Civic Participation in the Energy Sector

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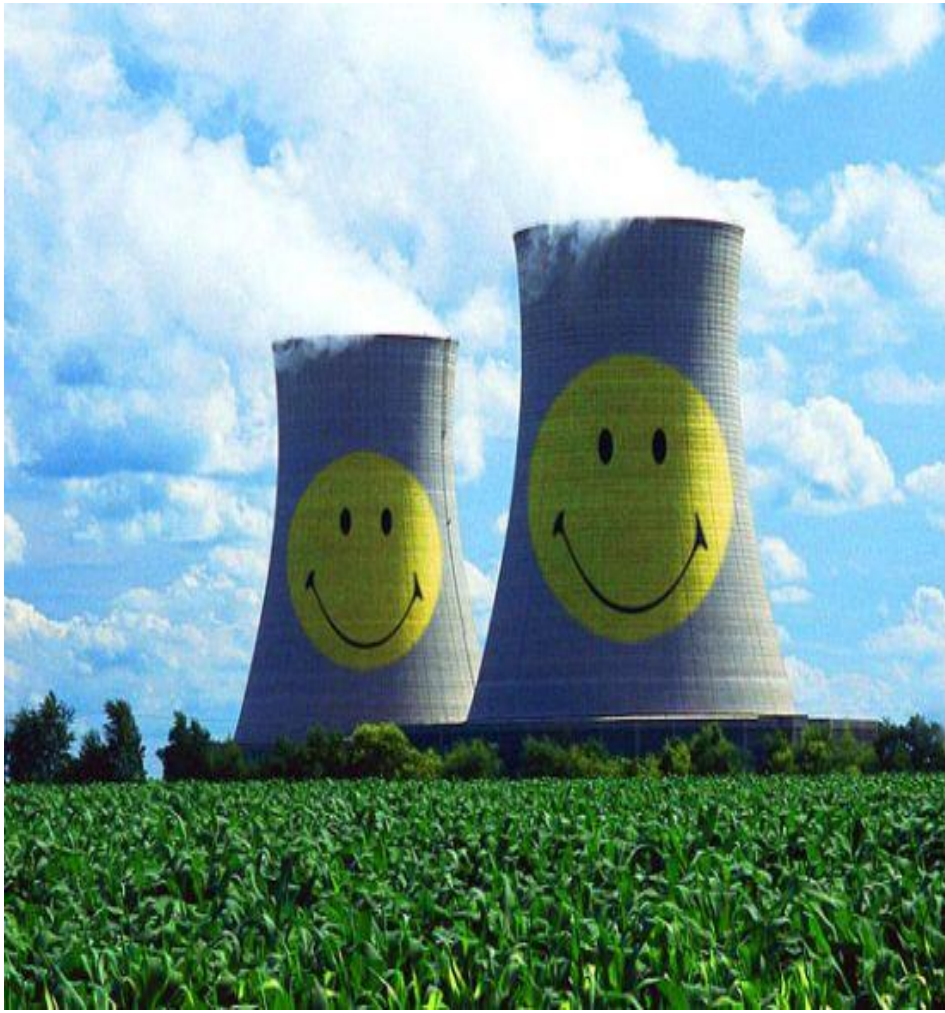
CLIMATE CHANGE
AHEAD

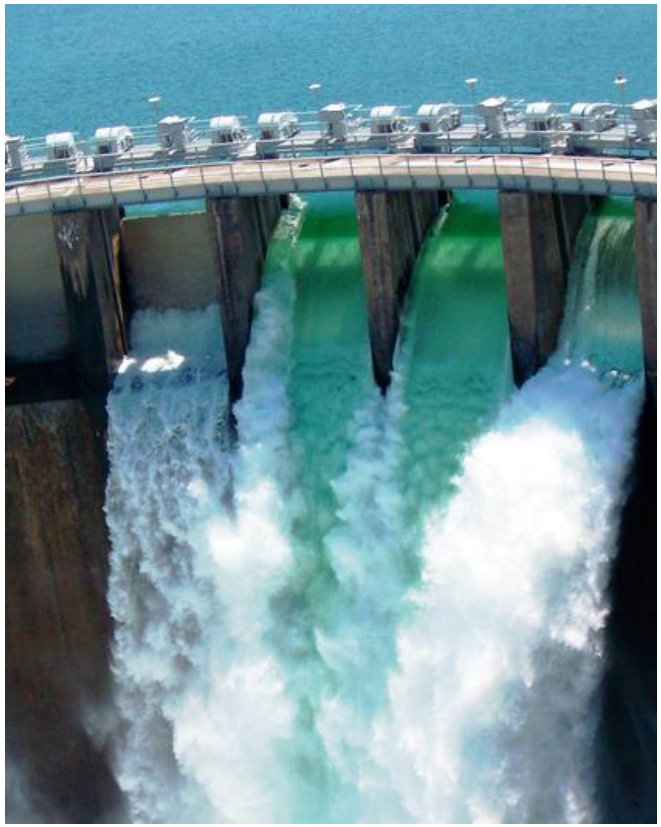
Socio-technical systems

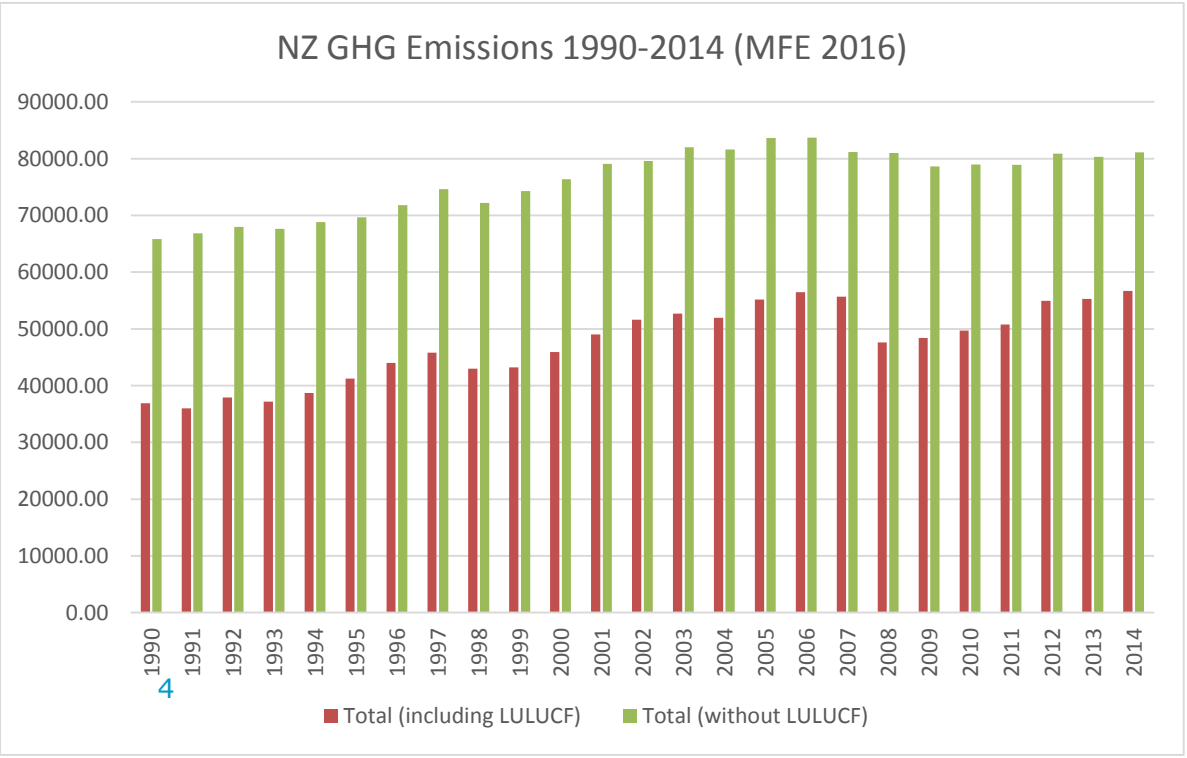
- Complex, systemic, interrelated challenges
  - Environmental challenges
  - Socio-economic crises and tensions
- Broader context: democratic decline
  - Declining voter turnout
  - Apathy & alienation
  - Fragmented publics
- Energy systems
  - Central to: information economy, transport, human health and well-being.
  - Clear stakeholder tensions between economic and environmental imperatives.
  - Rise of ‘prosumers’ and distributed power.



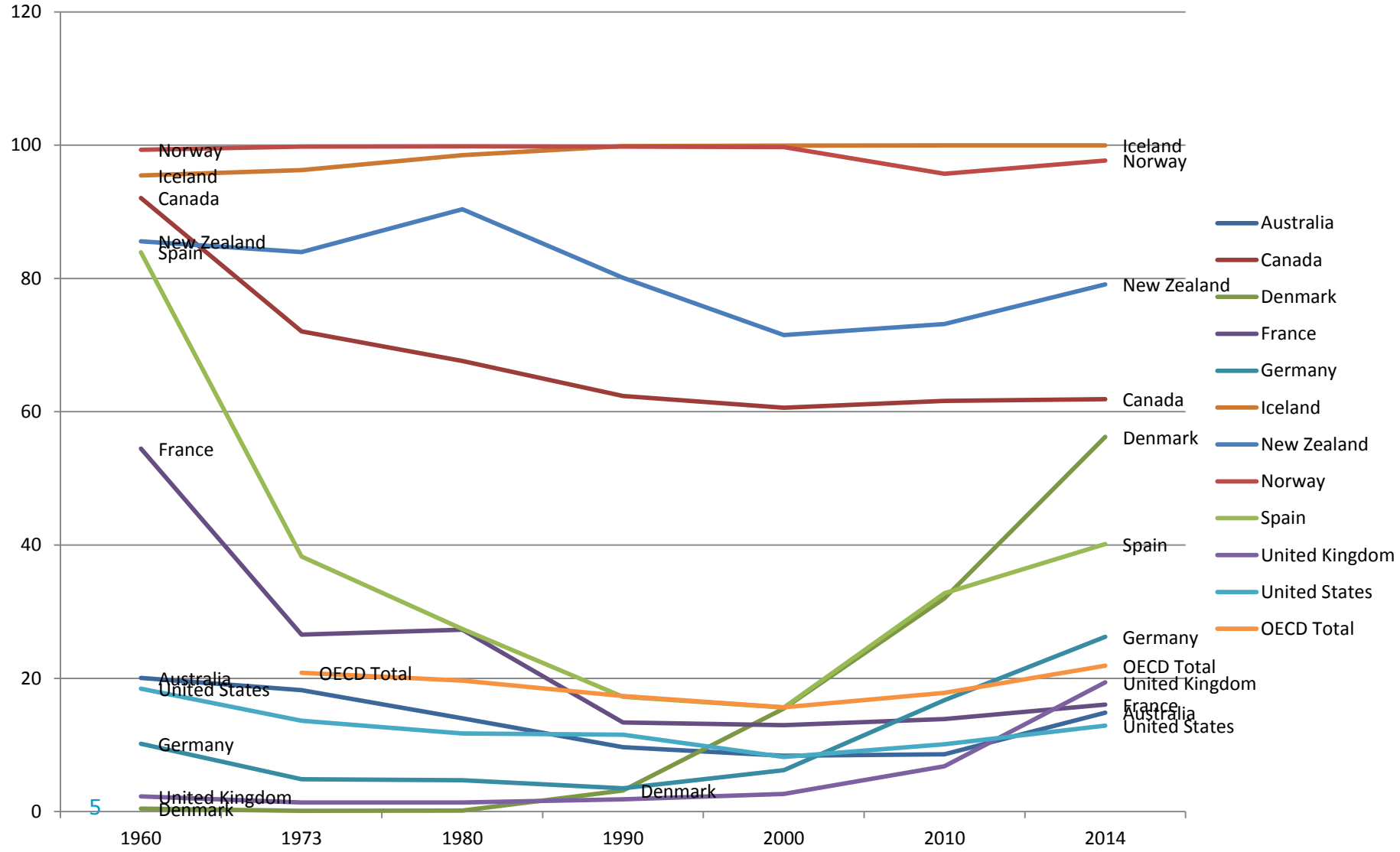
Energy in New Zealand

- Renewable supply
- Increasing (overall) or flat (energy) GHG emissions since 2008/2009
- Significant inefficiencies in transport, home insulation
- Potential leader in DG, policy change needed (IEA 2017)





Renewable Electricity Share of Total Generation 1960-2014 (OECD 2015)



Renewable Electricity % (OECD 2015)

	1960	1973	1980	1990	2000	2010	2014	1960-2014 change	Change 1990-2014
Australia	20.05	18.24	13.99	9.66	8.38	8.62	14.86	-5.19	5.2
Canada	92.09	72.07	67.63	62.38	60.60	61.65	61.90	-30.19	-0.48
Denmark	0.45	0.13	0.15	3.18	15.46	31.98	56.22	55.77	53.04
France	54.47	26.57	27.30	13.37	12.97	13.88	16.06	-38.41	2.69
Germany	10.19	4.85	4.7	3.49	6.2	16.73	26.24	16.05	22.75
Iceland	95.46	96.25	98.52	99.87	99.93	99.99	99.99	4.53	0.12
New Zealand	85.58	83.96	90.39	80.1	71.5	73.16	79.12	-6.46	-0.98
Norway	99.3	99.78	99.84	99.79	99.72	95.73	97.69	-1.61	-2.1
Spain	83.94	38.29	27.39	17.22	15.61	32.78	40.14	-43.8	22.92
United Kingdom	2.27	1.37	1.37	1.83	2.66	6.81	19.39	17.12	17.56
United States	18.46	13.64	11.72	11.53	8.21	10.12	12.91	-5.55	1.38
OECD Total	-	20.84	19.67	17.34	15.64	17.82	21.89	21.89	4.55

Green Transitions

Renewable Energy Targets- Examples (REN21)

- New Zealand- 90% by 2025
- Denmark- 100% by 2020
- Germany- 50% by 2030
- United Kingdom- 50% by 2015

- City Level:
  - Paris- 25% of total energy renewable by 2025
  - San Francisco- 100% renewable electricity by 2020
  - Wellington- 78-90% by 2020 (2010 climate change plan)

- Criticisms:
  - Not ambitious enough
  - Implementation failures

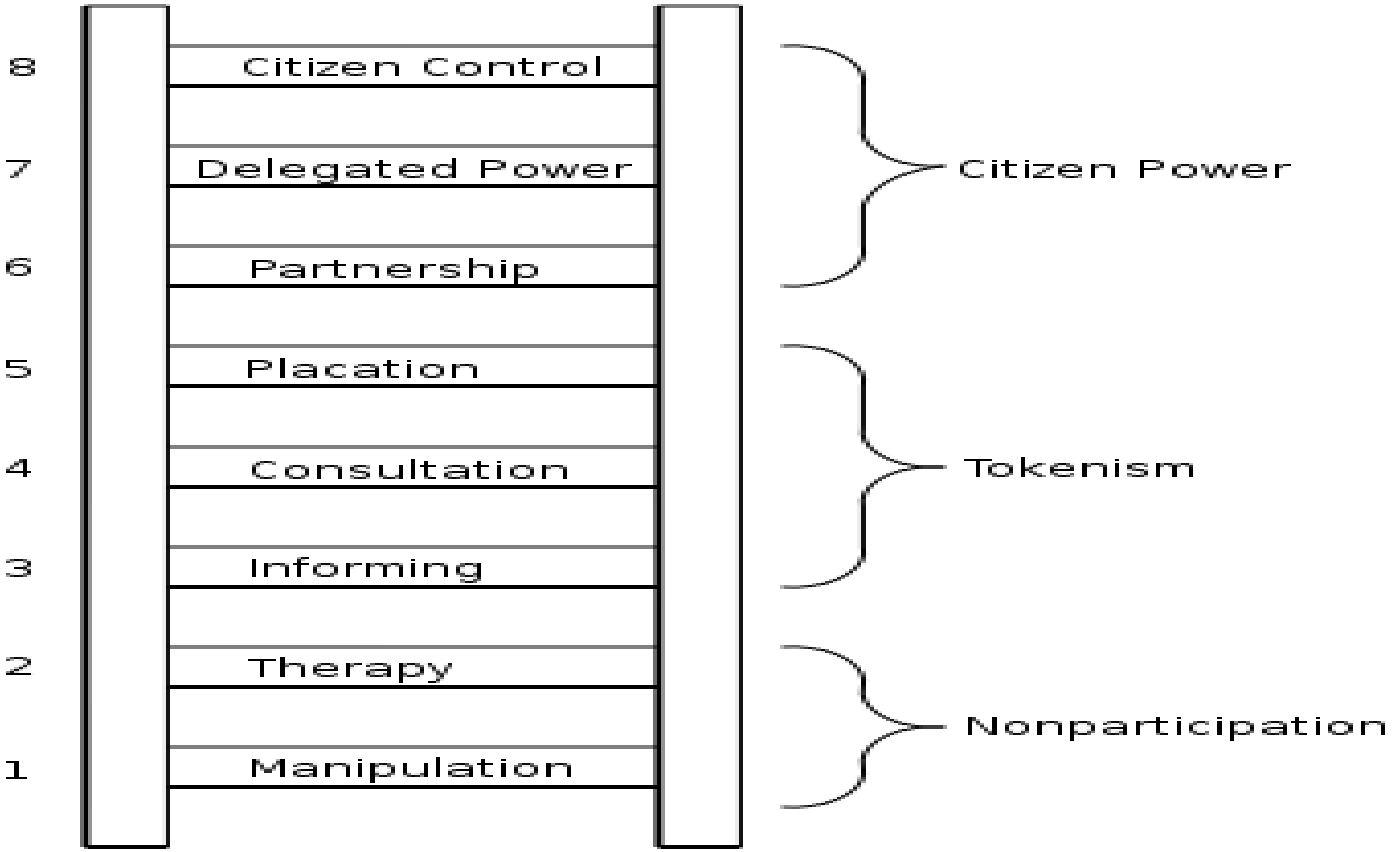
Challenge: Competing Interests

Promises of Participation

Promises of Participation

- Policy Effectiveness
  - Enhanced creativity & stakeholder 'buy-in'
  - NIMBY/YIMBY
- Democratic Legitimacy
  - Commitment to accountability to populace
- Justice
  - Potential for incorporating marginalized/non-traditional policy actors

Arnstein's (1969) ladder

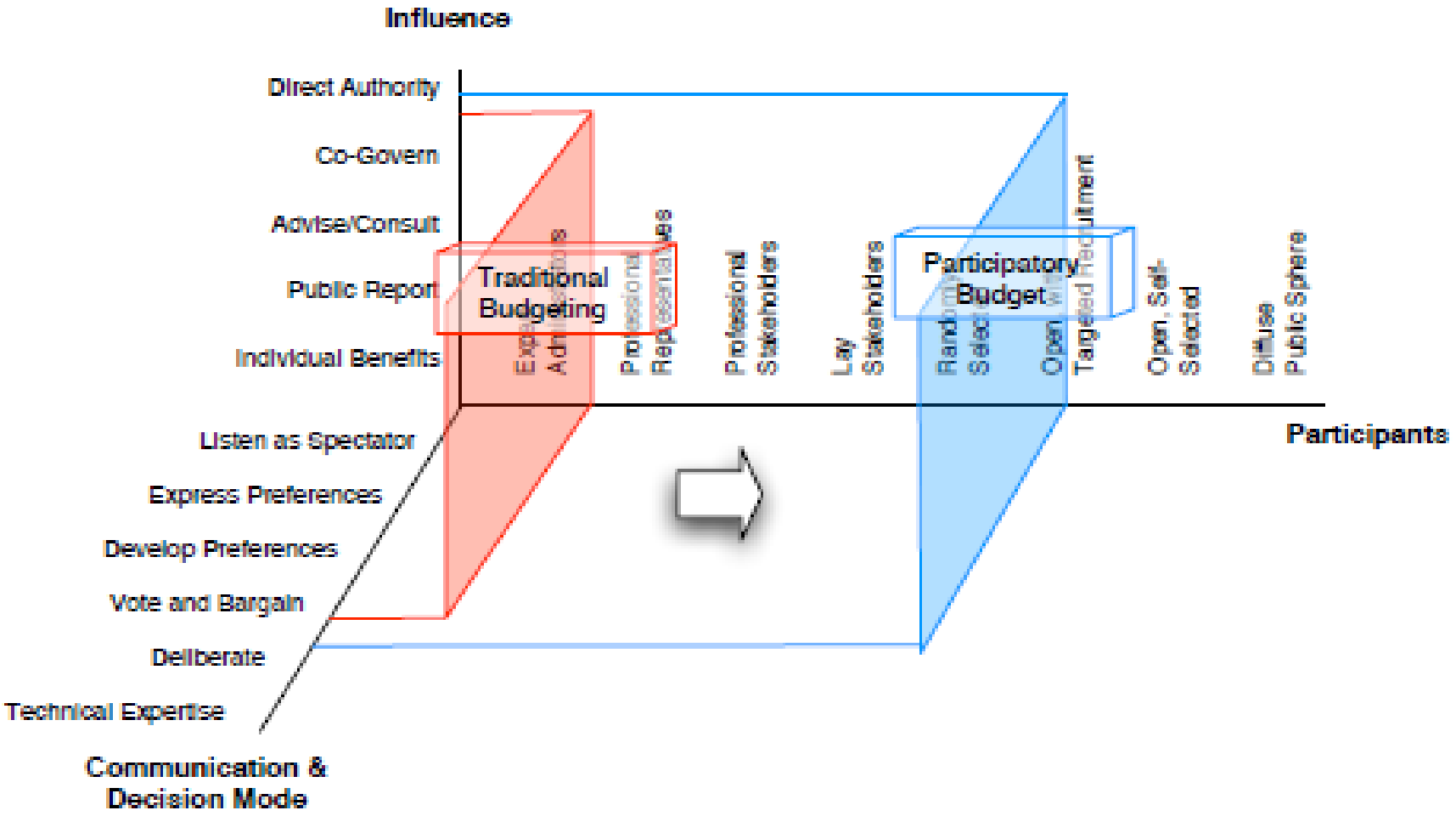


Three questions

1. *Who participates?*
   - *From expert administrators and state agents through stakeholders & 'minipublics' to diffuse publics*
2. *How do they communicate and make decisions?*
   - *From listening, to articulating, deliberating and sharing expertise.*
3. *What is the connection between their conclusions and opinions on one hand and public policy and action on the other?*
   - From personal benefits through advising, co-governing and direct authority.

(Source: Fung 2006)

The Democracy Cube & Participation

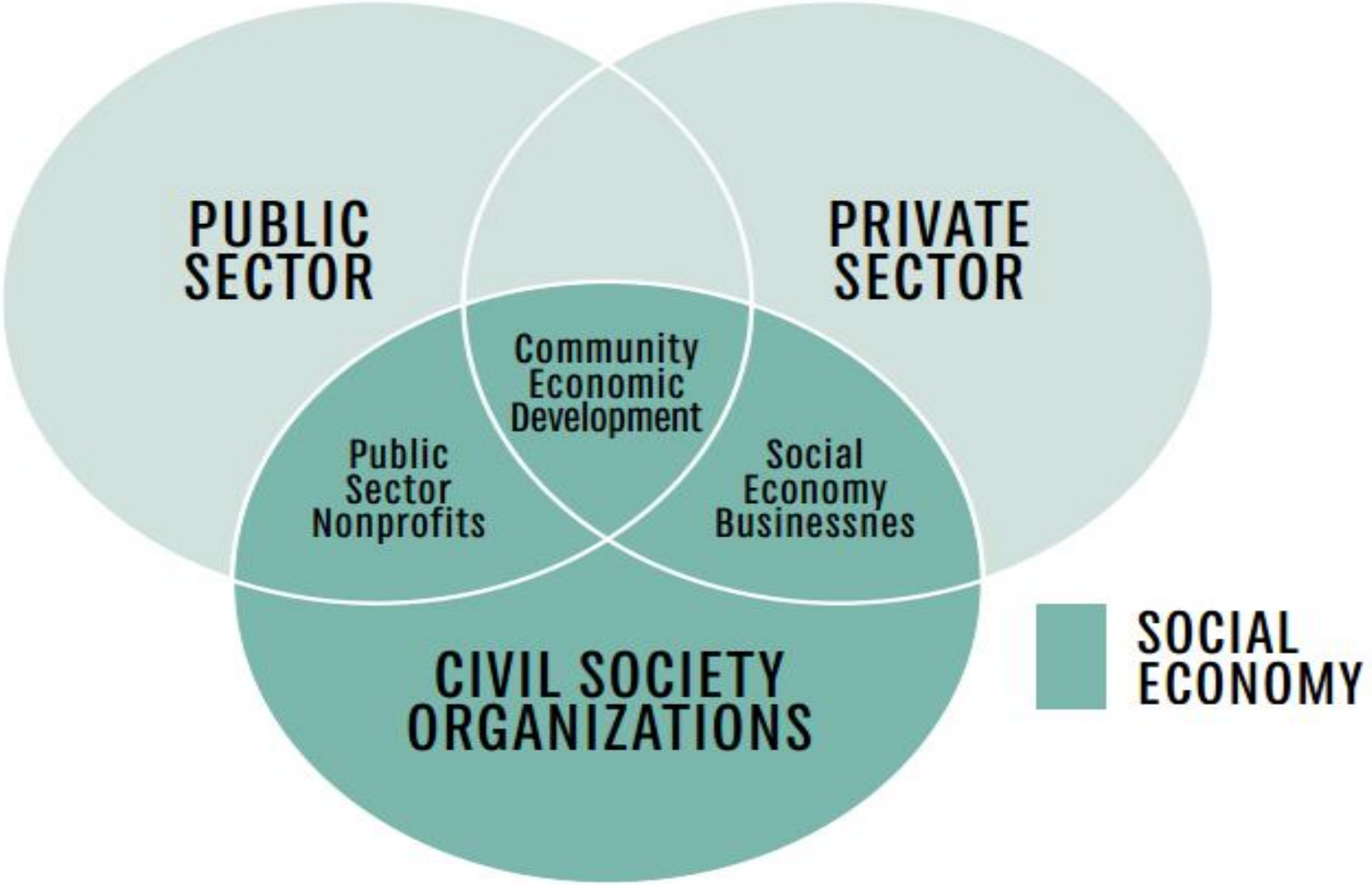


(Source: Fung 2006)

Community Participation - Examples

- Nova Scotia Power
  - Deliberative polling
  - ‘Consultation’ as marketing
- Denmark- Wind/District Heating
  - Post 1970s- diversification of source & efficiencies
  - District Heating
  - Windpower co-operatives
- Ontario- Green Energy Act (2009)
  - Definition of ‘local’ and ‘community’
  - Iterative process over a decade
  - Funds for research and project design
  - Result: development of local policy capacities

The Social Economy

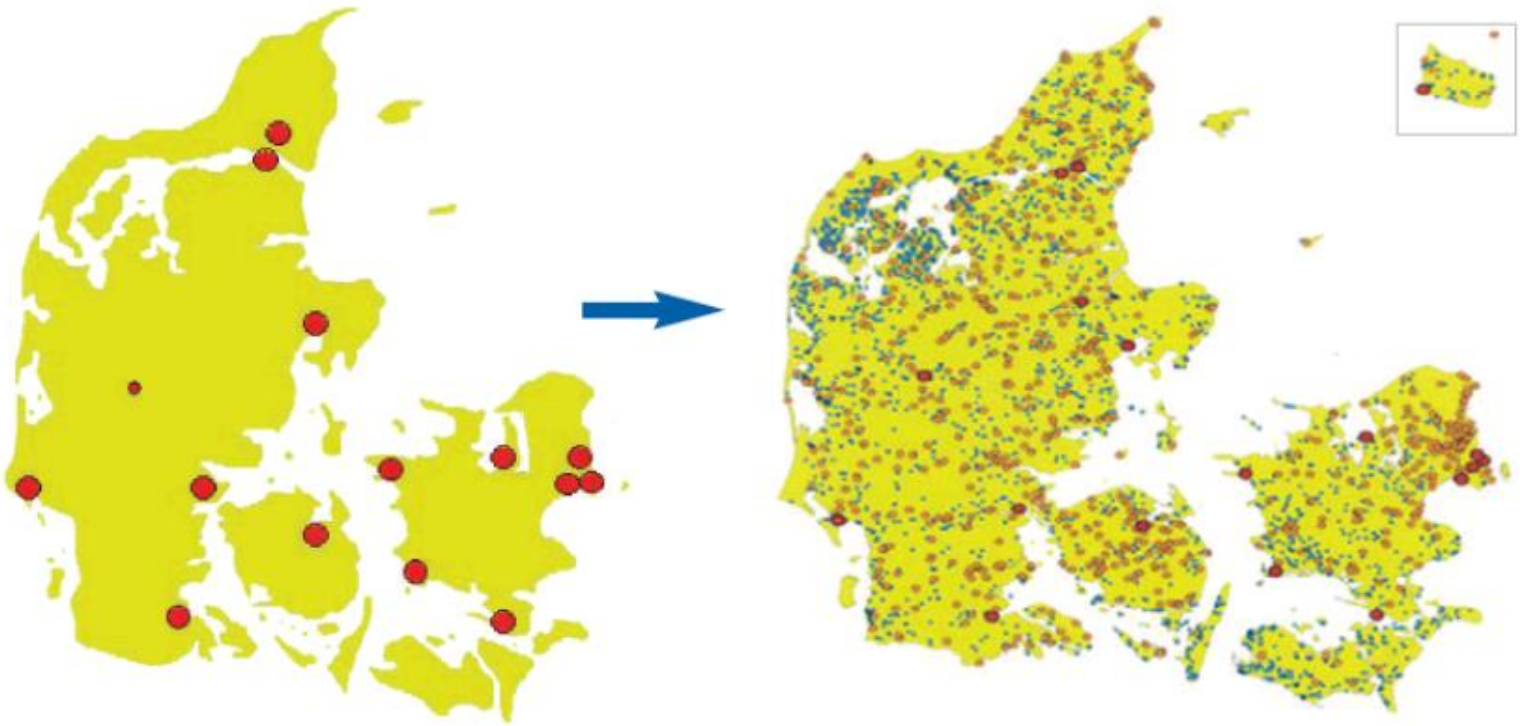


Energy Co-operatives

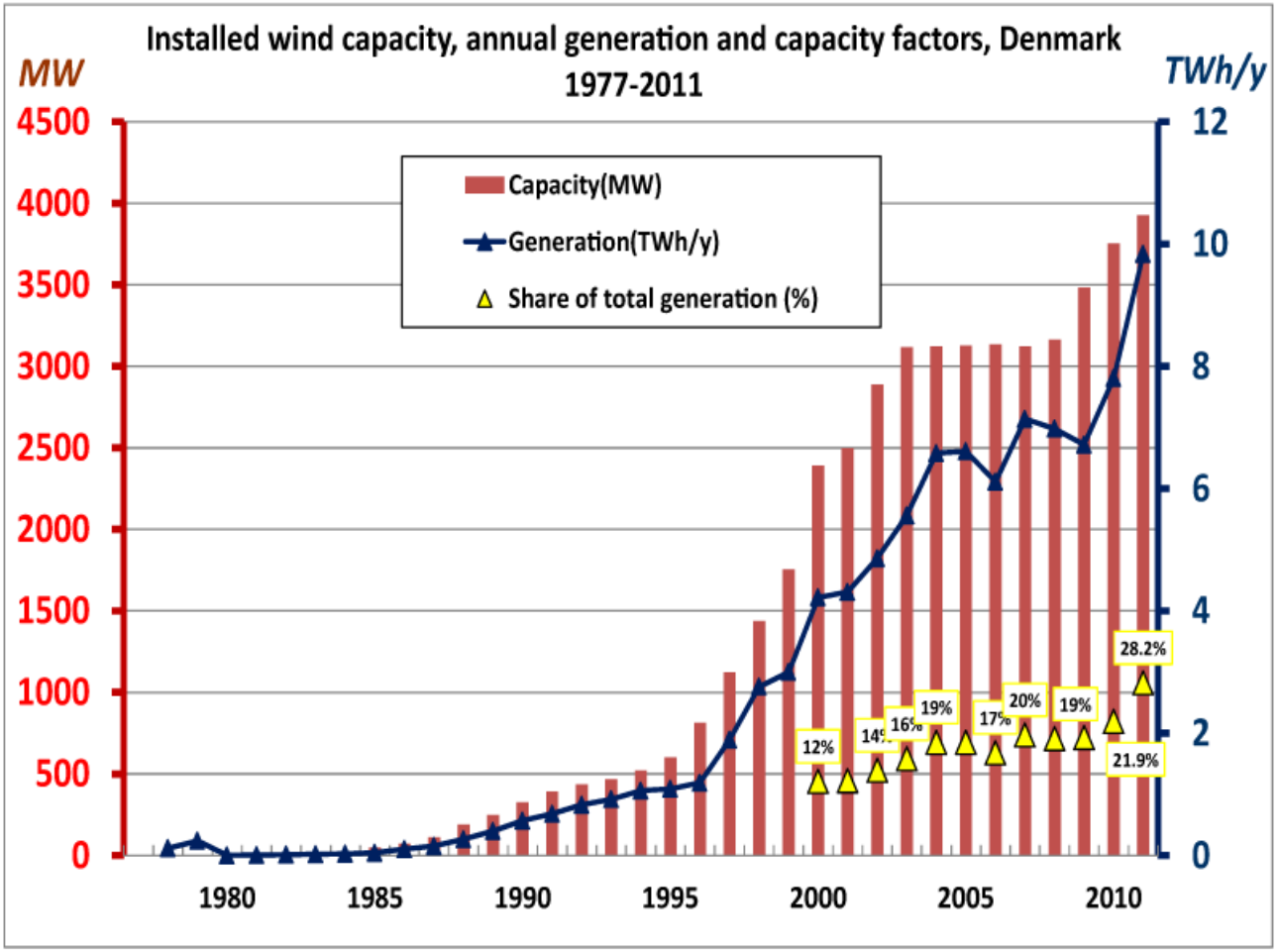
Distributed Power

FIGURE 3.
GROWING DECENTRALISATION OF ELECTRICITY GENERATION

SOURCE: EUROHEAT & POWER[2]



Danish Wind energy



(Source: Energy BC 2012)

New Zealand

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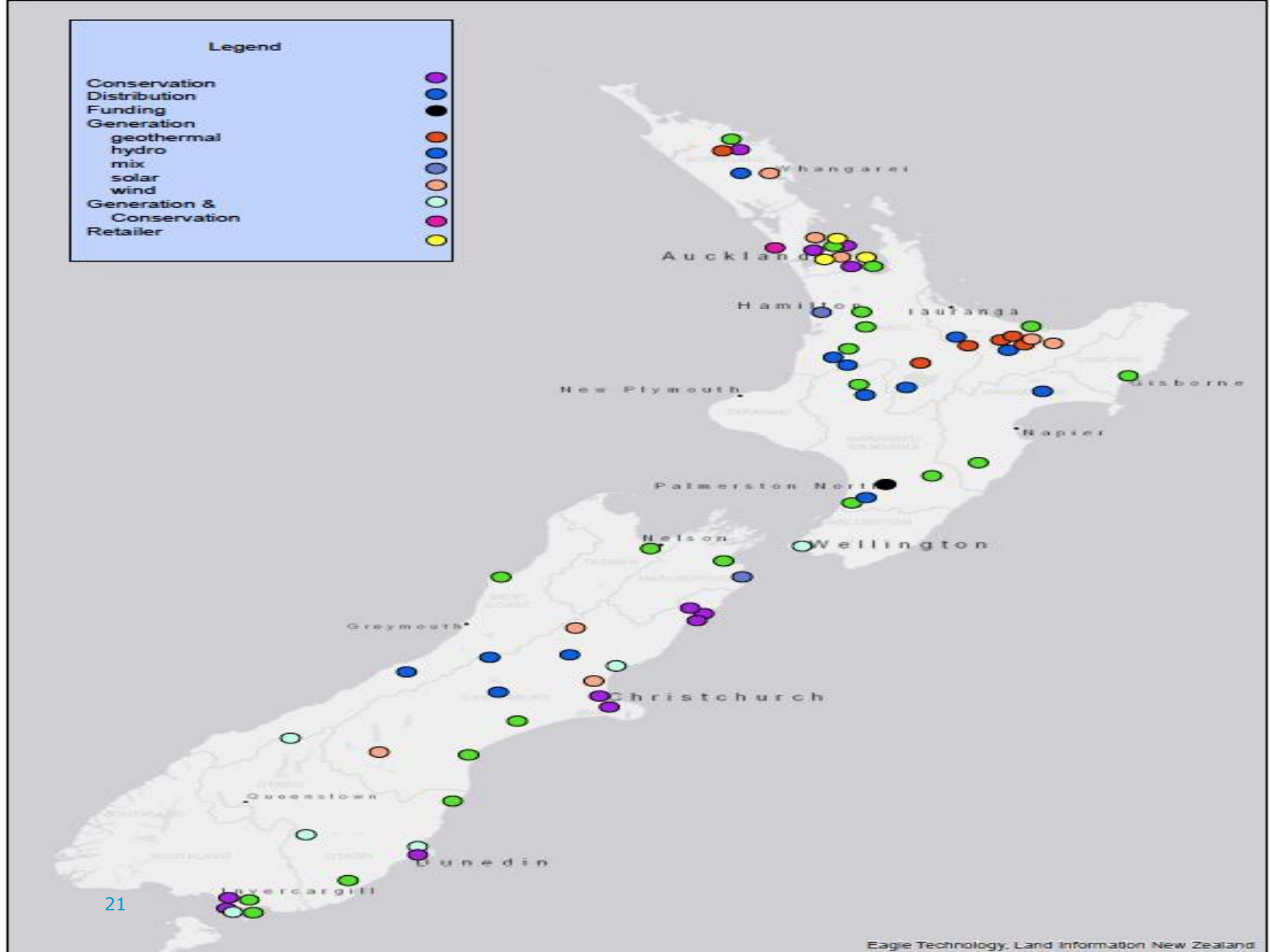
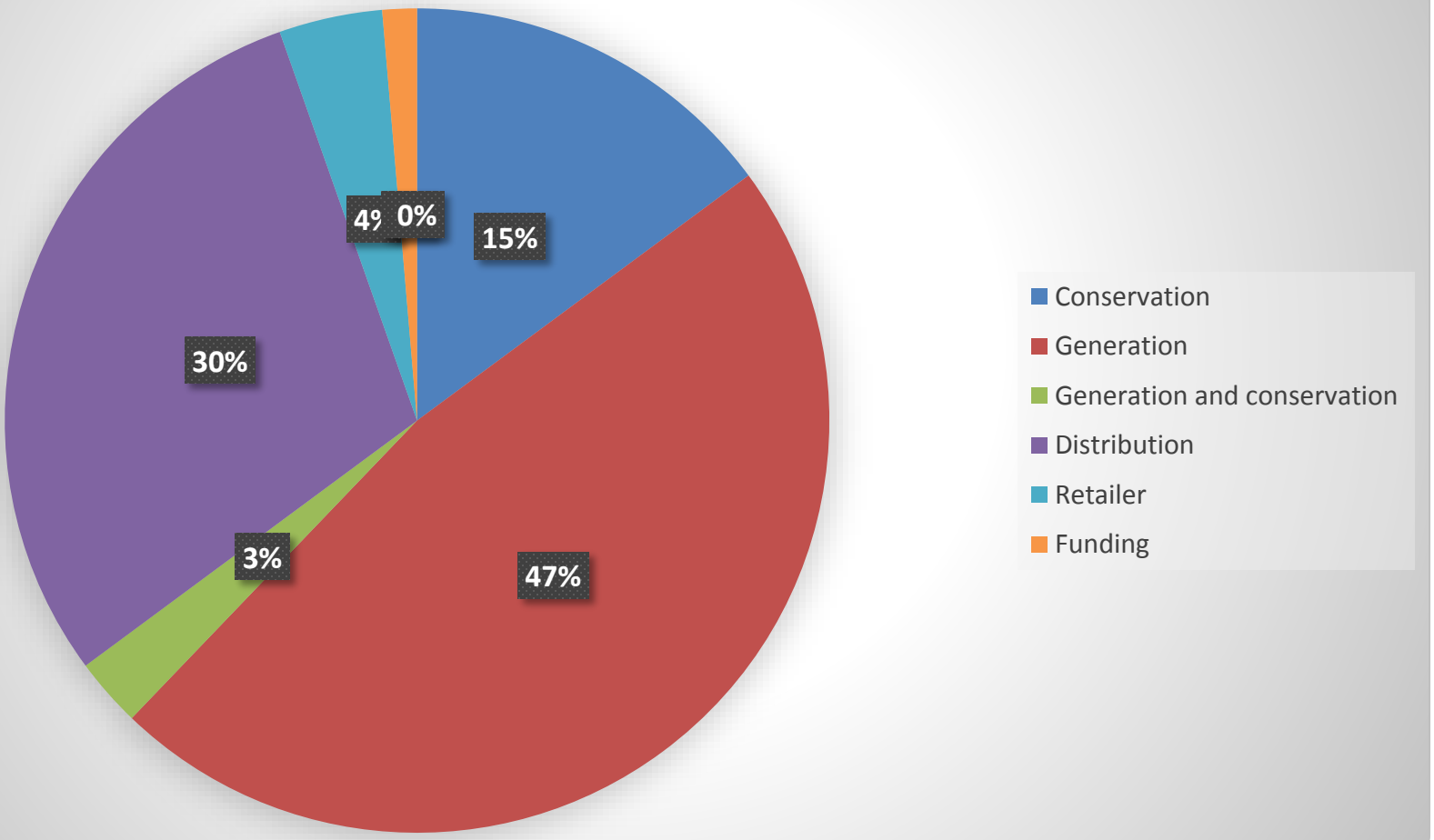
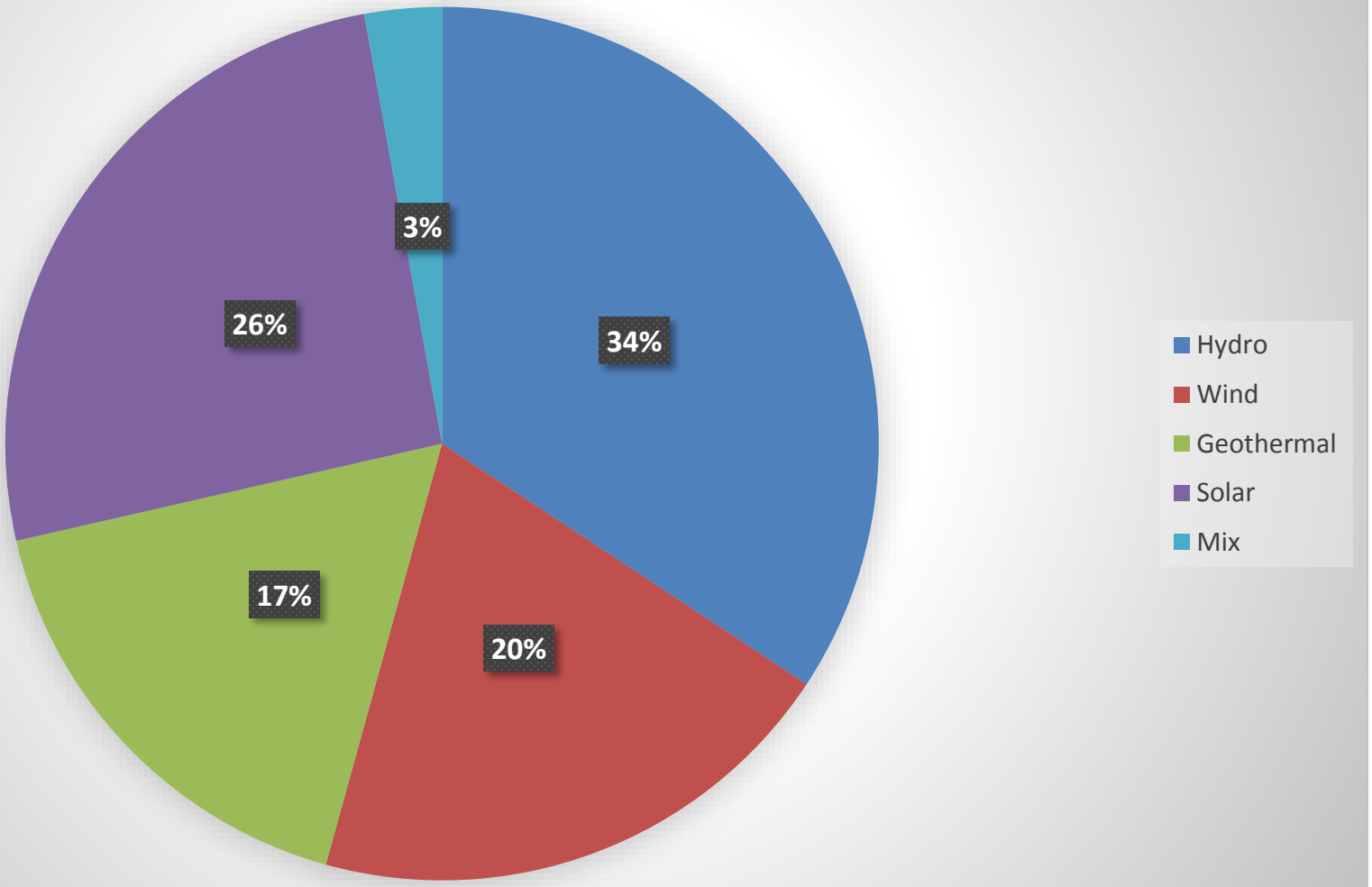

Legend
Conservation
Distribution
Funding
Generation
geothermal
hydro
mix
solar
wind
Generation &
Conservation
Retailer
Whangarei
Auckland
Hamilton
Tauranga
Gisborne
New Plymouth
Napier
Palmerston North
Nelson
Wellington
Greymouth
Christchurch
Queenstown
Dunedin
Invercargill
Eagle Technology, Land Information New Zealand

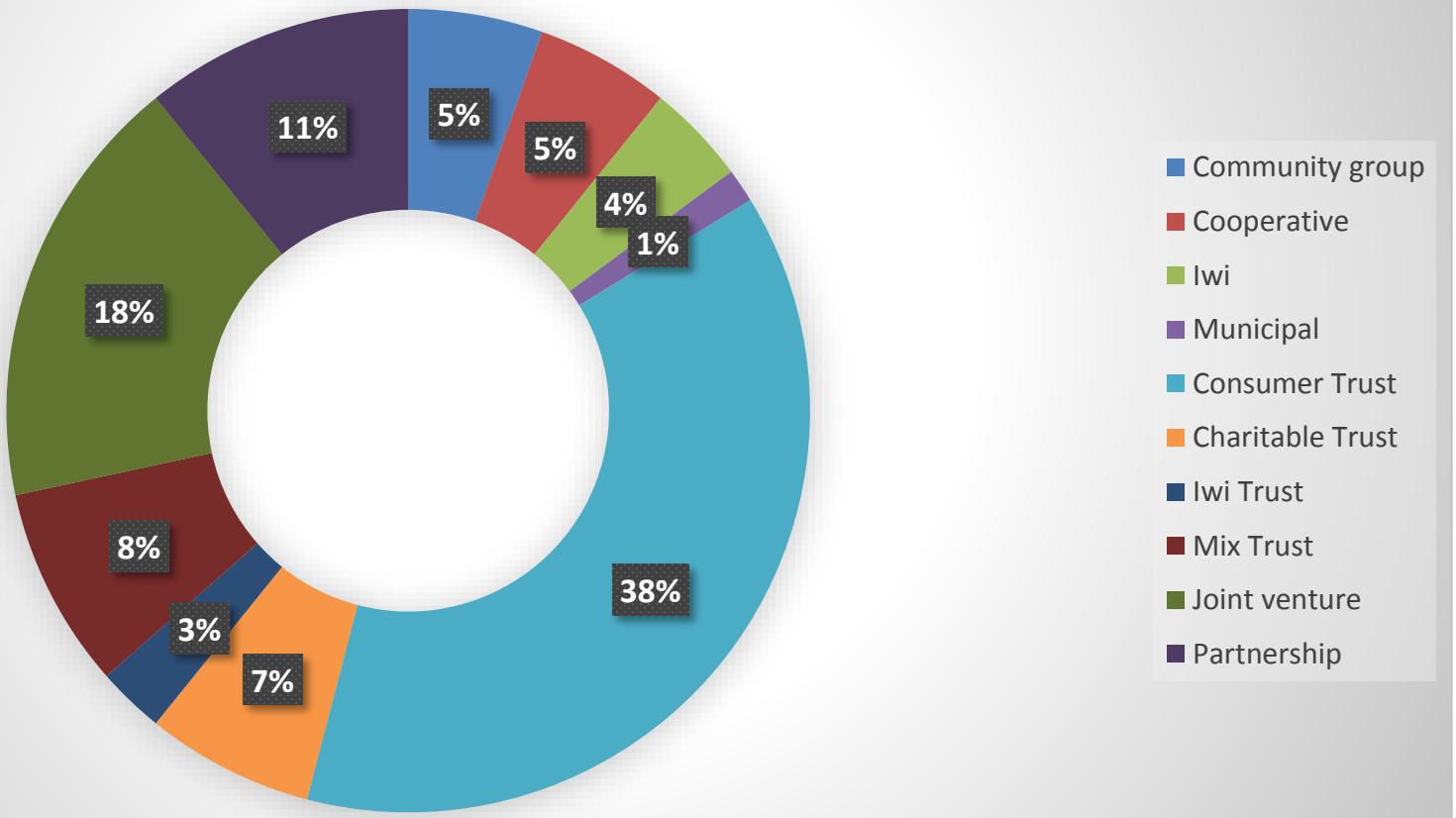
Community Energy Projects by activity (MacArthur & Gonnelli)



Community Energy Generation Project by Source (MacArthur & Gonnelli)



New Zealand community energy projects by ownership (MacArthur & Gonnelli)



Conclusion

- Significant evidence for the benefits of participatory energy iniatives
  - Education
  - Effective policy design
  - Reflexivity
  - Developing civic networks
- Consider different forms and aims.
- Energy sector is *not* a level playing field.
- Participation and power is not synonymous.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Questions?