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MUNICIPAL ENERGY COMPANIES IN GERMANY, GREAT BRITAIN, AND CALIFORNIA: COMPARING INSTITUTIONAL CONTEXT, BUSINESS MODELS, AND OPPORTUNITIES

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Municipal energy in Germany, Britain, and California

Germany

- Long established municipal energy companies (MECs)
- electricity and gas market competition since 1990s
- Recent re-municipalisation

Britain

- Energy utility centralisation and nationalisation in the 1940s
- A few new MECs

California

- Long-established MECs
- did not have to participate in market reform
- recent trend of 'community choice aggregation' (CCA)

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Data and approach



- Qualitative analysis: comparing business model types and institutional context
- Data sources: publicly available documents; websites; interviews
- Scope: MECs with energy-user relationships, majority ownership

Business model dimensions

Activities and value propositions

Customer interface:
segments and channels

Infrastructure
management: *value configuration* and
partner network

adapted from Osterwalder et al. 2005 'building blocks'

German municipal energy business model types

Business model dimensions	
Activities and value propositions	<ul style="list-style-type: none">• Electricity generation, networks, and retail• Gas networks and retail• District heating• Increasingly energy services
Customer interface	Business and residential customers, mix of customer channels
Partner network	Wholesale energy risk management, energy service and technology firms

British municipal energy business model types

Business model dimensions	Retailers (Bristol, Nottingham)
Activities and value propositions	Commodity electricity and gas retailing, 'force for the social good'
Customer interface	Residential and commercial, nation-wide Online, town centre shop
Partner network	Power generators Wholesale energy risk managers Other local authorities Fuel poverty charities

Californian municipal energy business model types

Business model dimensions	Munis – vertically integrated monopolies
Activities and value propositions	Network operation, power generation, energy retail, energy services
Customer interface	All connected customers
Partner network	Energy service and technology firms Small munis with larger ones

Institutional context and opportunities

- Decarbonisation
 - Germany: ability to bundle grid-electricity with solar PV: ‘tenant power’ law in Germany
 - California established munis: bundled business and monopoly allows unilateral subsidizing of demand-side resources
 - District heating: unilateral opportunity to decarbonize supply-side
- Profits
 - California: unconstitutional without two-thirds voter support

Institutional context and opportunities ii

- Commercial viability and risks
 - California CCAs: Default provider status, limited retail competition
 - Germany: Recurring energy network concession tender
 - Germany: Opportunity to mandate heat network connection
 - California CCAs: exclusive access to energy efficiency subsidies, in return for accepting saving obligations
 - Commercial viability not guaranteed for British retailers

Conclusions

- Without de-risking institutions: risks may outweigh the benefits
 - *Should municipal energy companies be given special status?*
- Equity: pioneer cities accused of raising costs for others
 - *how can operations and decision-making be devolved while maintaining adequate level of cost socialization?*
- Firms with supply-side investments and volumetric revenue models face counter-incentives to promote demand reduction
 - *How to deal with lock-in to particular paths?*
 - *Does investment in assets and capabilities ease transition or make decarbonization more difficult?*
 - *Where should cities without MECs focus? Encourage private and third sector or themselves invest and operate? How to get the balance right?*

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Thank you!

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Market shares

- German MECs
 - 45 % of German electricity distribution networks
 - Electricity retail 60%, gas retail 65%, 72% of district heat supply
 - Electricity generation: 13% of annual production (Berlo Wagner 2018)

- GB
 - DH: 14,000 heat networks, nearly 492,000 connections in total including 446,517 domestic customers, 33,273 commercial customers (ADE 2018)

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