



Climate change & energy governance in New Zealand

Anna L. Berka

Massey Business School

@AnnaHarnmeijer

Outline

- Social context: culture and narratives
- Material-economic context
- Key policies
- Institutional arrangements & policy process
- New developments & emerging prospects

Culture and narratives

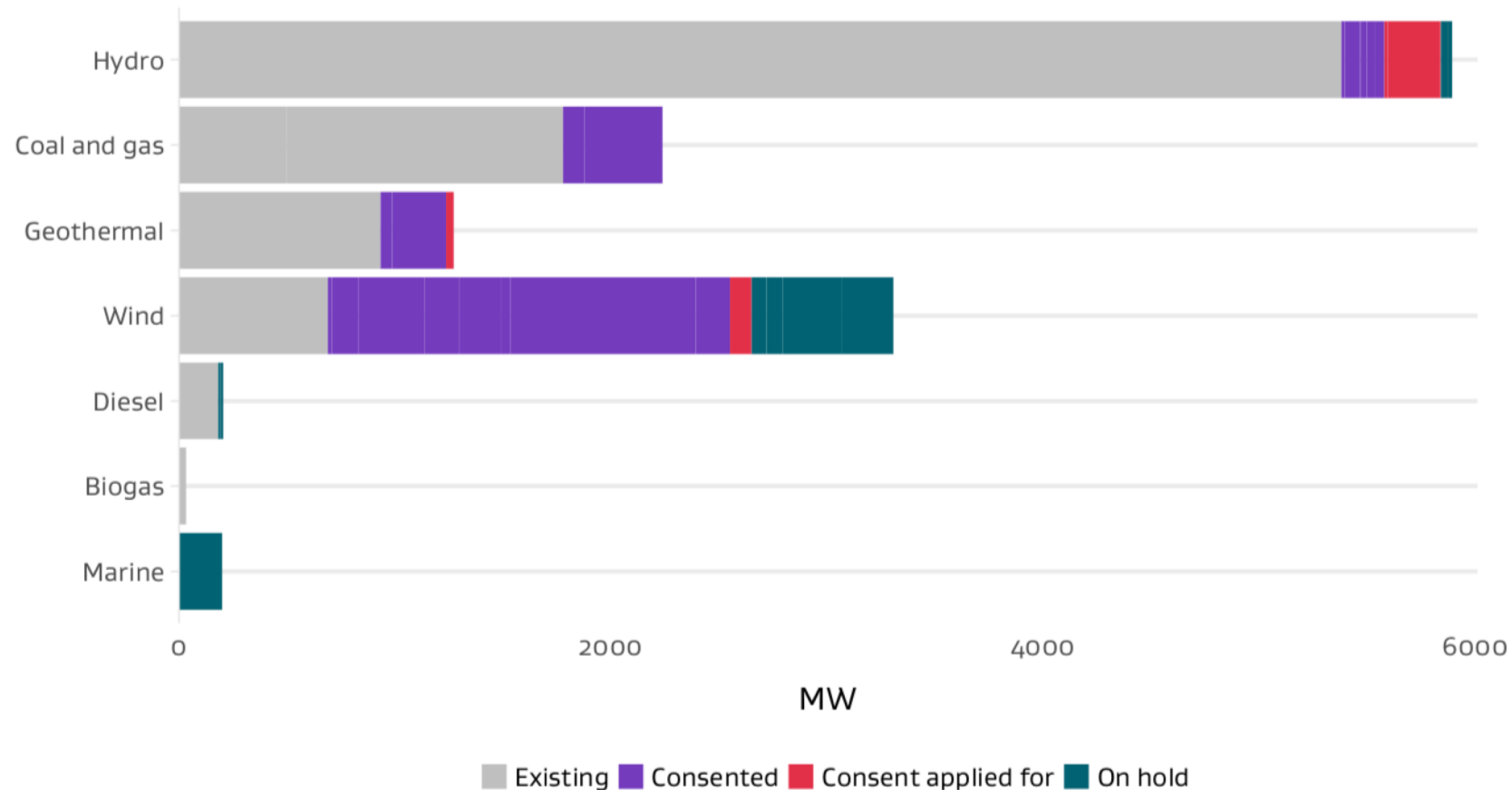
- Informal / laid-back
- Friendly but reserved
- Non – confrontational
- Strong national pride
- Large conservative / liberal segment:
 - ‘NZ is a climate taker’
 - Mitigation ‘a concern for well-off urban citizens’
 - Strongly non-interventionist
 - Guaranteed outcomes and cost-efficiency first (over innovation potential)

Culture and narratives

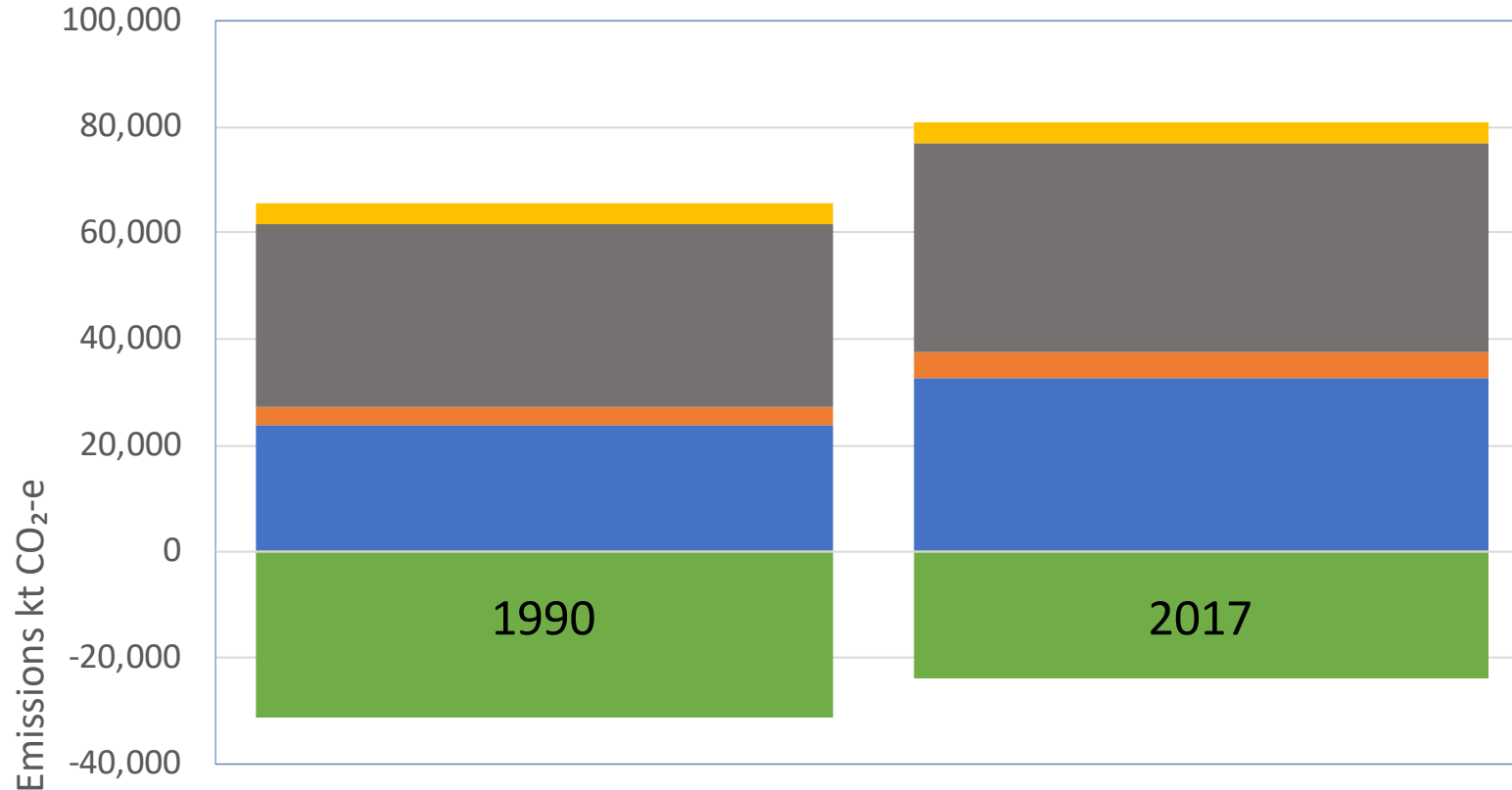
- Heightened public awareness and demand for policy action since 2018:
 - Visible impacts: coastal retreat, localised water table rise, floods and failing infrastructure.
 - IPCC 1.5C report
 - Global youth movement
 - Historical failure of government to facilitate domestic emissions savings

Material-economic

- Headstart on clean power generation
 - Most hydropower investment in 1880 – 1985 (5300MW)
 - Subsidy free growth geothermal (17%, 979MW) and wind (5%, 690MW) from 1996 onwards



Material-economic

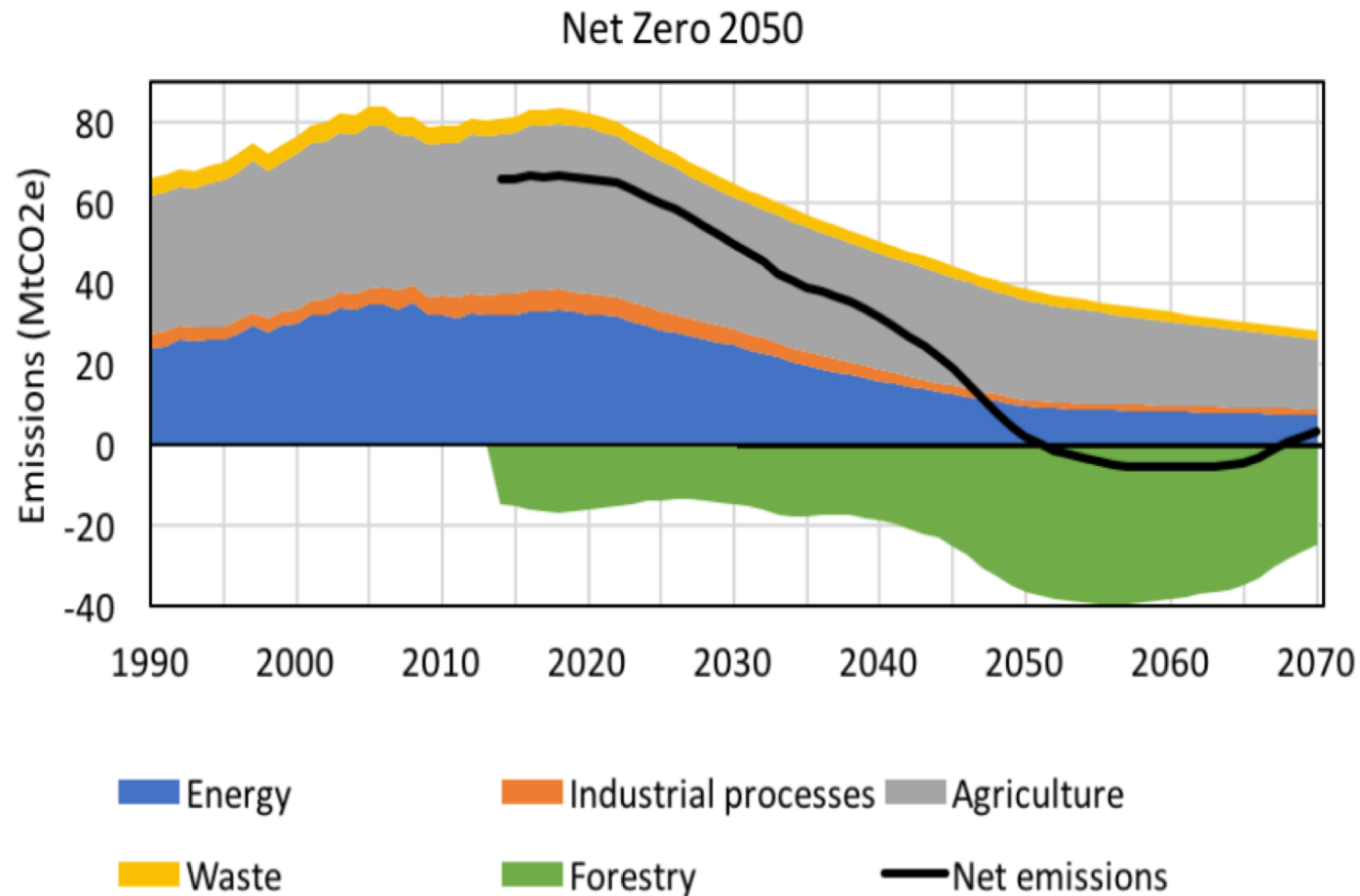


- Waste
- Land Use, Land-Use Change and Forestry
- Agriculture
- Industrial Processes and Product Use
- Energy

24% emissions growth since 1990:

- Transport (+82%)
- Manufacturing industries & construction (+47%)
- Enteric fermentation cattle (+61%)

Material-economic



- Focus areas for emissions reduction (somewhat) different
 - Afforestation
 - Agricultural emissions
 - Within energy: process heat, transport electrification, EE, peak shifting.

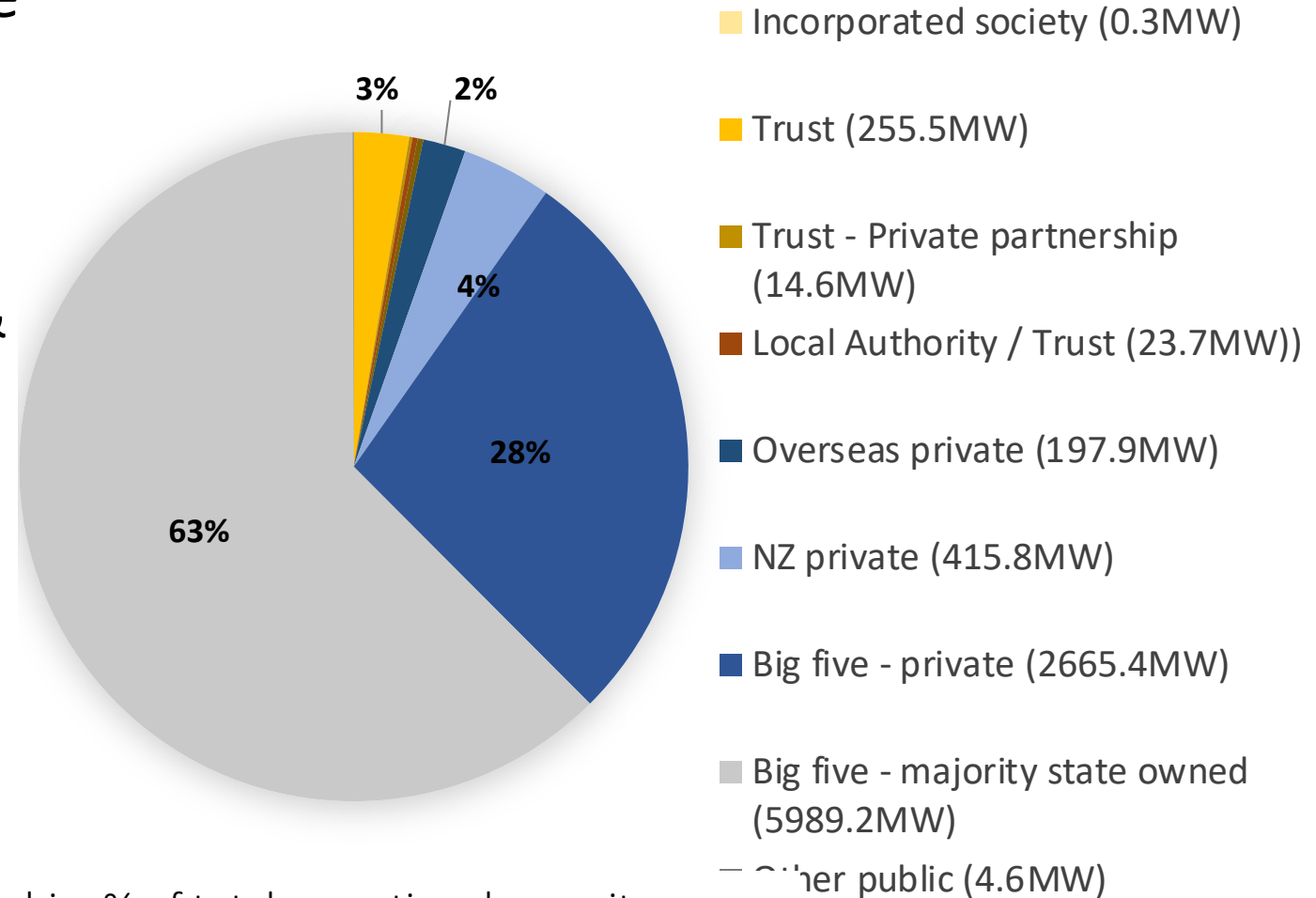
Young (2017).

Material-economic

- Flat electricity demand
 - Declining energy intensity of space/water heating
 - Fast growing urban areas, low density housing, larger, relatively energy inefficient houses.
- Less immediate need for capital investment in RE generation post-Kyoto
 - Less need for market reform ('self-regulation')
 - Less pro-active energy policy: no unified strategy for DE, no price or quantity based subsidies, no facilitation commercial PPA market

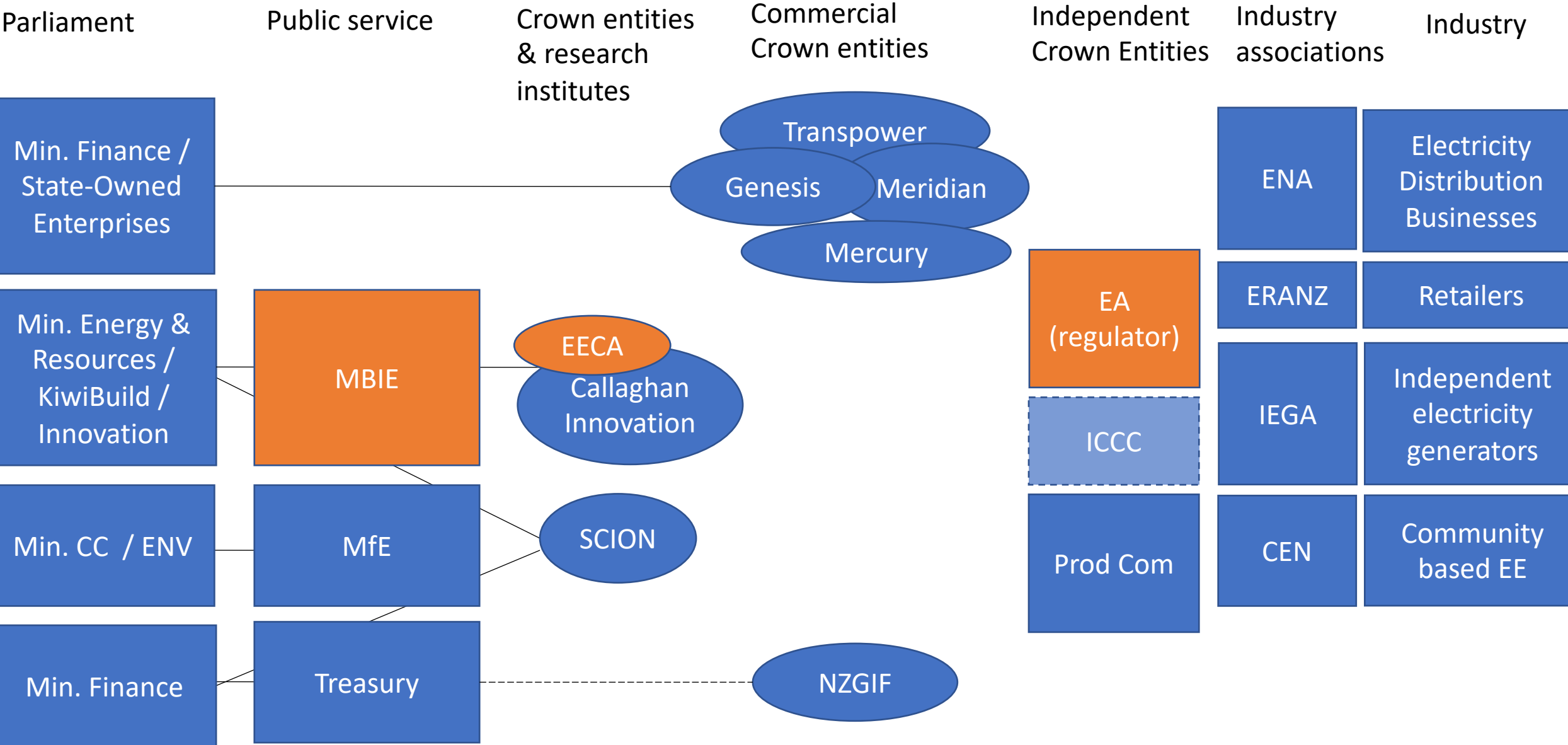
Material-economic

- Less wider engagement of diverse actors in the electricity market
- Small exclusive electricity market
 - Early centralisation of generation & transmission
 - Deep deregulation reforms
 - Price volatility, need for hedging, barriers to entry for IEG
 - Few large players



Generation capacity by ownership, % of total operational capacity.
Source: Own data, Electricity Authority, 2015.

Institutional arrangements



Institutional arrangements

Policy development is fragmented across government

- No 'Ministry for Energy / CC / Buildings'
- No single agency responsible for evidence base and policy development

Policy implementation is fragmented across central government

- No single delivery body for energy policy and change eg. home improvement, solar

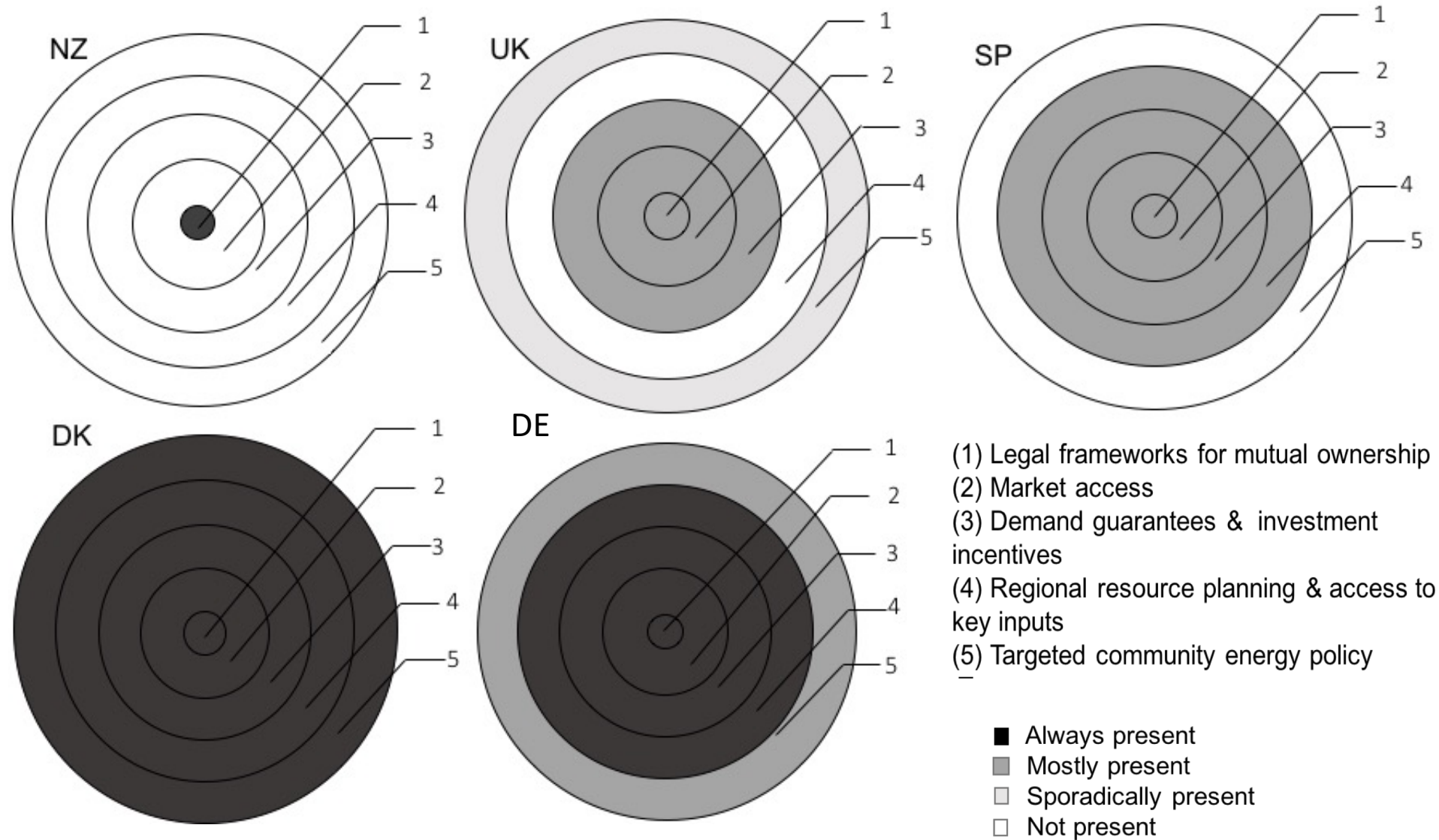
Highly centralized, minor role of local authorities

Key policies

	Emissions pricing	Energy efficiency	Renewable electricity & heat	Transport
Target	10% methane reduction by 2030 / 24-47% by 2050 Reduce all other GHG emissions to net zero by 2050	Sector wide 1.3% p/a energy intensity improvement	100% RE by 2035; 9.5 PJ p/a from woody biomass or direct use geothermal additional to that used in 2005	Doubling EV's p/yr to reach 64,000 EV's by 2021
Policy instruments	Emissions Trading Scheme	Warmer Kiwi Homes; EECA Business Programme; TechDemo	Transpower Demand Response programme	Low Emission Vehicles Contestable Fund; Road User Charges exemption
Key legislation	Climate Change Response Act 2002; Climate Change Response (Emissions Trading Reform) Amendment Bill 2019	Building Act 2004 (NZ Building Code); Residential Tenancies Amendment Act 2016; NZEECS 2011-2021	NZEECS 2011-2021; Electricity Industry Act 2010	National environmental standard for air quality; Connecting NZ; NZEECS 2011-2021

Source: Berka (in press)

Policies in place - local/community energy



New developments

- **Independent body appointed to monitor emission budgets**
- **Binding emissions targets**
 - Zero Carbon Bill:
 - 10% methane by 2030 / 24-47% by 2050
 - Reduce all GHG emissions to net zero by 2050
- **ETS review** - cap
- **‘Renewable Energy Strategy’ work programme** - Hydrogen, ‘Just Transitions’, Electricity Price Review, ‘Accelerating renewable energy and energy efficiency’ including community energy
- **Local planning to facilitate low carbon development and renewable electricity infrastructure** - Amendment of National Policy Statement on Renewable Electricity Generation; Resource Management Act revisions
- Definition & better measurement energy hardship
- Innovative monitoring / enforcement for tenancy EE requirements

Take home messages

- New Zealand is putting in place foundational building blocks of a climate change policy
- Crowded policy space - policy backlog
- Current efficiency targets, carbon price and policy incentives are insufficient to meet Paris commitments
- Historically unambitious policy development:
 - Relatively weak science & technology infrastructure
 - Adversarial politics
 - Ad hoc policy & policy dismantling
 - High discretionary power and risk adversity in implementing agencies

Take home messages

- Energy efficiency will continue to be a focal area
 - Cost-efficient
 - Wellbeing
 - Bipartisan support
- Public spending focus on low-income residential / large energy users
- High wages/material costs reinforce uptake minimum standards
- Much scope for market-driven higher performance retrofits in existing housing stock
 - Better consumer awareness of benefits
 - Performance and price differentiation on the housing market



Thank you

Anna L. Berka

Massey Business School

@AnnaHarnmeijer

Key policies - electricity

Country	%Δ 1990- 2014	%RE in 2014	%RE target	Market access guarantee (Grid connection/upgrad es, Priority access/dispatch)	Demand guarantee (Mandates/ obligations)	Investment incentives – flt's / ROC's	Investment incentives – Auctions / CfD	Capacity market	DSR / Storage / Flexibility incentives
New Zealand	-0.98	79.12	90% ₂₀₃₀						
Brazil	-11%	78.4	86% ₂₀₂₃						
India	+7.5%	32%	40% ₂₀₃₀						
Mexico	+0.4	25%	35% ₂₀₂₆						
Australia	+5.2	14.9	20% ₂₀₂₀						
Denmark	+53.0	56.2	52% ₂₀₂₀						
Germany	+22.8	26.2	45% ₂₀₂₀						
Netherlands	+9.9	10.0	37% ₂₀₂₀	()		()			
UK	+17.6	12.9	20% ₂₀₂₀	()					