

SUSTAINABLE
SEAS

Ko ngā moana
whakauka

Building a blue economy

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A blue economy (BE) perspective

- Proliferating usage internationally, with widely different meanings but shared propositions:
 - humanity's future depends upon ocean resources
 - oceans offer enormous opportunities for economic development
 - realising opportunities will require significant investment in research
 - success will require fundamental transitions in economy
 - change will not happen by itself
 - blue economy is an aspiration rather than a 'thing'

NZ-specific drivers: Te Ao Māori, 'Four Well-beings' framework, and mix of export dependence, reputational risk & green premium opportunities

BE in Sustainable Seas Challenge

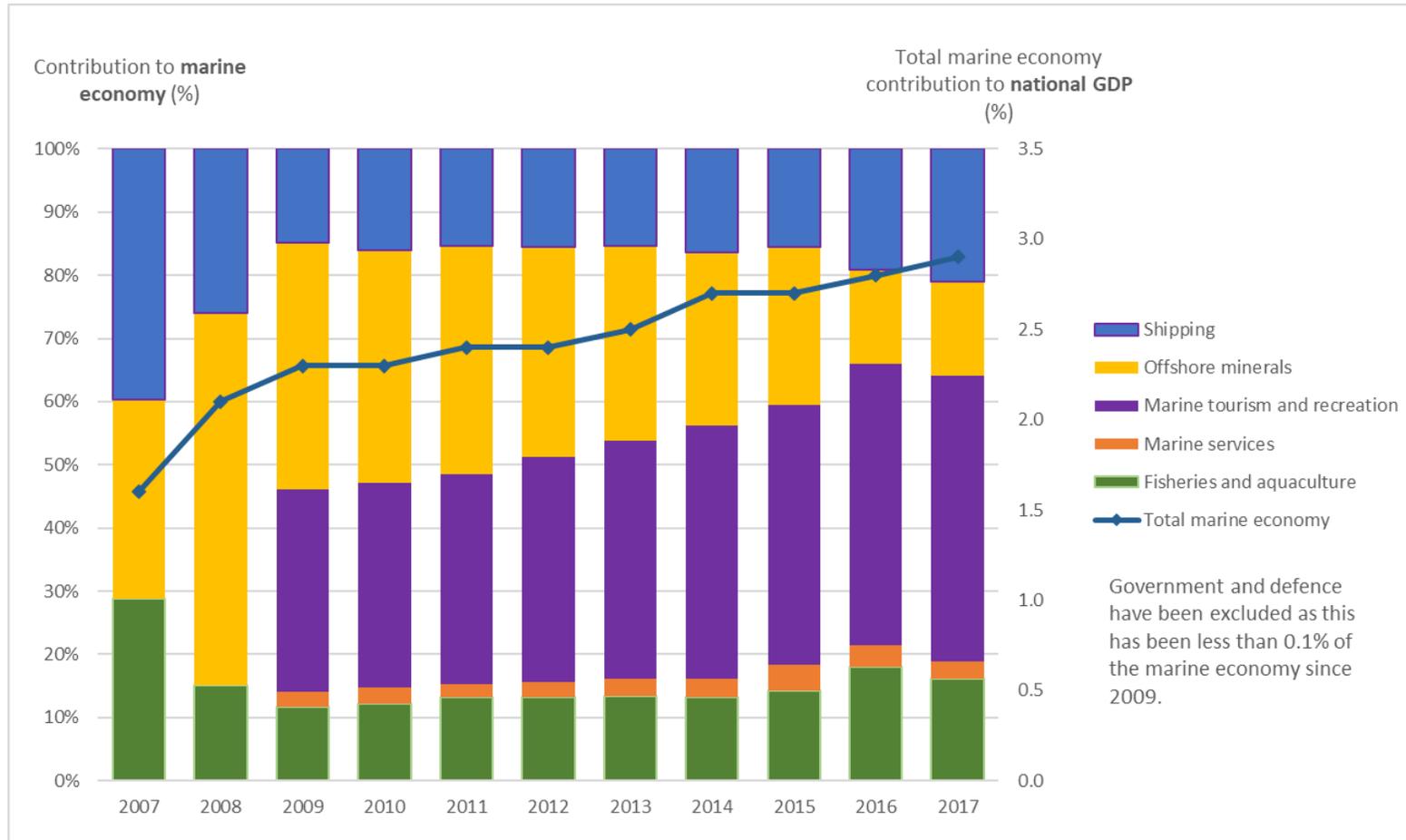
Open definition – allows for on-going debate around aspirations

Activities that utilise marine resources to ***‘generate economic value and contribute positively to social, cultural and ecological well-being’***.

Implies transitions and new approaches, including ecosystem-based management (EBM)

For more information about the blue economy in Sustainable Seas, see www.sustainableseaschallenge.co.nz/our-research/blue-economy

Marine economy



Marine economy (in 2017)

- **3%** of GDP (\$7.4 billion)
- Employs **70,000** (3.3% NZ)
- Coastal tourism (62% marine employment; 41% marine GDP)
- Significant nationally, could contribute more
- Tourism growing, off-shore oil & gas declining, aquaculture poised for growth
- Need sustainability emphasis

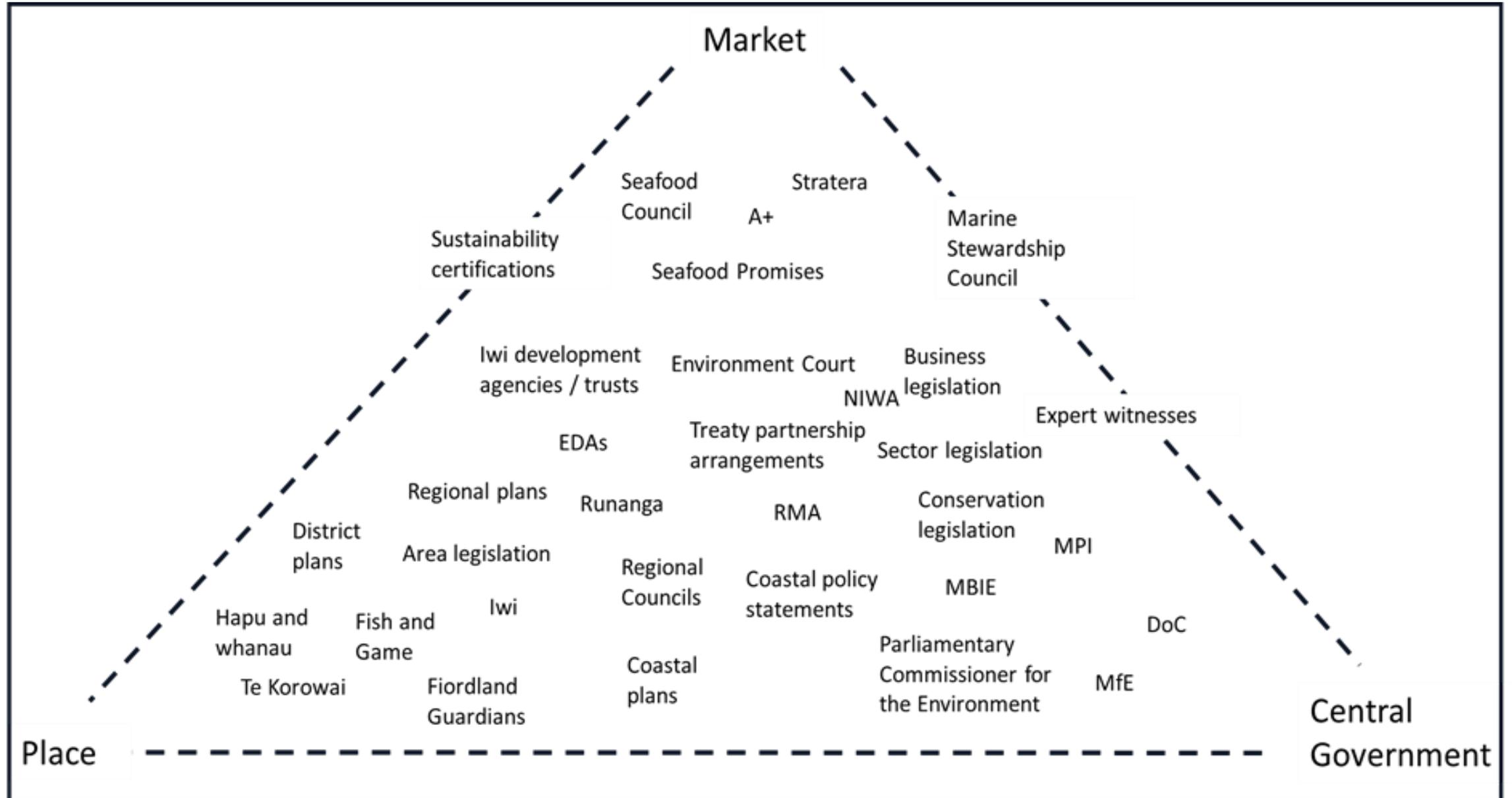
Thinking beyond sectors and values

BE category	Key features
Māori economy	Increasing significance across sectors, leading BE initiatives, customary uses
New market sectors	Blue bio-tech
Partially monetised resource uses	Amenity values, recreational uses, ecosystem services interests, restoration economies (impact bonds, blue carbon, gov't/community investment)
Renewable derivatives	Government uses, professional services, shipping, marine research, education
Non-marketised 'uses'	Recreational fishing, seafood gathering, customary take, cultural and spiritual engagements

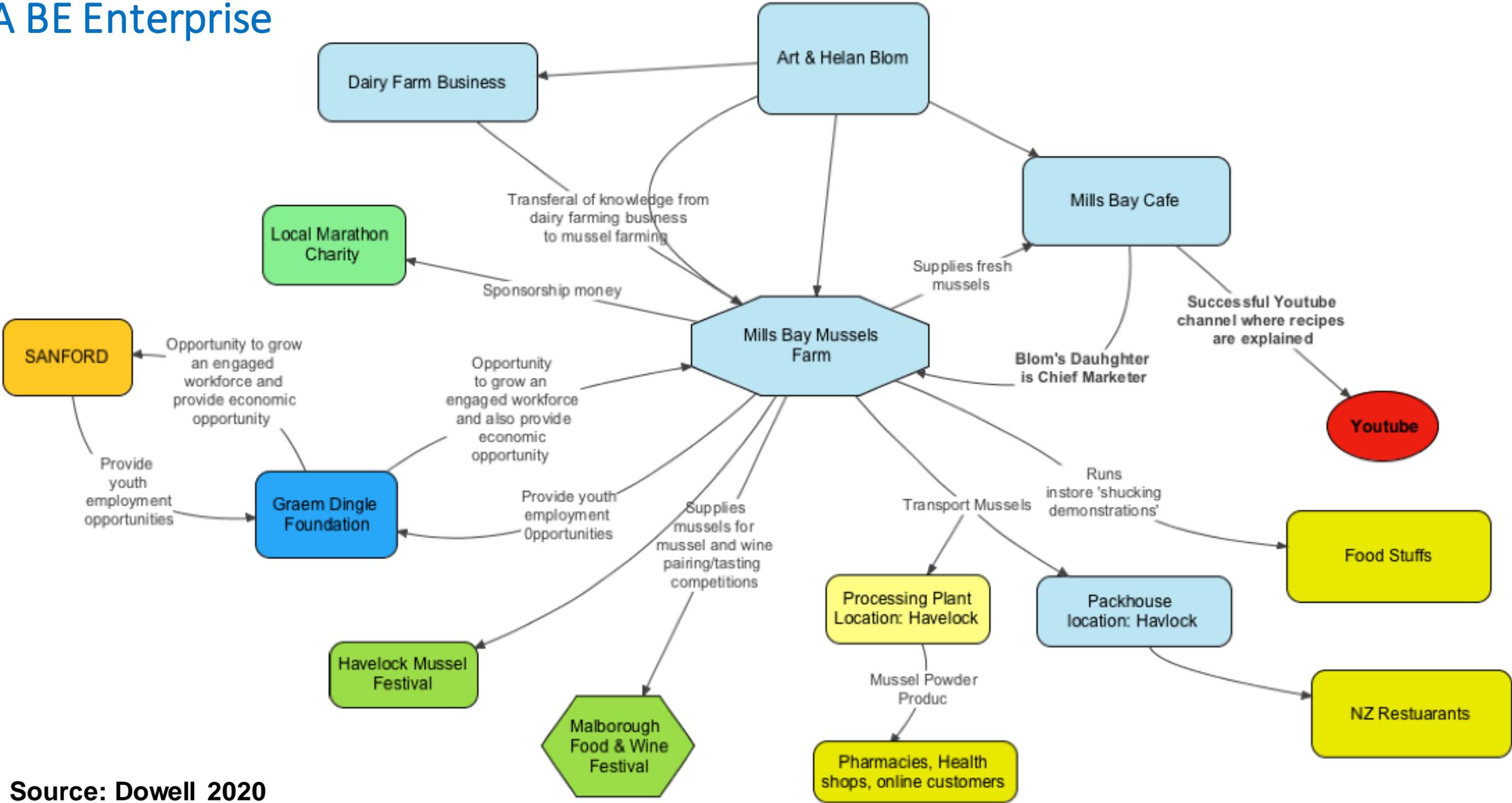
Recategorising economy for management

	Size of Enterprise	Scale	Practice	Market focus	Ethics	Investment structure	Key opportunities
Māori	Corporation to marae	Whānau / hapū / iwi	Extractive to customary	Varied	Te Ao Māori	Trust / hapū	Indigenising
Community	Small	community	Cultural and use values	Non-market	Community, environmental	Family, co-op	Collectivity
Commodity	Large	Global	Extractive	Export	Accumulation	Corporate	CSR
Bio-tech	High capital, low employee	Global	Innovation	Enabling/ exporting	New-gen.	Angel	Green-tech
Foundational	SMEs	National	Service	Varied	Support	Varied	Social license
Distinctiveness	Small	Place	Creative (artisanal)	Value-add, export	Distinction (place, quality)	Entrepreneur	Geographical rents

Recognising economy as relational

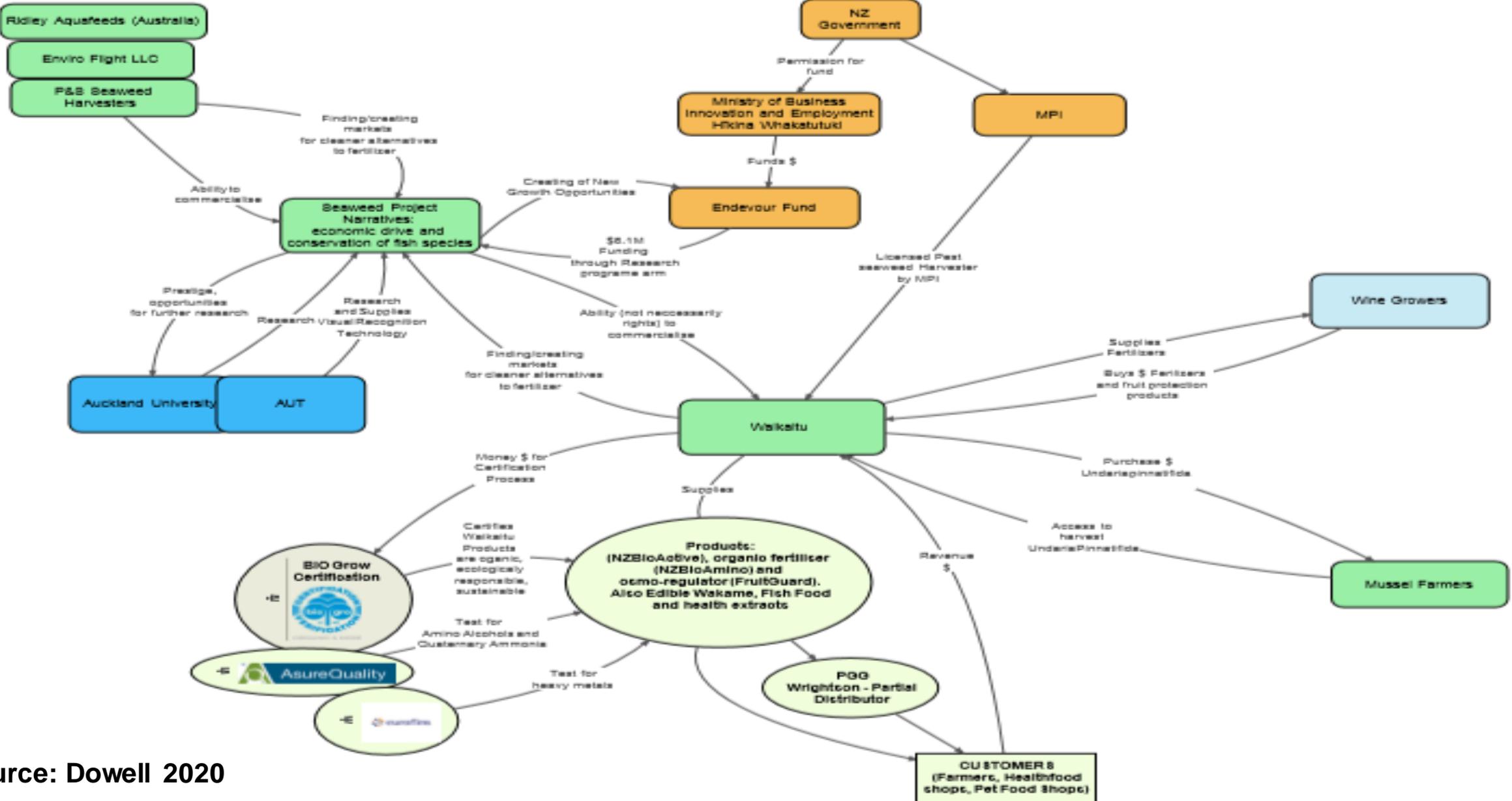


A BE Enterprise



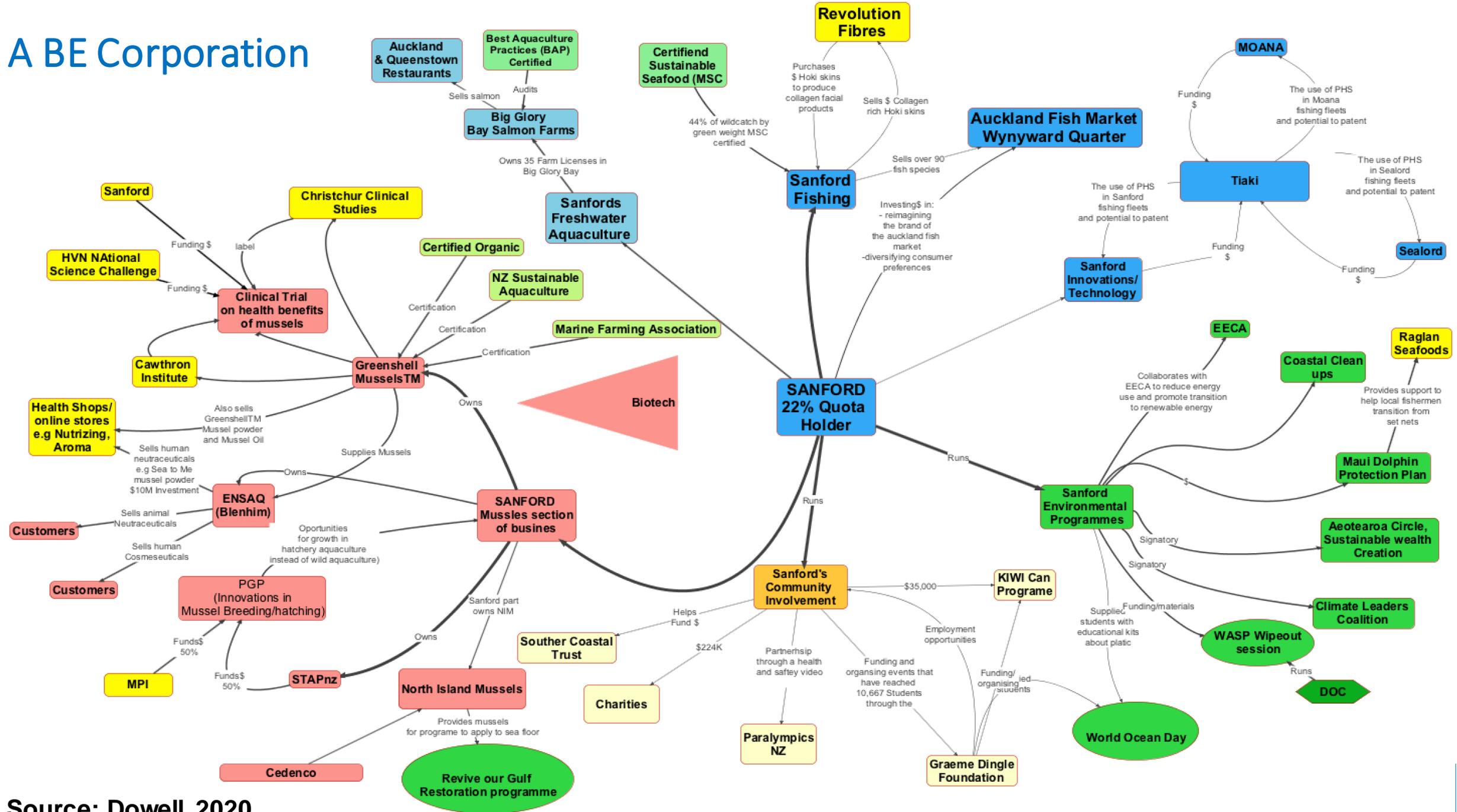
Source: Dowell 2020

A BE Enterprise

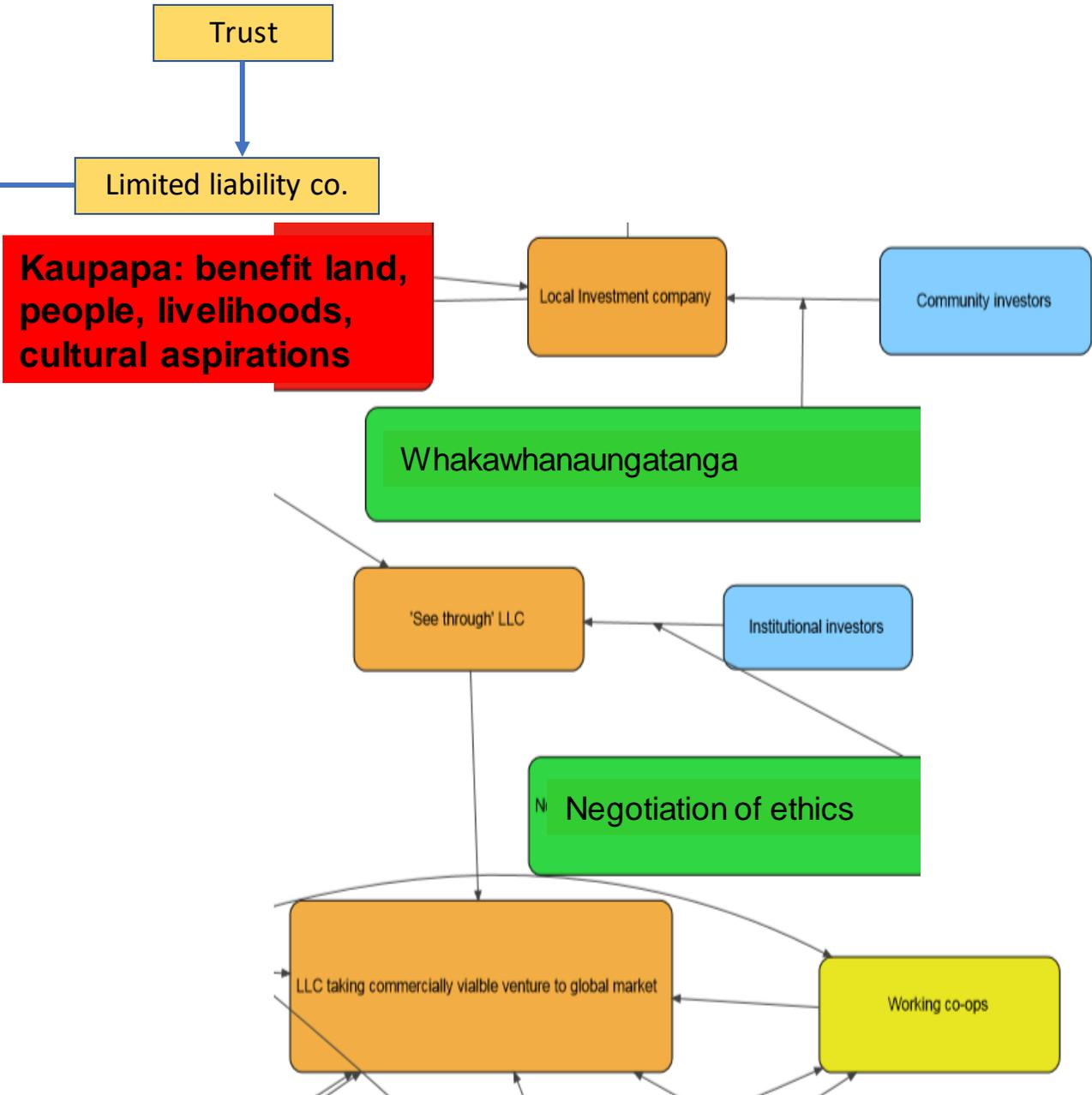
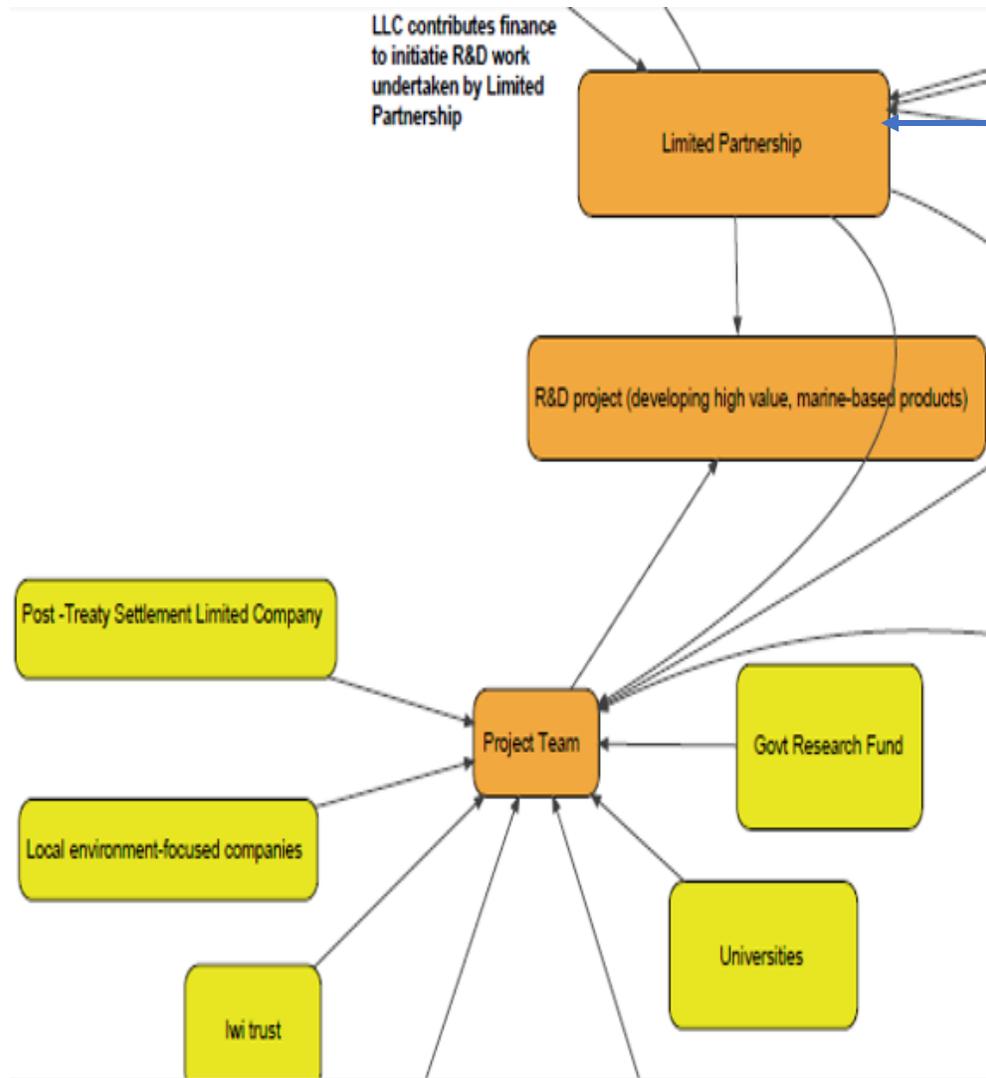


Source: Dowell 2020

A BE Corporation

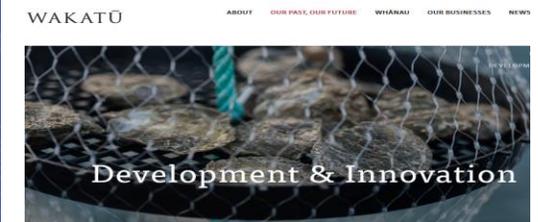
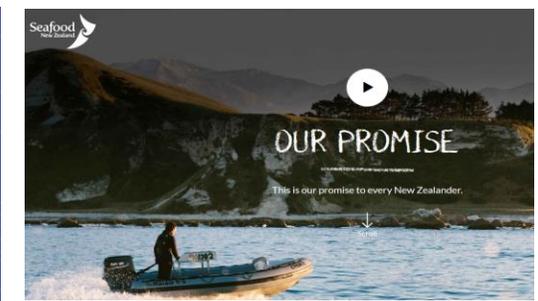


A Kaupapa-driven Community Enterprise Collective



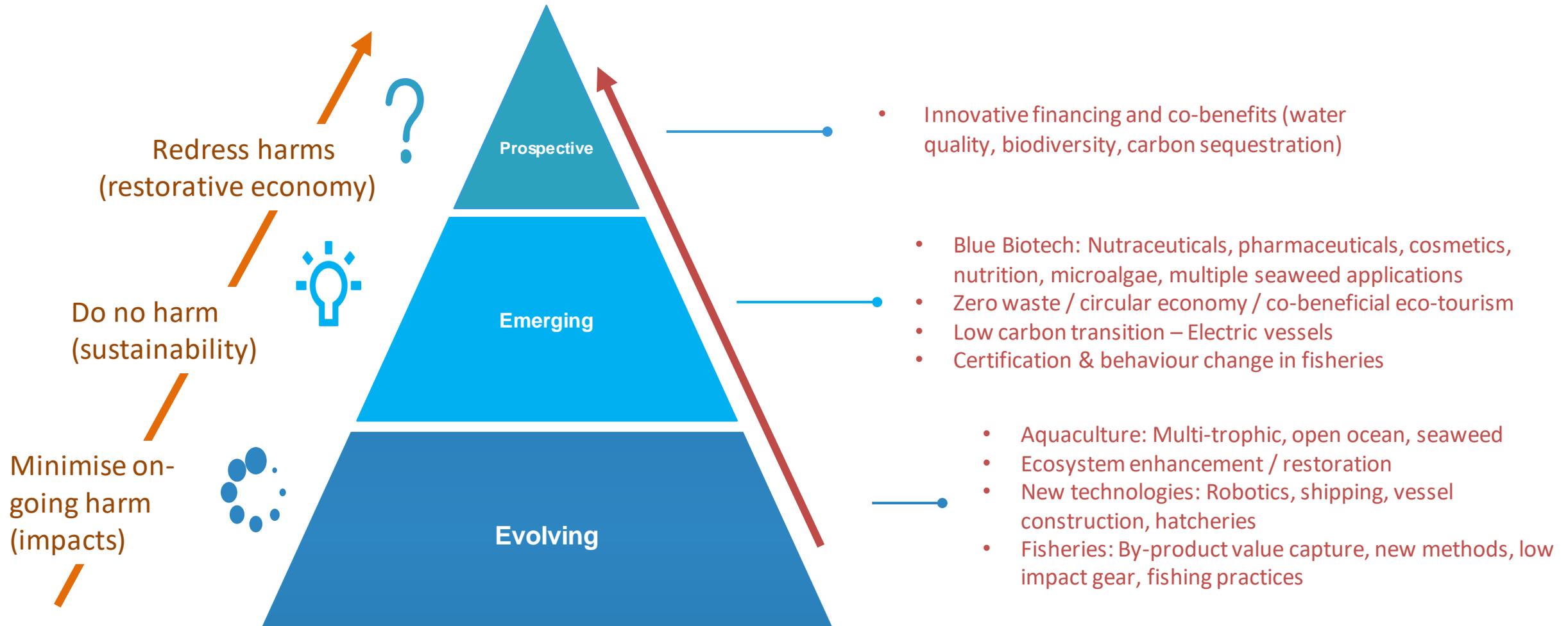
Blue stirrings – BE foundations

- Corporate social responsibility
- Sustainable technologies in volume production
- Small-scale initiatives in eco-tourism, seafood, seaweed, marine circular economy
- Blue biotech - bioactives, oils, fish masks, medical applications
- Innovative regulatory approaches (e.g. Sea Change, Kaikōura)
- Commitments to value added, green certification
- Green impact investment
- Māori blue economy



Evolving and emerging BE

For more information, see page 18
Transitioning to a Blue Economy:
Scoping and Horizon Scanning



Transitioning will not happen by itself: Identify drivers, cultivate transitions pathways, encourage innovation, develop supportive infrastructure, formulate supportive regulatory frameworks.

BE research and development interest

Economic activity	Research areas
Fisheries	Byproduct value enhancement, Improved gear, Stock replenishment / assessment, Habitat restoration, Ocean ranching
Aquaculture	Offshore aquaculture, hatcheries, multi-trophic aquaculture, Seaweed, Species diversity, Blue-tech
Offshore mining	Deep sea exploration, Infrastructure resilience, Driverless Operations
Marine transport	Electric vehicles, Hydrofoils, Port redevelopment, Vessel efficiency, Recreational fleet
Decarbonisation	Carbon sequestration, Kelp forest and shellfish bed restoration, open ocean macroalgae
Biotech	Nutritional enhancement, Genetic enhancement, Pest management, Pharma / Med products, Marine mammal health, AI
Environmental	Climate change, Wetland creation / restoration, Marine mapping, Shellfish/algae enhancement, Hydrodynamic modelling,
Robotics	Drones, Underwater vehicles, Stock assessment, Acoustic robotics
Zero waste	Mussel shell recycling, Utilisation of natural byproducts

New policy formations

Collaborative decision-making

Collaborative, co-designed and participatory decision-making processes involving all interested parties.



Tailored

Place and time specific, recognising all ecological complexities and connectedness, and addressing cumulative and multiple stressors.



Co-governance

Governance structures that provide for Treaty of Waitangi partnership, tikanga and mātauranga Māori.



EBM Ecosystem-based management for Aotearoa

A holistic and inclusive way to manage marine environments and the competing uses for, demands on, and ways New Zealanders value them.

Human activities

Humans, along with their multiple uses and values for the marine environment, are part of the ecosystem.



Sustainability

Marine environments, and their values and uses, are safeguarded for future generations.



Knowledge-based

Based on science and mātauranga Māori, and informed by community values and priorities.



Adapts

Flexible, adaptive management, promoting appropriate monitoring, and acknowledging uncertainty.

New policy formations

Just transitions

- Involves recognitional, procedural, and distributional justice (Bennett, 2018; Bennett et al. 2019)
- NZ dealing well with recognitional (Te Tiriti) and procedural (participatory processes) justice in relation to BE, but less well with distributional justice

Bennett, N.J., Blythe, J., Cisneros-Montemayor, A.M., Singh, G.G. and Sumaila, U.R., 2019. Just transformations to sustainability. *Sustainability*, 11(14), p.3881; <https://doi.org/10.3390/su11143881>

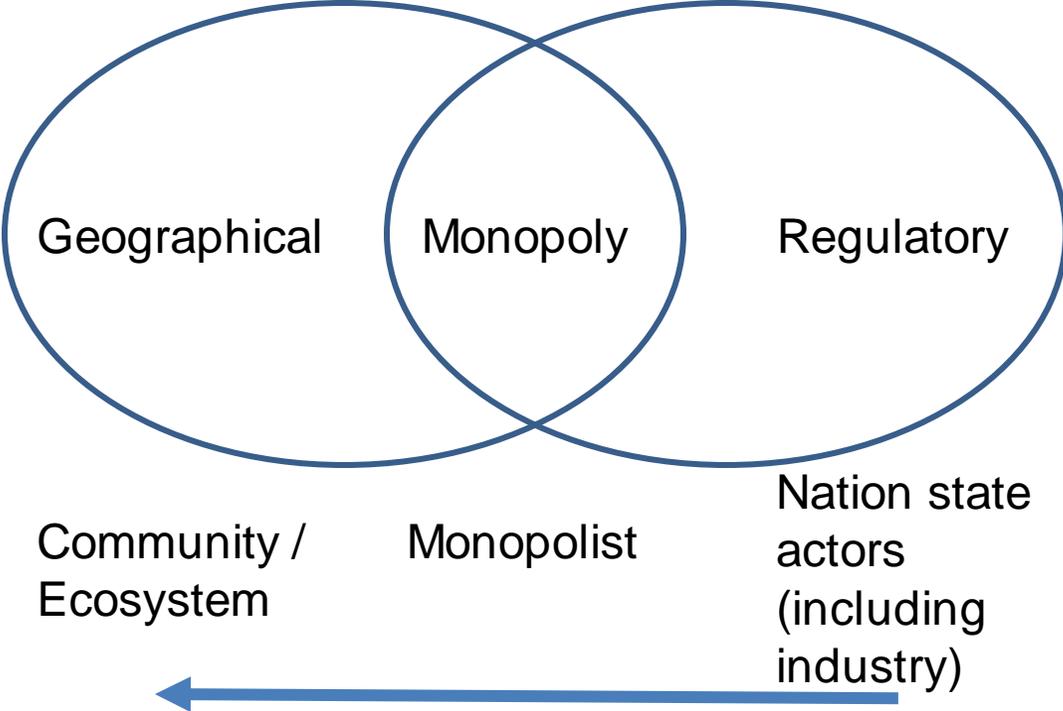
Bennett, N.J., 2018. Navigating a just and inclusive path towards sustainable oceans. *Marine Policy*, 97, pp.139-146. <https://doi.org/10.1016/j.marpol.2018.06.001>

Rent – From 'curse' to way forward in the Commons

Rent - 'the surplus revenue after deducting all production costs including a risk-related return on investment' (Auty and Furlonge 2019:3)

- Geographical – advantages of producing here rather than there (resource, institutions, infrastructure, embedded skills, distinction)
- Regulatory – consequence of intervention (strategic and externality)
- Monopoly – special advantages from G or R

The question is: **who gets rents and how are they used?**



New institutional conditions for a BE

Adversarial/ideological (RMA)

Practice-based/opportunities-focused (EBM)

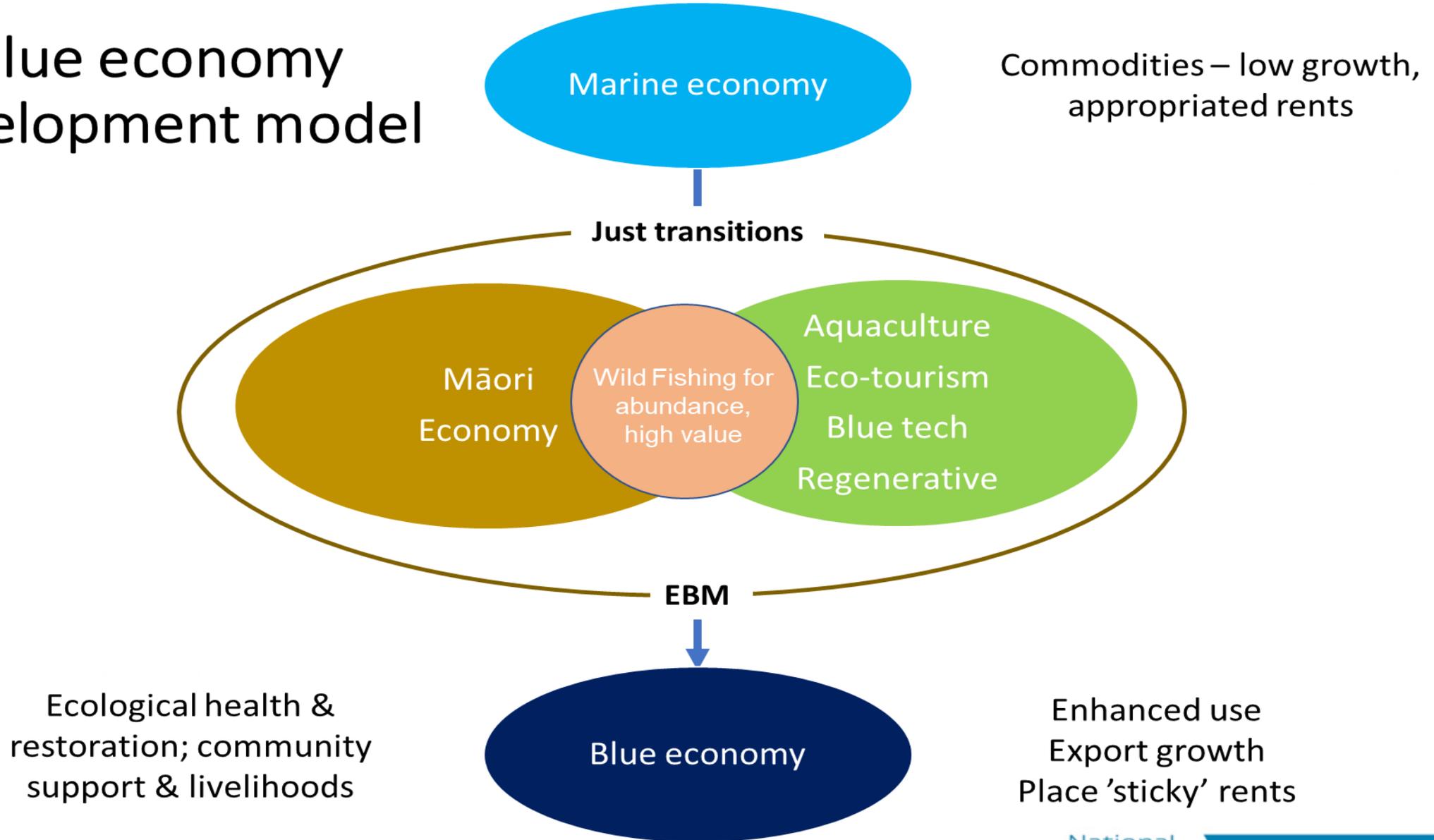
- Ideology
- Objectified processes: science, litigation, mitigation
- Universalist, fixed planning
- Atomised management of discrete proposals & effects
- Privileging private property rights over the common good

Just transitions

Negotiated compromise

- Practice
- Co-learning, participation, negotiation via diverse mātauranga & ethics
- Place-based policy & practice guided by time-place specificity & national framework/strategy
- Broader measures of economic & environmental wellbeing including cumulative effects, geographical rents

Blue economy development model



Phase II (2019-2024) BE theme projects

- Encouraging restorative economies in NZ marine spaces
- Indigenising the blue economy in Aotearoa
- Growing tourism in a blue economy
- Building a blue economy seaweed sector

For more information on these projects, see

www.sustainableseaschallenge.co.nz/assets/dms/Admin/Ops-docs/Blue-economy-core-project-concepts-May-2020/BE-core-project-concepts.pdf



- Innovation fund projects

For more information about Innovation Fund projects, see

www.sustainableseaschallenge.co.nz/our-research/innovation-fund

Covid Contexts: BE Provocations

- Respond creatively but avoid crisis capitalism (Klein 2005)
 - Great Depression and WWII recovery secured national income accounting to configure 'the economy' for management – time to rethink objects of management (ecosystems?)
 - Growth strategy plus virus: Aquaculture's moment (tie demand for consented space to geographical rent strategy?)
 - Government investment – take equity stakes (Aquacorp?)
 - Bluetech – state funded science / venture capital (government stake?)
 - Fisheries review process (addressing geographical rents?)
 - 100% eco-tourism (new high-value model?)
 - RMA review: Practice-based, opportunities-focused model?
 - Iwi-public partnerships in BE development
 - Beyond environmental footprints to kaitiakitanga

Q+A session

