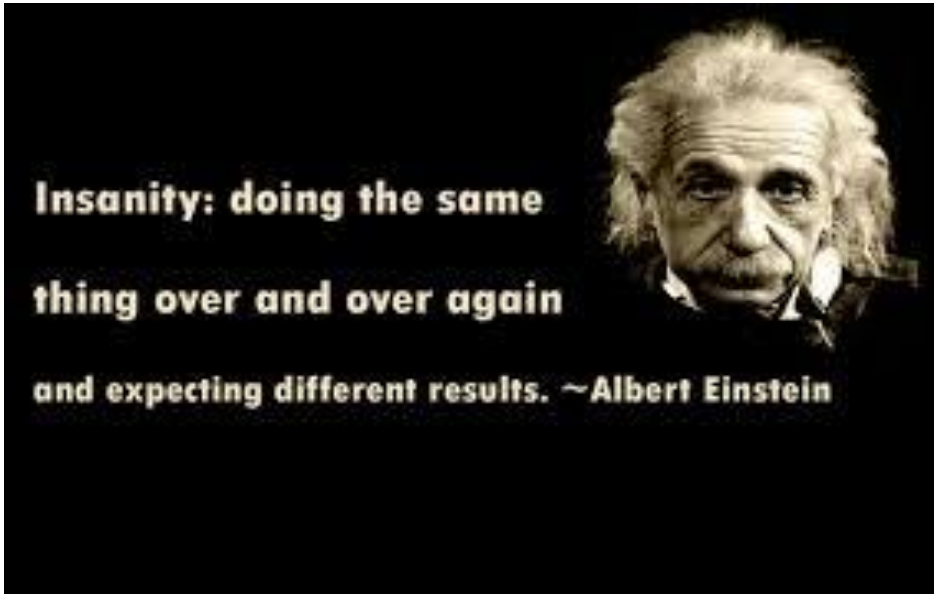
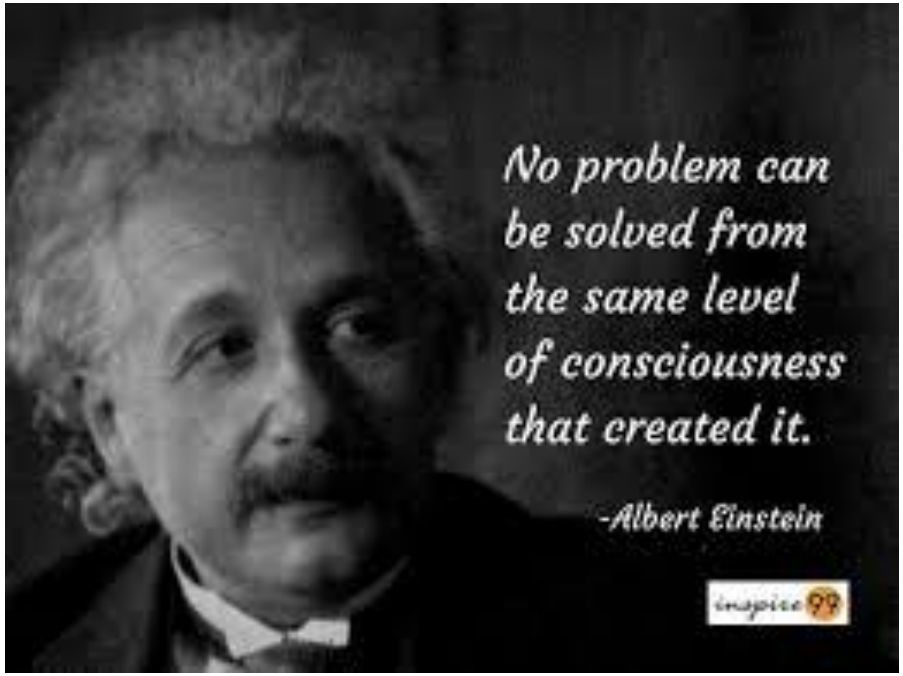

“Land use change opportunities and the future role of forestry in the Lake Rotorua catchment”
Warren Parker (CEO, Scion)

Overview

- Preparing for a different future
- Five big factors shaping forestry's future
- Ecosystem services & natural capital
- Future for forestry & forest products
- Practical things you can consider
- Concluding comments

New thinking required





“Stand-in 20[??] ….”

“We cannot work to create a future that we first do not imagine”.

P. Ellyard

… on current projections average temperatures could be 1.00 to 1.25 degrees C warmer by 2030/35 than now with a corollary increase in extreme weather events (based on NZ Climate Change Centre assessment of the IPCC’s Fifth Report)


Five big trends shaping
New Zealand's forest industry

1. World population growth & demand

By 2050 the world will need 70% more food

AND

500 – 600% more wood

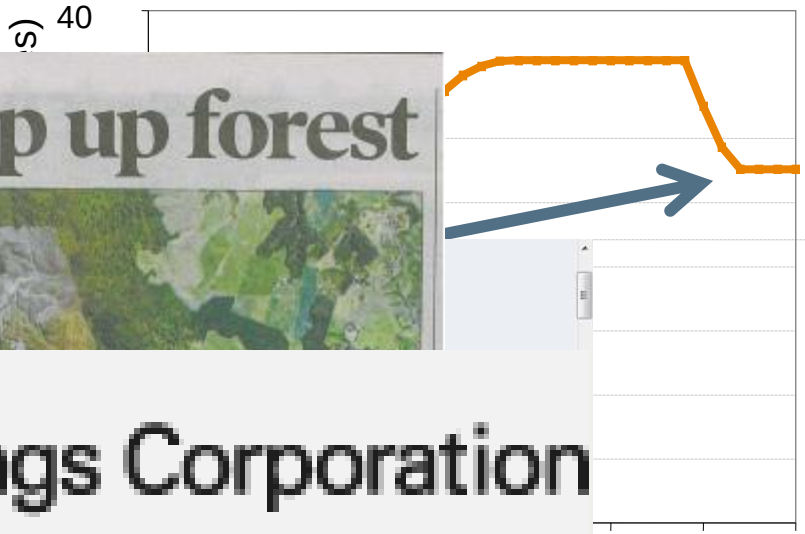
[off a smaller land area and with less water]

Wood Processors & Manufacturers Association of New Zealand

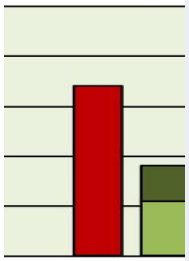
Planted forest supply shrinking, demand growing

Deforestation is
September, 201

NZ radiata pine volume



China



Gap (imports)
Domestic natural forests
Domestic plantations
Demand

China set to snap up forest

By Abigail Hartevelt
abbey.hartevelt@dailypost.co.nz

A Rotorua forest is set for foreign ownership.

The Overseas Investment Office has just approved the sale of more than 14,000ha of prime forestry land to the Chinese Government.

sale is in the Kaipara district. There are also six blocks in Coromandel and Waikato, a block each in Rotorua and Gisborne and Wairarapa covering more than 14,000ha.

The land was owned by the New Zealand Superannuation Fund — an investment to help pay for Kiwis' retirements.

Reporoa's Allan Crafar, whose farms were sold to a Chinese company after Government ministers ignored public disapproval and gave the sale the green light, said he was against the sale.

Prime Minister John Key "seems to want to sell the country out" he said.

"It's looking like a banker thing to me. That's Mr Key's background."

Mr Crafar couldn't understand why the New Zealand Government didn't hold on to its assets and sell the products.

"It's hard to fathom."

New Zealand First primary industries spokesman Richard Prosser said the sale was an appalling example of everything that is wrong with National's approach to the economy.

He said the sale would not create one single job in New Zealand, and would perpetuate the unsustainable practice of this country being an exporter of unprocessed bulk commodities.

"The purchase of New Zealand forests by the Chinese Government is not foreign investment; it's a transfer of wealth.

"They won't build any new sawmills, they won't build any new particle board mills, they will simply continue to export bulk logs for processing in China.

"The export of raw logs has increased under this Government by 10 per cent since 2009," he said.

"These are logs that should be processed in New Zealand, by New Zealand workers so that the wealth generated is kept in this country.

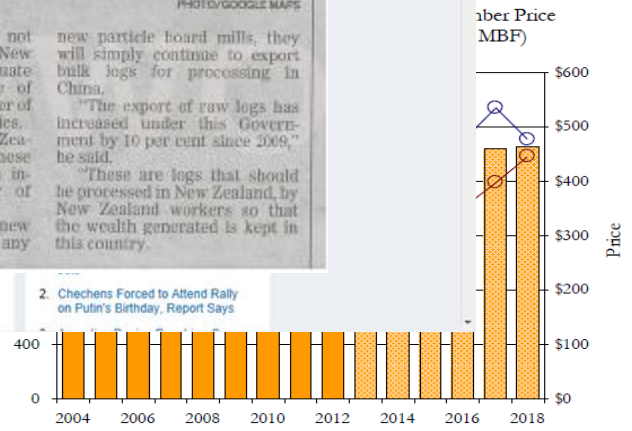
FOREIGN OWNERSHIP: The Overseas Investment Office has approved the sale of this 326ha property off Endean Rd.
PHOTO/GOOGLE MAPS

And yet it is happening, at least with commercially usable forests, environmental analysts say.

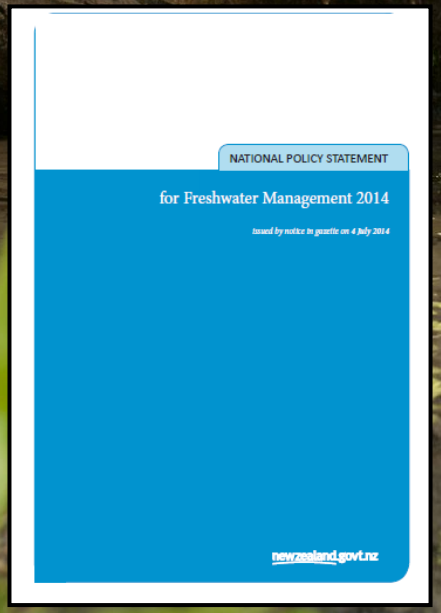
The Russian logging industry will face lack of harvestable timber in 10 to 20 years, a short time

Oji Holdings Corporation

Timber Prices



2. Resource limits – especially water



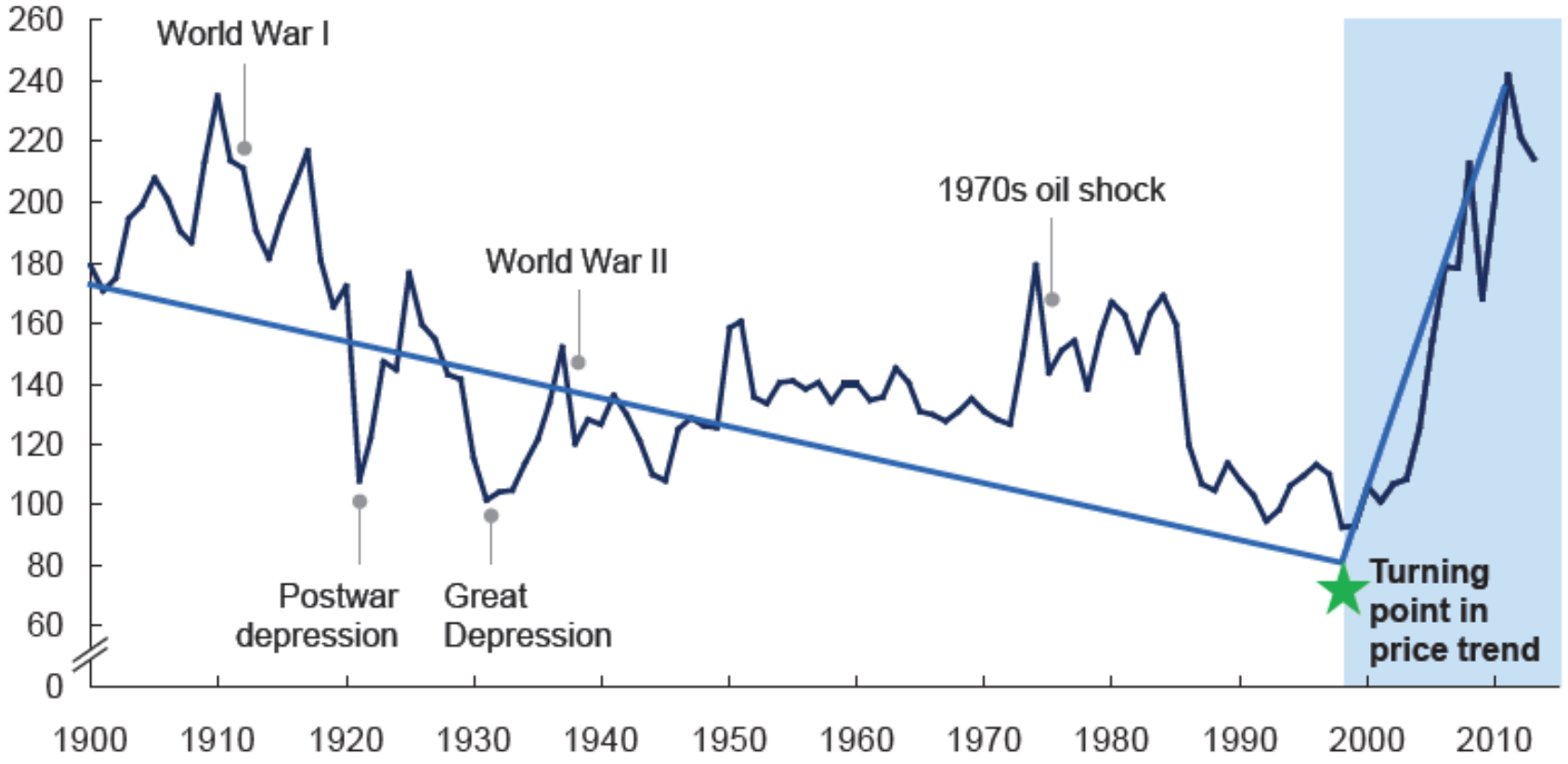
Freshwater Management Framework

Resource limits – trend to higher prices, increased volatility

Resource prices have increased significantly since the turn of the century

McKinsey Commodity Price Index[1]

Real price index: 100 = years 1999–2001[2]



Farmers and landowners are not alone – Business is facing a new reality too!

Though companies face many global-scale challenges … extreme weather caused by climate change and increasing limits on resources are both having an unprecedented impact, threatening corporate profits and global prosperity. These "mega challenges" require companies to fundamentally rethink their strategies and tactics …

HBR Resilience in a hotter world
April 2014

Farmers facing a new reality?

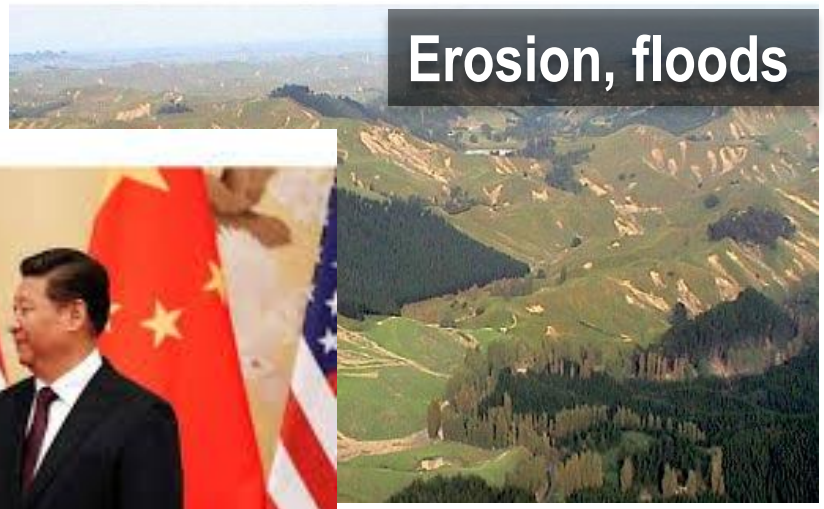
Mike Barton, Taupo farmer (NZSAP 2014 14: 254-259)

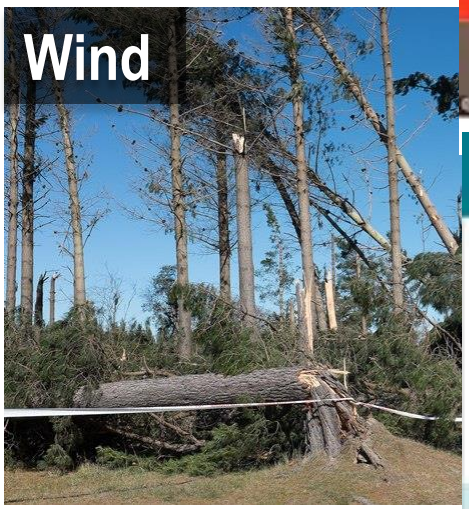
- "There is little else I can do to reduce my nitrogen leaching profile short of reducing stocking rates
- Our farm is in top quartile .. there is little else I can do to increase per animal performance
- There are very few solutions on the immediate science horizon
- I am capped at 2004 stocking levels .. My costs have increased 45%."

1. Increase value & margin of product sold
2. Change mix of products sold

3. Climate change

Forest fires


Erosion, floods


Wind


Disease, pests

BIG NEWS: THE UNITED STATES AND CHINA JUST ANNOUNCED NEW TARGETS TO REDUCE CARBON POLLUTION

- President Obama is setting a new target to cut U.S. carbon pollution by 26-28% below 2005 levels by 2025.
- China is committing to peak its CO2 emissions around 2030 while striving to peak early, and boost its share of non-fossil fuel energy to around 20%.

WH.GOV/CLIMATE-CHANGE #ActOnClimate

The Insurance Council says if New Zealand does not adapt to changing climate conditions, insurance premiums could go up or cover could be withdrawn in some areas.

Developed countries need to 'stump-up' on climate change…..

NZ – 25-30%;
50% below 1990
by 2050

The United States, United Kingdom, and Brazil led detailed questioning as to whether the Government's main policy instrument, the A$2.55 billion Emissions Reduction Fund, would be adequate to deliver the required emission reductions …… Australia's emissions-reduction targets, both for 2020 and beyond, have been put squarely in the international spotlight by its major trading partners.

https://theconversation.com/australia-in-the-spotlight-at-climate-talks-for-all-the-wrong-reasons-42882

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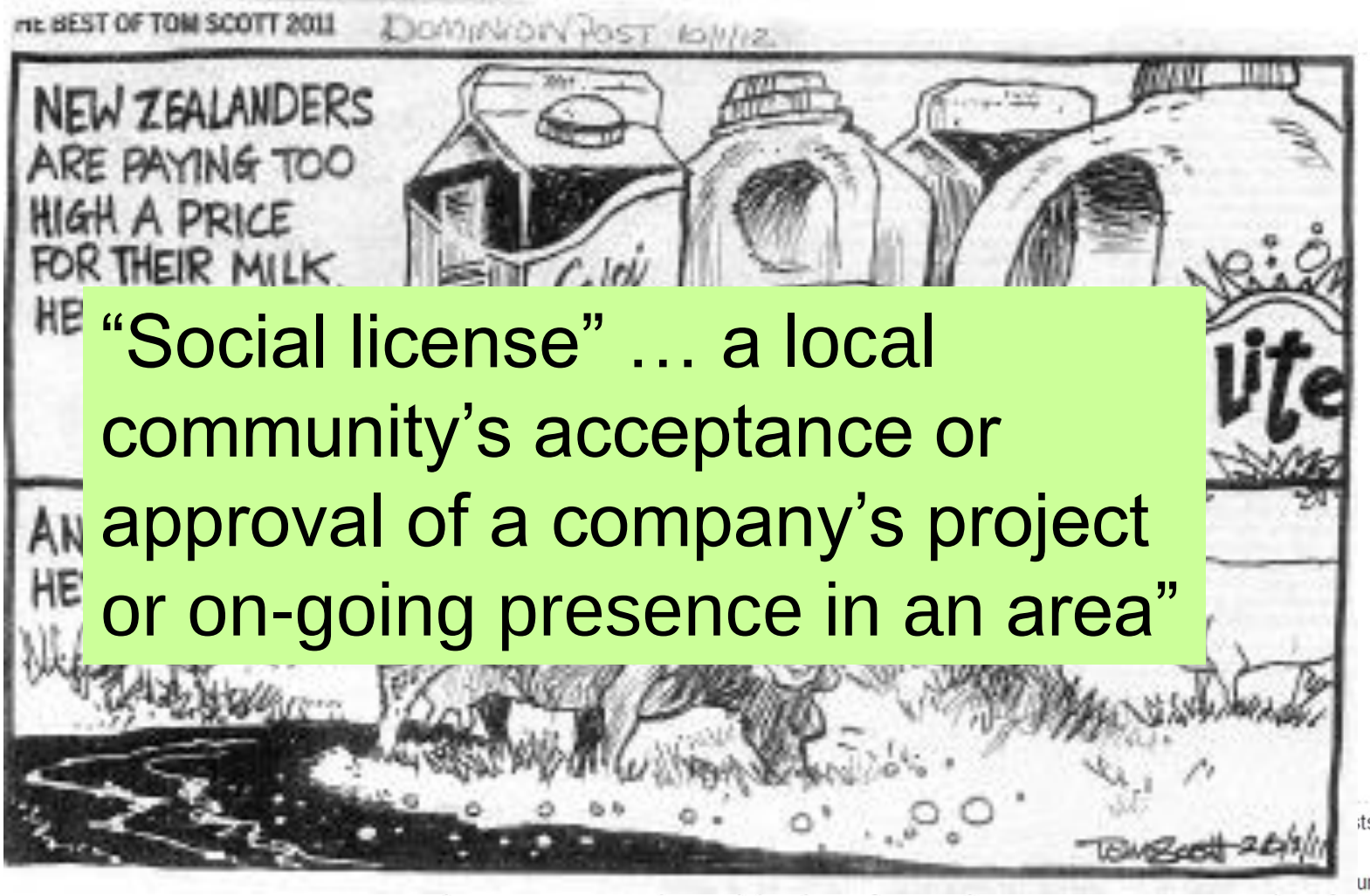
4. The internet – ‘big data’, smart products, precision

Terrestrial LiDAR using a hand-held stem scanner

5. Social license …. More difficult to keep-earn in a digital world and social media



"Social license" … a local community's acceptance or approval of a company's project or on-going presence in an area"

…ts have been

…ur waterways.

When this clear cutting of the Californian-native *Pinus Radiata* occurs, aside from making the landscape look like a desolate war zone, there can be many other problems that come from this industry that claims to be "saving the world one tree at a time" through their signage.

If you have done much diving around our shores, then you will be aware that after rain, it is usually impossible because the visibility is t… bad. This is because sediment is washing down our waterways each time it rains and humans cause nearly all of it.

ECOSYSTEM SERVICES & NATURAL CAPITAL

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Natural capital (one of six capitals – financial, social….)

Natural resources – *soil, water, microbes* - and ecosystem processes – *pollination, filtration* – that underpin an economy or business

1. Ecosystem processes frequently do not have substitutes – nature can't always be copied
2. NZ farming, forestry & many businesses depend heavily on natural ecosystems for biological & chemical processes

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Ecosystem Services

- Pollution, waste, depletion costs are usually borne by society – current and future generations
- As we intensify (e.g. feed, irrigate) we are asking more and more of natural ecosystems even as we reduce their capacity to meet our needs
- Services are mostly ‘free-of-charge’ as a ‘gift of nature’ BUT they are a capital asset and becoming scarce

Why a market approach to ecosystem services?

Why 'yes'?

- Establish price (reduce waste)
- Attract new capital ($, ideas)
- Encourage private sector innovation
- Reduce 'free-riders'
- Provide positive incentive-reward

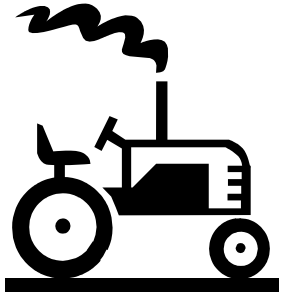
Why no?

- Moral/cultural
- Unfair/even access
- May erode property rights for landholders or public
- May not stop local problem

"If you look after nature, nature will look after you"

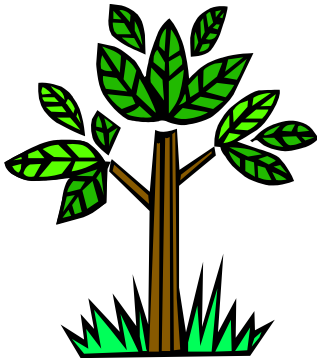
Managing your natural capital – 'more' actively

Fixed assets



- R&M
  - Quality & performance
- Depreciation
  - Replacement/renewal
- New capital
  - Upgrade/expand
- Measure
  - Return on assets
  - e.g. Litres fuel/ha

Natural assets



- R&M
  - Clean effluent pond
  - Control weeds/pests
- Depreciation
  - Riparian fence, plantings
- New capital
  - Install wetland
- Measure
  - Health of natural resources
  - e.g. MS/Litres water, soil density

Forest ecosystem services

FORESTS & FOREST PRODUCTS OF THE FUTURE

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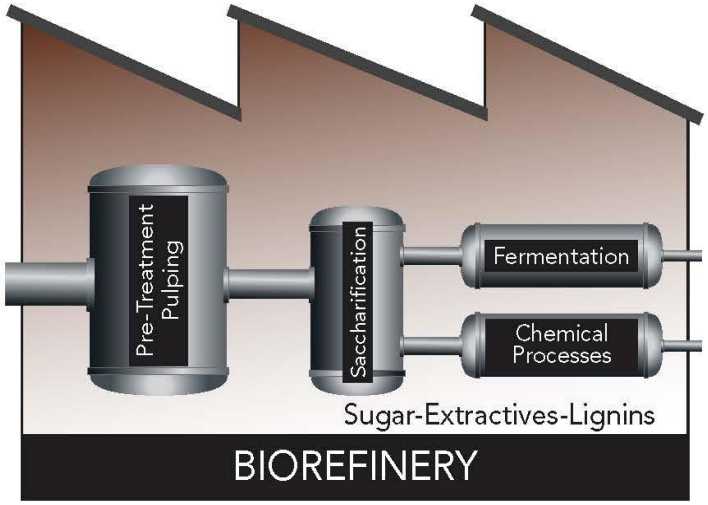
Forests enable a renewable future bioeconomy

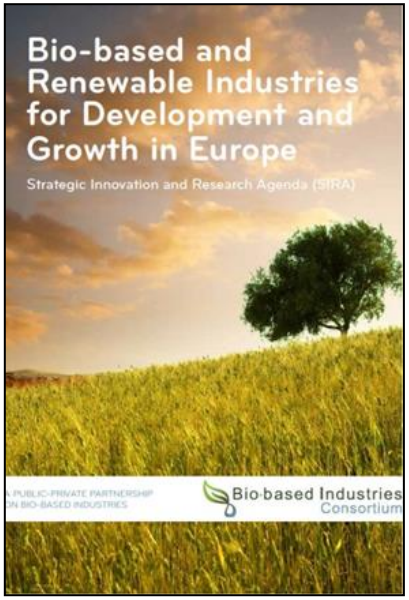
BIOMASS



BIOFUELS

CHEMICALS
& MONOMERS

BIOPLASTIC PRODUCTS



http://www.iea-bioenergy.task42-biorefineries.com/en/ieabiorefinery.htm

Wood fibre reinforced plastics

(Bio)plastic products & manufacturing trials

alto
inspiring excellence

Zespri
Kiwifruit

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Composite products from lignin

Clariant

Exactly your chemistry.

woodforce

natural strength for plastics

LignoTech Developments

Creating value with Lignin

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StoroEnso - Migration to a new business model

We started soulsearching- finding a new context for our business

We believe that the world will win with solutions based on renewable materials. This is why Stora Enso as a company is rethinking its business.

- rethi
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way is

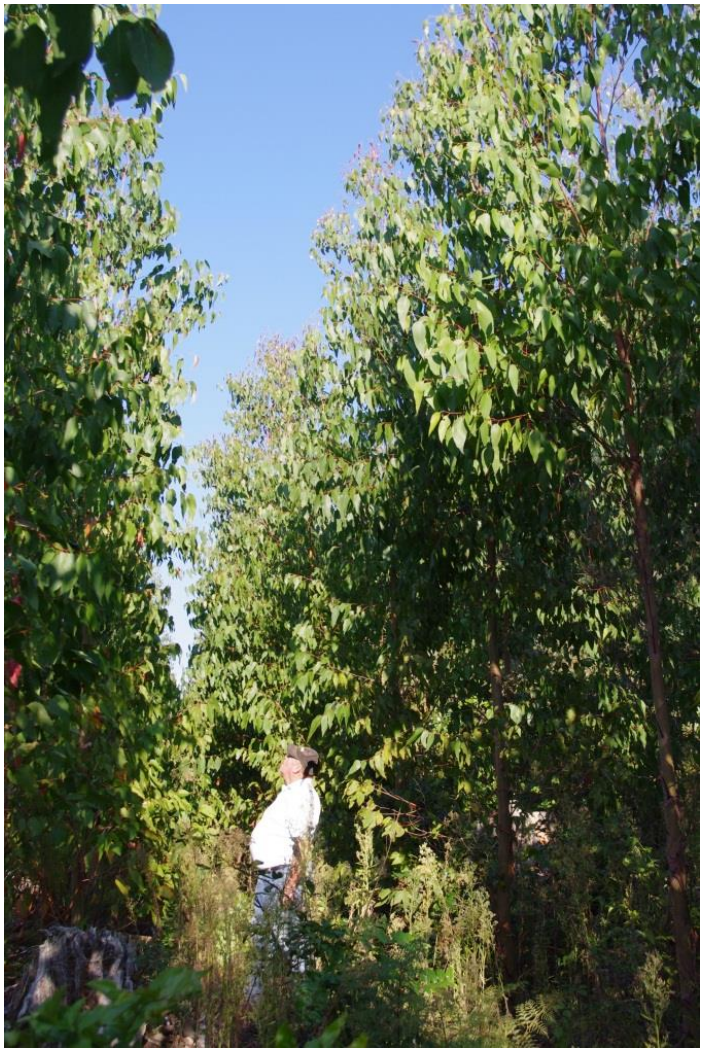
Here
What
What

From a solid wood & pulp & paper company to a renewable materials company

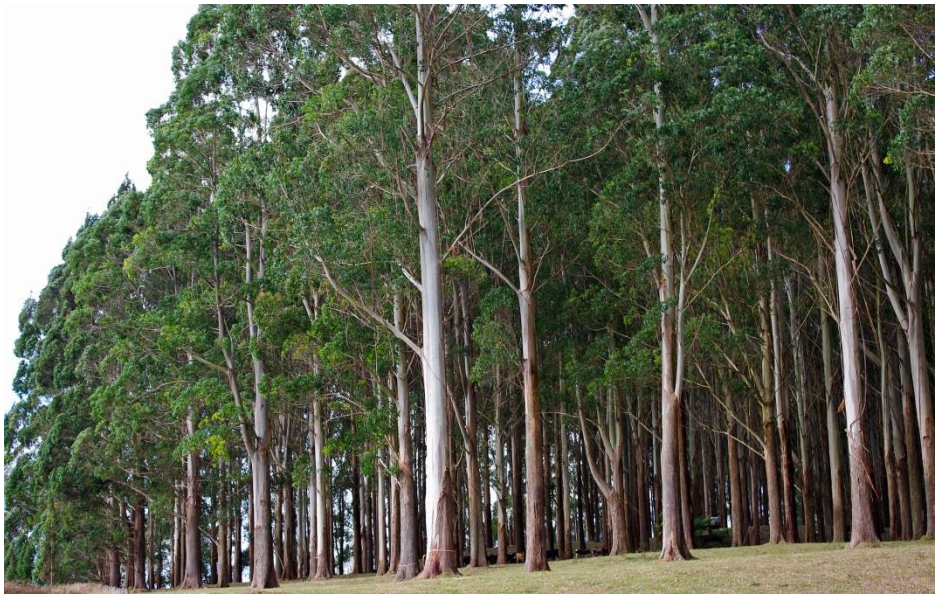
What kind of products our customers need?
Are making them in the right way?
How are we using our raw materials? How are we treating the planet?
And what is our vision for the future?

http://www.forestwood.org.nz/images/stories/2014/AndersBergkvistFINAL.pdf

Not just radiata - Eucalypts



Third generation eucalypts – up to 9 m tall at 2.5 yrs



Totara

http://www.med.govt.nz/sectors-industries/regions-cities/research/regional-growth-studies/tai-tokerau-northland-regional-growth-study-opportunities-report

Kauri

Manuka

Land use and land use changes – what we can do?

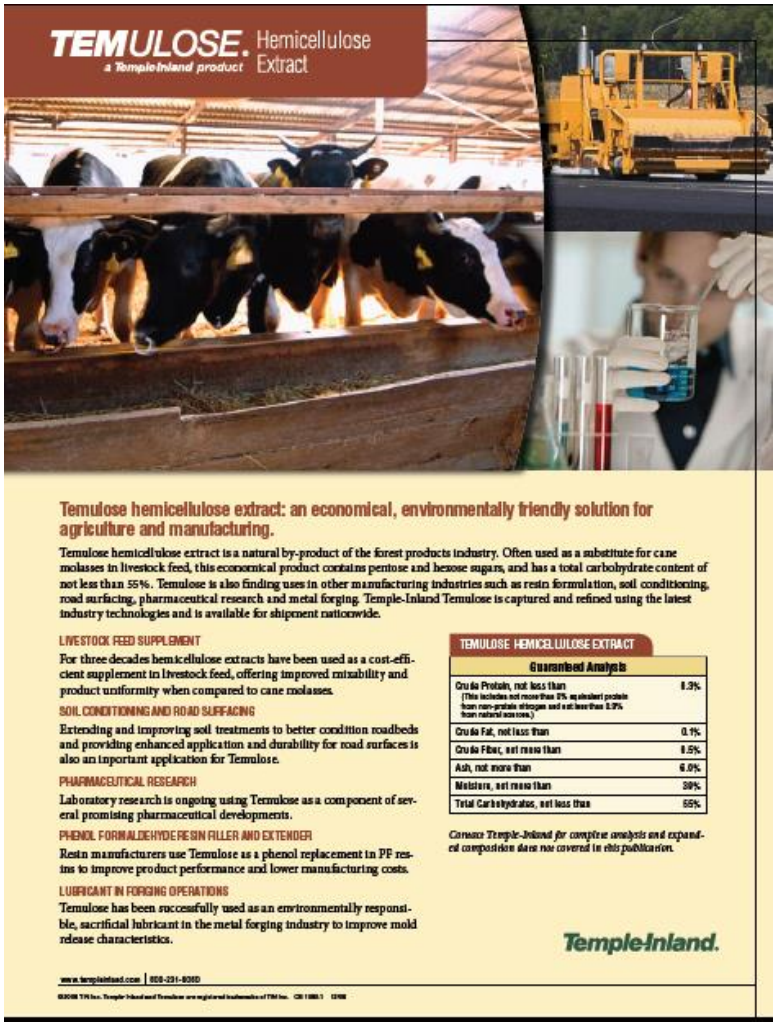
THE STRATEGY

Firms must embrace a new vision by fighting short-termism, basing goals on science, and pursuing radical innovation: they must place a value on natural capital and redefine how they measure ROI; and they must engage in a new form of collaboration

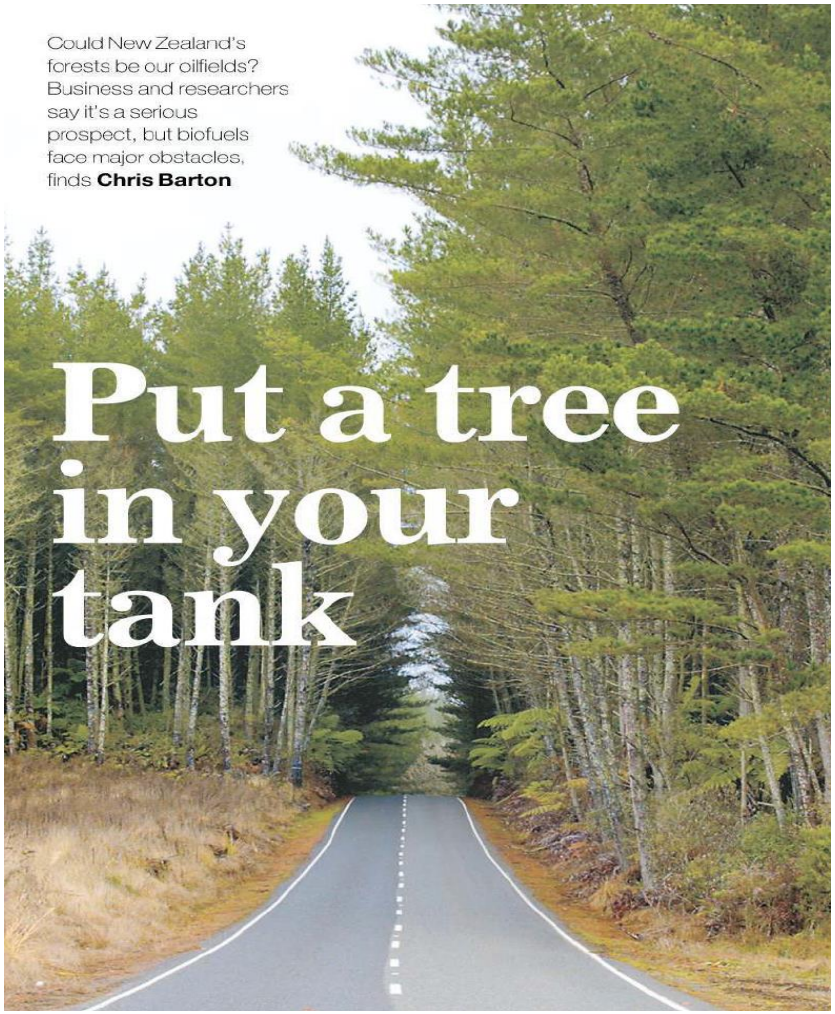
1. Value ecosystem services and internalise externalities
2. Redesign farm systems – increase "precision"; integrate trees for multi-functional use (C, P, limited N)
3. Achieve Catchment scale collaboration (Freshwater framework)
4. Increase product value cf volume (Tatua+++)

Sector complementarity - Forest biomass for energy & ‘green’ chemicals

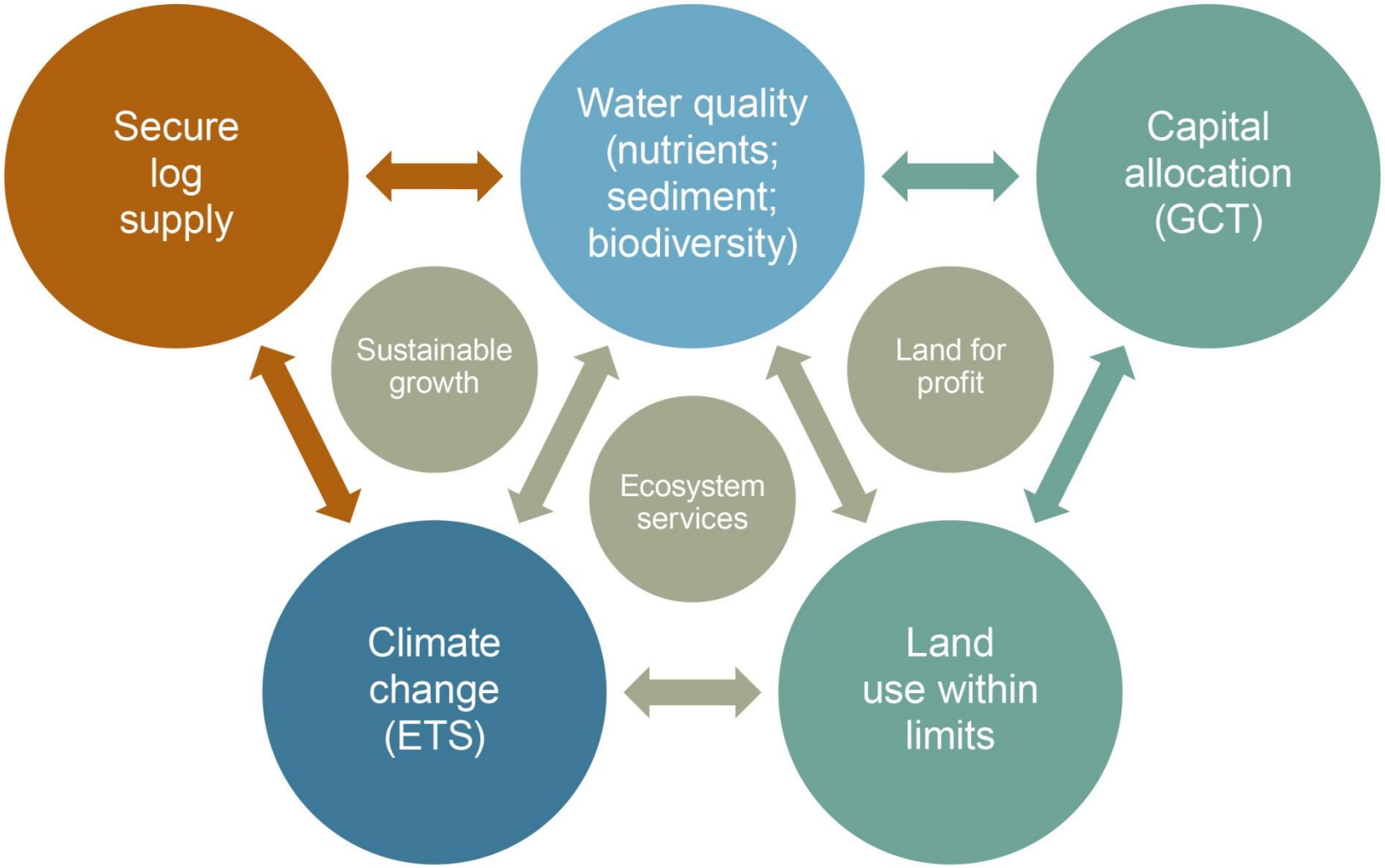
- Animal feed



- ‘Stump to pump’ biofuels

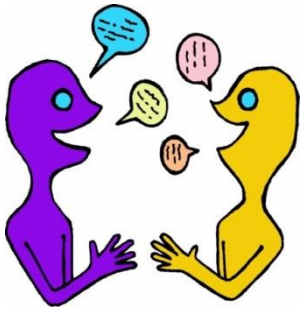


Public policy and strategy connections

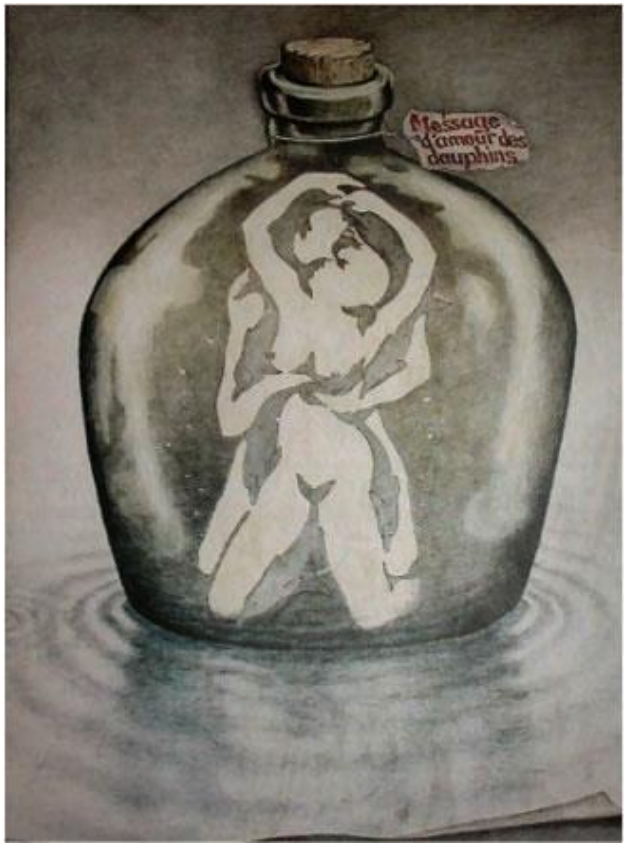



Practical things to consider
(Change = Opportunity)

Practical things you can consider



1. Get a different perspective –
   a. “if you keep talking to people who say you can’t then you likely won’t”
   b. Look outside your sector – read, visit ….



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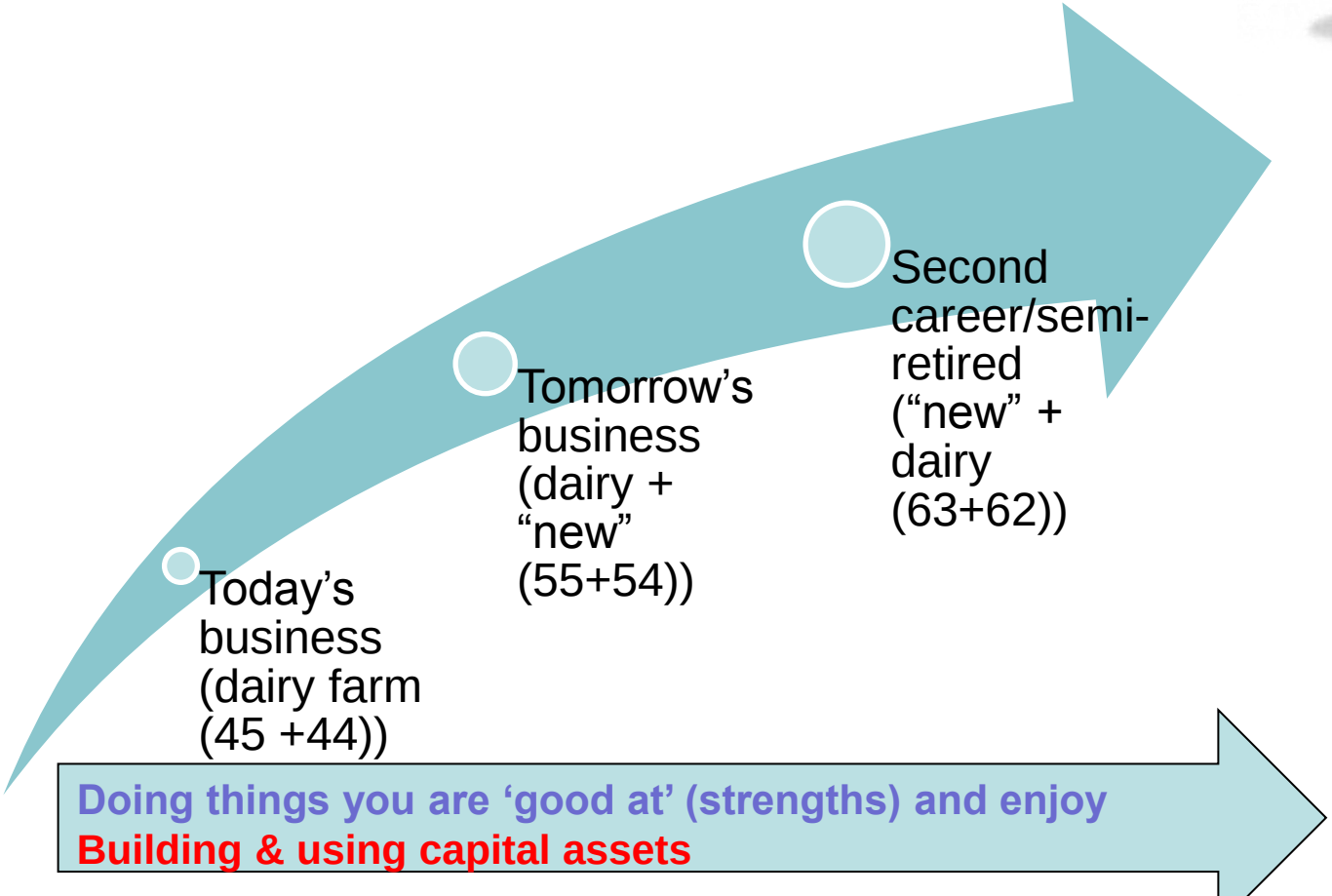
Practical things you can consider

3. There's time to transition – don't rush to a solution; explore options then develop transition/migration from "current" to "new"



Practical things - Financial planning & monitoring

1. Scenarios – 3, 10+year view
   a) Break-even (production, price)
   b) Most likely, low – high (sensitivity to change in key variables)
   c) Contingencies – ‘If ‘A’ happened what would you do?’

1. Balance sheet
   a) Capital asset plan – 10 year view
   b) Debt/asset – liquidity

Change to farmer - land owner balance sheet

Asset	2025
Land & improvements	↓ ?
Plant & Equipment	=
Livestock	Customised IP
Chain shares (value add margin)	++
Environment & landscape	C, N, water, biodiversity

Who? AirNZ, Mainfreight; power cos; Offshore manufacturer

Banks now value/lend on ‘water rights’; pre-purchase compliance WoF

Concluding remarks

- Stand in the future and imagine what your sustainable farm-land looks like
- Natural resources-ecosystems have/are reaching biophysical limits with present technology & practice – establish new frontier new business models & technology??
- Value and invest in social license – *can I swim, fish, drink, hike?*

- Natural capital, like any other asset, needs to be actively managed and can provide a new revenue streams as well as improve environmental performance (Carbon at $50/t in 2030?)
- Focus more on complementarity/integration of sectors & value chains - farming and forestry
- Support R&D that adds more value (& jobs) onshore - value vs volume

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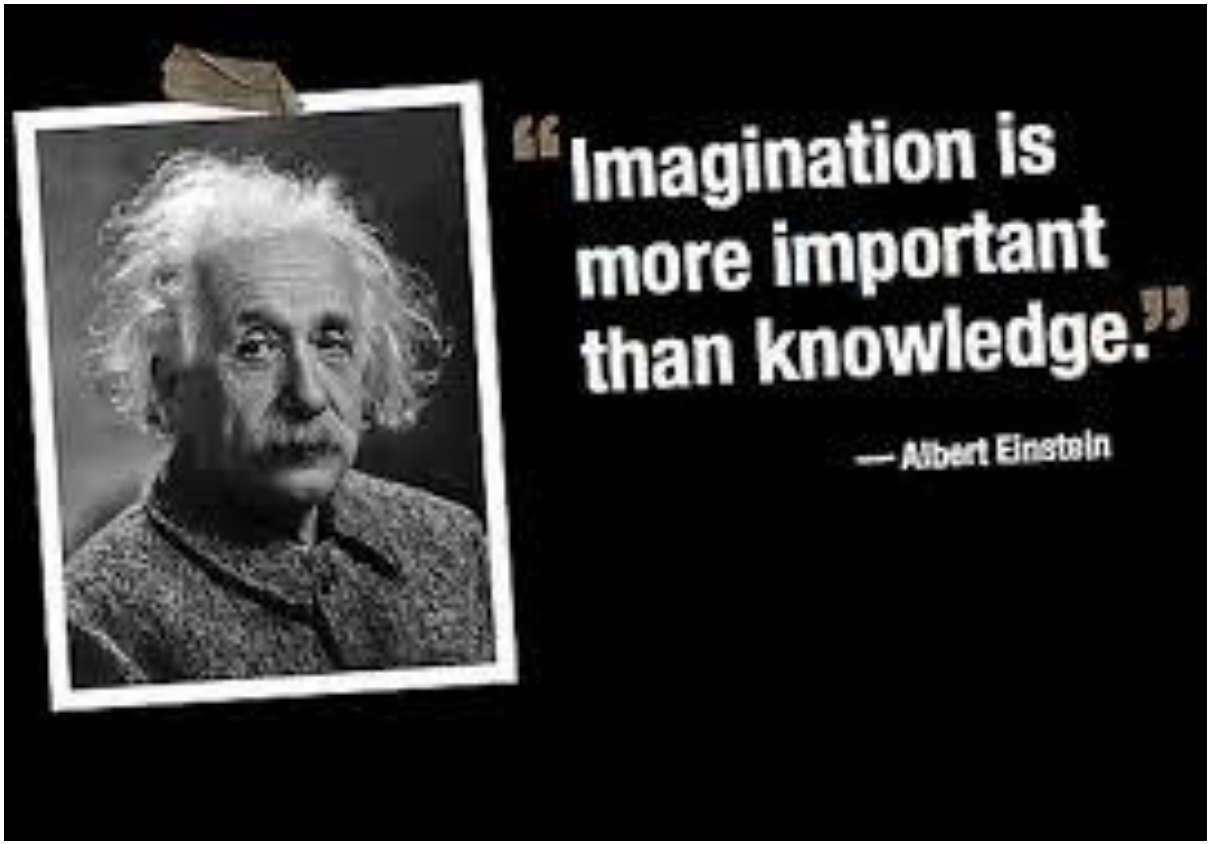

Thank you

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