

Should public policy support disruptive consumer innovations for climate change?

Charlie Wilson

APPAM International Conference

Barcelona, July 2019



Social Influence and *disruptive* Low Carbon Innovations

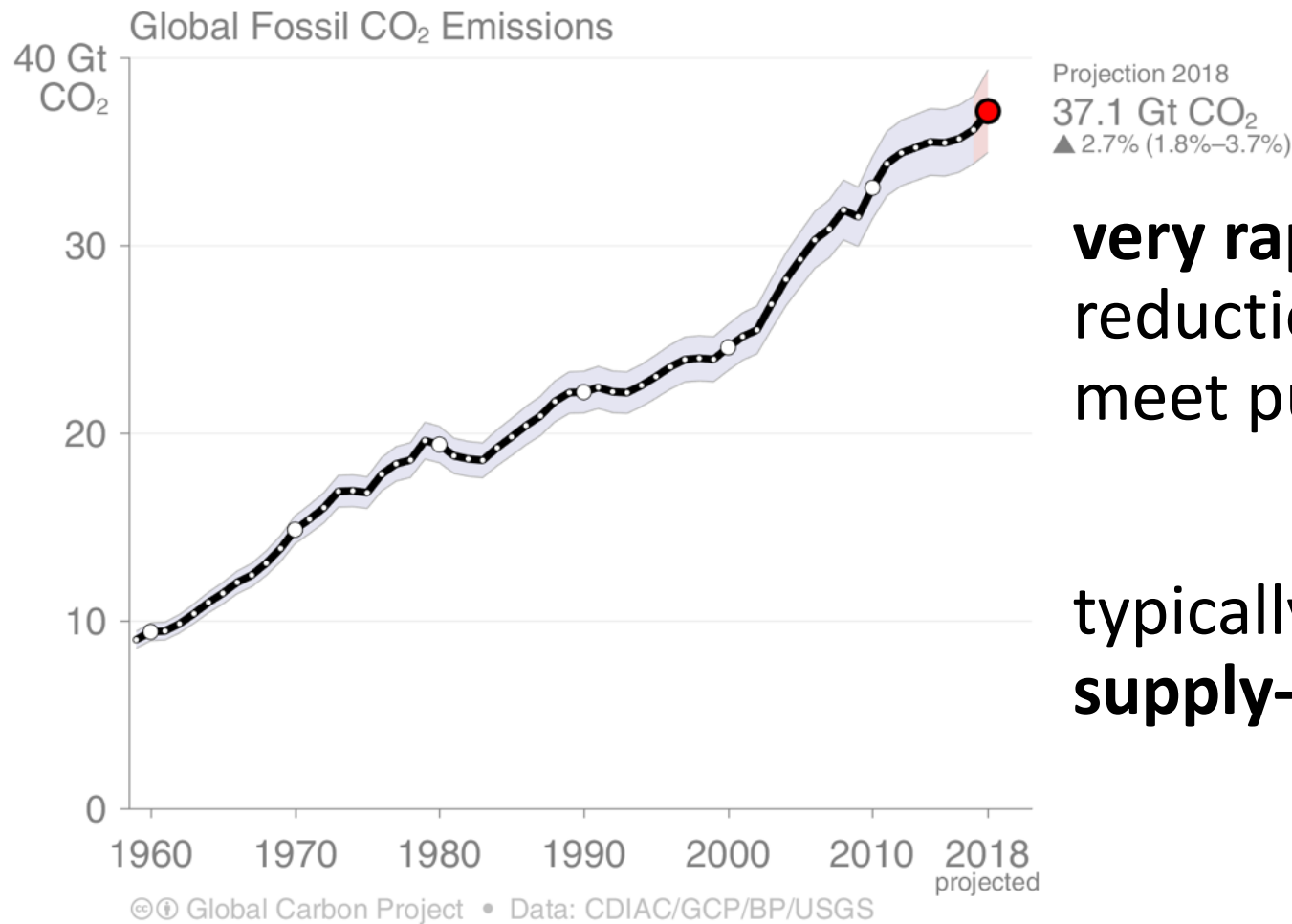
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**European
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Starting Grant #678799

Limiting warming to 1.5°C requires **45%** reduction in CO₂ emissions by 2030 (IPCC 2018)



very rapid emission reductions needed to meet public policy goals

typically framed as a **supply-side** problem

consumption practice

driving (ICE) cars
with low
occupancy

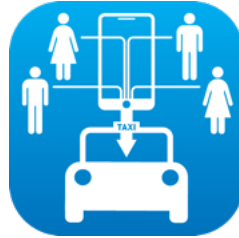
potentially *disruptive* consumer innovations



car-share

consumption practice

**driving (ICE) cars
with low
occupancy**



'taxi-bus'

potentially *disruptive* consumer innovations



ride-share



car-share



e-bikes



MaaS

consumption practice

**driving (ICE) cars
with low
occupancy**

**incumbent firms,
service providers**

automakers,
garages, dealers

**markets,
regulations**

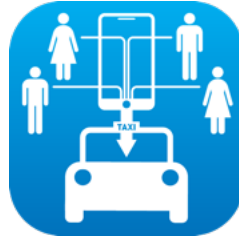
revenue-raising
taxation

**infrastructures,
norms**

parking,
transit usage,
ownership

consumption practice

**driving (ICE) cars
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'taxi-bus'

potentially *disruptive* consumer innovations



ride-share



car-share



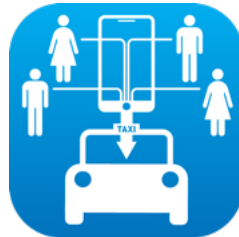
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MaaS

doing big
(meaty)
supermarket
food shops



online
food hubs



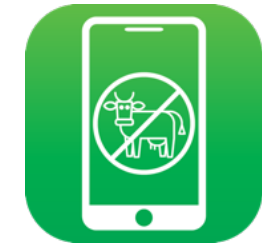
recipe
boxes



11th hour
apps



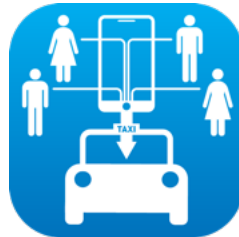
P2P food
sharing



diet
gamification

consumption practice

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online
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**manually
controlling
devices
whenever
needed**



internet
of things

potentially *disruptive* consumer innovations



ride-share



car-share



e-bikes



MaaS



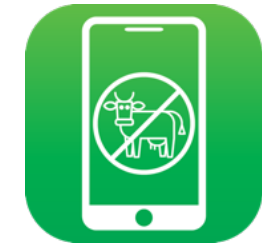
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11th hour
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P2P food
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diet
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smart
appliances



smart
homes



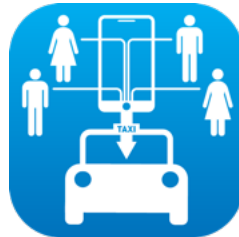
heat
pumps



P2P
goods

consumption practice

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internet
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**using
grid-supplied
energy
whenever
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PV +
storage

potentially *disruptive* consumer innovations



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car-share



e-bikes



MaaS



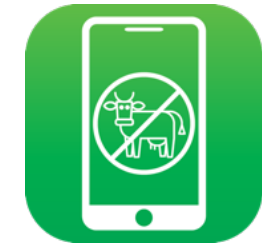
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P2P
goods



P2P
electricity



vehicle-
to-grid



demand
response



time-of-use
pricing

Should **public policy** support disruptive consumer innovations for climate change?

yes: CO₂ emission reduction is a public good
(cf. grants for energy efficiency, carbon pricing ...)

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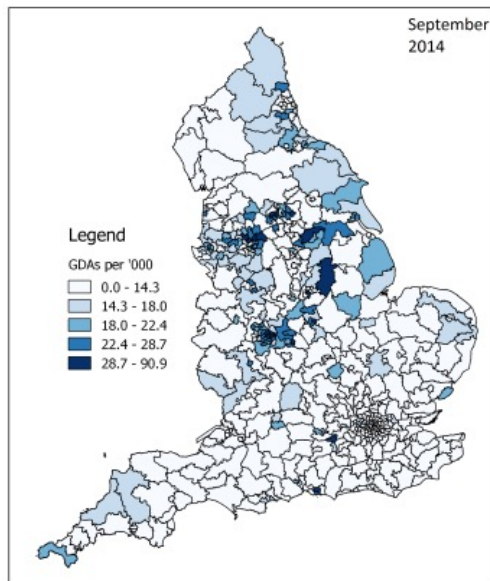
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but .. rapid, disruptive change has negative impacts

De-risking disruption (1): trial innovations in market niches to enable policy learning

(area-based) demonstration programmes for testing -



new business models
new infrastructures

new policy
instruments

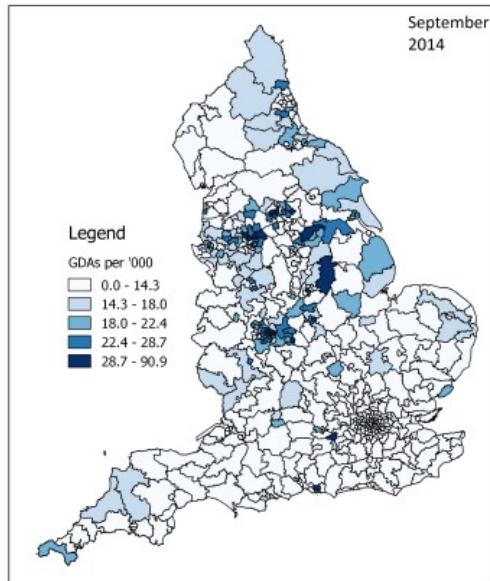


new user roles



De-risking disruption (1): trial innovations in market niches to enable policy learning

(area-based) demonstration programmes for testing -



new business models
new infrastructures

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instruments



new regulatory frameworks

ofgem Making a positive difference
for energy consumers

The Innovation Link

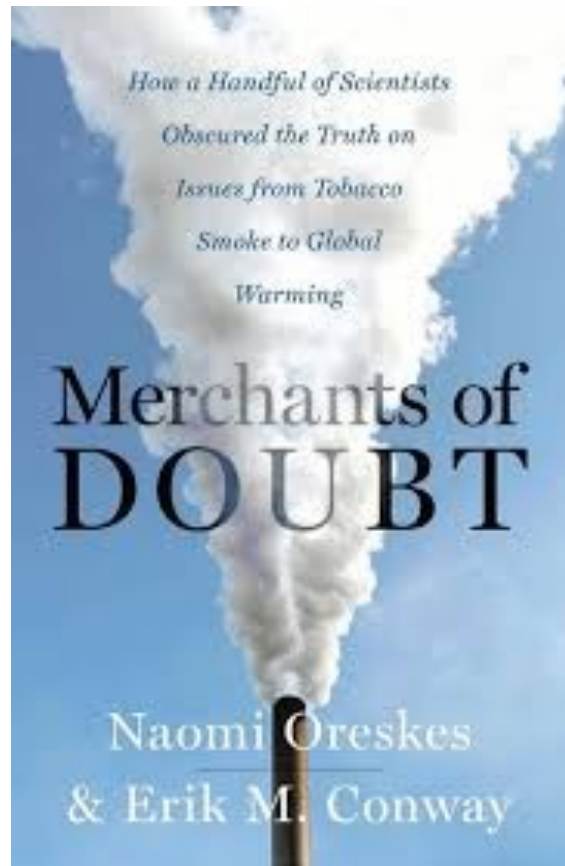


new user roles



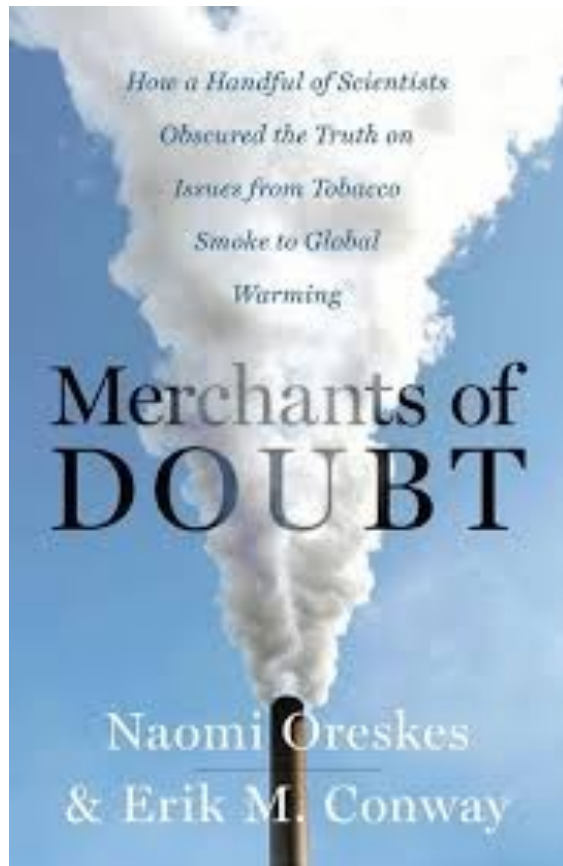
De-risking disruption (2): engage constructively with 'losers' to reduce transitional inequities

political economics is arguably *the* principal brake on CO₂ emission reductions



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retraining, community investment,
industrial policy, compensation
cf. swords into ploughshares

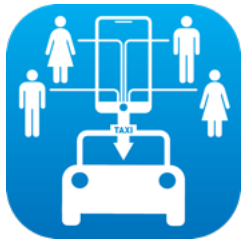
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scale economies & network effects in digital platforms can lead to rapid market dominance ... *Uberisation*



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CAR EGO Seattle Home Area



public policy *should* play an influential role in the 'selection environment' for early-stage innovations e.g., market access *in exchange for* robust evidence of CO₂ reductions

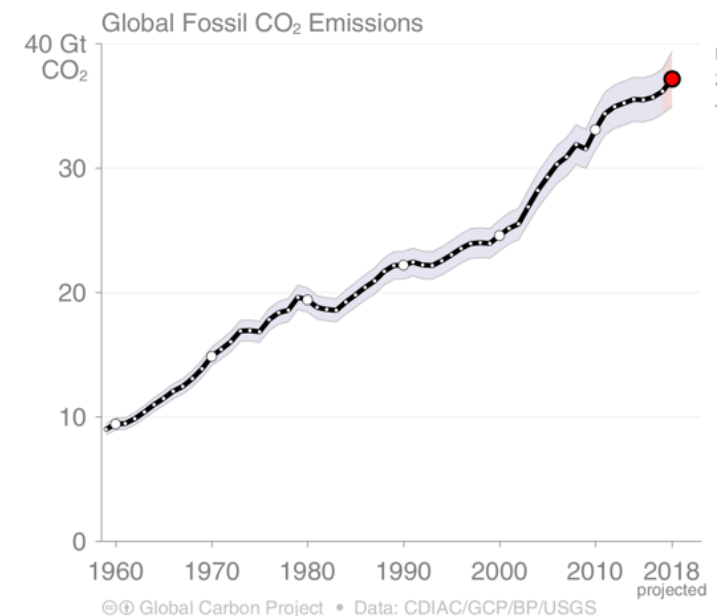
Should **public policy** support disruptive consumer innovations for climate change?

yes: CO₂ emission reduction is a public good

but .. rapid, disruptive change has negative impacts which can be mitigated:

- trials for policy learning
- engagement with 'losers'
- support for diversity

but .. urgency sets up tensions with continuity & (near-term) equity



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renovation
SMEs, non-ICT
manufacturers

centralised
utilities

**markets,
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revenue-raising
taxation

competition,
health &
safety
compliance

data & privacy

grid access

**infrastructure,
norms**

parking,
transit usage,
ownership

urban form,
high streets,
land use

wireless & 4G
networks,
boundaries of
home

transmission
networks,
passive
consumption