

RENEWABLE ENERGY MARKETS ASIA 2023 PANEL DISCUSSION

SUPPLY CHAIN DECARBONIZATION AND RENEWABLE ENERGY PROCUREMENT



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Thursday, 27 April 10:30-11:30 AM



Renewable Energy
Markets™ **Asia 2023**

SESSION AGENDA

- + Scope 3 decarbonization 101
- + APAC market spotlights
- + Kingwhale case study
- + Question & answer

SESSION DESCRIPTION

A significant portion of the world's supply chain resides in Asia, where renewable energy opportunities are still nascent, and suppliers have limited exposure to the full breadth of renewable energy options. This session will cover education and capacity-building programs led by multinational corporations with supply chains in Asia, as well as supplier-led renewable energy initiatives. An overview of downstream procurement, accounting, and disclosure will also be covered.

3DEGREES INTRODUCTION

About 3Degrees

Global climate solutions provider and certified B Corporation

- + Founded in 2007
- + ~300 employees globally



*Headquartered in
San Francisco, CA*



*Employees in
North America
and Europe*

3DEGREES BY THE NUMBERS

90+

Countries where we support our clients operations

400+

Consulting engagements

390M+

EACs delivered to clients

10K+

Facilities supported

Business units

UTILITY PARTNERSHIPS

Build and deliver effective voluntary programs



INTERNATIONAL CLIMATE CONSULTING & PPAS

Set and meet climate goals with a global team of advisors



ENVIRONMENTAL MARKETS

Procure high-quality global EACs, including RECs



CLEAN FUELS & TRANSPORTATION DECARBONIZATION

Get clarity and solutions in the transportation decarbonization journey

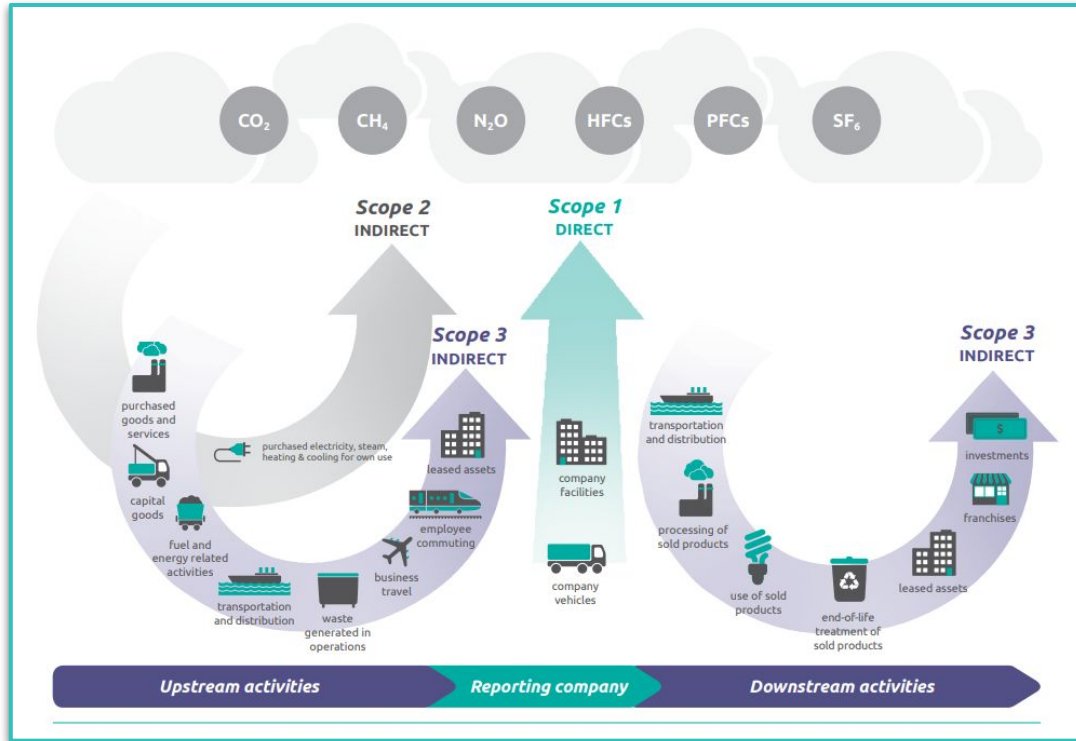


CARBON MARKETS

Support and develop carbon reduction and removal projects



What are scope 3 emissions?



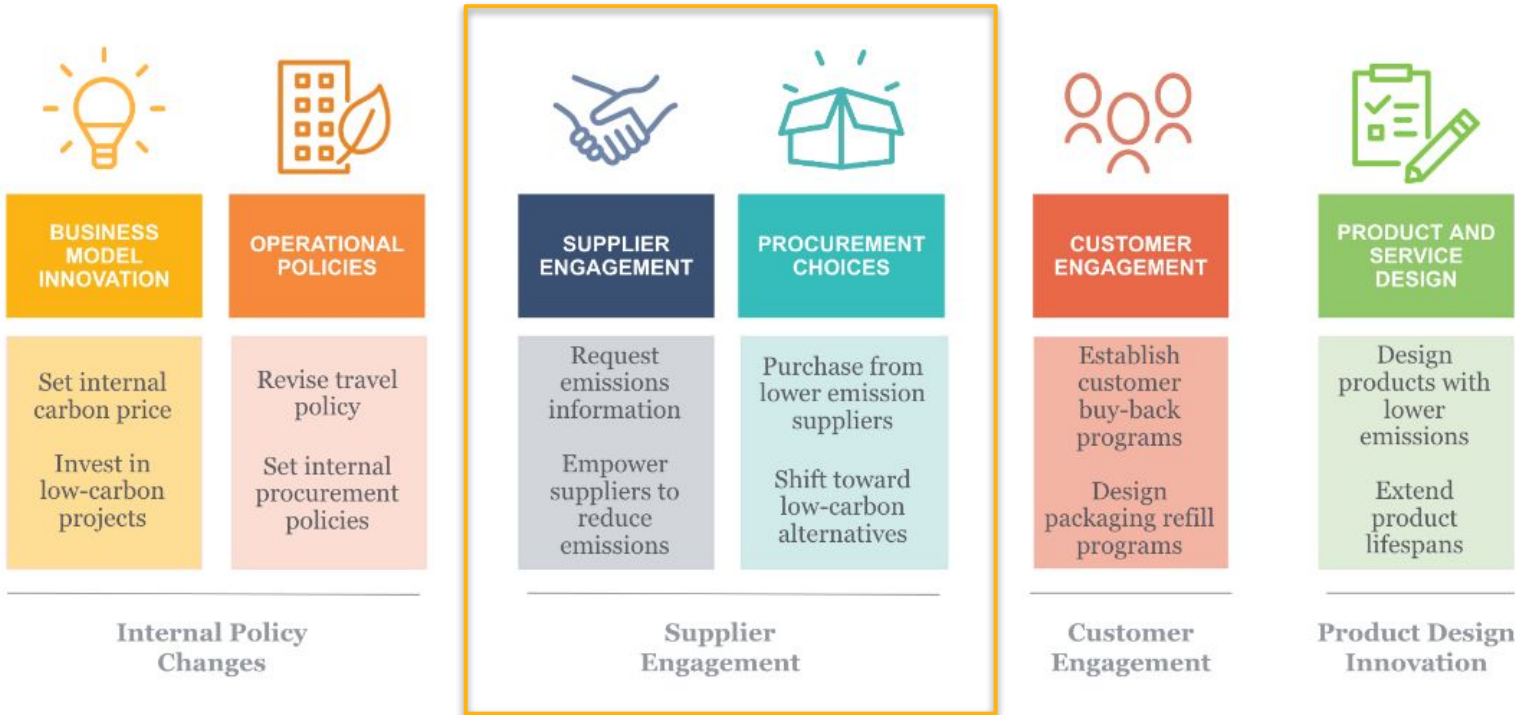
S3 emissions include all sources not within an organization's S1 and S2 boundary.

The S3 emissions for one organization are the S1 and S2 emissions of another organization.

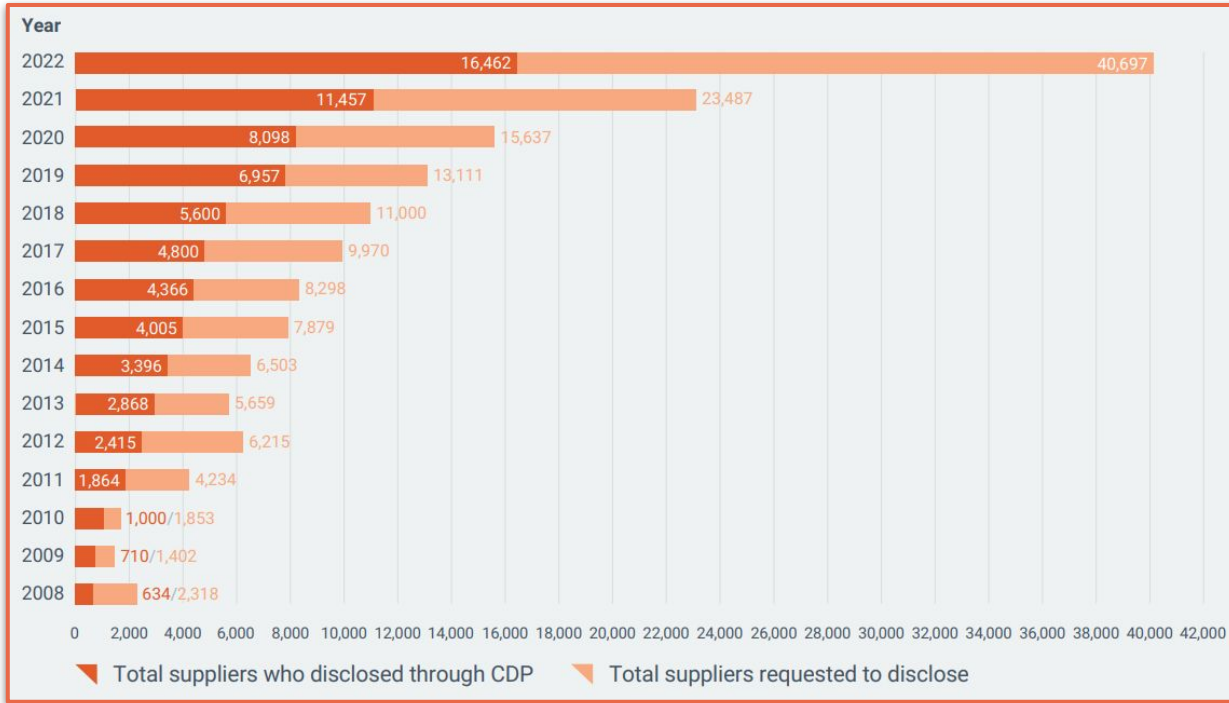
S3 emissions often represent the majority of an organization's total GHG emissions.

SCOPE 3 DECARBONIZATION 101

Emission reduction strategies



Supplier engagement & disclosure



Last year, only 39% of CDP reporting companies engaged their suppliers, and when they did, this only applied to 34% of these companies' supply chains.

SCOPE 3 DECARBONIZATION 101

Renewable energy procurement structures

Contracts only for energy attributes**CERTIFICATES**

- + Renewable Energy Certificates (REC)
- + Guarantees of Origin (GO)
- + International RECs (I-REC)
- + Other market-specific options (REGO, TIGR, etc.)

DIRECT CONTRACT

- + Virtual PPA
- + Long-term EAC purchase agreement
- + Equity investment

Attributes and electricity procured together**SUPPLIER OPTIONS****Utility supply**

- + Green tariff
- + EAC-based program
- + Community solar

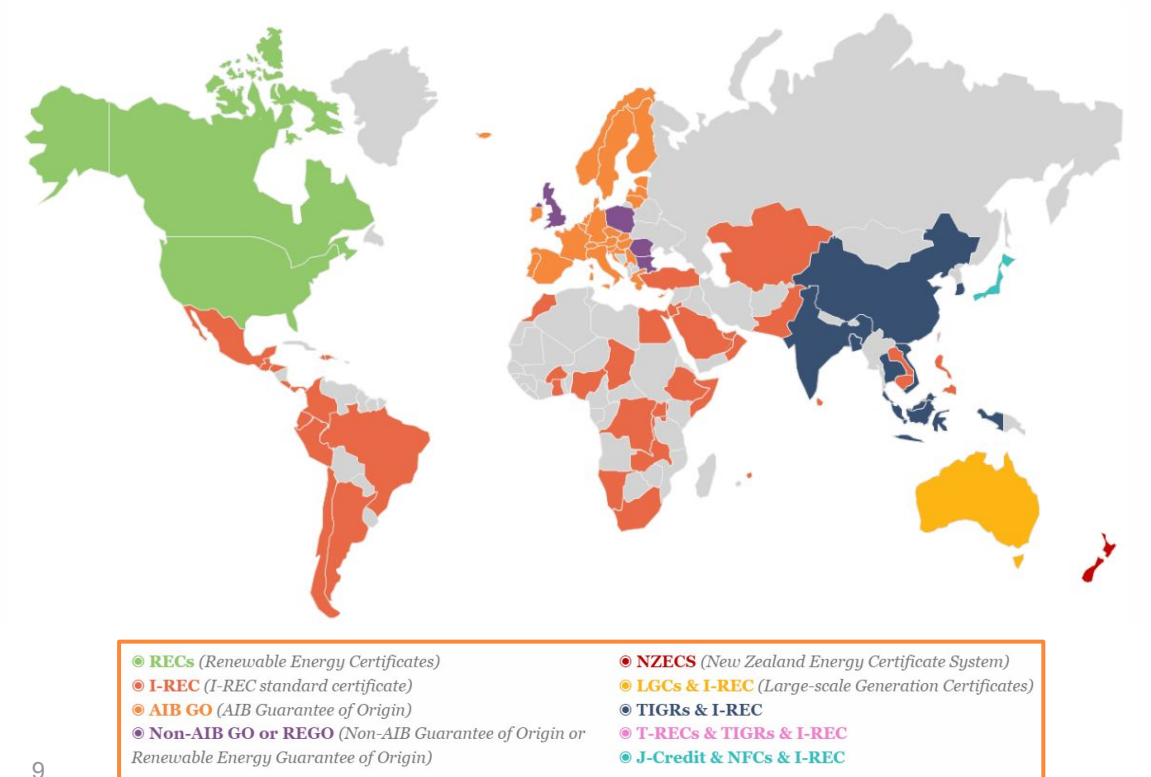
Competitive retail supply

- + Custom transaction
- + Physical PPA

ONSITE SOLAR

- + Direct purchase
- + PPA / lease

Procurement opportunities & obstacles



“Scope 2 emissions from different value chain partners form the basis of almost all fifteen scope 3 categories.”

(GHP Protocol Scope 2 Guidance, p. 96)

BARRIERS

Supplier engagement

RE supply restrictions

Allocation of GHG claims



APALA GROUP

Clean Energy | Impact

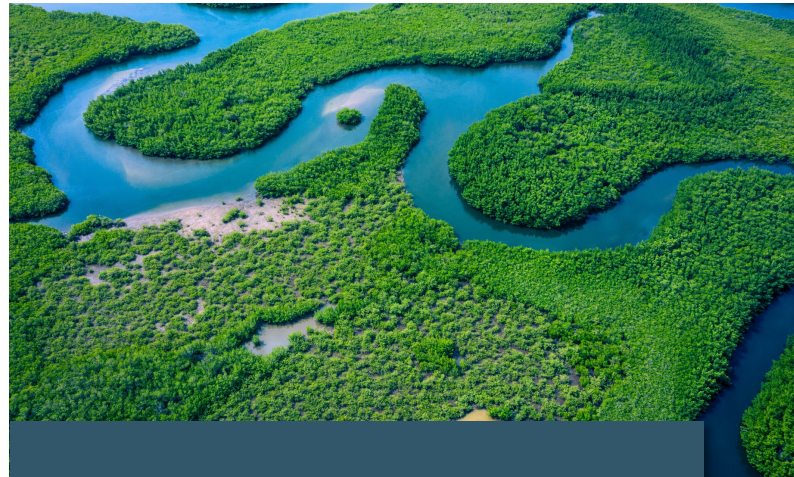
Innovation. Implementation. Impact.

Scope of Services



Renewable Energy

- RE Procurement Support
- Price and Policy Analysis
- Regional Strategy
- RE Investment Support



Carbon Impact

- Project Identification
- Energy Efficiency Analysis
- Facility Carbon Audits
- Decarbonization Cost Curve
- Supplier Education and Training
- Carbon Inset Development



Innovation Lab

- Policy & Market Development
- Impact & Pilot Project Development
- Finance Innovation

Market Coverage

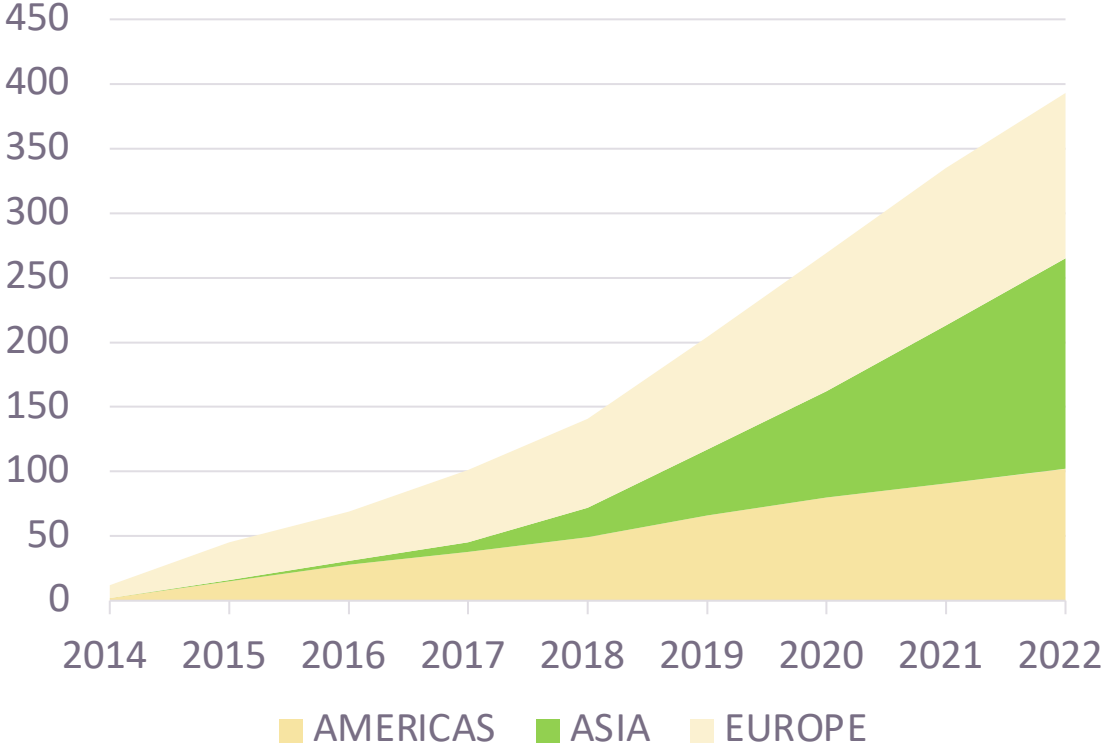


Contact us to discuss your decarbonization goals

contact@apalagroup.com

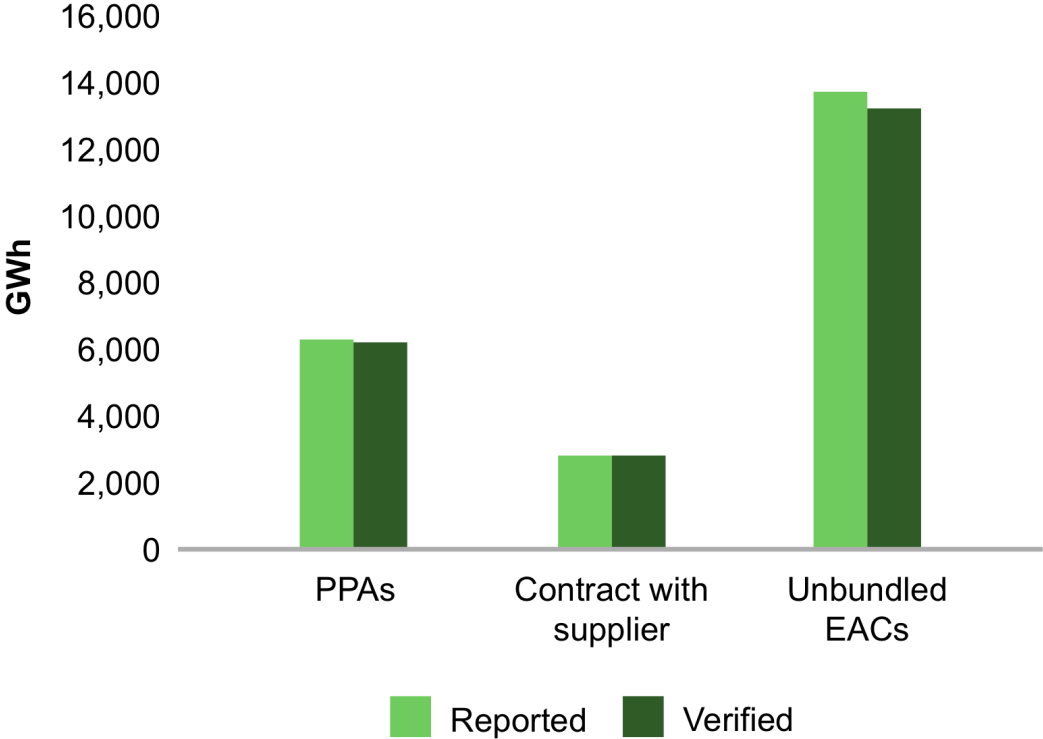
Procurement Landscape

RE100 headquartered members by region



Source: RE100

RE procurement in Asia












Procurement Option Evaluation

	Onsite PPA	Offsite PPA	VPPA	Green tariff	RECs
Ease of execution	✓	✗	✗	✓	✓
Price stability	✓	✓	✓	✗	✗
RE100 claim	✓	✓	✓	✓	✓
Supply abundance	✗	✗	✗	✗	✗
No interference with operation	✗	✓	✓	✓	✓
No load match requirement	✗	✗	✓	✓	✓
Additionality	✓	✓	✓	✗	✗

Procurement Challenges

> TABLE 8: TOP 10 CHALLENGING MARKETS

	Japan	Republic of Korea	Singapore	China	Taiwan, China	United States of America	Australia	India	Russian Federation	Saudi Arabia
 Members citing barriers	44	39	38	27	27	23	18	14	12	12
 Members reporting operations	171	108	148	199	102	218	133	154	90	51
 High cost or limited supply	26	12	26	5	21	5	12	4	4	4
 Lack of procurement options	13	22	7	19	5	4	0	8	7	6
 Frictions or inefficiencies	16	11	10	5	3	9	6	6	0	4
 Regulatory barriers	7	4	0	6	0	3	0	7	3	0
 Credibility concerns	1	3	0	4	0	2	1	1	0	0
 Internal reasons	2	1	3	0	4	2	0	0	0	0
 Lack of data	1	3	1	1	2	0	0	0	0	0

Source: RE100

Addressing the Challenges



Energy Efficiency



Start early



Training

Supplier summit
Procurement guide



Join forces

Aggregate PPAs
Clean Energy Fund
Buyer Associations

Thank you!



APALA GROUP

Clean Energy | Impact



Trang Bui

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Decarbonisation Lead

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HOW COMPANIES ENGAGING SUPPLY CHAINS

【 Event 】 REM Asia Conference 2023 Panel
Discussion
【 Subject 】 Supply Chain Decarbonization and
Renewable Energy Procurement
【 Time 】 10:30-11:30, 4/27
【 Panelist 】 James Huang, President, Kingwhale



Kingwhale

Kingwhale – The Scope of Business

- Vertical Integration & Diversified Operation



TEXTILE



GARMENT

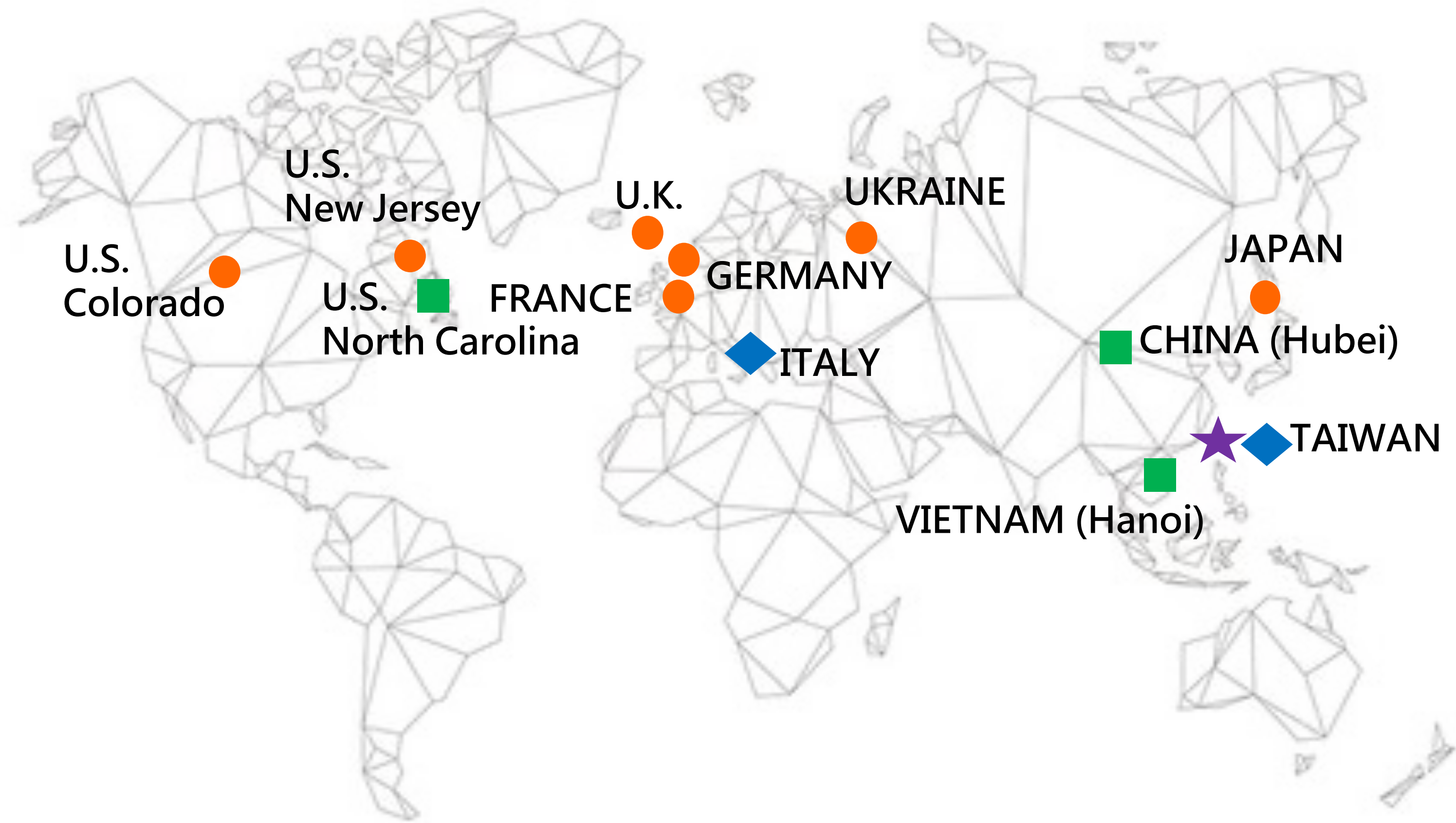


BRANDING



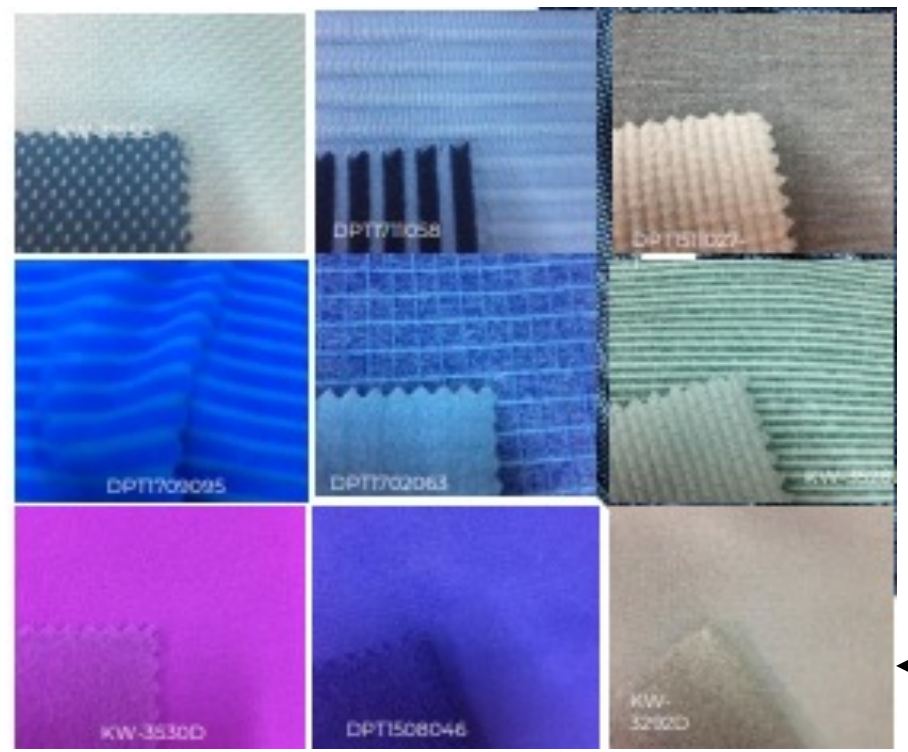
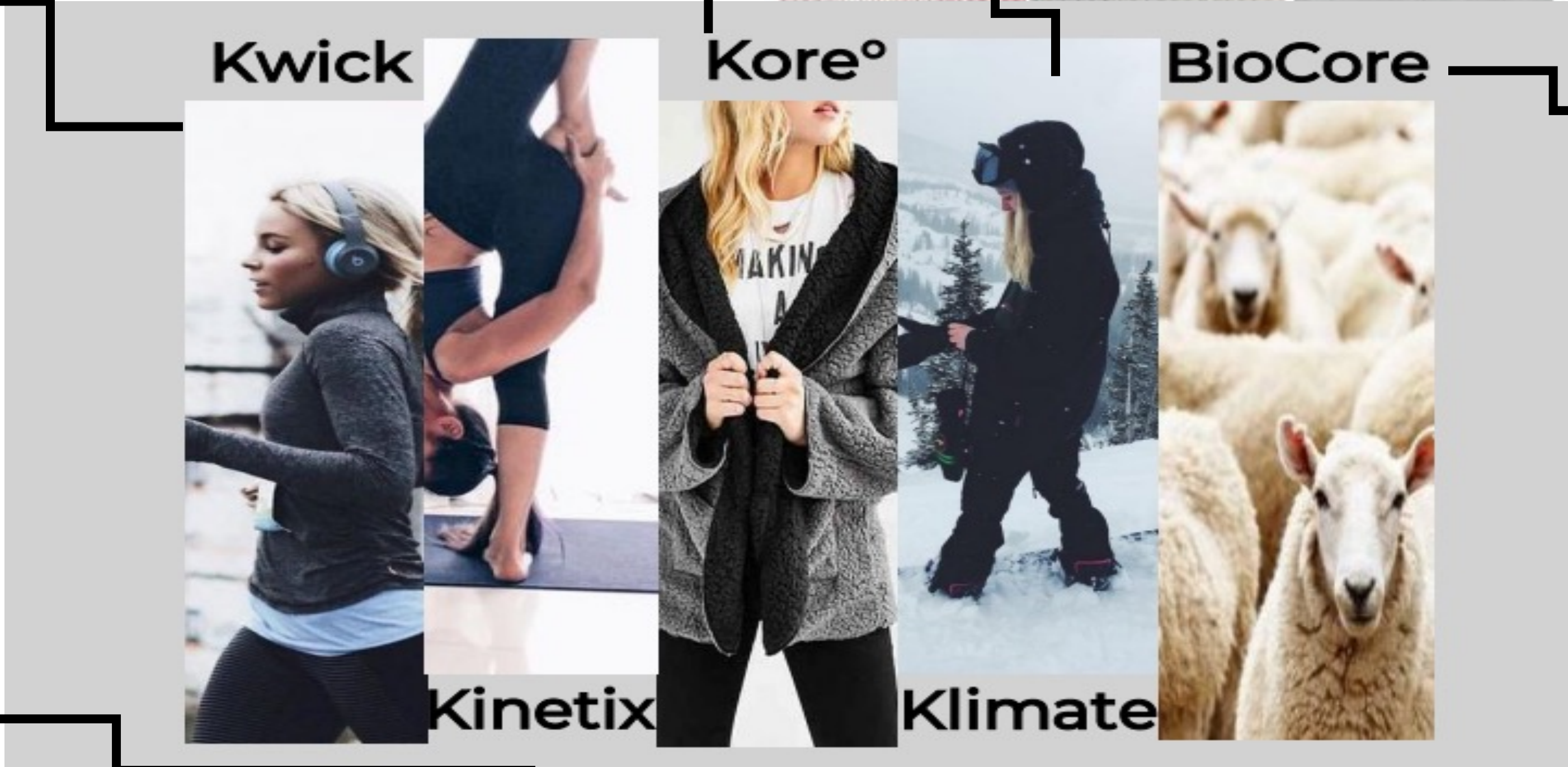
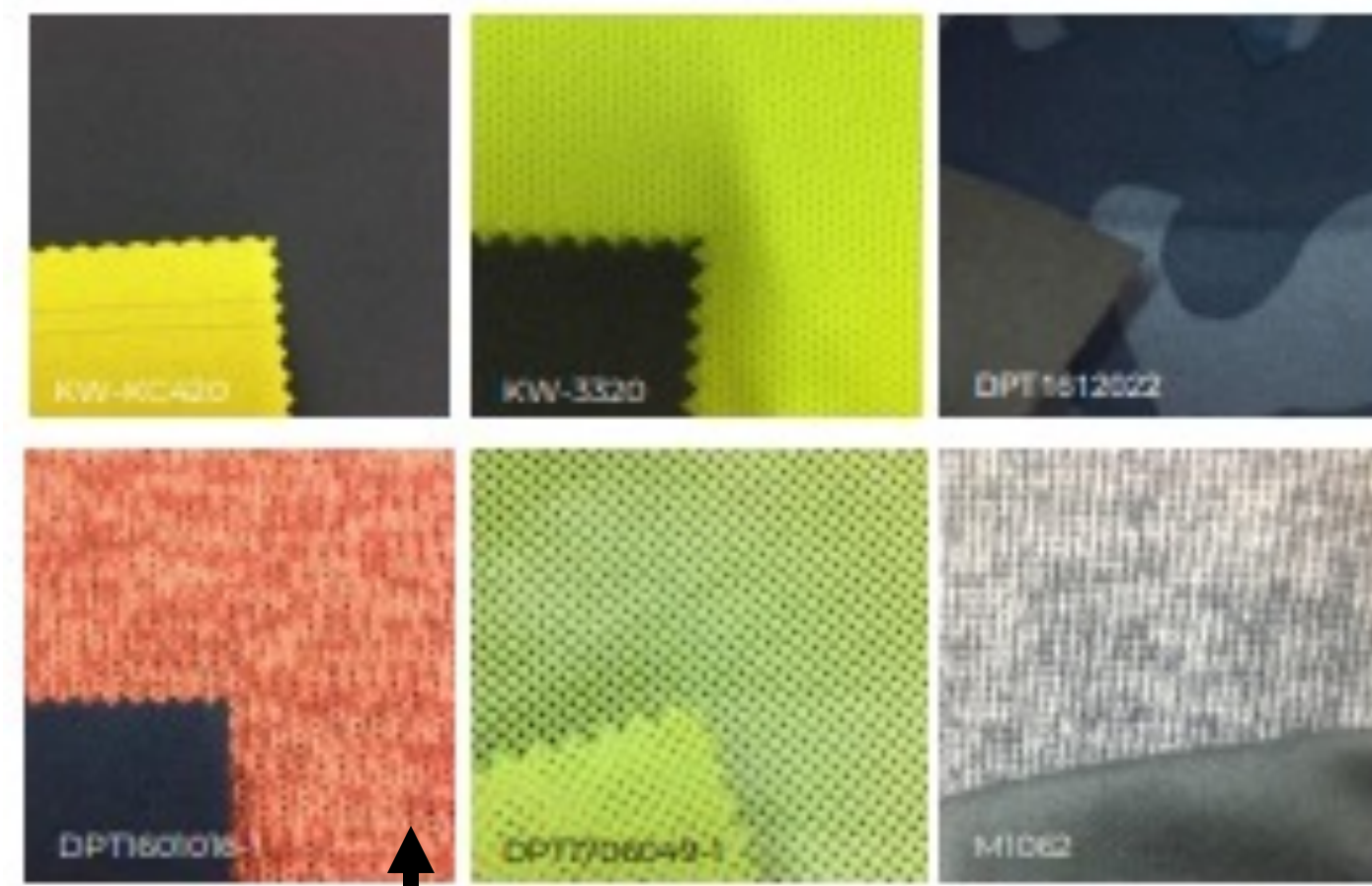
**SPORTS
MARKETING**

Kingwhale – Global Operation

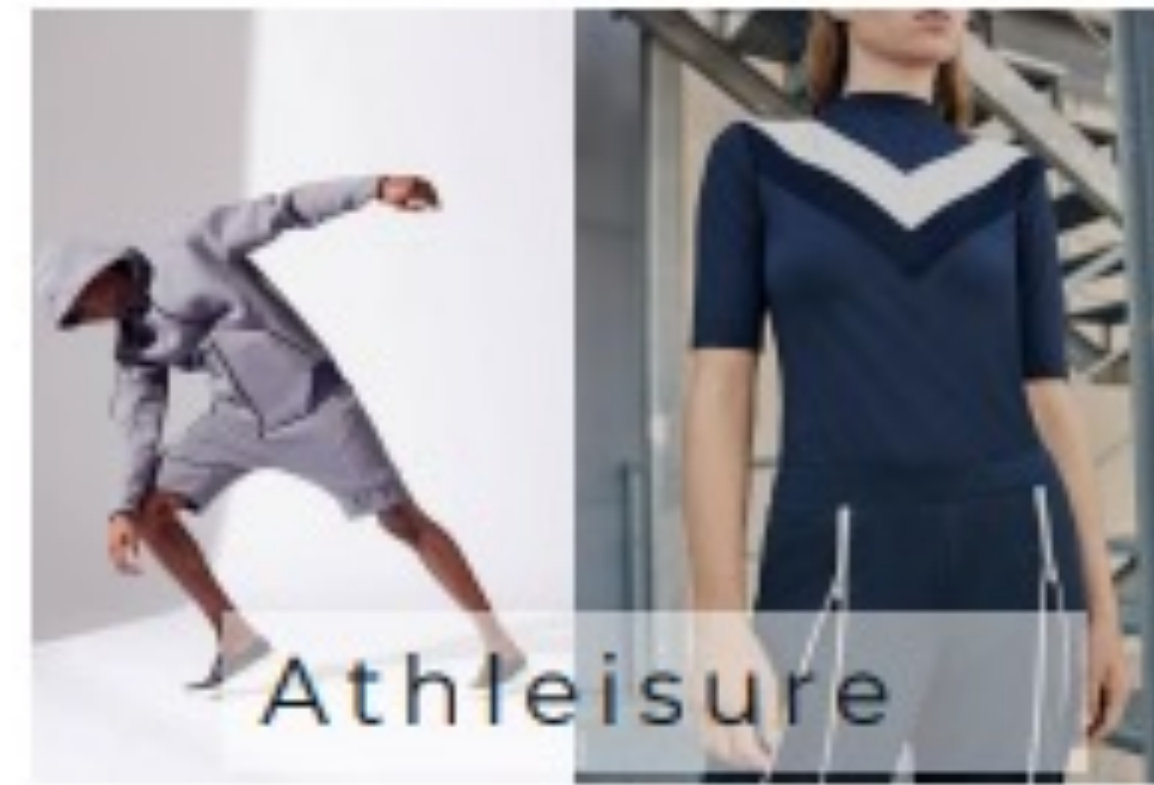


- Sales Office
- Factory
- ◆ R&D Center
- ★ Headquarter

Our Products & Services – Performance Yarns & Fabrics



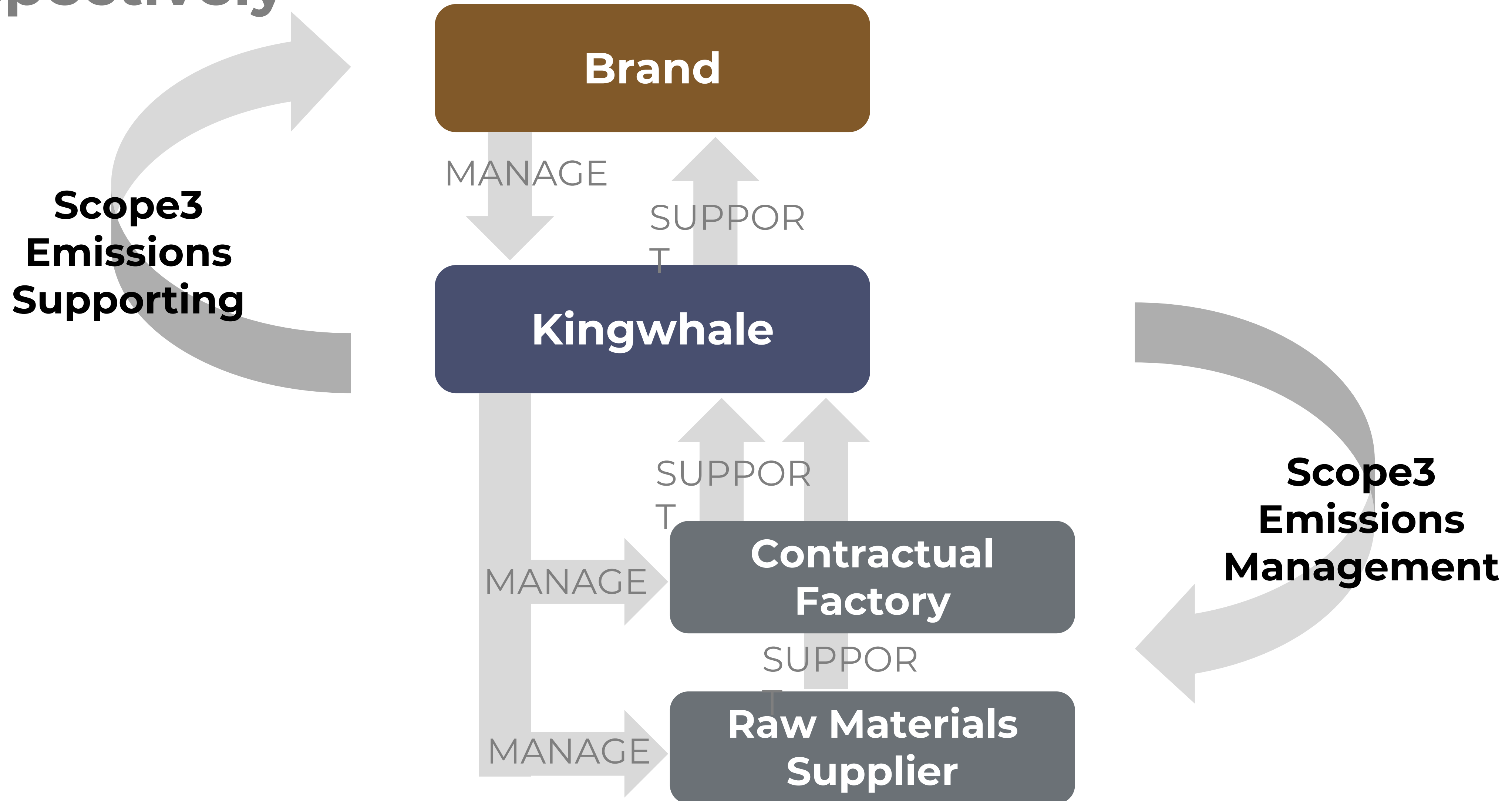
Our Products & Services – Garment



Kingwhale is part of the global supply chain, needs to handle scope3 emissions for brands and suppliers respectively

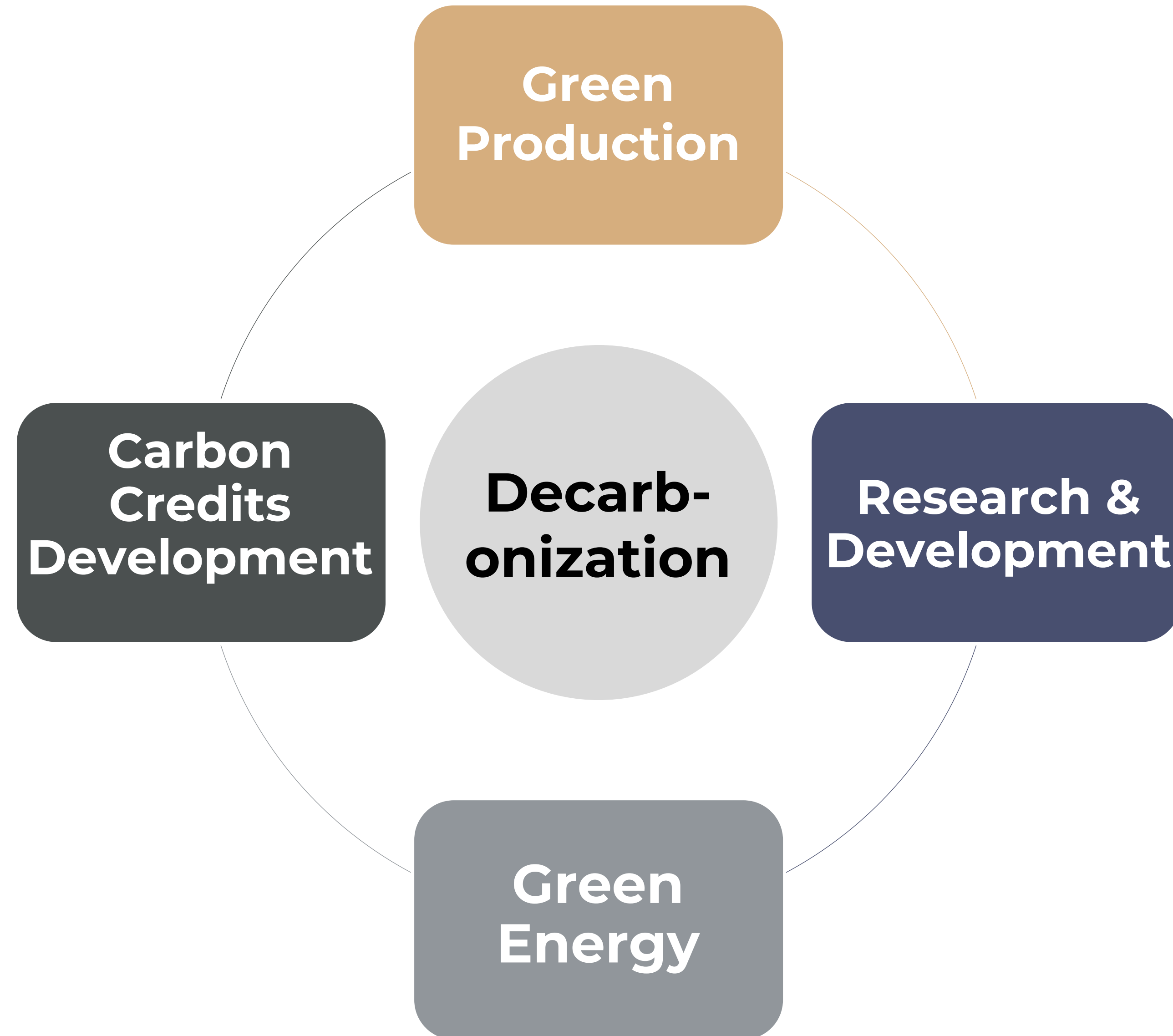


respectively





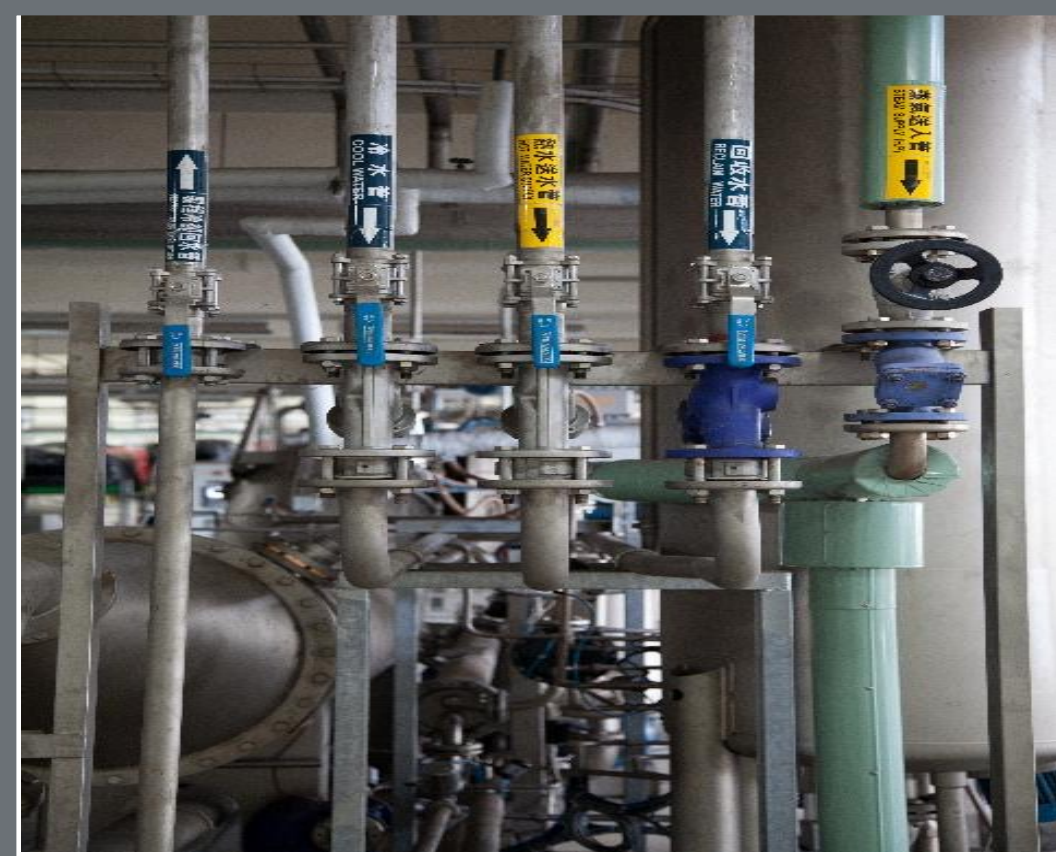
Kingwhale's decarbonization pathways





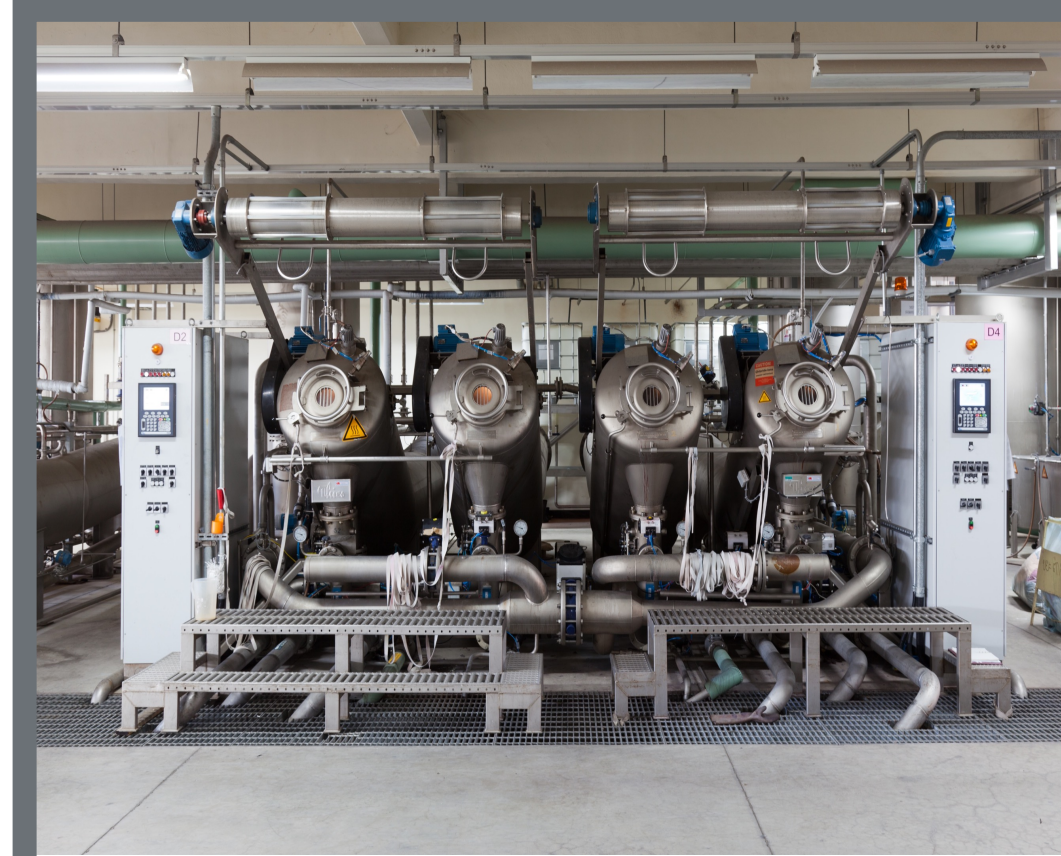
Environment Substantiable

- Factory Greenery
- Cooling & dampproof
- ISO 14001
- Post-Industrial waste recycling



Energy Efficiency

- Cogeneration Steam
- No coal, use natural gas
- Thermal & steam energy recycling
- Intelligent lighting system



Water Efficiency

- Lower liquor ratio
- Waste-water recycling



Carbon Management Platform

- Carbon footprint updating system
- Reinforce Energy Management System

Research and Development - L.I.T.® (Low Impact Technology)



- Developing the low impact material to reduce environmental burden

■ L.I.T.® is a technical yarn

which resulted in a

significant savings of :



➤ 15% less dyestuffs



➤ 22% less electricity



➤ 50% less thermal



energy

➤ 60% less water



In the belief to create better environment friendly products without sacrificing the qualities, L.I.T.® produced products are the constant effort to dedicate in the production process.

Research and Development – Revio™

– Dedicate to circular economy solution



■ Revio™ is a technology which can facilitate the sustainability,

to

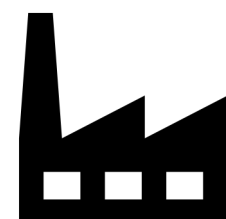


➤ Lighten the load on

landfills



➤ Minimize dependence on



petrochemicals

➤ Eliminate carbon

emissions .



Revio aims to reduce the carbon emission, to resolve the textile waste, to regenerate and maximize the use of every garment as it can be.



Roof top solar power station

Developing Energy Storage System

Set up RECs trading platform

Founding member of Electricity Retailer ETtec



Committee RE100



Founding member of TAGET





RE100 by

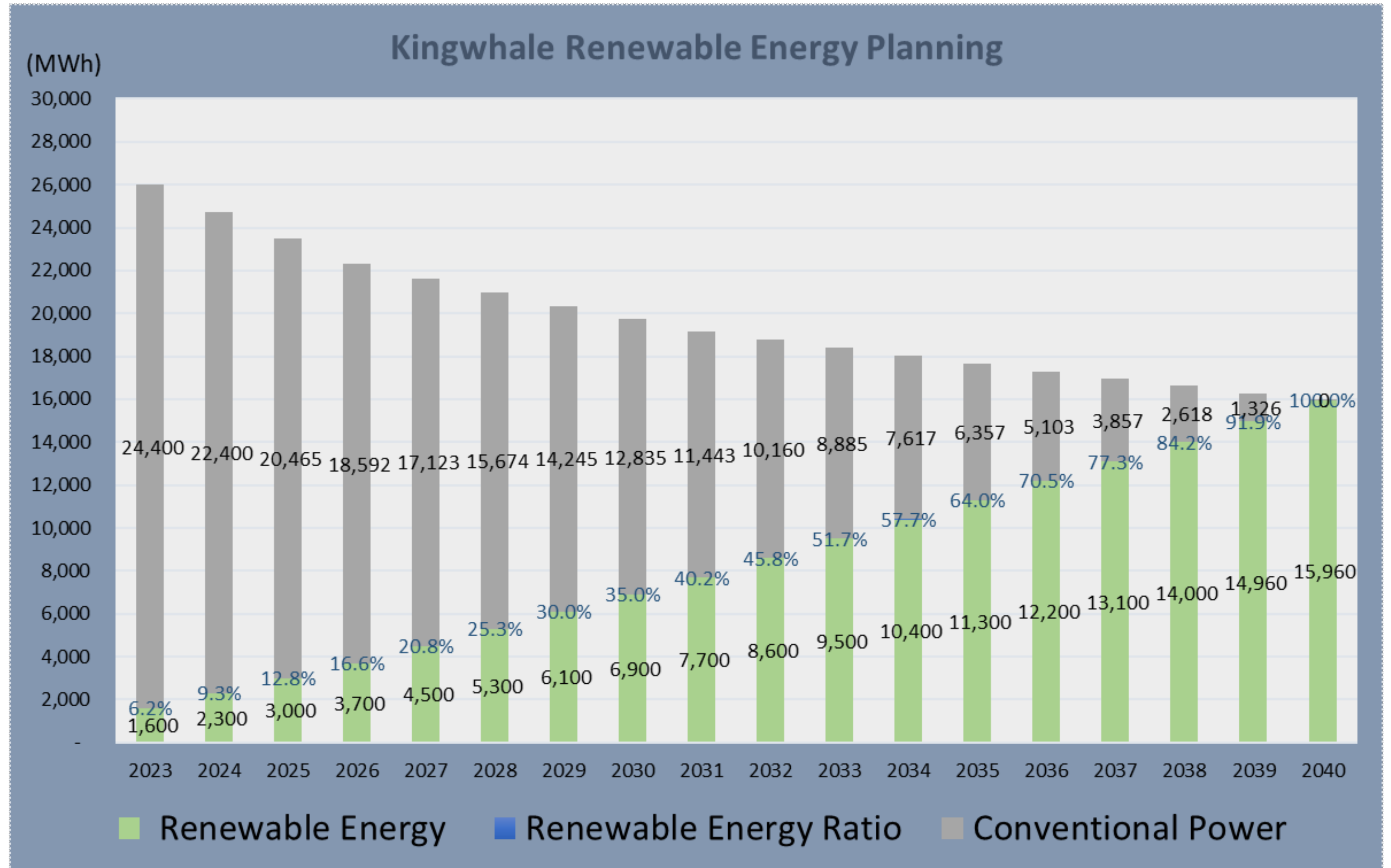
2040

RE65 by

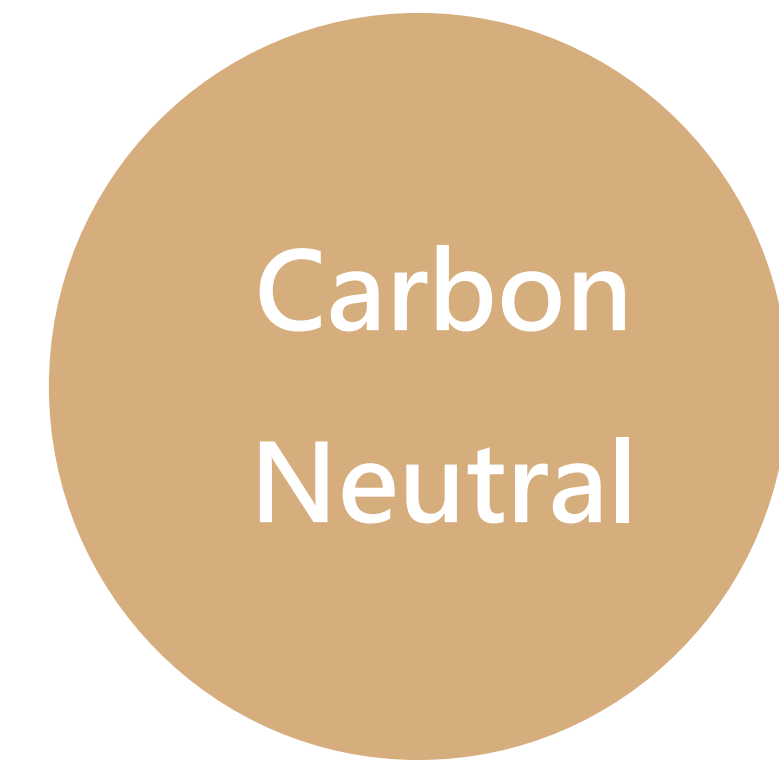
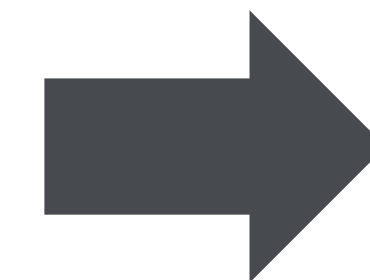
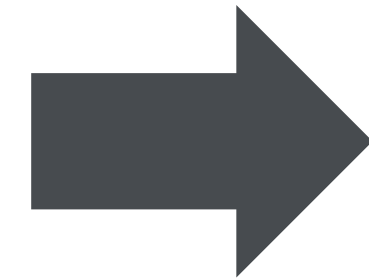
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Carbon Credits Development



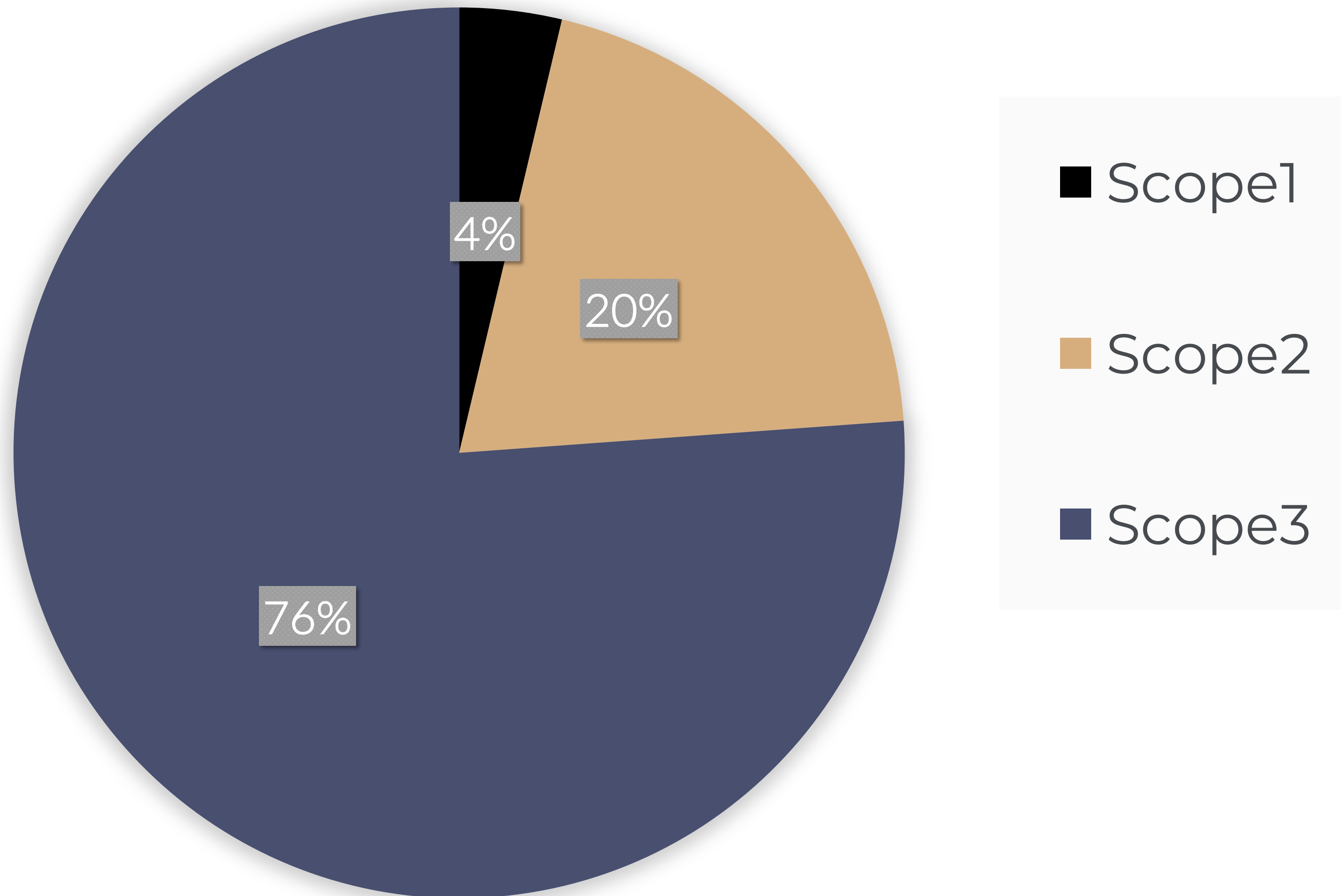
- Organization carbon footprint (ISO 14064-1)
- Product carbon footprint (ISO 14067)

- Set Priority
 1. Energy efficiency for large-energy-consuming devices/machines
 2. Circular economy solutions
 3. Renewable energy procurement by APPA/CPPA
 4. Carbon credit trading
 5. Assess various carbon credit projects, ex: forest

Scope 3 emissions usually account for more than 70% of a business' carbon footprint, it is crucial !



Kingwhale's Carbon Footprint



Assessment

- Data and information collection
- Analysis and assessment
- Identify key solutions/pathways

Alignment

- Target setting and alignment
- Supporting, financing and incentive

Engagement

- Communication
- Training

Challenges for supply chain decarbonization

Actions	Challenges
<p>■ Assessment</p> <p>Set baseline of Scope3, quantify value</p>	<ul style="list-style-type: none">➤ Lack of carbon-accounting foundations➤ Overreliance on secondary data for scope 3 emissions
<p>■ Alignment</p> <p>Prioritize pathways and set targets</p>	<ul style="list-style-type: none">➤ Significant uncertainty over cost and technical feasibility of carbon-reduction levers
<p>■ Engagement</p> <p>Review, feedback and communication</p>	<ul style="list-style-type: none">➤ Requires industry-wide collaboration to address many sources of emissions➤ Needs sustained engagement by internal and external stakeholders through a multiyear

change program

Noe: Reference from Mckinsey article



Kingwhale's carbon neutral milestones and goals





THANK YOU



Q & A