transition, **life transition must start**. Whether it be food, clothing, housing, transportation, etc., every aspect of life must start to change.

Net zero transition will bring changes to everyone's life. In this process, **maintaining dialogue**, ensuring **citizens' participation** and a **just transition** are also important goals.

Not only does **the whole country have to mobilize and move toward low-carbon living**, but this concept needs **to be implemented in various areas** such as food, transportation, and construction.

The government and the private sector work together to promote a net-zero green life and allow Taiwan to reach the goal of 2050 net-zero emissions.

Thank you very much

