FISH WASTE VALORISATION IN NEW-CALEDONIA

A sustainable development way towards the management of the industrial waste

ADECAL

NEW CALEDONIA FISHERIES

Long-Line Fisheries

3 major companies

27 boats

2859 tons total catches

Albacore tuna targeted

Coastal fisheries

305 boats

1000 tons total catches

Reef fish and bottom fish targeted

FISHERIES WASTE PRODUCTS

Long line:

72% of the total product processed by 3 major companies

60% of the catch sold on the local market

Total weight of waste : **1042 tons**

Coastal fisheries:

South NC: 2 major sold places: Noumea fish market
Supermarkets

Total weight of waste : **300 tons**

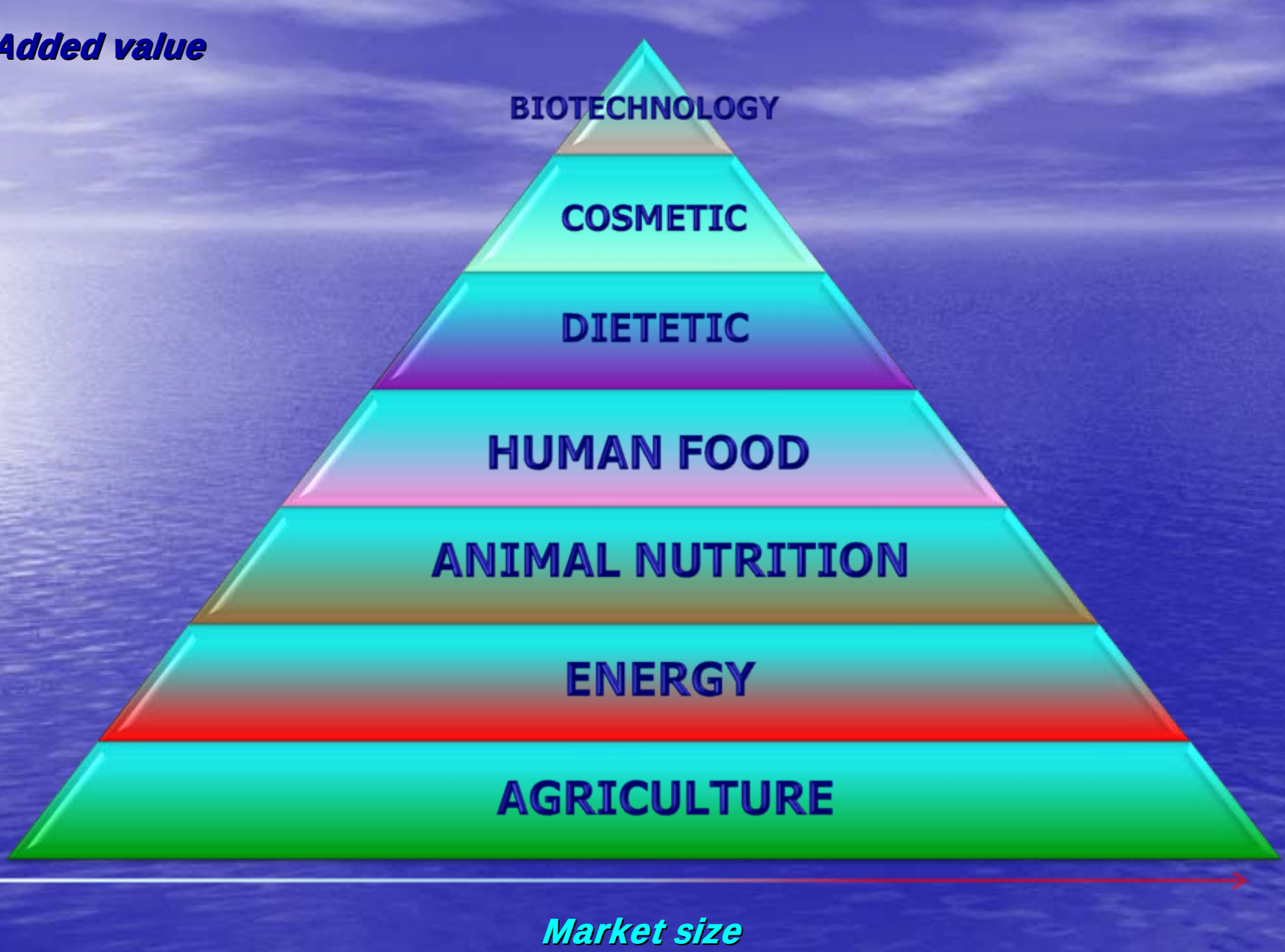
North NC: 40% sold at the Noumea market
No transformation
No identified waste production

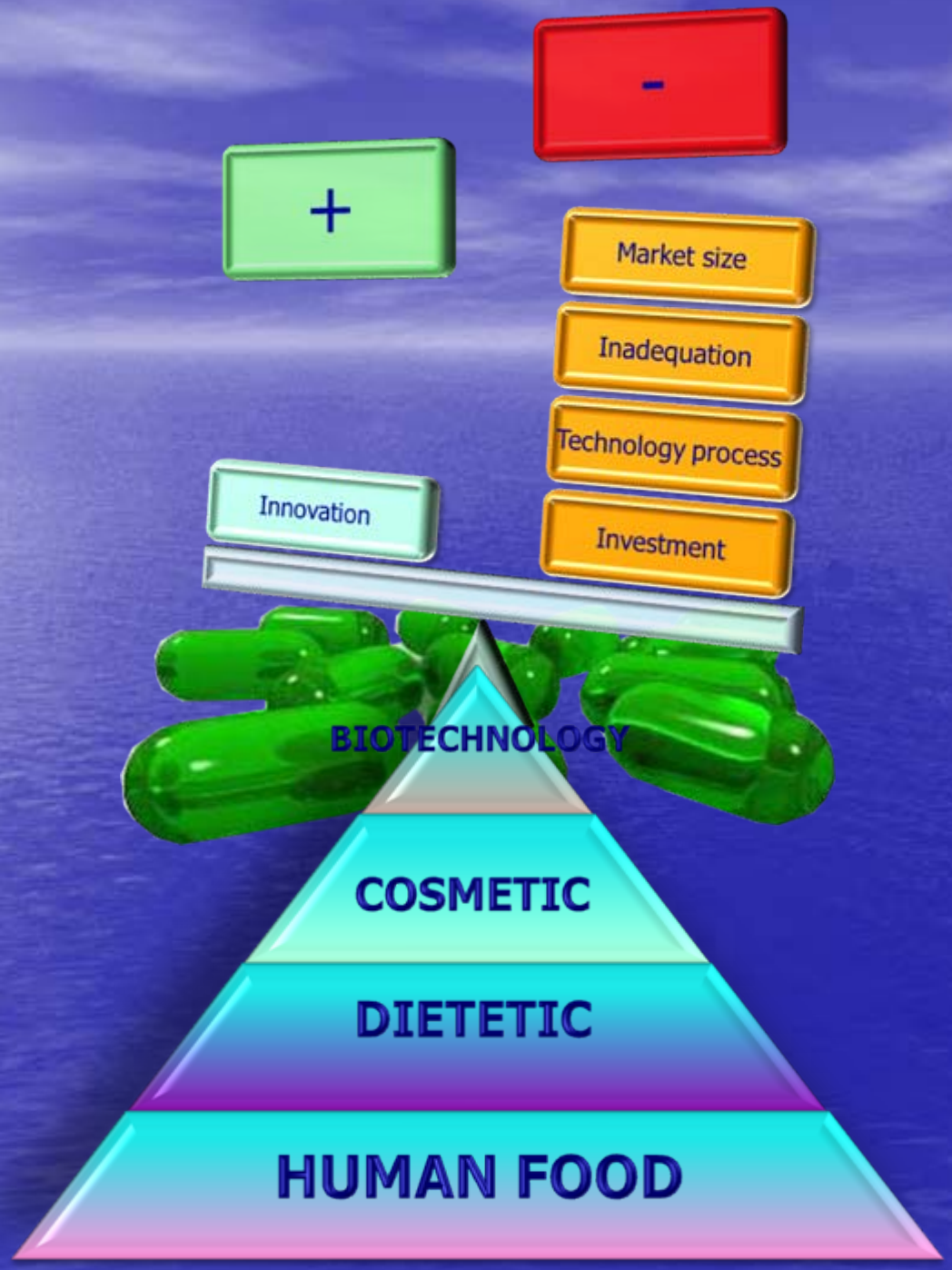
Loyalty Island: 50 tons per year
25% sold at Noumea,
75% processed in Lifou fish market

Total weight of waste : **25 tons**

TOTAL WEIGHT OF WASTE: 1400 TONS

GEOGRAPHICAL DISTRIBUTION


Added value
BIOTECHNOLOGY
COSMETIC
DIETETIC
HUMAN FOOD
ANIMAL NUTRITION
ENERGY
AGRICULTURE
Market size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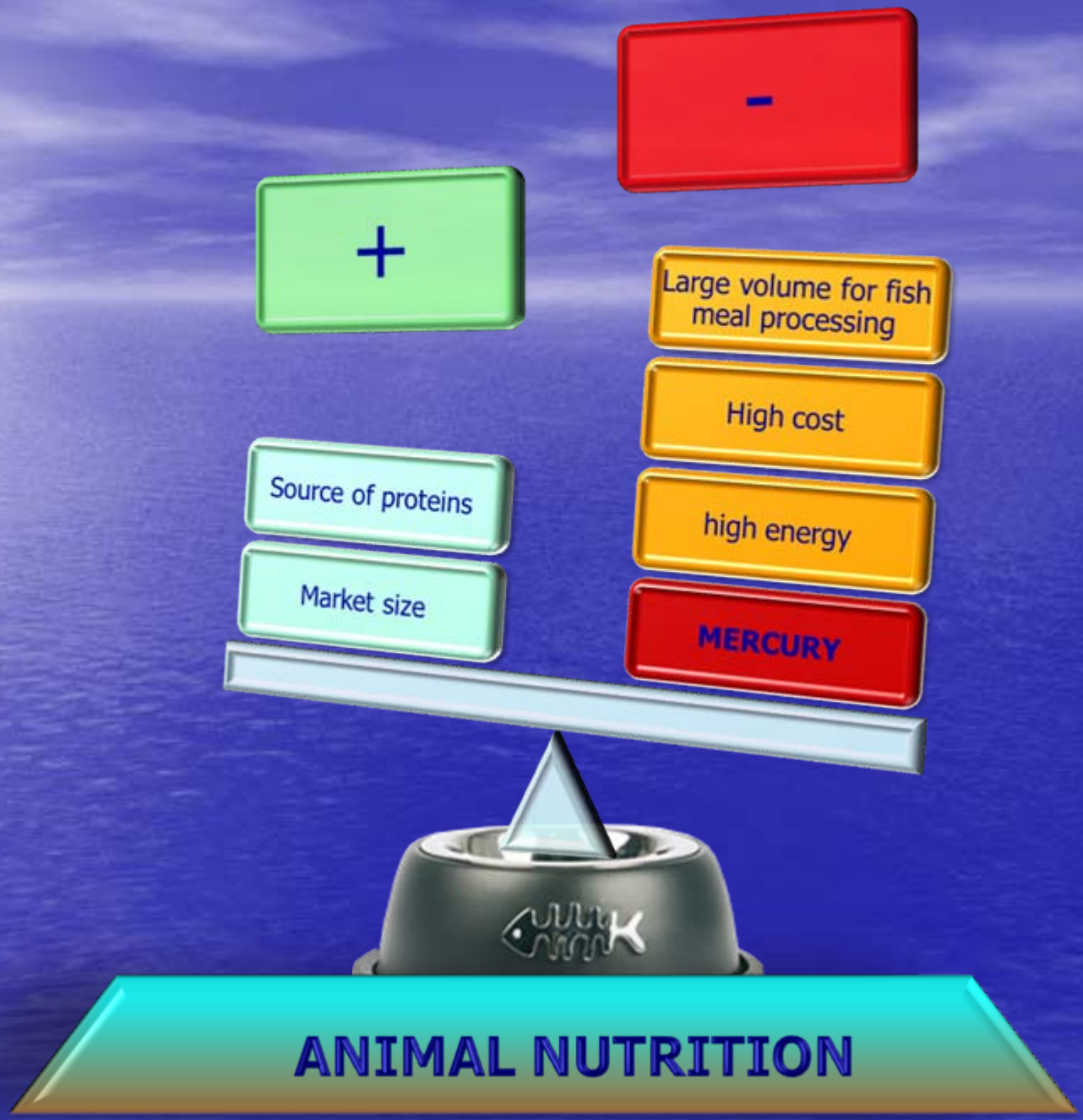
Market size
Inadequation
Technology process
Investment
Innovation
BIOTECHNOLOGY
COSMETIC
DIETETIC
HUMAN FOOD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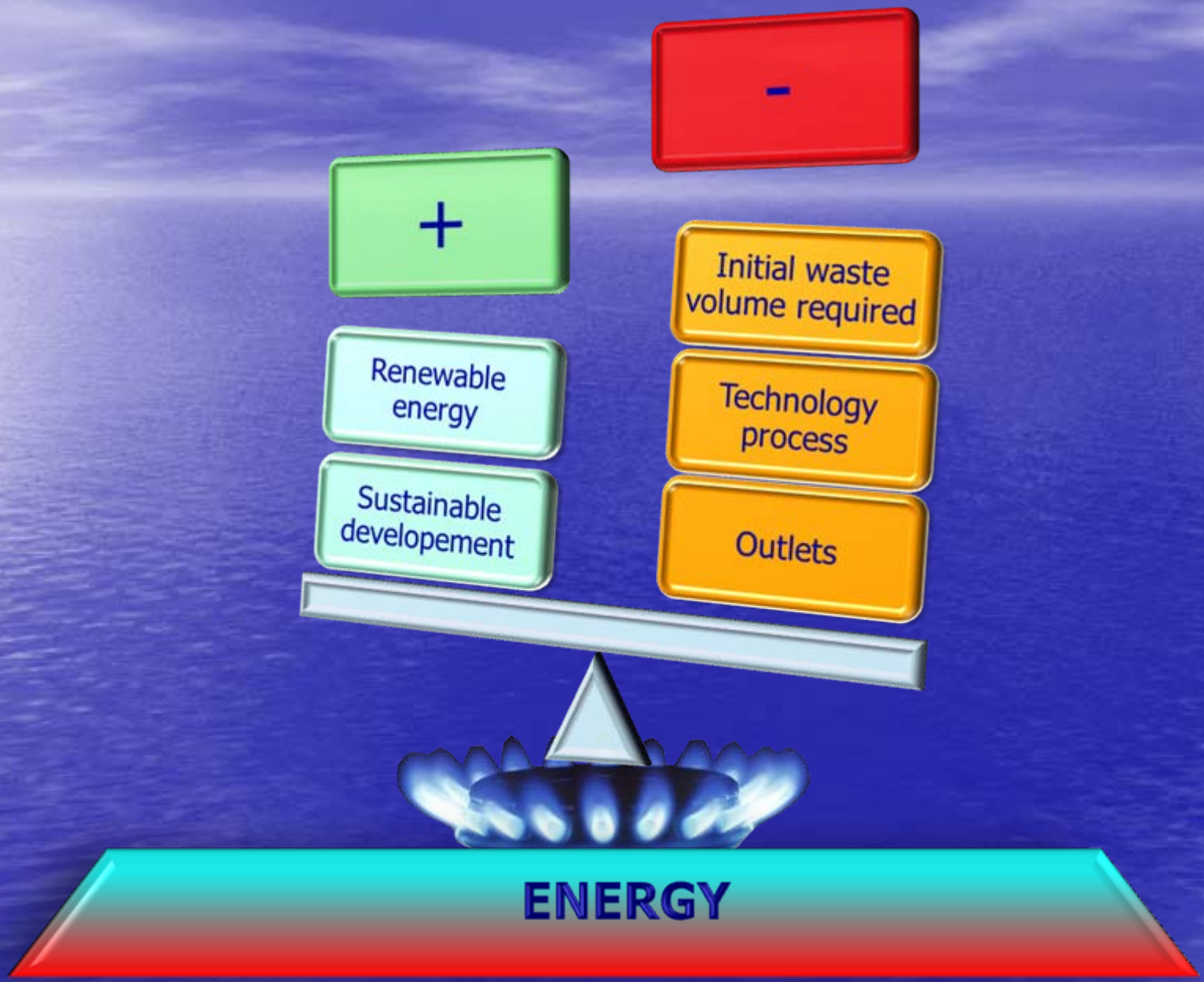
Large volume for fish meal processing
High cost
high energy
MERCURY
Source of proteins
Market size
ANIMAL NUTRITION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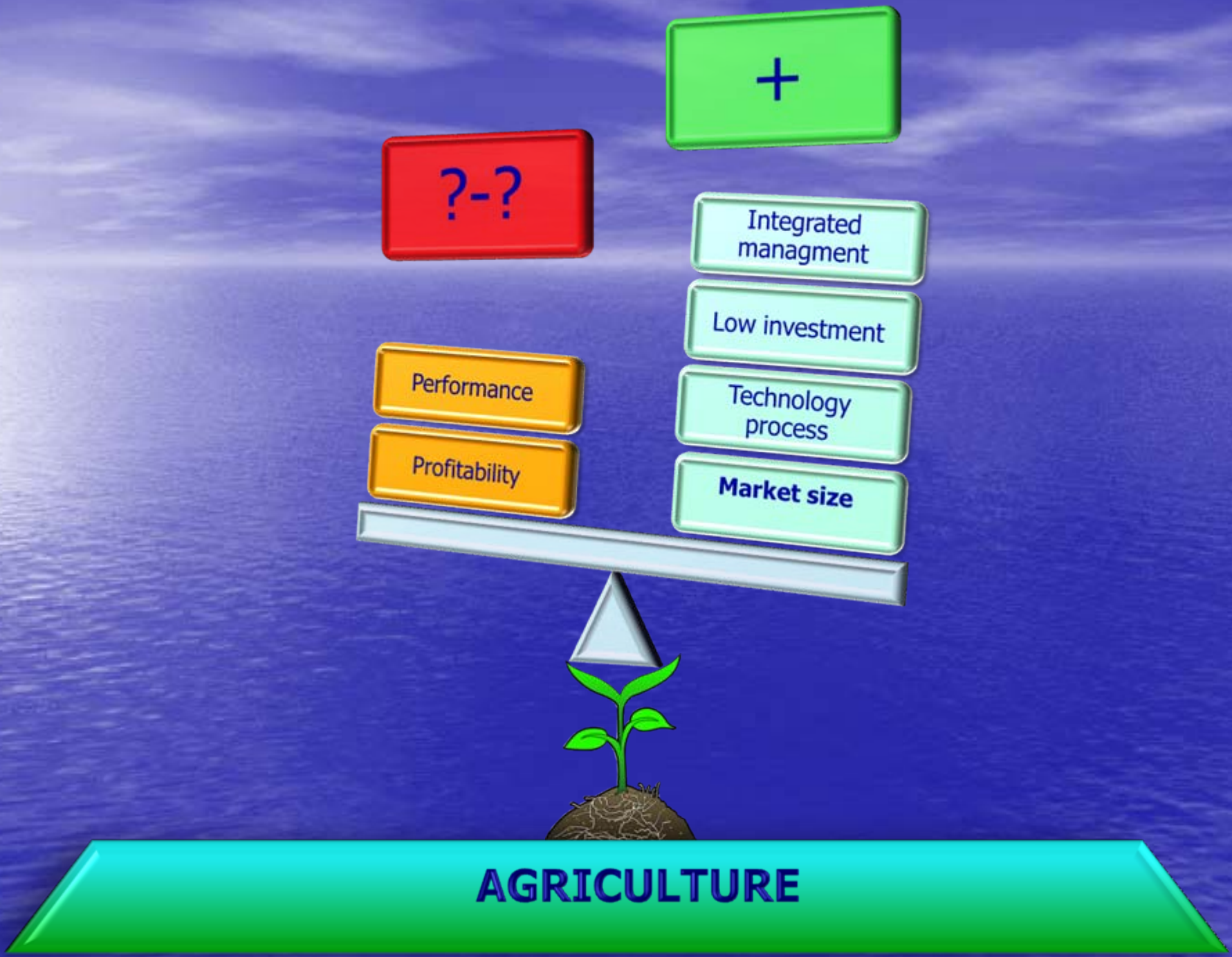
Initial waste volume required
Technology process
Outlets
Renewable energy
Sustainable developement
ENERGY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?-?
Integrated managment
Low investment
Technology process
Market size
Performance
Profitability
AGRICULTURE

WHAT PRODUCT FOR AGRICULTURE (and MINING) NEEDS ?

FOLIAR FERTILIZER

-Major and oligo element-rich
-Stimulates plant growing
-Repulsif effect
-Good additive for phytosanitary treatment

- Local private production
-Small market size
(30 t/year)

SOIL AMENDMENT

-Organic matter-rich
-Major and oligo element-rich
-Favors the nutrition of soil micro-organisms
-Contributes to the soil health
-Slow speed of OM mineralisation

- Used in large quantity by mining operators
-Can be used by agriculture in large quantity
-Can subsitute a large part of imported chemical fertilizer (3200 t/year)

FROM SEA TO SOIL, WHAT PROCESS ?

STEP 1: waste stabilisation

- EASY TO MAKE
- CHEAP TO PRODUCE
- LIQUID, PUMPABLE
- EASY TO CARRY
- STABLE AT AMBIENT TEMPERATURE
- CAN BE PRODUCED AT DIFFERENT PLACES

STEP 2: Fish silage treatment

RAW SILAGE

GRANULATION

DRYING

DRY GRANULATED SOIL AMENDMENT

-Easy to carry and to use
-Nitrogen-rich
-Only efficient for soil

CO-COMPOSTING

MATURATION

-Complete fertilizing power
-Carbon and nitrogen-rich
-Efficient for soil and plant

ORGANIC COMPOST

PERPECTIVES

WE PROPOSE TO INITIATE A PILOT STUDY TO:

- Produce fish silage
- Measure all the components with representative samples

This pilot production will be used for:

- Producing dry silage and co-compost
- Featuring the agronomic value of each product
- Measuring the absorption of the elements by soil and plants
- Operating agricultural test to control each product efficiency

Based on these results,
we will identify the best way to launch the industrial valorisation of the total volume of fish waste produced in New-Caledonia

Thank You