TRANSFORMING LOCAL ECONOMIES

A NEW ZEALAND TOOLKIT

IFOR FFOWCS-WILLIAMS

OCTOBER 2024

TRANSFORMING NEW ZEALAND - AN ECONOMIC OUTLIER

This toolkit draws on my economic development work in fifty countries.
Innovation still has a tight geography.
For knowledge intensive businesses, place matters.
No firm is an island.
Teamwork, centred on local specialisations, determines economic success.

NZ can be much more than an economic outlier.

- With just a few world-class, frontier firms.
- Limited change to our export profile, in over a century.
- Lagging in competitiveness fundamentals, shaped by policy choices.
- The world around us is changing around us at speed, we are **not.**

Amongst OECD's 38 member countries, NZ stands out

- We are one of the most centralised.
- Our productivity record is amongst the worst.

Central government agencies have shaped and underpinned our economy:

- MBIE + Callaghan + NZTE + MPI + CRIs + ...
- Engaging with individual companies, addressing skills, exports, technology, SMEs...

After decades of tinkering:

- Central agencies have had little impact in delivering transformations at scale.
- Our policy settings remain locked.
- We remain largely commodity exporters.
- Supplemented with low-value tourism and volume-based educational services.
- We lack the foundations for rosters of anchored, born-global, businesses.
- Our export of skilled people is a sure sign of an underperforming country.

There are major challenges in transforming New Zealand.

- Moving from national agency supply push ... to local demand pull.
- Moving from a hodgepodge of national support ... to local alignment.
- Moving from a commodity emphasis ... to a local & community focus.
- Moving from support to individual businesses ... to engaging with ecosystems.
- Moving from policy locked into old paradigms ... to building a high-value economy.

Ifor Ffowcs-Williams

NZ'S CITIES AND REGIONS, TRANSFORMATION HEROES

Transforming New Zealand's economy demands a major reset
Further tinkering is not going to deliver at scale.

In resetting NZ, there is much we can learn from countries that ...

- Are preparing for an uncertain and fragmenting world.
- Are busy reconfiguring their industrial policy,
- Onshoring, Green and Digital Transitioning, Decentralising
- Applying major resources to place-based economic development.
- With a focus on clusters, ecosystems and frontier firms.

Cities & regions have the hero role to play

- Wellington supports, but **cannot** drive, the success of our cities & regions.
- Effective partnerships, local & global, speed cluster development

EDAs & Councils, should they choose, are in the prime position to lead.
Chambers and business groups are also stepping forwards.

Let's engage, purposefully.
The New Zealand's economy can be transformed. From the bottom-up.

The toolkit has been prepared for New Zealand's cities & regions.

- Now centre-stage in building an innovative, more productive country.
- Unlocking business-led economic development ... at scale.

He aha te mea nui o tēnei ao, he tangata, he takiwā, he kaupapa.

What is the most important thing in the world? It is people, it is place, it is purpose.

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TRANSFORMING LOCAL ECONOMIES

NZ CLUSTER DEVELOPMENT INITIATIVES UNDERWAY 2024

MOANANUI BLUE ECONOMY CLUSTER, NELSON

Background: Nelson EDA funded a part-time ‘cluster manager designate’ to clarify the value of a clustering initiative, with industry and regional partnership team leaders meeting regularly over twelve months to develop the concept. Moananui is now an independent entity with their own office and two staff, co-funding support for first 2 years from MPI, Sustainable Seas National Science Challenge and cash/in-kind contributions from partners. Launched by the Minister with nine foundation partners, expanding to 30 + partners within first 12 months.

Fiona Wilson, CE, Nelson Regional Development Agency: *Moananui stems back to recognition within the Te Tauihu Intergenerational Strategy of the significance of the ocean for the future of the region. Working with industry and regional partners, the cluster developed based on recognised and measured regional strength and comparative advantage, diversity and growth potential. We knew that the region had the foundations of a global blue economy cluster but it wasn’t on the map and the advantages of a cluster were not being fully realised. A critical component was foundation industry partner support based on regional growth, with a longer term perspective that was wider than short term advantages for their individual businesses.*

Jodie Kuntzsch, CE, Moananui: *We are a blue economy cluster organisation, catalysing new projects and ventures that attract investment and lead growth of NZ’s blue economy. The shared goal is transforming NZ into a world-leading ecosystem for developing and commercialising blue economy products, services, technology, research and capability, with a healthy ocean at the heart of this.*
Since becoming fully operational in October 2023, we have hosted a myriad of events from partner forums and roundtables to an inaugural Innovation Summit. These initiatives have resulted in new ventures being formed and raised the visibility of the blue economy, positioning Nelson Tasman as NZ’s hub for innovation and rapid commercialisation.

NZ CLUSTER DEVELOPMENT INITIATIVES UNDERWAY 2024

ENGAGE ENGINEERING, INVERCARGILL

ENGAGE

Background: With the possible closure of Tiwai Point, the Southland Business Chamber received support through MBIE's Just Transitions Process to research the regional impact and explore diversification options. This led the Chamber to set up ENGAGE (the Engineering and Manufacturing Cluster for Southland) and contract COIN South as Innovation Services Partner to support.

The Chamber is co-funded for five years by MBIE's Science, Innovation and Technology workstream.

Sheree Carey, CEO, Southland Business Chamber: *Collaboration of services is the key here. The overall service the Chamber, Cluster and COIN provide focuses on accelerating business growth, scalability and productivity within the region through providing additional capability building tools and services to support SMEs. The companies are minimising reliance on one single customer and innovating for business growth.*

Brendan Gray, GM, ENGAGE Engineering Southland: *The establishment of a cluster requires an understanding of the objective (the why), and an openness to work in a collaborative environment. It requires a willingness to try a different way of doing business, thinking outside the box, utilising co-opetition. Clusters assist in tackling industry issues, becoming a strong voice.*

New partnerships are formed with industry peers, issues discussed openly and addressed collaboratively, and investment attraction easier with partners onboard. Clusters are in existence all over the world and connecting with successful clusters are a great way to build confidence in the methodology and learn about the journey. Clusters are the new normal and in an ever-changing business environment.

NZ CLUSTER DEVELOPMENT INITIATIVES, EXPLORATORY 2024

QUEENSTOWN LAKES, HOST-TECH

Background: Queenstown's Economic Diversification plan identifies opportunities to leverage off tourism to create new business and career opportunities. A niche being fostered is technology that streamlines tourism & hospitality.

Mayor Glyn Lewers, *Queenstown Lakes District Council: We're working on diversifying our local economy, and it's tempting to assume this relies on attracting new industries. However, by tapping into our hosting expertise, we are building a tech niche that supports our dominant tourism industry and is taking these solutions to the world.*

Peter Harris, Economic Futures Manager, Queenstown Lakes District Council: *In our small communities it's easy to assume that related businesses know each other and have identified where they might work together – but often this isn't the case. By having someone 'joining the dots' between businesses, new opportunities are emerging.*

Cluster development is a long game and the results from 'joining the dots' can be hard to measure. This can make Councils hesitant about the value of this approach so it's important to create noise about the niche and for businesses to talk about the benefits of facilitation.

TARANAKI RENEWABLE ENERGY

Background: Businesses, the Chamber and Venture Taranaki are discussing the merits of leveraging the region's history as the energy province and establishing a Renewable Energy Cluster, participating in local and global renewable energy supply chains.

Nick Jackson, Co-founder and CEO, Elemental Group, New Plymouth: *We are framing up a solution to the approaching economic cliff in Taranaki, with the faster than anticipated winding down of the oil and gas industry that has supported Taranaki for over 50 years. A sharing of the risk provides the logic for bringing together businesses, including competitors, to ensure that – with the power of collaboration – we can preserve, and in time grow, the community's prosperity.*

Justine Gilliland, formerly EDNZ director and CE, Venture Taranaki: *Clusters are well-established internationally as a proven model to sustainably grow, and attract, industry at a location. The benefits of clusters are clear - attracting people, building business communities, innovation, investment. To just start is the best way to think about clusters - identify a/the sweet spot of industry your location that already has a nexus around and go for it. Don't wait for government - gather like-minded businesses together and get started. And what's more, we need to do it, now, for our future generations.*

NZ CLUSTER DEVELOPMENT INITIATIVES, EXPLORATORY 2024

TAUPŌ GEOTHERMAL

Background: Taupō's EDA (Amplify) and NZ Geothermal Association are exploring a cluster initiative to strengthen NZ's geothermal industry.

Bryn Ingham, Head, Industry Growth, Amplify EDA, Taupō and Kennie Tsui, CEO, NZ Geothermal Association, Wellington
The initiative seeks to position the Taupō Volcanic Zone as a centre of geothermal excellence, showcasing NZ's expertise to local, national, and international audiences, and generating excitement around opportunities for investment, growth, and employment.

The annual NZ Geothermal Week is already a major platform for collaboration, bringing together the geothermal and energy industries.

ROTORUA

Background: The EDA and the Rotorua Chamber are exploring a cluster approach, firstly for mountain biking, secondly for wood-processing.

Justin Kimberley, Head of Business Growth, Insights & Innovation, RotoruaNZ: RotoruaNZ *are strong believers in cluster development as a core tenet of economic development theory. We are advocating for the development of two regional specialisations, and are currently advancing discussions are to introduce clustering, taking a team approach to accelerating this.*

Bryce Heard, CEO, Rotorua Business Chamber: *I am a strong advocate for the industry clustering model. In the past, I have seen business 'co-opetition' generate remarkable results.*

A CALL TO ACTION

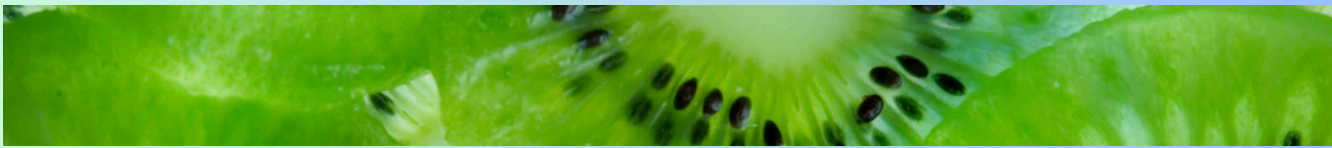
New Zealand's ambitions to transform economic performance are hampered, with policy settings locked into old paradigms. The settings are at three levels.1

	NEW ZEALAND : LOCKED INTO YESTERDAY!	
	YESTERDAY'S PARADIGM	TODAY'S WORLD
1.Micro **The Firm**	• Vertically integrated firms. • Domestic market focus. • A few ocean liners. • Cost reduction, **Low-road** to growth.	• Specialised, networked firms. • Global players within niche markets. • 1001 speedboats. • Enhancing value, **High road** to growth.
2. Meso **The Region**	• National sectors. • National associations. • Wellington driven regional projects. • Picking winners. • Innovation happens **in the firm**. • EDAs: reacting, contract-driven, under-resourced.	• Regional clusters, regional innovation systems, smart specialisations. • Joined-up support to regions centred on specialisations, differences. • Backing leaders, local governance. • Innovation happens **within systems.** • EDAs: connectors, brokers, facilitators, catalysts.
3. Macro **National**	• Exogenous growth. • Financial inducements. • Investment attraction/Corporate hunting. • Siloed, top-down interventions. • Job creation programmes. • Hard infrastructure. • Top-down generic activities.	• Endogenous growth. • Learning. • Start-ups & grounded scale-ups/Economic Gardening • Multi-agency integration, subsidiarity. • Long-term business development. • Soft infrastructure, knowledge ecosystems. • Bottom-up tailored support.

However, we do have places and businesses that have succeeded in establishing a global presence.

The following table identifies a few of New Zealand's local specialisations and a business within each that has developed a global reach. Some of these businesses have become household names, others fly below the radar

i Based on NZ: Prisoner of an Outdated Paradigm , a submission to NZ Productivity Commission on Frontier Firms Draft Report, 2021, Ifor Ffowcs-Williams, Dr. Doug Galwey and Dr. David Wilson. Foreword by Dr. Christian Ketels.



EXAMPLES OF LOCAL SPECIALISATIONS, AND GLOBALLY ORIENTED BUSINESS

Healthcare, Auckland	Fisher & Paykel Healthcare
City of Sails, Auckland	Yachting Developments
Agritech, Waikato	Gallagher
Forestry, Rotorua	Cetogenix
Geothermal, Taupo	MB Century
Hortech with a kiwifruit flavour, Bay of Plenty	Robotics Plus
Hortech with an apple flavour, Hawke’s Bay	Hortworx
Energy Engineering, New Plymouth	Vortex
Wellywood,	Weta Workshop
Hortech with a wine flavour, Marlborough	Cropsy
Blue Economy, Nelson	Snap Core
Aerospace, Christchurch	Dawn Aerospace
Dunedin Sound	The Chills
TourismTech, Queenstown	Magic Memories
Engage Engineering, Southland	EnPot

Each of these local specialisations are natural occurrences, as are Silicon Valley and Hollywood.

In smaller communities, Galway, Ireland (population 80,000) has established a global niche in medtech.

Karlstad, Sweden (population 97,000) has reinvented itself and become a Go-To location for the forestry bioeconomy. Innovation across many fields is globally spiked, with a few hotspots dominating.

Across Europe, 1,500 cluster development initiatives are currently underway, each centred on local specialisations. Over 75 countries now have cluster support activities in place.

We are not short of clusters in New Zealand.

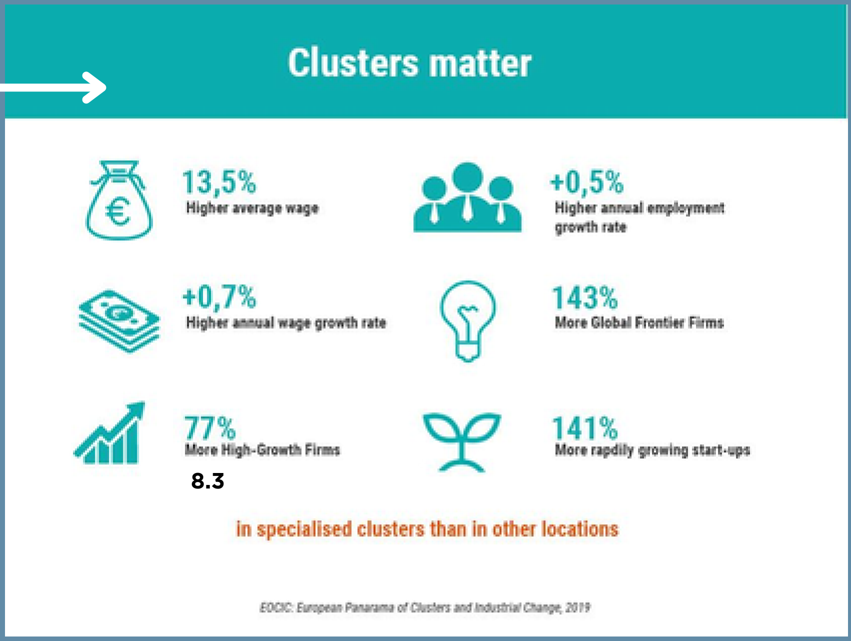
What we are short of is developing our clusters to transform local economies.

CLUSTERS MATTER

For the European Commission clusters matter

For local economic development agencies, globally clusters matter

For NZ communities, businesses, EDAs and Councils, clusters matter.



The logic for cluster development as a framework for business growth, for EDA/Council support and for community building follows.ii These three aspects introduce the broad development agendas delivered by strong initiatives.

1. Businesses, Benefits, Cluster Development	• Better access to customers, investors and talent through engaging with similar businesses, building a 'Go-To' magnet. • Better access to trained staff. Training fine-tuned to the needs of groups of businesses, be it wood processing or food processing, agritech or hort tech, medtech or digital games. • Better access to information, through connections with related businesses and through seminars. • Better access to the portfolio of central government support. Piecemeal support and organisation silos are broken down, with tighter alignment and faster responses to business needs. Identifying regulatory burdens. • Addressing support gaps. As markets and technologies evolve, the cluster's ecosystem needs to continually adapt. Increased innovation, easier to develop new products, easier to pivot in changing times, easier for new suppliers and customers to develop. Collaborative engagement de-risks growth opportunities. • Business competition moving from price to differentiation. • Businesses outsourcing locally, focusing on their core competencies. • The waste/by-product from one business can be another's raw material.

ii For an entry into the extensive literature on clusters and cluster development, see
The resilience of clusters and cluster policies, Matthias Kiese, Christian Ketels, Dirk Fornahl.
Also by Christian Ketels: Should Ireland launch a national cluster policy?
Evidencing the benefits of cluster policies: towards a generalised framework of effects and
Sharpen existing tools or get a new toolbox? Contemporary cluster initiatives and regional transformation, Emily Wise, James Wilson & Madeline Smith.
International cluster examples, identify other sources. Also the toolkit's wrap up,

CLUSTERS MATTER

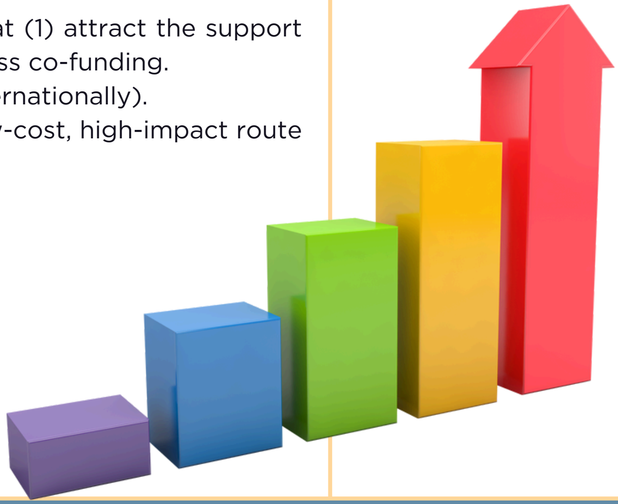
The international evidence is clear:

- The foundations of a local economy are its specialisations / clusters. Not a collection of unrelated firms.
- Cluster development is about supercharging local economies.
- The European Commission has identified that Europe's clusters are home to half of all export jobs and to the more rapidly growing start-ups.
- Positive link between clusters, productivity, competitiveness & local incomes. Local clusters generate high-skilled, well-paying jobs. And attract quality investments.
- Over time, new businesses and new jobs are developed.
- Start-ups and spin-offs are challenging the established businesses.
- Successful businesses are exploring new markets, new opportunities.
- A strong cluster is not static, it is continually broadening the economic base.
- Relying on start-ups to fuel growth is slow and risky.

Levering limited resources, using convening power:

- From engaging individually with many SMEs to more effectively engaging with groups of high growth businesses, within a priority area.
- Individual engagement provides shallow leverage points.
- The EDA/Council taking the lead in orchestrating the local ecosystem, not leaving it to Wellington. Central government does not know best and is ill-equipped to address local coordination failures.
- As the local ecosystem convenor, joining-up national agencies and skill providers around local business needs.
- Providing legitimacy to a cluster initiative.
- Levering EDA resources through initiatives that (1) attract the support of central government agencies and (2) business co-funding.
- Infiltrating partners within the locality (and internationally).
- Developing clusters provides a well-tested, low-cost, high-impact route in building local economies.

2. Logic, EDA/Council Supporting Cluster Development



CLUSTERS MATTER

3 Community Benefits, Cluster Development	• Cluster development plays an integral part in building resilient, socially cohesive communities around wealth creating and job creating priorities. With a long-term focus. • Scaling-up businesses are anchored in the community and may grow, over time, into world-class frontier firms. A key to anchoring well-paying jobs. • From 'whole-of-government' to 'whole-of-community' collaboration amongst local stakeholders, including education and iwi. • The governance of a strong initiative is business + EDA/Council + education + community/iwi representatives. • Faster transformations in response to external shocks and new opportunities. • Even remote communities can build the competitiveness and critical mass to globally connect, attract international attention and service distant customers. • For some clusters, such as wood processing, emphasis is needed on building the social licence. **The reach of the local economy is extended, in scale and scope:** • More complex products and services are offered, generating well-paying jobs. • As specialisations develop, the community is recognised as a 'Go-To' place. • As businesses develop further opportunities from their strengths, sustainable diversification naturally evolves. • A strong cluster keeps moving into new areas. **Clusters provide building blocks to wider engagement:** • Bottom-up, local input to national priorities. • **Globally:** connections with similar clusters enabling businesses to fast track into international markets, two-way investments, and for absorbable knowledge to be drawn into the community (see pages 30+).

Clusters matter, for business growth, as a focus for EDAs and Councils, and for delivering community benefits.

A CALL TO ACTION

Let's get started.

CLUSTER DEVELOPMENT IN ACTION

While clusters are natural occurrences, cluster development has become a deliberate intervention to lift competitiveness, leading to business and employment growth.

There is much that New Zealand can learn from three decades of international experience. Canada's Cluster Handbook, Powering the UK's Regions and my Cluster Development Handbook explore the practicalities of cluster development.

The 240-page Handbook I wrote was for a global audience, and introduced the Twelve Step process I developed. This process provided the framework for the Regional Cluster Initiative in the Pacific project, with EU funding. Papua New Guinea's ICT Cluster was one of the pilots selected for development.

This New Zealand toolkit complements my Handbook. My cluster development activity over three decades has largely been in many of countries whose economic performance we admire, including Denmark, Finland, Norway and Sweden. The toolkit draws on international best practices, from these and other countries, tailored to the New Zealand situation.

I have prepared this toolkit to stimulate the much needed action in New Zealand: developing our clusters and their businesses. The action agendas that develop will be specific to transforming each cluster and location.

ROLES, ACTIVITIES OF A CLUSTER DEVELOPMENT INITIATIVE

- Removing silos amongst support organisations, an agile boundary spanner.
- Providing high-level coordination across the cluster's activities.
- Building business co-opetition.
- Understanding the needs and roadblocks of the cluster's businesses.
- Responding with collaborative projects to overcome common challenges.
- Addressing e.g. training, market development, R&D, investment attraction (page 21), precinct development (page 22).
- Decision making, not advisory.
- Supporting and **challenging** companies & support organisations.
- Perspectives from two Swedish cluster managers:

'We are a junction box, and a port for projects'.
'Cluster development is building connections across different worlds'.

CLUSTER DEVELOPMENT HURDLES

Many of the cluster initiatives underway around the world address hurdles like those facing New Zealand's clusters. Other hurdles are specific to New Zealand.

Common Hurdles, Globally	• Capturing attention. • Ensuring early wins. • Dominance of SMEs. • Paralysis-by-analysis. • Sharing the workload. • Measuring cluster performance. • Enhancing business co-opetition. • Engagement on 'wannabe' clusters. • Establishing triple-helix governance. • Garnering community-wide engagement. • Funder's constraining a cluster's development. • Establishing a broad range of collaborative projects.
NZ Specific Hurdles	• Tight finances, Councils & EDAs. • Moving beyond cluster networking events. • Absence of national leadership for cluster development. • Aligning central government portfolios around local priorities.

The toolkit addresses these hurdles, in particular the very limited resources for local economic development in New Zealand. This is about Cluster Development on a Shoestring.

Some localities may prefer to use a term other than 'Clusters', though that has become the accepted term internationally. An alternative is 'Smart Specialisations', though internationally the term has broader implications than a cluster. Another option, occasionally used, is 'Regional Strengths'.

The questions for an EDA/Council in considering a cluster development approach include:

· Which of our clusters has the most impact in job creation?
· Who starts a cluster initiative? And then leads?
· How does an EDA/Council lever very limited resources?
· How do we infiltrate central government agencies & others around **our agenda**?
· Does a cluster development initiative compete with an industry association?
· Does cluster development help us with investment attraction?
· Are (expensive) hubs & precincts essential elements in cluster building?
· How is success measured?

THE TOOLKIT ADDRESSES THESE HURDLES
THIS IS ABOUT TRUST AND DEVELOPING A CLUSTER ON A SHOESTRING

CLUSTER DEVELOPMENTON A SHOESTRING [iii]

PAPER PROVINCE CLUSTER, SWEDEN

For 150 years, forestry provided the backbone for the Karlstad, Sweden (population 97,000) economy. By the 1990's, forestry was in decline and viewed as a ´sunset industry´.

In 1999, the local EDA corralled six companies to explore a 'cluster approach', focussing on pulp & paper mills, machinery & engineering firms and consultants. Initially, the lead funder was five local authorities, with politicians dominating the steering committee. Paper Province's Board is now triple-helix based (page 20).

The cluster's broad activities include:

- Building social connections across the cluster, with breakfast meetings, Paper Maker Nights, establishing HR and maintenance engineering development teams.
- Developing the educational system from preschool through to university.
- Establishing a vocational training centre.
- Creating test beds for pulp & paper, and the 'Packaging Greenhouse'.
- Addressing the gap between business, knowledge institutions and the local community to develop new knowledge and bio-economy businesses.
- Establishing in the region the national incubator for bio-economy start-ups.
- Inward investment, including attracting a biomass spin-out from London University.
- Alerting companies to new trends, challenging companies to meet new opportunities.
- ·Moved from supporting individual company needs to addressing collective challenges.
- Participating / organising international development projects such as BioBoosters in the Baltic Sea Region, Plastix/Interreg Europe, Circular Bioeconomy Area/Interreg Sweden-Norway, Resilient Innovation Ecosystems for EU Value Chains.
- Participating at international trade fairs; arranging inward visits by journalists. Organising Sweden's annual 'ICT Meeting for the Forestry Industry'.

In part as a result of the initiative, paper mills now deliver waste heat to neighbourhoods; soil improvement products are produced from mill waste; lignin is refined into climate friendly materials and fibre-based materials are replacing plastic products.

The initiative has grown over 23 years from one staff person to a team of 16; participating companies grown from 7 to 125; and the initiative's **budget has increased ten-fold**. Once underway, Sweden's national innovation agency supported the scaling-up, with co-funding for a decade.

Today, forestry in Karlstad and the Värmland region is recognised as being the lead economic sector. Paper Province is internationally known as a forestry bio-economy innovation node.

A further example of a clustering initiative in a left-behind region, starting on a shoestring and then scaling-up: Norway's WoodWorks! Cluster. The **budget increased twenty-fold** over 17 years as the initiative grew from 17 members to 75.

[iii Summarised from a review prepared for MPI of international forestry/wood processing clusters.

CLUSTER DEVELOPMENT ON A SHOESTRING

New Zealand has an **urgent** need to create a stronger, higher value economy. In response to this need, we have little to lose in introducing cluster development, at scale. This has become a well-tested approach, underpinned with three decades of international experience that New Zealand can draw on.

The logic for cluster development in New Zealand is as strong, if not stronger, than in many of the fifty countries I have worked in. However:

- Both central and local government are under financial pressures.
- We don't have the well-resourced EDAs that many international locations have.
- We don't have the national cluster programmes that many countries have.
- We don't have well-resourced Chambers of Commerce, present in some countries.
- Cities & regions have little engagement in the setting of central government economic policy.
- Businesses, especially SMEs, can be reluctant to financially contribute to the early stages of a cluster initiative, with uncertainty as to the benefits.

With the absence of central resources for cluster development and already stretched EDAs and Councils, a Plan B is needed. A Plan B that is not waiting for possible devolution, leading to a reset on how New Zealand can more effectively engage on economic development.

A Plan B that acknowledges policy coordination, especially at the needed city & region level, is fraught with complexities. Further, a Plan B that is not dependent on funding increases by either central or local governments. This is cluster development on a shoestring.

The opportunity lies with the multiplicity of central government agencies and activities. Between them offer a clutter of uncoordinated support. Establishing effective alignment around local needs, offers a smart win-win for both central government and EDAs/local councils.

Central to this low-budget approach is levering Council/ EDA's resources through:

- Infiltrating and aligning the resources of centrally funded activities, centred on local needs.
- ·In addition as a cluster initiative develops, financial participation by business as partners, and as co-funders for relevant projects.
- Internationally, infiltrating relevant cluster initiatives to establish connections for SMEs and two-way investments..

The necessary early commitment by a Council/EDA is the part-time allocation of a senior staff member to further develop a priority sector. From this shoestring start, the initiative will scale up as traction develops.

Around the world, I have seen the difference that cluster development makes in cities and in left-behind regions. The starting point is identifying the priority clusters within each location.

IDENTIFYING CLUSTERS

Fast food businesses, car yards, medical facilities and retailers naturally co-locate and cluster within each of our communities. As do kiwifruit orchards, agtech businesses, and superyacht manufacturers within some locations. However, the businesses within each of these clusters are not equal in terms of local significance. It is the businesses that are servicing a wider market, going beyond the home region, that can grow most rapidly. Their customers could be in neighbouring regions, across Cook Strait, or across the world.

In many advanced economies, around a third of jobs are in businesses within this traded segment. This is where the better paying jobs are. The traded segment is also where the more successful start-ups and the higher growth businesses are. It is here that a location will be more successful in attracting quality investors.

Growth in the traded segment directly leads to more jobs in the second segment, servicing the local market: retail, hairdressers, health services, vehicle servicing, house builders, etc. Taken together, these jobs account for some two-thirds of employment in many localities. Neighbouring localities will be home to similar businesses, each servicing their local markets.

The traded segment is unlikely to be a random collection of businesses. There will be commonalities and patterns amongst the businesses. Commodities – including radiata, dairy, meat and tourism – provide the foundations for niche businesses offering complex products, both as input suppliers to commodity exporters and as value-adders. Patterns also develop around local conditions, a tradition, a skill, a market need or a chance event. Within each of these specialised ecosystems, some businesses are likely to have developed a reach well beyond New Zealand. It is these specialisations that differentiate our cities & regions.

SHORTLISTING CLUSTERS FOR DEVELOPMENT

Most New Zealand localities will have development options within the traded segment. Internationally, many cluster initiatives address a specialised, narrow, competency, such as Fermentation Tasmania in Launceston, Tasmania; Tallinn, Estonia's Wooden Houses Cluster and the Transport Infrastructure Cluster in Sandnes, Norway. Catalonia, Spain is home to five, specialised, food related clusters, including Wine Cluster, Food Service and Packaging Cluster. These five clusters collaborate as needed (see page30 for further international cluster examples).

Alternatively, the shortlisted clusters can cover a wide range of related businesses, such as the Food & Agribusiness cluster, Sunshine Coast, Queensland and the Food Cluster of Lower Austria. Some New Zealand regions will need to go wide to have a critical mass of businesses. Such wide clusters are likely to have 'hot spots' where businesses have been particularly successful beyond the home base.

In shortlisting clusters, it is unrealistic to go really wide:

·As Canada is, with their Advanced Manufacturing Cluster, supported by funding of some $75 million annually, in place for ten years, and their Ocean Supercluster.

·As Denmark is, with their history of two decades of local cluster engagement, and those local cluster initiatives now grouped at a national level, such as Odense Robotics with five bases around Denmark and Food & Bio Cluster Denmark, with eight regional bases.

For noting:

·In designing cluster initiatives around a commodity base, focussing on the input suppliers (that could include specialised machinery along with specialised services such as IT, legal, insurance and safety) may offer particular promise.

AGREEMENT ON THE PRIORITY CLUSTER(S)

As the buy-in of many will be needed to deliver success, community-wide agreement will be required as to which cluster(s) are prioritised for engagement. Those invited by the EDA to participate in a round-table discussion could include:

Shortlisting Clusters **Possible Participants**	EDA and Chamber Boards Local political leaders Educational leaders e.g. tertiary institute VC / CEO Iwi leaders Trade Union leaders Incubator manager CEOs servicing many local businesses, e.g. accountants, freight forwarders, packaging suppliers.

Participants in this discussion should have an overview of the local economy and/or their implementation support is going to be needed. In forging this consensus, no participant should directly represent a business or an industry association.

As participants are likely to bring to this discussion their favourite candidates, discussions should be data-driven with comparative information prepared at the cluster level, including suppliers to the core businesses. Components of strong New Zealand clusters are provided on page. A cluster's functional region may stretch over regional boundaries, indicating the need for collaboration with neighbouring EDAs.

Cluster Ranking Criteria, examples	Is there a critical mass of motivated businesses within commute distance? Does the locality have an acknowledged reputation for this activity? Is there evidence of specialised expertise, services, resources, suppliers, skills? Will the proposed cluster have a substantial impact on the local economy? Is there interest in engaging, will business leaders step forward? As Mariana Mazzucato describes, *'Picking the Willing'*.

A city may consider developing 2-3 cluster pilots. Economic strength comes with overlap and reinforcement between related clusters, such as between food processing & freight; food processing & packaging; and digital games & IT. In urban regions, a cluster approach provides an implementation route for a broad innovation district, respecting that not all a cluster's stakeholders will be tightly located.

A resource-stretched region could initially focus on one pilot that brings together a wide range of related businesses, such as food production/food processing/chilled freight/packaging. Iceland's Tourism Cluster takes a broad approach, including restaurants & retailers & IT companies. Clusters in smaller communities can have a strong sense of pride and awareness, and be nimble in quickly engaging.

For noting:

- Prior to engaging with a specific cluster, the EDA should bring together a small group of the cluster's senior stakeholders to firm up on the need for the initiative, and the options for co-resourcing, alongside the EDA.
- A cluster initiative should not be competing with established organisations.
- Existing organisations may consider that it is their role to take the lead.
- Experience shows that these valuable deliberations can take some time (see Moananui example).

RESOURCING NZ CLUSTER INITIATIVES

The main application for resources at the kick-off stage is for staff. Local capacity is required to connect the businesses within a cluster and to infiltrate and to align central government resources. This could be a part-time EDA senior.

This person, essentially the start-up **cluster manager,** needs to be a born networker and connector, not an analyst, and ideally is in place for the long term. A key to success will be the building of personal relationships within the cluster and with the many parts of government. One of the most difficult aspects of cluster development is aligning what can be a clutter of support organisations. Relevant industry experience helps but is not essential. The calibre of the cluster manager is a key success factor, with the ability to inspire, motivate, connect, energise and challenge the cluster's stakeholders. The role is much more than servicing a business group, and includes proactively infiltrating related clusters globally.

As opportunities for collaborative projects are identified, Cluster Ignition Team partners have the opportunity to support relevant activities.

Resource Requirements	Resourcing options
1 Cluster Organisation Key resource: a cluster manager, could be part time. In addition, resources for small projects, e.g. website & social media platforms; preparing a training programme; hosting information events; visits to customers, trade fair, related clusters; ...	**EDA:** seconding a senior, back office support, providing office space. **Participating businesses:** as financial partners, also sponsorship, $ & in-kind contributions; co-funding relevant projects; annual fee once established. **Chamber & others:** in-kind contributions. Once the cluster initiative is underway and development priorities identified, approaching national agencies for financial support.
2. Cluster projects E.g. training; export market development; targeted investment attraction; mentoring start-ups; engaging with local colleges; energy efficiency; ...	**Ignition Team partners:** Co-designing, leading, resourcing relevant projects.

As the cluster develops, other funding options often develop. Many clusters take a fee for managing collaborative projects. Some take equity investments in start-ups within a cluster-specific incubator.

CLUSTER IGNITION TEAM

An early focus for the cluster manager is meeting individually with the support organisations and knowledge institutions that are already interacting with the cluster's firms. It is then beneficial to bring the relevant individuals from these organisations together at the beginning of the initiative, so the intervention is being co-design with them. Later, this network of Powerful Local Partners will, as the initiative develops, be essential in resourcing the cluster's forward agenda.

Forming the Cluster's Ignition Team	An informal team of Powerful Partners, specific to each cluster. Most partners will already have familiarity with the cluster and its businesses. Options include sector specialists from NZTE and Callaghan, from other agencies (MPI, MSD, TPK...), local start-up initiatives and industry/professional associations. In addition, knowledge institutions (ITOs, tertiary organisations, CRIs...)

A successful cluster initiative aids each Ignition Team partner in understanding the needs of groups of businesses, and then responding. A strong initiative helps partners in focussing their existing support, enabling smarter support (to groups of businesses), not necessarily providing additional support. As the Team evolves, partners will be able to more tightly align their individual agendas, breaking down silos.

In the longer term, the Ignition Team supports the design and implementation of cluster projects, such as a training programme, a mission to a target market. This longer term role is co-resourcing and leading relevant projects, as they emerge.

For noting:

- The members of the Ignition 'Team' may well know of each other, but possibly have never met as a group.
- A rapid start to a cluster initiative is helped by the Ignition Team partners sharing their insights on the cluster's lead businesses, their understanding of opportunities and roadblocks, and the logic for their current support.

SHORT, SHARP CLUSTER REVIEW

At the start of cluster development, it is the cluster manager that undertakes a review, identifying the cluster's growth opportunities, impediments, and ecosystem gaps. This understanding of the cluster's situation should **not** be delegated as the review enables the cluster manager to establish a close relationship with stakeholders, particularly business CEOs. This is **not** a feasibility study to determine whether a cluster merits EDA attention, though the results may later help shape the level of effort that the EDA applies. There are strong advantages in undertaking this diagnosis alongside Ignition Team partners, building a shared knowledge and commitment.

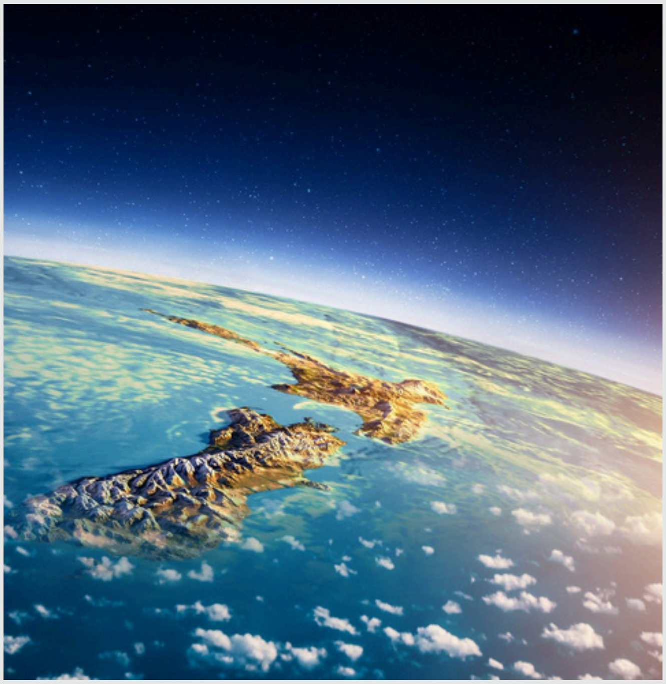
Cluster Review

Possible CEO Discussion Topics

Are there gaps in support infrastructure? Skills, training? Transport? Finance?...
What are the supply chain risks?
What connections does the firm have to the local economy?
Who are the firm's partners, collaborators for innovation?
Who are the senior 'shakers & movers' within the cluster?
What is holding the business from doubling?
What is one thing that the business can't do by itself?
Why is the business based here?
What would cause the business to relocate, to exit?

Prior to completing the review, it may be necessary to revisit the cluster's boundaries in terms of geography (which may require collaboration with neighbouring EDAs) and the range of businesses that are included. There needs to be a critical mass of interested business to merit the EDA's attention.
On completion of the review, the findings should be presented to those interviewed to verify the cluster's current situation, and then priorities for the forward agenda workshopped.

Ignition Team partners should be present at the workshop so all are sharing the diagnostics and moving in the same direction with a common purpose. A practical workshop discussion is to prioritise the cluster's innovation gaps for early engagement.



Seven Innovation Gaps

Education	Availability of skills is often the #1 inhibitor to firm growth
Government	Moving from a clutter of support to aligned support around business needs
Firm to firm	Moving from clumps of firms to links, co-specialisation, co-opetition...
Global market	Developing pipelines, trade fairs, cluster brand...
Capital	Seed funding, venture capital ...
Research	Needs-driven
Cluster-to-cluster	Connecting within New Zealand and globally

For noting:

- Possibly 10-20% of firms can be considered the cluster's lead businesses, with both the aspirations to grow and the competencies to grow. This includes those scaling-up, potentially tomorrow's world-class frontier businesses. It will be these firms that the cluster initiative prioritises and focuses on.
- It is unrealistic to expect to know everything about a cluster before engaging. That's paralysis-by-analysis. Be comfortable in learning-by-doing.
- Following the review, it is most unlikely that a go/no go decision on proceeding with a well-conceived initiative will need to be made. However, the EDA may need to consider the scale of its support for a cluster. For a location engaging on more than one cluster, each is unlikely to merit the same level of support.

CLUSTER INITIATIVE STRUCTURE, LEADERSHIP

Clustering initiatives often start, and then may remain, as an EDA's in-house activities, with projects undertaken alongside the Ignition Team partners, such as NZTE and local colleges. Other initiatives evolve and scale-up as a Steering Group is established, with the EDA selectively inviting participation of the cluster's 'shakers & movers'.

Internationally, most cluster initiatives evolve further, to a stand-alone Cluster Management Organisation, firmly business led, and with the EDA as a partner. Internationally, over the last two-three decades, cluster management organisations have emerged as key intermediaries in upgrading the competitiveness of place-based clusters. One advantage of an independent structure is to accommodate financial partners, leveraging the EDA's contribution.

Evolving Cluster Structure

FIRST **In-house EDA Project**	**SECOND** **Informal Steering Group**	**THIRD** **Stand alone Entity**
EDA & others prioritising a cluster for engagement. Leading a short, sharp cluster review. As cluster projects emerge, these are supported through Ignition Team partners, e.g. training, trade fair. EDA organising regular information & networking events. *EDA selectively delivering activities for the cluster's stakeholders.*	EDA as a lead partner, inviting high-profile, triple helix participation. Provide high level coordination across the cluster. More than an EDA Advisory Group. Private sector chair. Finances handled by EDA. *A dedicated staff resource.*	Financially independent Cluster management organisation. Not-for-profit. Enables co-funding, sponsorship, and later membership fees. At establishment, Board is invited by EDA. Later elected. *Dedicated staff of 1-2.* *Could be based at EDA.*

Business led, triple helix
Engaging with the cluster's stakeholders.

Cluster Ignition Team in place, supporting collaborative projects.
Communications strategy in place, with local, NZ and international reach.

TRIPLE HELIX IN ACTION

Triple-helix governance provides a new form of partnership for New Zealand with a community focus, bringing together business leaders alongside senior members from relevant public agencies and knowledge institutions, such as a polytechnic's CEO. Those with skin in the game know best and are ready to engage. International experience demonstrates the merits of cluster initiatives being business-led, and moving at the speed of business, whilst having a community-wide agenda.

	Designing Triple Helix Governance
Private sector in majority **And in Chair**	Possibly four-five members. Covering core & support businesses; also large businesses & SMEs.
Public Agencies **In support**	Possibly two-three members. E.G. EDA's CEO or mayor and national agency representatives.
Knowledge Institutions **Underpinning**	Possibly one-two members e.g. college, tertiary institution ITO, CRI.

The emphasis in this kiwi low-budget approach to cluster development is on let's get going within the constraints of the resources available. Then scaling up, as the initiative gains traction and further resources are garnered (see <u>Sweden's Paper Province</u> cluster).

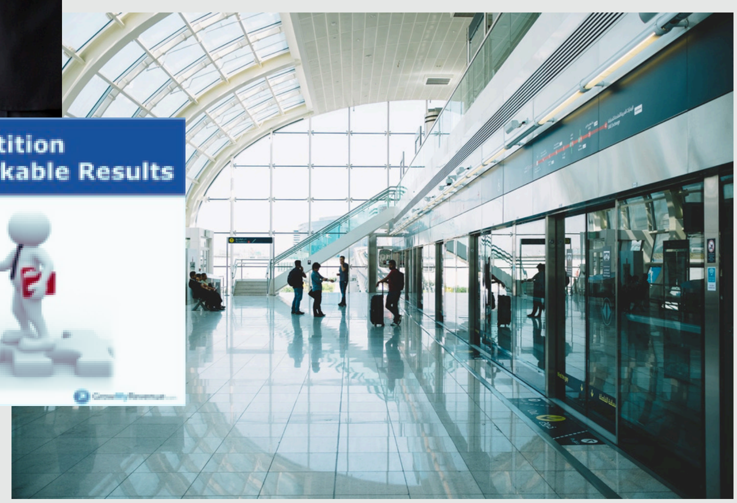
For noting:

- This board is the driving seat of a change agency. Some in the community, including industry associations and representatives of national bodies, may prefer the status quo.
- The governance structure is complementary to an industry association, which often cover a wider geography and serves a narrower range of businesses.
- Developing clusters requires partnerships that reach across conventional sectors.
- It is a decision-making entity.
- An 'Advisory Board' can have difficulty in attracting the necessary senior commitment.
- This is local stakeholders, predominantly based in the community, working together.
- The quality of this leadership is central to a strong initiative, with Board members integrating their knowledge and perspectives. Strong discussions are to be expected.
- Robust governance leads to confidence amongst public agencies.
- The focus is on action and learning-by-doing, not paralysis-by-analysis.
- One established, board members are elected to this unpaid role. Internationally, successful initiatives have strong competition for board positions.
- It is unlikely that a board member is also part of the cluster's Ignition Team.

COLLABORATIVE PROJECTS & CO-OPETITION

While no business seeking to compete globally can succeed alone, businesses need to work through what they don't want to share, and what they might share for mutual advantage. Collaboration enables businesses to overcome common challenges and to achieve scale, addressing opportunities that are beyond individual reach.

Part of a conducive ecosystem is a 'co-opetition' culture amongst businesses, with businesses appreciating as familiarity and trust develops, they can simultaneously compete and collaborate. Collaborative projects become a strong clustering initiative's engine room, with some projects open to all businesses and others private ventures.



Open Collaboration examples, Cluster Wide	Information seminars on new markets, new technologies, AI, circular economy, digitalisation, workplace safety; Trade fair participation; Joint purchasing of disposables; Developing the talent pipeline, engaging with local colleges, student attraction; Business mentoring; Designing training courses with the provider; Women's network; Common service centre; Inward buyers visit; Developing the cluster's identity/brand; Preparing businesses for angel funding; Celebrations!
Private Collaboration examples, B 2 B	Joint purchasing of specialised equipment, components, freight; Joint tendering; Sharing e.g. an export, QC or freight manager; Drawing on common raw material stocks; Forming an export consortium; Pre-competitive R&D; Joint investment in a production facility, an overseas office, an export brand.

Ignition Team members, such as an ITO, a CRI, or NZTE, can step in and lead substantive projects. Projects addressing wicked problems may require mission-type collaboration and partners from beyond the immediate cluster.

FOR NOTING:

- Collaboration often starts in low-trust, non-strategic areas.
- The short, sharp cluster review, coupled with insights from Ignition Team partners, will have identified collaborative opportunities and obstacles. Some will be cluster wide, others specific to a small group of firms.
- Private collaborations develop amongst small groups of businesses, centred on familiarity. Collaboration may start with joint purchasing then as trust develops move to joint investments.
- Regular cluster networking events provide opportunities for chance conversations amongst stakeholders with weak links. Peer learning amongst firms is often more relevant than knowledge from formal institutions.
- The cluster manager has a key role as the cluster's connector, removing silos.

GOING GLOBAL, AT SPEED

As a past NZTE employee, I am very familiar with the value of 39 offices around the world. These provide a first port-of-call for an exporter, as they do for a cluster manager seeking international connections.

A second, and complementary route, into international markets is provided by cluster-to-cluster connections. Related clusters are Powerful International Partners for New Zealand clusters. For example with Moananui's Blue Economy cluster, I identified 43 similar blue economy clusters around the world. Such clusters provide a fast track for:

- Introducing the cluster's businesses to potential distributors and customers in relevant international centres.
- Facilitating two-way investments, inwards and outwards.
- Identifying potential suppliers.
- Connecting with international knowledge centres.
- And learning about the activities, funding and governance of related clusters.

There is considerable activity around the world in clusters reaching out to each other, to mutual advantage. Identifying key people in related clusters internationally is made easy through their web sites and LinkedIn profiles. Each of the international clusters identified in this Toolkit provide both access routes. My preference is to use LinkedIn to introduce myself to cluster managers around the world and many of **my 29,000 connections** are with clusters internationally. If I have connections that are relevant to your interests, please go ahead and make direct contact.

TARGETED INVESTMENT ATTRACTION

The global move to onshoring supply chains is opening new investment opportunities for New Zealand. While any locality will welcome new investments, effective cluster initiatives enable a shift

from *'What can we offer to potential investors*?' to *'What do we need to fill competency gaps?'*. Resilient cluster initiatives focus on growing from within, with investment attraction as a fill in. New investors then complement, rather than compete, with existing businesses.

For noting:

- Locations need to blow the trumpet loudly on their specialisations, reaching well beyond our shores. Investible propositions need to be clearly communicated to NZTE.
- It may take the cluster manager time to identify competency gaps in the cluster's ecosystem.
- Across Europe, cluster initiatives are actively supporting two-way investments, encouraging their business to develop an international presence and often building on their global cluster- to-cluster connections.
- For many New Zealand locations, talent attraction may merit more consideration than investment attraction.

PHYSICAL INFRASTRUCTURE, A LOW-IMPACT CLUSTER ASSET

A cornerstone project for a cluster can be establishing a physical precinct, a hub. This is not a low-hanging-fruit project and, internationally, is usually addressed once cluster development is well underway. Training and knowledge sharing events do not need to wait for a physical hub. Importantly, early projects can inform the design of the physical facility.

More relevant than the physical infrastructure for many clusters is establishing the specialised knowledge infrastructure. Even more critical, and complex, is building the social infrastructure, the personal relationships amongst the cluster's stakeholders, connecting the dots.

	Cluster Elements	Comparative Investment	Comparative Impact
Specialised Physical Infrastructure	Hub, Precinct, Food Innovation Centre, One-Stop-Service Centre; Common Testing Facility ...	$$$$$	✓✓
Specialised Knowledge Infrastructure	Colleges + ITOs + Polytechnic + University + CRIs ... well aligned	$$$	✓✓✓
Social Infrastrucure	Connecting the cluster's stakeholders. Establishing personal relationships. Building trust, a co-opetition culture. Aligning support organisations	$	✓✓✓✓✓

Physical Infrastructure in Perspective

An active cluster development initiative is much more than co-located firms and really comes into play in building the more complicated, more time consuming, knowledge and social infrastructures.
There are risks, particularly for national agencies, in investing in e.g. a food hub before fully understanding the local context and the cluster's Ignition Team is in place. At much lower cost, and often with more immediate impact in the community, is developing connections amongst the businesses, and between them and local colleges.

For noting:

- I have visited many precincts / hubs / innovation centres where co-location has not automatically led to business relationships and interaction. Silos have continued.
- Establishing hubs and precincts is not a proxy for cluster development. This is often the least important asset and may not be an essential element in the early years.
- Building the physical infrastructure is a relatively rapid, albeit capital intensive, aspect of cluster development.
- Real estate developments provide weak foundations for a cluster initiative.
- Participation in a clustering initiative should not be restricted to precinct-based businesses.
- Where specialised physical facilities are already in place, a broader cluster approach needs to be explored, addressing the wider needs of participating businesses.
- If central government funding is being offered for a precinct, build into the proposal funds to support the (more essential) cluster manager.

Co-locating Cluster Initiatives

Cluster managers are located within neutral premises, such as an EDA or a Chamber. Internationally, locations supporting several clusters often co-locate their managers, enabling the host organisation to provide common services: reception, accounting, PR support, investment specialists, etc.

Co-location also facilitates collaboration between cluster initiatives, e.g. Food cluster + Tourism cluster; HealthTec + IT. Importantly, co-locating cluster teams enables the host to identify, from the bottom-up, the systemic issues facing the location's traded economy, as an input into regional plans. These issues may include transport facilities, engaging with colleges, access to business mentors and seed funding, the city/region's branding.

Unconventional innovations often arise where two or three clusters meet, leading to new products, new businesses.

MEASURING, DEMONSTRATING CLUSTER SUCCESS

The rationale for engaging in a cluster review should be determined prior to commencing. This can include demonstrating the regional impact of the initiative, attracting new members, and learning about what is working and is not. There are two distinct aspects in reviewing progress:

- The strategic health of the cluster – benchmarked against New Zealand and global competitors.
- The effectiveness of the cluster intervention – is it making a substantive difference?

Metrics need to be gathered at the start of the intervention and to be relevant to the cluster. Numbers of employees and firms, total sales and % beyond the region are common. This hard data is gathered through survey, rather than the (over analysis) analysis of NZ Stats data. The cluster's projects should have KPIs in place, such as to train a number of employees, or to support a number of businesses entering their first export market. In the long run, KPIs include the number of new innovations and start-ups, success in anchoring scaling-up / frontier businesses, and success in attracting quality investors and talent.

Cluster Evaluation Examples	**Hard**	**Quantitative:** Number of firms; Number of employees; Turnover/employee; % exports; Number of trainees; New investors …
	Soft	**Qualitative:** Evidence of behaviour changes; Cluster Ignition team members scaling up their support, and more narrowly targeting that support; Support more joined-up; More responsive knowledge institutions; Effectively addressing skill gaps; Change from 'hostile brothers' to business co-opetition; New collaborative actions; Joint tendering; Firms taking larger orders; Gender equality; Environmental impact; Social impact; Developing the social licence; …

Establishing Impact

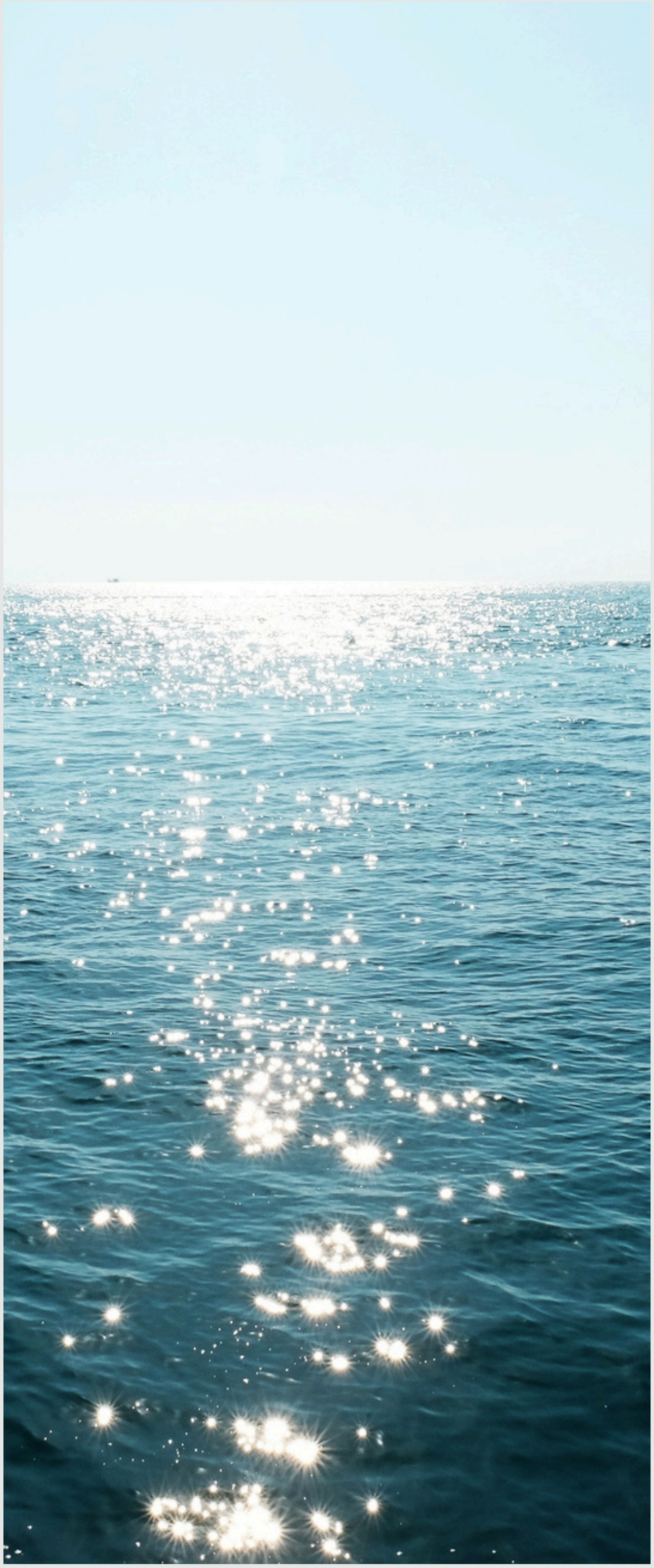
Tracking systems level change is not easy. One complication arises when an initiative broadens out (e.g. from organic food to food in general) or narrows (e.g. from advanced manufacturing to aerospace).

For noting:

- Attributing impact just to the cluster initiative is unrealistic as others can take partial credit. Success particularly needs to be shared with Ignition Team partners.
- Annual membership fee payments provide an early reading on the relevance of the cluster initiative.
- Many initiatives organise an independent stakeholder survey to gather performance data.
- The importance of storytelling to communicate impact.
- Moananui have published an impressive impact report on their first year of activity.

An extensive cluster benchmarking facility has been established, with European Commission support, drawing on 1,000 clustering initiatives from 45 countries. Each of the benchmarked clusters has been underway for at least three years, many for 10-20 years. Achieving a Gold Label from the European Secretariat for Cluster Analysis (ESCA) has become a recognised international mark of distinction. The ESCA database has no examples currently from New Zealand. When a New Zealand initiative has three years of engagement, it will be prudent to benchmark against this global database.

An Australian national programme for food clusters was launched in 2018. The Evaluation of Australian Food & Agribusiness Clusters highlights: "*Clusters have been able to drive cultural change and encourage greater collaboration, and alignment of strategies at local, regional and national levels.*"



SUCCESS INDICATORS, START-UP PHASE

While every clustering initiative has its own development journey, there are common aspects during the start-up phase. For an initiative that has moved from being an in-house EDA project to a stand-alone activity with independent governance, progress during the kick-off phase could include:

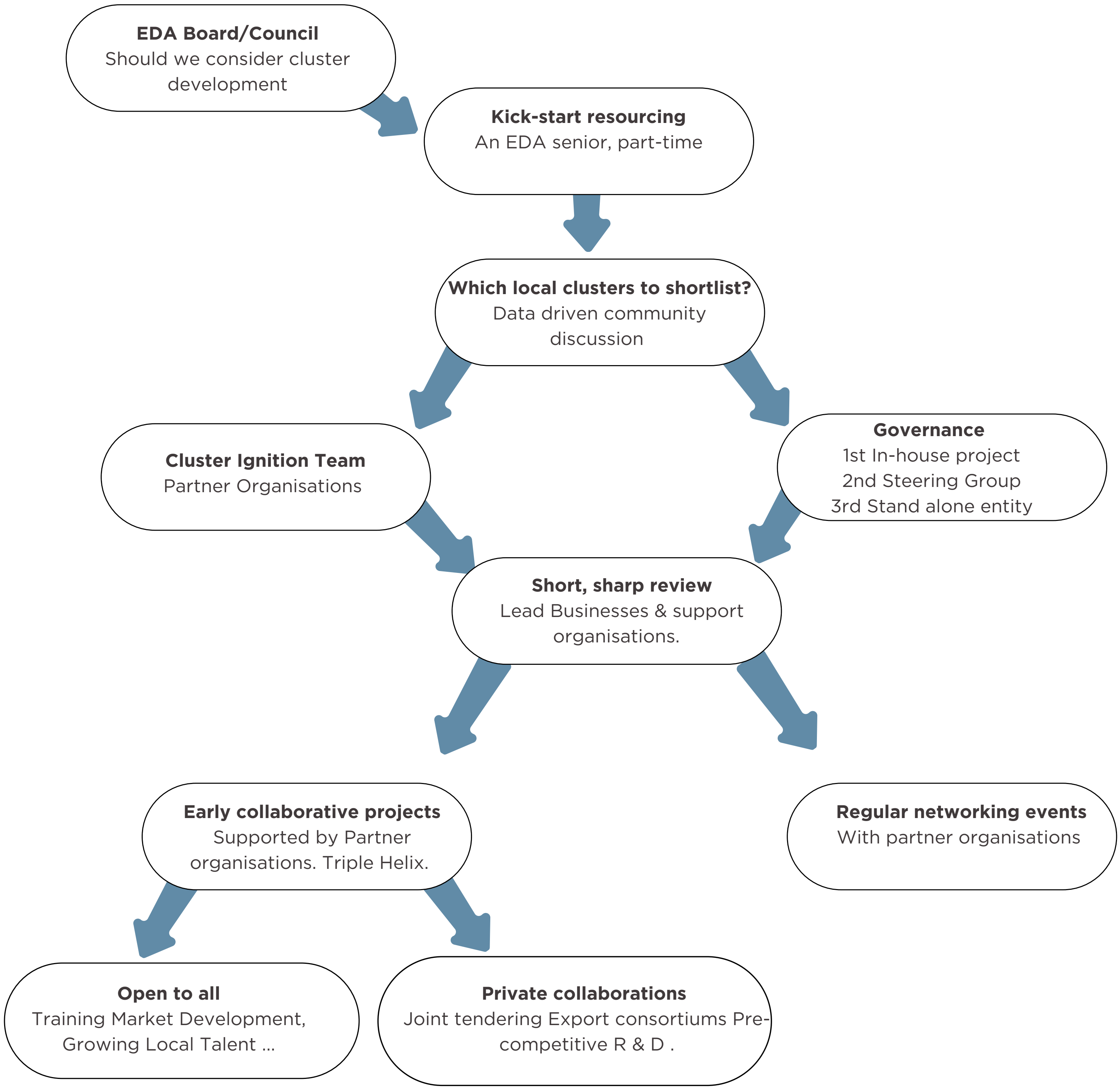
Cluster Initiative Accomplishments, First 12-18 Months Indicative Activities

Structure & Governance	Co-funding from a number of sources locked in. Legal structure in place, as a not-for-profit organisation. Formalised Board (invited by the EDA at this stage), a coalition of the willing with the CEO's of lead organisations alongside senior public agency, knowledge institution and possibly community representatives. A bias for action.
Staffing	Dedicated Cluster Manager in place, probably full-time. **A challenger, a disruptive change agent.** EDA support for back office activities, PR, investment attraction...
Cluster Ignition Team	Informal team in place, with relevant technical/specialist partners from support organisations who are co-designing the initiative with the EDA. From a hodgepodge of support to aligned support. Members supporting / leading projects.
Short, sharp review	Completion of face-to-face meetings with CEOs of the lead core & support agencies, businesses and other key stakeholders. Identifying the cluster's lead businesses and early areas for collaborative projects.
Collaborative projects underway	Responding to insights from Ignition Team partners and the review meetings, engagement on a broad portfolio of low-hanging-fruit, collaborative projects. Some projects open to all, others private collaborations. Ignition Team partners taking the lead with relevant projects.
Building Awareness	**Within the locality:** Building the social glue & trust amongst core & support agencies, businesses and support organisations. Regular meet-ups and knowledge sharing events, different hosts. Guest speaker as the attraction, 'after-event' and socialising as the key. Garnering attention from local businesses, politicians, school leavers, angel funders... **Within New Zealand:** Garnering attention from national politicians, national agencies, businesses, customers, and knowledge institutions. **And globally:** building the cluster-to-cluster connections to support international B2B, investment and knowledge institution links. Garnering international attention: customers, talent, investors, knowledge partners.

CONTRASTING NZ TRANSFORMATION APPROACHES

	SUPPLY PUSH TOP-DOWN	DEMAND PULL BOTTOM UP
Initiative Example	**National Industry Transformation Plans**	**Local Cluster Development**
Ownership	Narrow. Funding agency. National advisory group.	Broad, community based. Businesses + EDA + Colleges + ... Those with skin-in-the-game.
Forces	**Macro.** Sector based (and trapped). Fragmented.	**Micro.** Holistic. Across relevant sectors.
Resourcing	Well resourced. No co-funding required.	A struggle. EDAs already stretched. No funds for regional transformation plans.
Strategy Focus	**Intended strategy.** Generic. Addressing national commonalities.	**Emergent strategy.** Learning-by-doing. Co-evolving. Local experimentation, tailored to locality specifics. Co-ownership. Aligning, coordinating inter-related components.
Political Focus	National politicians. High focus.	Local politicians. High impact
Social Capital	Low trust. Few discussion forums. No impact on social cohesion. Minimal learning.	Builds trust. Wide participation. Collaborative approach. High propensity for learning followed by action.
Theoretical basis	???	Place-based industrial policy. Regional Innovation systems. Endogenous growth. Chaos & complexity theory
Critical Success Factors	Competencies of national agency in analysis and report writing.	Competencies of EDA/Council in convening, facilitating and relationship building. Learning from other clusters, benchmarking.
Outcomes	A sector report, with minimal impact. High level action lists, agency focus, agency projects. No appreciation of local issues, specialisations. Disappointed funders and, more importantly, participating business.	Creating community expectations and pressures for change. Challenging current situation. Tailored to the locations specifics. Action orientated. Collaborative projects. Lessons for scaling.

CLUSTER DEVELOPMENT IN ACTION, INDICATIVE FLOW CHART



STRONG NEW ZEALAND CLUSTERS, COMPONENTS

A geographically close group of inter-connected companies and support organisations in a particular field, linked by commonalities and complementarities, giving rise to a range of productivity, innovation and competitive advantages.

Geographically close

- The tight geography of innovative clusters has only partially changed with webinars.
- In Europe, 90% of most cluster's stakeholders are within commuting distance.
- A key to the cluster's social infrastructure, and tacit information flows, are close personal encounters - at community events, when shopping, in a pub, etc.
- Governance is largely senior stakeholders who are based in the location

Community centred.

Inter-connected companies, across the supply chain

- Core companies, those servicing customers from beyond the locality +
- Input suppliers: raw materials + components + machinery + packaging + energy + ...
- Service companies: transport (freight/logistics/storage/port/airport/intermodal facilities) + IT + recruitment agencies + finance/seed funders + accountancy + legal + design and export consultants, etc.

Companies in close physical proximity, facilitating social connections and trust.

Support organisations

- Public agencies with roles in economic development, at the national and local levels: EDA + MBIE + Callaghan + NZTE + MSD + TPK + MPI...
- Covering training + SMEs and start-up support + export and technology support + investment attraction + incubators + hubs/precincts + technology parks... +
- Trade unions.
- Knowledge infrastructure: colleges + ITOs + tertiary + CRI... Private sector organisations: chambers of commerce + industry &; producer groups...

Aligned support organisations, covering the cluster's ecosystem.
Shift from supply-push to demand-pull

In a particular field

- Most international cluster initiatives are centred on a sector (tourism, food, film...) and its ecosystem, including the supply chain and relevant *support organisations*.
- A cluster initiative can also centre on a technology, a manufacturing approach (e.g. high precision 'no room for error' manufacturing), a market, a smart specialisation, a social challenge ...

Most cluster initiatives are broader than a sector.

Commonalities and complementarities

- Commonalities may include raw materials, skills, technologies, markets, physical infrastructure, freight issues...

Business co-opetition and collaborative projects are crucial.

A range of productivity, innovation and competitive advantages - follow link

CLUSTER MANAGEMENT ORGANISATIONS [4]

CHARACTERISTICS, ONCE WELL ESTABLISHED

Strong professional cluster team	CEO and staff as catalysts and connectors. A noisy node, orchestrating an array of partners. Energetic relationship builders, addressing coordination failures, joining-up support from public agencies & knowledge institutions. Identifying opportunities for B2B collaboration. Attracting quality investments, private and public. Earning the respect of cluster stakeholders and the wider community. Working with their stakeholders, not delivering projects to them. Accepted as insiders, strategic guides, critical friends.
Governance for impact	Triple helix (at least) board, **business in majority & in chair**. Local members, each with leading positions in their organisations. Focus on mission, before organisation. Focus on leveraging impact, not the size of the cluster initiative.
Financial stability	Long term public co-funding, multiple sources. Clear financial commitment from businesses.
Unique mission, strategy	A shared strategy & roadmap focussing on what matters for the cluster and can only be achieved through the cluster. An umbrella organisation, not competing with established structures, including industry organisations.
Broad service portfolio	Addressing opportunities & constraints, including green and digital transitions. Learning-by-doing, a dynamic process. Some projects cluster-wide, others more focused. Infiltrating public agencies & knowledge institutions around the cluster's forward agenda. Needs-driven training, R&D. Active participation by businesses in relevant projects.
An independent organisation	Connecting Private Sector + Public Agencies + Knowledge Institutions. Building the cluster's profile, addressing competency gaps. Attracting customers, talent & investors. Creating community-wide connections, a feeling of belonging.

4 Drawing on The TCI Cluster Policy Roadmap, 2021, www.tci-network.org.

INFILTRATING POWERFUL LOCAL PARTNERS

✓ POSSIBLE MEMBERS FOR BOARD AND IGNITION TEAM

		Board Member Possibility	Ignition Team Possibility
EDA	Long term support. Staff secondment. Office space	✓	✓
Cluster Businesses	Sponsorship e.g. for cluster organisation, for college facilities, for competitions… Co-funding projects & activities of direct benefit. Annual membership fee, once initiative is underway. Contributions in kind, e.g. vehicle.	✓	✓
Chamber	Local knowledge, connections. Office space.	✓	✓
Industry Association	Complementary partner, often covering a broader region with a narrower range of businesses.		✓
Iwi	Long-term community perspective. Asset ownership.	✓	✓
MBIE, Kānoa	Regional Infrastructure Fund. Public procurement. Linking related New Zealand clusters: bottom-up insights for national agendas. Horizon Europe. Regulations fit for new practices, products & purpose.		✓
NZTE	Co-designing, leading export projects. Developing international cluster-to-cluster connections. Export information, trade fairs, inward buyers. Targeted investment attraction. Export networks. Trade missions.		✓
Callaghan	Co-designing, leading collaborative R & D projects. Pre-competitive business collaborations.		✓
RBP programme	Priority; Cluster businesses, including suppliers to core firms.		

		Board Member Possibility	Ignition Team Possibility
CRI	Co-designing, leading collaborative R&D projects. Needs driven knowledge, international connections.	✓	✓
ITO, Polytechnic	Co-designing, leading training programmes. Responding to training needs.	✓	✓
University	Generating needs driven talent. Needs driven research. Tech transfer. Spinouts. Internships.	✓	✓
MPI	Access to advisors, international connections. Regulations fit for new practices, products &; purpose. Linking related clusters, bottom-up national agendas. Sustainable Food and Fibre Futures Fund. Wood Processing Growth Fund.		✓
MFAT	Market access, priority countries.		
TPK	Māori business networks. Poutama Trust.		✓
PSC	Public Service Commission's 12 Regional Commissioners. Joined-up government in the regions.		✓
Education NZ	Attracting international students in cluster's domain.		✓
Trade Union	Identifying training needs.		✓
Colleges	Preparing students for careers within the cluster. Promoting trades as a pathway. Specialised activities & facilities to support the cluster.		✓
Incubator	Focus on priority clusters. Coaching. Angel Funding	✓	✓
MSD	Preparing clients for cluster opportunities. Education for Employment initiative		✓

INFILTRATING POWERFUL INTERNATIONAL PARTNERS

Each providing collaboration opportunities for related New Zealand clusters

Blue Economy	For Nelson's Moananui Blue Economy clustering initiative, I identified 43 similar clusters, including Iceland Oceans Cluster, Reykjavik; Seafood Innovation Bergen, Norway; Ocean Supercluster Halifax, Nova Scotia; Alaska Mariculture Cluster Juneau; Centre for Applied Ocean Sustainable Technologies Victoria, British Colombia; Flanders Blue Economy Cluster Oostende, Belgium; Pôle Mer Bretagne Brittany, France; and New Bedford Ocean Cluster Maine, USA.
Ag & Food	The global exemplar is Food Valley, Holland. Other standouts: Food & Bio Cluster, Aarhus, Denmark; Catalan Gourmet Barcelona, Spain; also in Barcelona Food Service Cluster; Galicia Food and Drink Cluster Santiago de Compostela, Spain; Welsh Food and Drink Cluster Network; Vitagora Dijon, France; also in France, Vegepolys Valley Angers; Flanders Food Cluster Brussels, Belgium; Food Cluster of Lower Austria St. Pölten, Austria. Most food clusters take a broader approach than the NZ Food Innovation Network.
Wood Processing	Radiata is an underutilised resource, particularly in left-behind regions. I prepared for MPI a review of Wood Manufacturing Clusters in 13 countries, including Austria, Canada, Estonia, Norway, and Sweden, where each cluster has found its own route in adding value, e.g. Paper Province Karlstat, Smart Housing Småland Växjö and Processum Biorefinery Cluster Örnsköldsvik.
Aerospace	For ChristchurchNZ, an example is European Aerospace Cluster Partnership with 45 clusters from 18 countries, including: Aerospace Valley, Toulouse, Hamburg Aviation Cluster and from the Basque Country, Spain, Hegan Aerospace Cluster. The Partnership has active European Commission support, including for market development beyond Europe.
Engineering	At Southland Engineering Cluster's launch, Detroit, Silicon Valley and Hollywood provided international cluster examples. A Southland team has visited Hunternet, NSW, a cluster with the strapline 'The Power of Many'.
Life Sciences	*Biotech, HealthTec & Wellbeing* are on many New Zealand agendas. Relevant cluster examples: Oulu Health Finland; BioWin Health Cluster Wallonia, Belgium; Cluster HealthCapital Berlin, Germany; Medical Technology Cluster Mannheim, Germany; Medical Valley Nuremberg, Germany; Health Technology Cluster Copenhagen, Denmark; Medicen Cluster Paris, France; Basque Health Cluster Bilbao, Spain; Oslo Cancer Cluster, Norway.
Tourism Tech	Queenstown's emerging host-tech cluster draws on the location's position as a world class destination. Two relevant international examples: TechTourism Cluster Barcelona, Spain and Iceland Travel Tech Reykjavik.
Renewable Energy	For Taranaki's developing Renewable Energy cluster, partners could include OffshoreWind cluster, Haugesund, Norway; OffshoreVäst Västra Götaland, Sweden; Basque Energy Cluster Bilbao, Spain and Bretagne Ocean Power Brittany, France.
Financial services	Copenhagen Fintech, Denmark; Finance Innovation Cluster Bergen, Norway; Finance Innovation Paris, France and Ireland South East Financial Services Cluster Waterford, Ireland.

CITIES AND REGIONAL ENGAGEMENT
INTERNATIONAL EXAMPLES

Internationally, it is cities & regions that are taking the lead with cluster development. The localities identified here have been providing support for their priority clusters for ten, twenty and even thirty years, longer than support from national agencies. In each of these places, the development of priority clusters is not being left to chance. Many are places I have visited.

The population of some centres identified below is below 100,000. Others are similar in size to our main cities; a few have larger populations than New Zealand. As the web sites demonstrate, several clusters are under development in each location, each with a stand-alone cluster management organisation.

City & Regional Cluster Support	
Austria	Lower Austria Upper Austria
Belgium	Flanders Wallonia
Germany	Baden-Wurttemberg Bavaria Berlin Hamburg
Norway	Bergen Kristiansand Oslo Stavanger
Spain	Basque Country Catalonia Galicia
Sweden	Värmland County Skåne
USA	Washington State

Many of Europe's regional development agencies have the benefits of resourcing with three, even five times, the funding of equivalent New Zealand EDAs, largely provided by their city/region. The funding these EDAs pass to their cluster initiatives has been in place for two, even three decades. This can be 80-90% of the total funding for the first 12-24 months, when businesses are unclear as to the benefits, and then decrease to 50% or lower by the fifth year. A common stipulation for public support is triple helix governance, business led. Frequently, EDA CEOs and political leaders (including mayors) are board members.

The funding for a cluster initiative is not static. At times, sponsoring agencies merge or close a clustering initiative. A condition for ongoing funding is evidence the initiative is making a community difference.

There are large variations in the staffing of cluster initiatives. A rough rule of thumb is that many European clusters have around 15-30 participants (businesses + support organisations) per staff member. This ratio enables close connections with the cluster's stakeholders. Most cluster initiatives have alongside the cluster manager (frequently with the title 'Cluster CEO') a communications/PR specialist. The larger initiatives have specialist technology, export market development, investment attraction etc. staff. Many also have specialists to build bridges with local colleges and tertiary institutions, underpinning any cluster's transitioning agenda.

CLUSTERS & REGIONAL TRANSITIONS

Catalonia has celebrated three decades of cluster development.
Thirty clustering initiatives are currently underway. Clustering has proved to be a successful mechanism for transformation, including decarbonisation, new technologies, and new markets.

Within a month of COVID-19 arriving in Barcelona, the clusters were in transition:

- The Fashion Cluster was coordinating the manufacture of medical gowns & masks.
- In the Lighting Cluster, firms were collaborating to manufacture respirators.
- The Kid's Cluster was active in improving families' experiences at home.
- The Edutech Cluster provided an online educational framework for school kids.
- Two clusters, Railgroup and Foodservice, were collaborating in designing COVID-free spaces for public transport and restaurants.

For more on Catalonia's valuable experiences, see 'Three Decades of Cluster Policy in Catalonia': What's Next?, Christian Ketels.

NATIONAL AGENCY ENGAGEMENT, INTERNATIONAL EXAMPLES

Most of the developed countries I have worked in have national programmes in place to support regional clusters. Five examples:

- Norway - a lead example of direct relevance to New Zealand, with two decades of experience.
- France and Germany - Each country has two decades of cluster engagement. See Germany's Leading-Edge Clusters
- Canada and USA - Two comparative newcomers to cluster development, each with $ billions of programmes to support local clusters.

Open competitions have been used in each of these countries to select the regional clusters being offered co-funding. These competitions incentivise regions to self- identify their key wealth creating clusters and to establish around that priority activity a triple-helix team, often for the first time, to prepare their proposal. Many winning proposals are broader than conventional sectors and address a functional, rather than political, region.

Importantly, hosting a competition upgrades the intervention from supporting a few cluster projects to more fundamentally incentivising a change in behaviour patterns through collaboration. A competition also ensures that the cluster initiators are willing occupants in the cluster's driving seat from the start.

Cluster competitions have been launched with extensive promotion to introduce the relevance of cluster development around a location's specialisation. Norway's national cluster programme is a partnership between three agencies and two ministries with an annual competition held to foster new initiatives that may merit national support.

Most of the European programmes are sector agnostic, with an emphasis on resourcing the cluster development team, networking activities and funding for small-scale projects. Some programmes, including USA and Canada, have a sector focus with substantial funding provided for research and innovation projects. Canada, for example, incentivise change through funding being conditional on groups of companies collaborating with a knowledge institution on precompetitive R&D.

The funding from these national agencies is for three, five, sometimes ten years. A common financing arrangement for local clusters that are nationally supported is 50% from national agencies and the balance from a combination of local economic development agencies, businesses/industry associations and tertiary institutions/public R&D organisations. The European Union is also a direct contributor to some cluster organisations.

For noting:

- These countries also offer, alongside co-financing, training in cluster development to board members and cluster staff.
- The national organisations share learning and best practices across the clusters and ensure that there are connections between related clusters.
- The clusters winning national support take full advantage of this status in their promotional materials, emphasising their ‘Go-To’ status internationally.

LOGIC, NATIONAL AGENCY SUPPORT FOR LOCAL CLUSTERS

- Place matters in a knowledge-intensive world.
  Capital cities accept that they are too remote to foster local teams around different specialisations, addressing productivity, SME development and investment attraction.
- As the US emphasises, to supercharge local economies . A US Focus: fostering the development of clusters in left-behind regions.
- Improving the effectiveness of national programmes and resources by more closely aligning agencies at the local level. Moving from piecemeal to integrated support.
- Fostering a nuanced approach in commodity areas, such as wood-processing, to accelerate regional differentiation.
- Using regional clusters to inform, from the bottom-up, national agendas.
- Bringing together clusters to address broader, mission orientated approaches at the national level.

EUROPEAN PERSPECTIVES, CLUSTER ENGAGEMENT

1. The European Commission has a wide range of activities and programmes to support local clusters. This includes annual cluster conferences, which I have participated in.

2. Europe's Cluster Panorama Report for 2024:
"Cluster organisations in the 27 EU member countries strengthen the competitiveness and resilience of their members. They promote cooperation, internationalisation and the qualification of the workforce." "Member states should develop dedicated cluster policies and integrate them into the respective industrial, national and regional policies in order to create synergies with related policies such as smart specialisation, training initiatives and internationalisation strategies."

3. The European Cluster Collaboration Platform covers 1,500 registered clusters. Currently with 14,000 followers on LinkedIn and I am sure are open to kiwi followers.

4. National Cluster Associations In addition to the national agencies supporting cluster development within their country, several national associations have formed in Europe. Most have been established by local cluster initiatives joining forces to set up a national connecting organisation and voice. Fifteen of these national associations have formed The European Cluster Alliance, covering 800 cluster initiatives.

GLOBAL PERSPECTIVES, CLUSTER ENGAGEMENT

1. **Cluster benefits** Reviewing experiences from around the world, Evidencing the benefits of cluster policies provides as comprehensive guide to cluster policy evaluation.

2. **Fifty seven countries** engaged A review of cluster policy and programmes across fifty seven countries has been prepared by the European Cluster Collaboration Platform. New Zealand has no mention in this report.

3**. Participants in 111 countries** The global organisation for cluster and innovation ecosystem practitioners is the TCI Network covering 111 countries. TCI circulates a monthly, no charge, newsletter. The regional chapter is TCI Oceania . Many TCI members are active on LinkedIn. A declaration: I am a TCI Founder, Past President and currently serve on the TCI Advisory Board.

4. **Multinational agency engagement** Many agencies have followed UNIDO's pioneering work two decades ago with cluster based economic development. I have supported multinational agencies in Africa, Asia, Caribbean, Pacific Islands, Palestine and Ukraine.

These sources provide relevant policy and implementation experiences;

Asian Development Bank
Caribbean Development Bank
European Commission
Inter-American Development Bank
Organisation of African, Caribbean and Pacific States
SIDA Sweden
UNIDO
US AID
World Bank

WRAP UP

To conclude this New Zealand toolkit on transforming local economies, I draw on multiple strands of insights and research that emphasise strong national economies are anchored in cities & regions, and within their local specialisations.

Back in 1890, Alfred Marshall observed that regional concentrations in specific industries created advantages. Jane Jacobs' Cities and the Wealth of Nations emphasised cities, not nations, as the key economic unit.

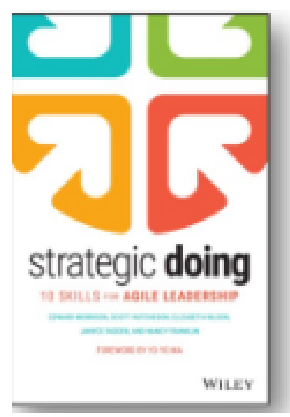
AnnaLee Saxenian's Regional Advantage attributed Silicon Valley's dominance to dense social networks, informal communications, and collaborative practices. Becattini highlighted social proximity as a precursor to economic growth. Edward Glaeser's Triumph of the City underlined the exceptionally tight geography of innovation. Eric Weiner's The Geography of Genius: 'Place matters. Now more than ever.' Enrico Moretti's The New Geography of Jobs highted the ecosystem underpinning a company's success.

Dan Breznitz's 'Innovation in Real Places' highlighted communities recognising their strengths and TechTeens as the #1 community growth asset. Greg Clark's review of Global Cities emphasised a few specialisations with a global reach. Bruce Katz's question to cities & regions in The New Localism: 'What's your edge, what's your place in the knowledge economy?' Charles Landry's Cities of Ambition underlined cities identifying and then orchestrating around unique resources.

Cooke & Morgan in the Associational Economy stressed innovation support be directed at, and through, the regional level. Michael Porter demonstrated in The Competitive Advantage of Nations that frontier firms are geographically clustered, not scattered. Mike Enright in Australia's Competitiveness observed that cluster development had become an important, if not the dominant, means of developing regional economies.

With a focus on New Zealand, David Wilson in 'Powering up the Regions' emphasises stronger EDAs to more fully engage with place-based approaches. In 2024, Polis's New Regionalism' highlighted cluster development as a key component in building a strong economic future for New Zealand.

This toolkit provides reference to 25 books, reports and academic papers, along with web site links to 125 cluster initiatives and cluster support programmes.



I conclude with two further books that I have found helpful for those engaged on local transformations:

- The Wisdom of Crowds is a reminder that none of us, individually, have all the answers.
- Strategic Doing provides a guide to building collaboration amongst diverse participants,

"Finding new ways to work together…to tackle big challenges".

With cluster development in New Zealand being on a shoestring, if it is just one book, make it this one.

Go well.

IN APPRECIATION

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Ifor is acknowledged as one of the most influential cluster practitioners in the world, with hands-on experience in over 50 countries.

Ifor has been an advisor to The World Bank, EU, OECD, UNDP and international aid agencies. He has supported national & regional economic development agencies on six continents.

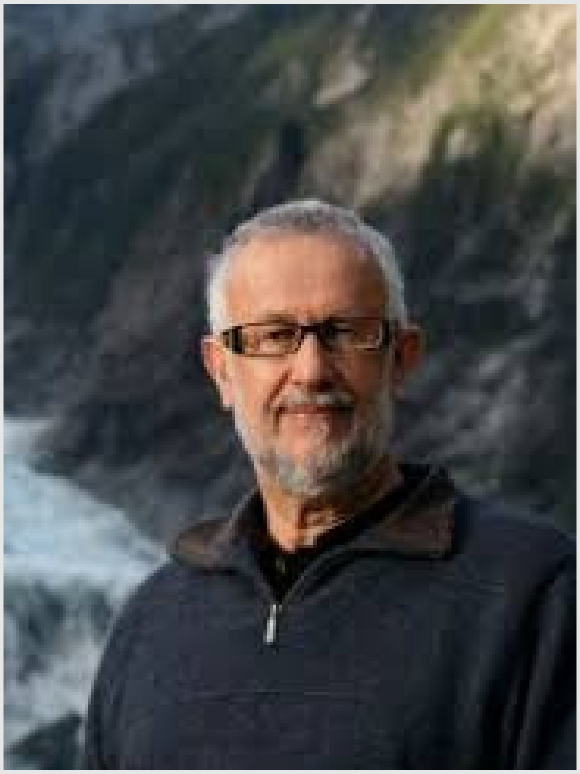
Since Covid in 2020, Ifor's international travels have been restricted to webinars. Recent New Zealand assignments have been in Southland, Queenstown, Christchurch, Nelson, Taranaki, Taupo and Rotorua.

Ifor is a Founder, Past President, and Member of the Board of Advisors of the TCI Network (Barcelona), the global network for competitiveness, clusters and innovation practitioners.

Ifor is the author of the 'Cluster Development Handbook', the first comprehensive guide to the What? the Why? and the How? of cluster engagement. The Handbook is being used around the world.

He was the winner of Economic Development New Zealand's 2023 Distinguished Service Award.

Prior to establishing Cluster Navigators Ltd in 1997, Ifor was GM, Strategy with NZTE's predecessor, Tradenz. A focus was encouraging businesses to cooperate-to-compete through networking and clustering.



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