
NEUILLY – FONTAINEBLEAU
ÂURANT

Future Scenarios

- The implications of energy system change

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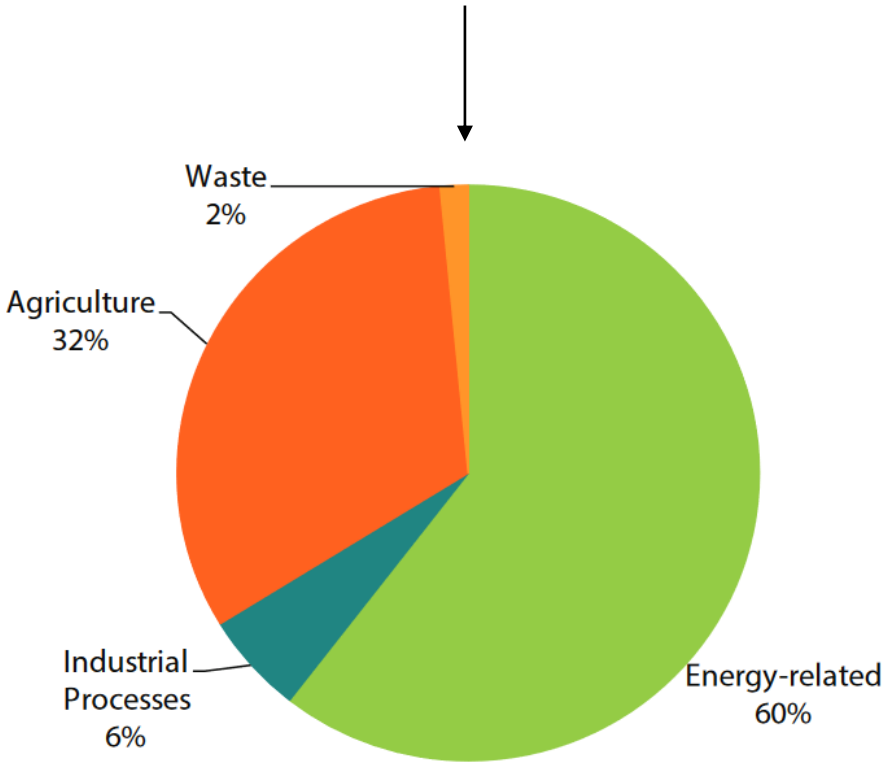
This project has received funding from the Environmental Protection Agency. 2018-2021

61,000,000

GHG emissions (2017)



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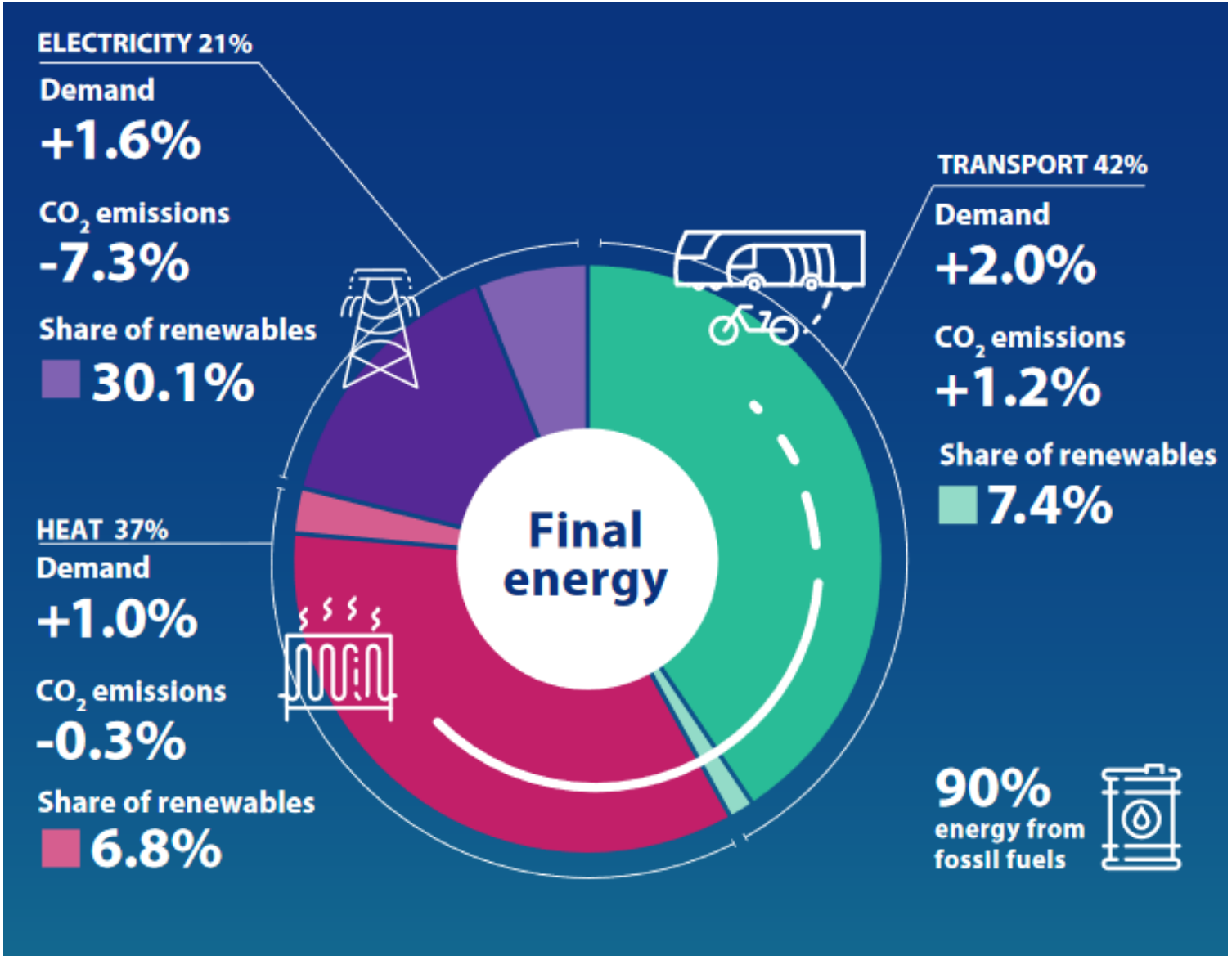
GHG emissions (2050)

Ireland's Energy Consumption (2017)



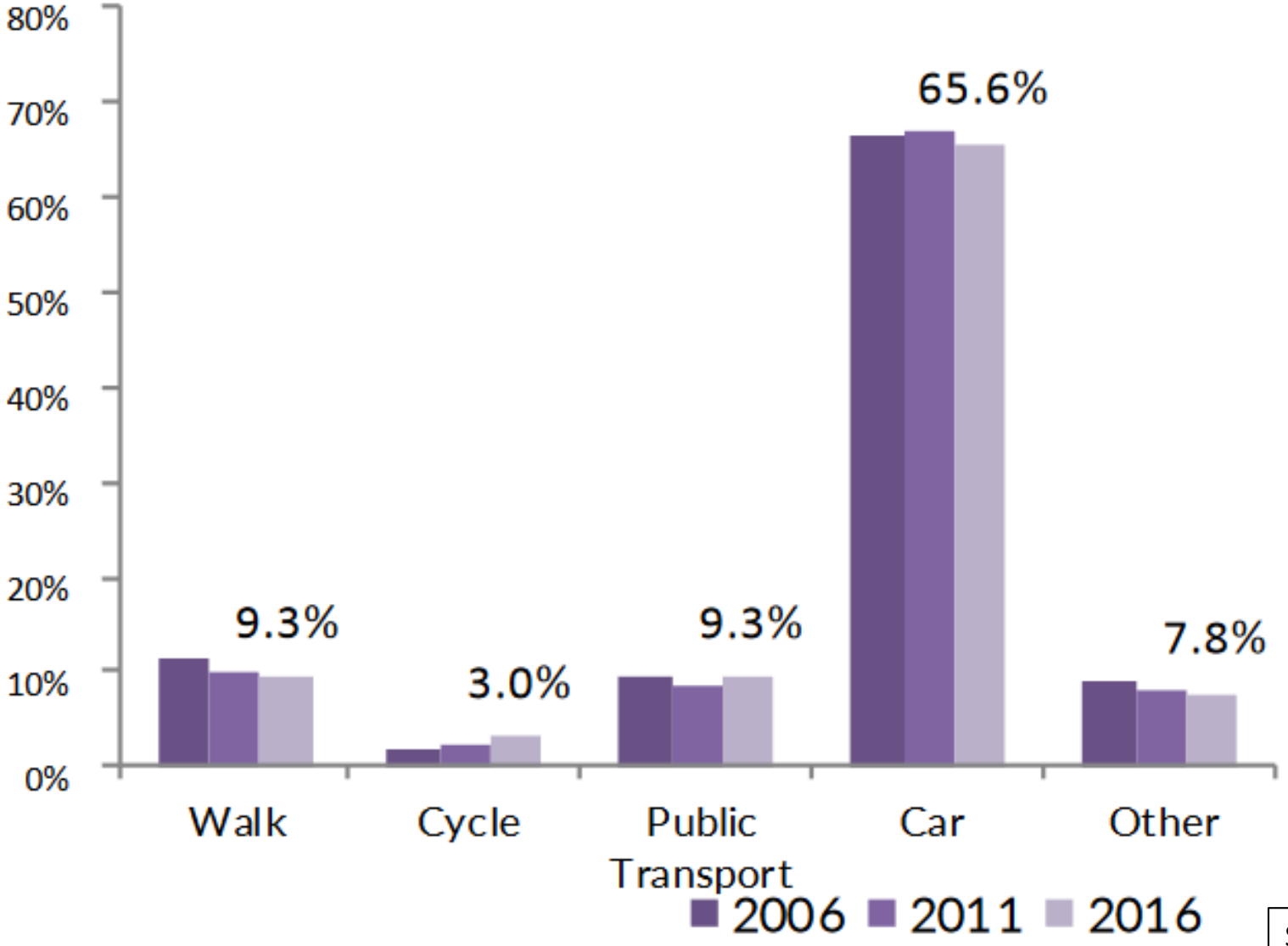
Audience engagement

- sli.do
- #ATH2050

What is your main mode of travel?

1. Motor car (petrol, diesel)
2. Motor car (electric vehicle, hybrid)
3. Public transport (bus, train)
4. Cycling
5. Walking
6. Shared mobility (car pooling, park & ride)
7. Other

Work Commute Journeys by Mode, 2006-2016



Source: DTTAS

What determines your choice of travel mode?

1. Cost
2. Convenience (e.g. time)
3. Environment impact
4. Personal well-being (e.g. health, social)
5. Logistical needs
6. Habit
7. Advice or recommendations from others (e.g. government, colleagues, family, friends)

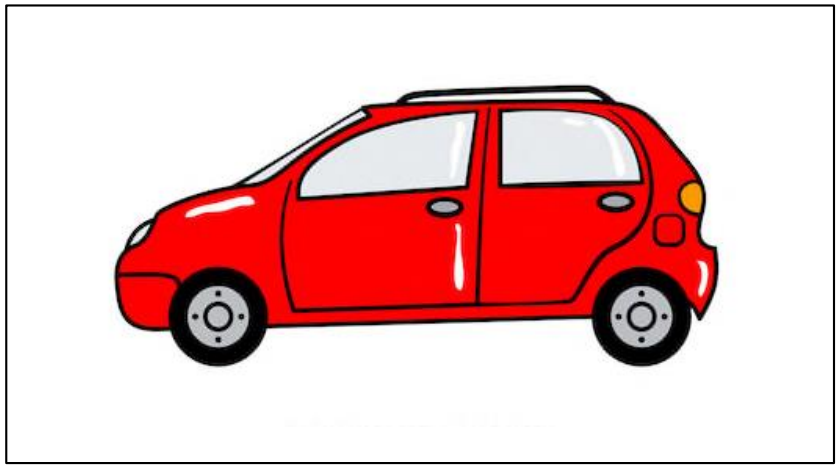
What will be your main mode of travel in 10 years?

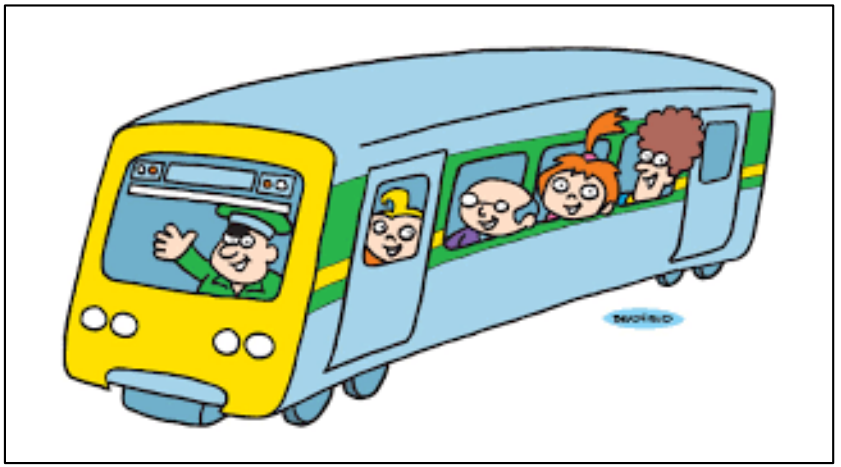
1. Motor car (petrol, diesel)
2. Motor car (electric vehicle, hybrid)
3. Public transport (bus, train)
4. Cycling
5. Walking
6. Shared mobility (car pooling, park & ride)
7. Other

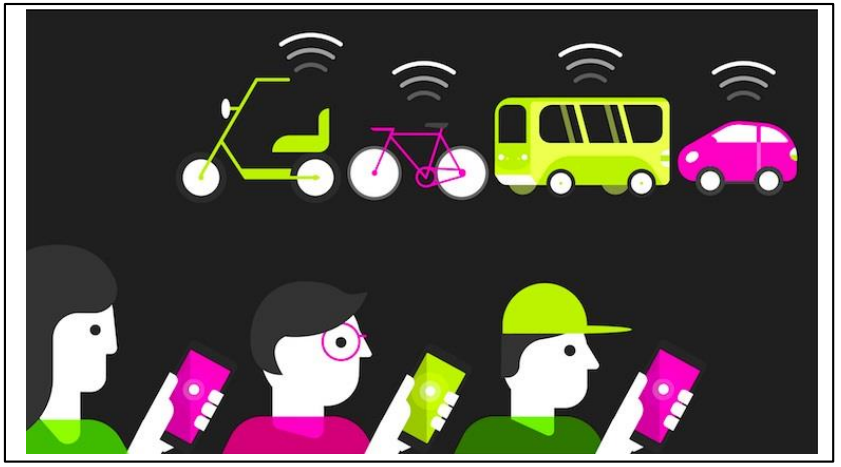
What will determine your choice of travel mode in 10 years?

1. Cost
2. Convenience (e.g. time)
3. Environment impact
4. Personal well-being (e.g. health, social)
5. Logistical needs
6. Habit
7. Advice or recommendations from others (e.g. government, colleagues, family, friends)

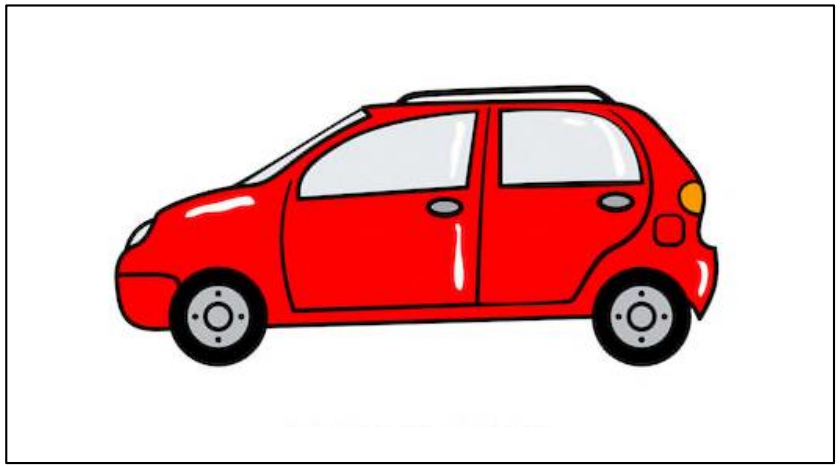
Teasing out implications…

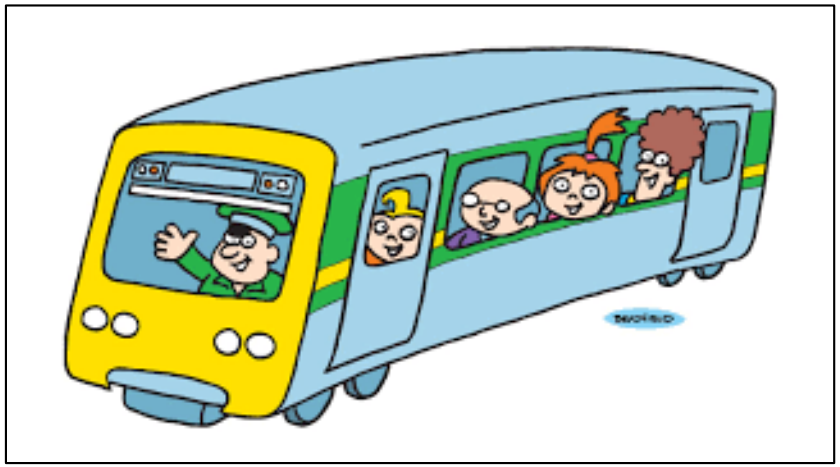


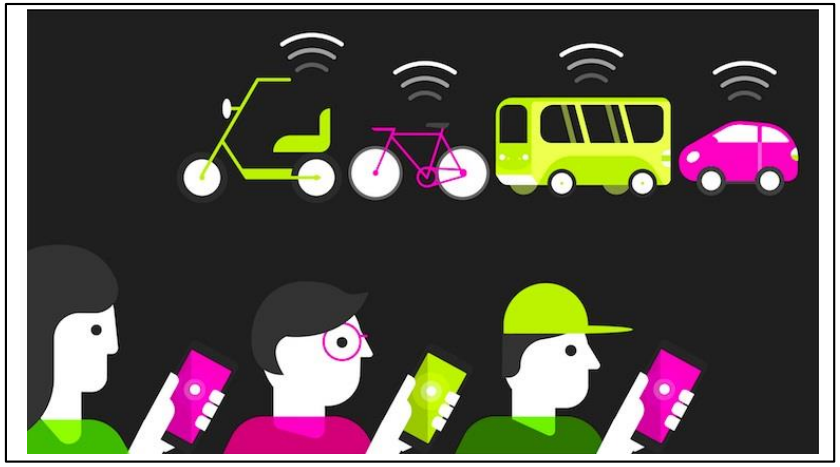




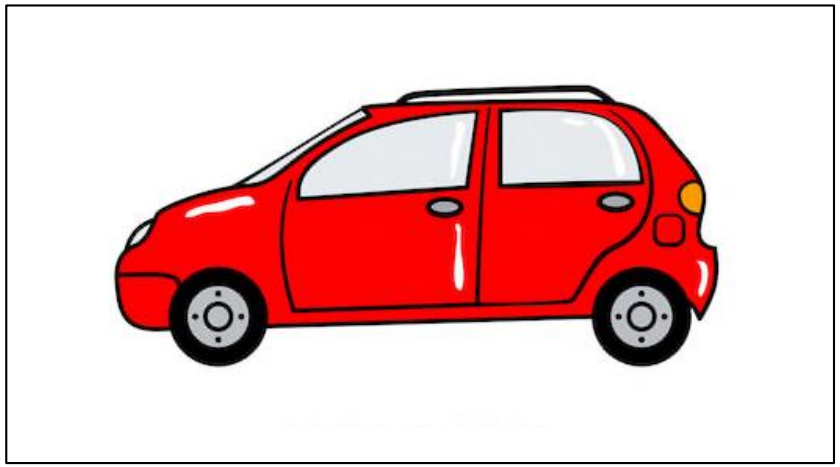
Scaling up...

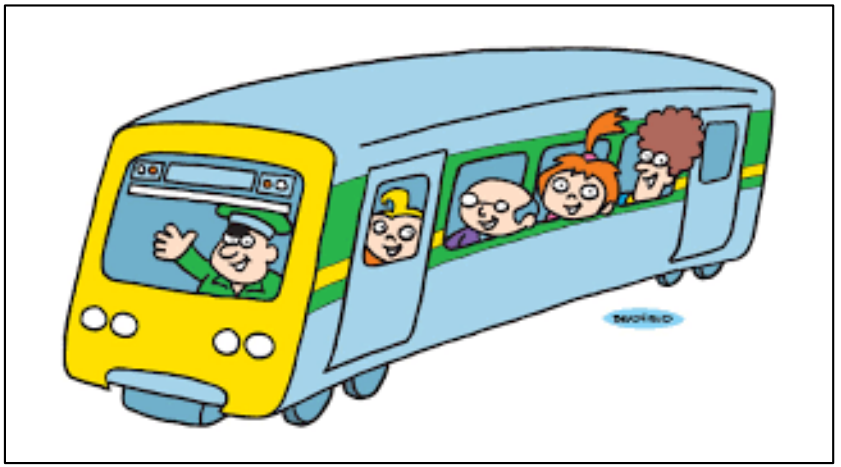


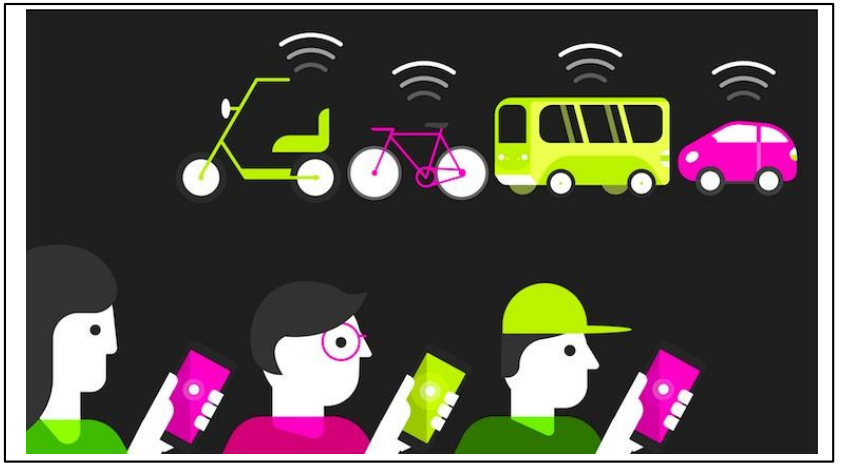




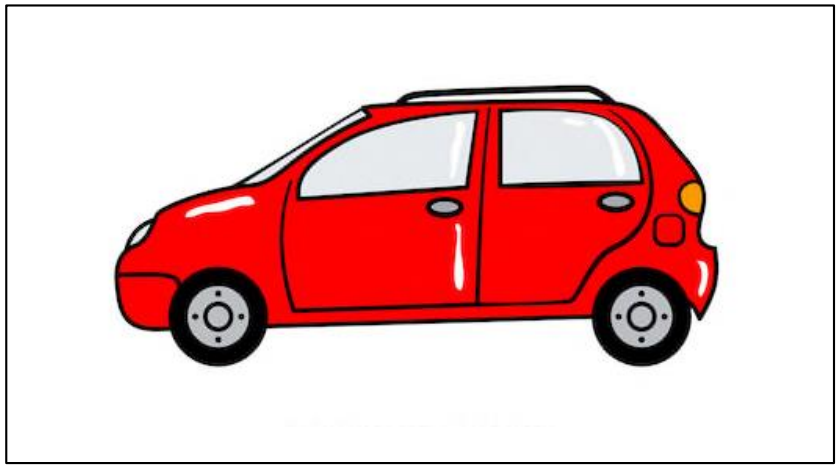
Infrastructure needs…

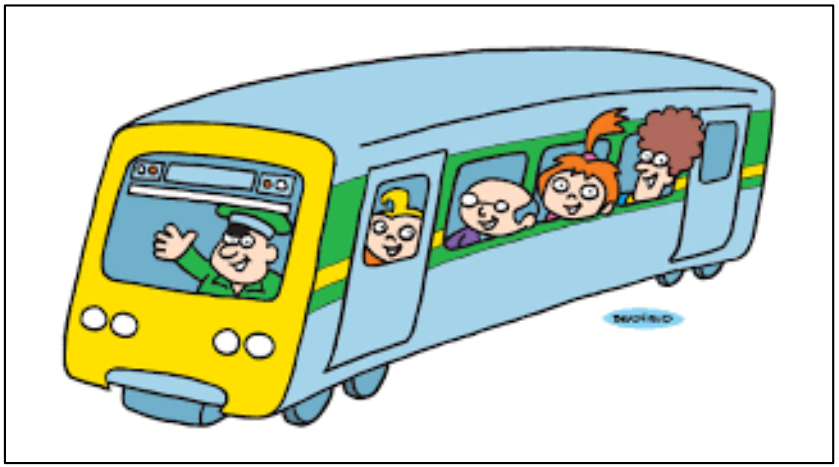


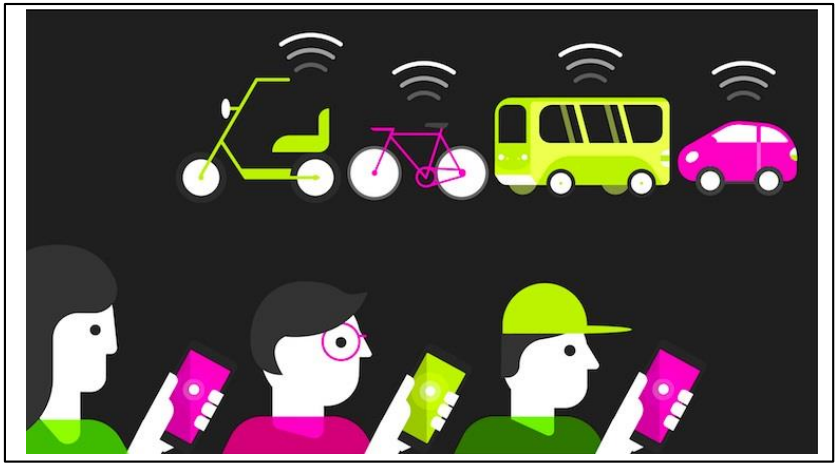




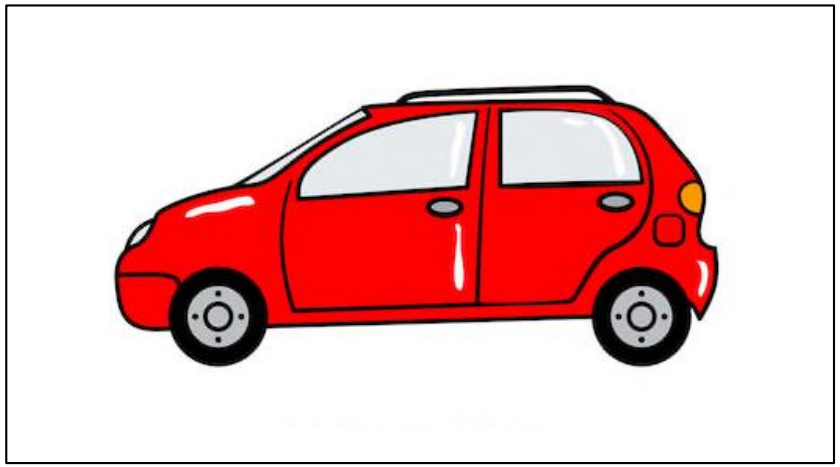
Settlement patterns…

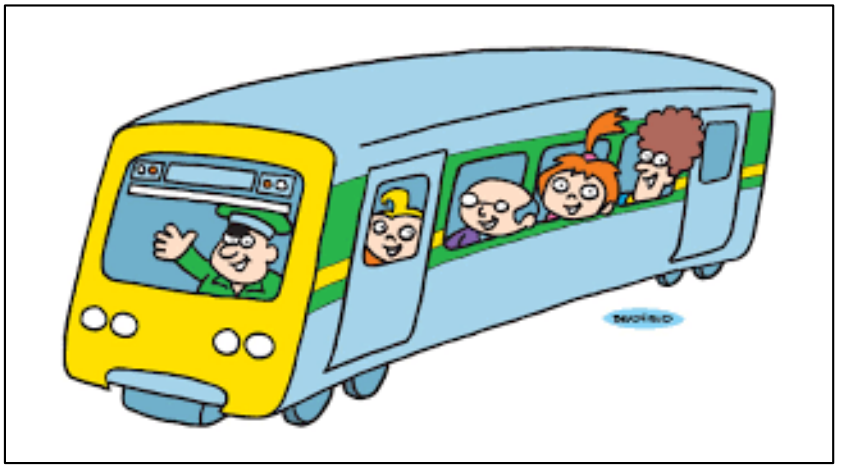


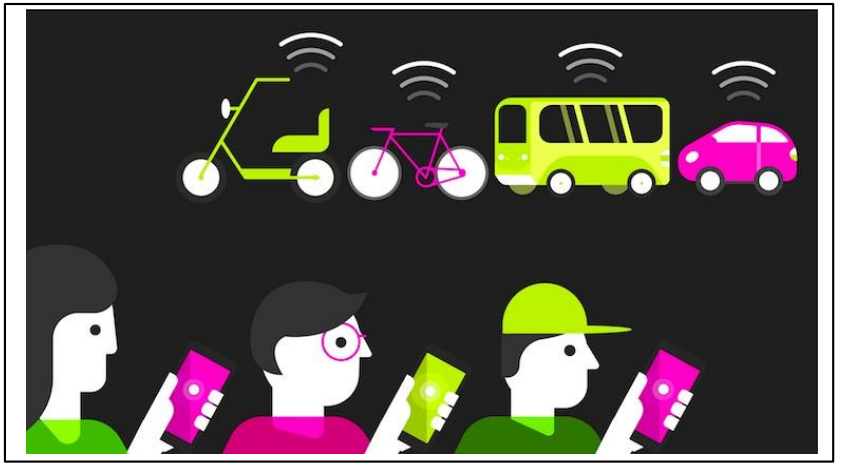




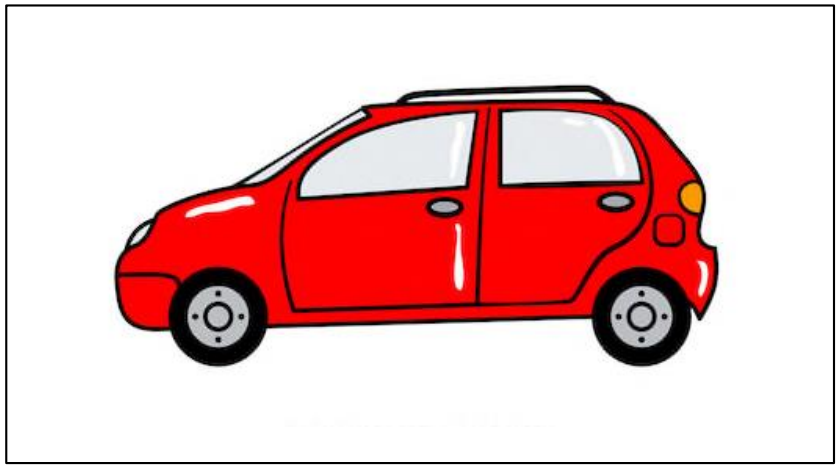
Strength of institutions…

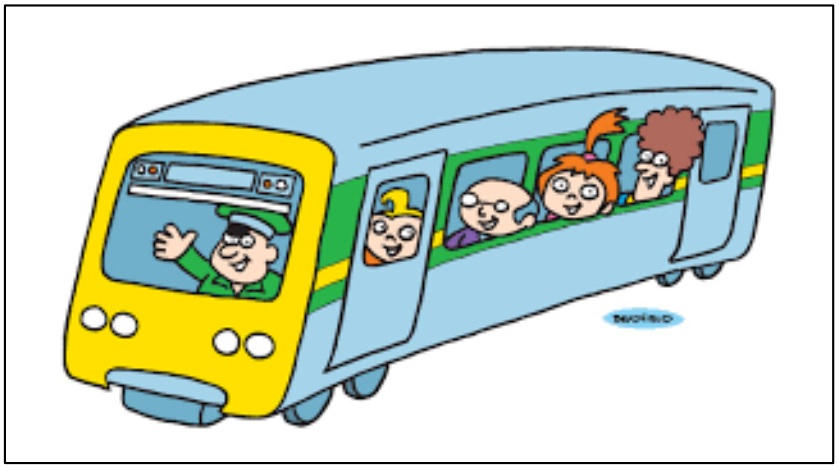


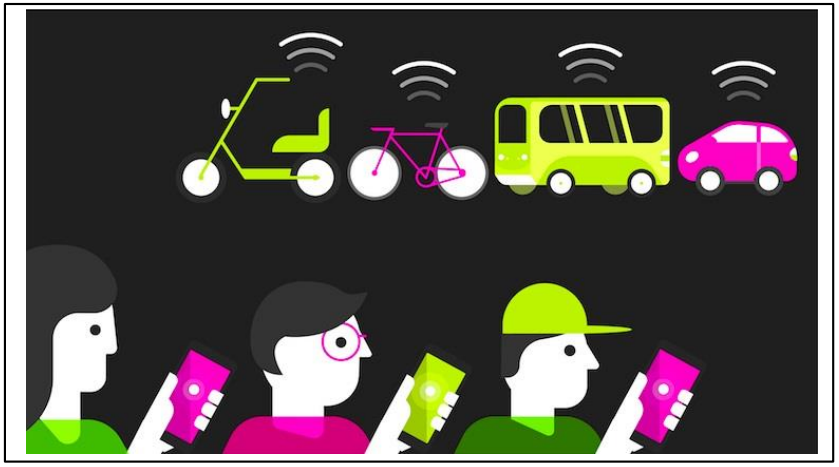




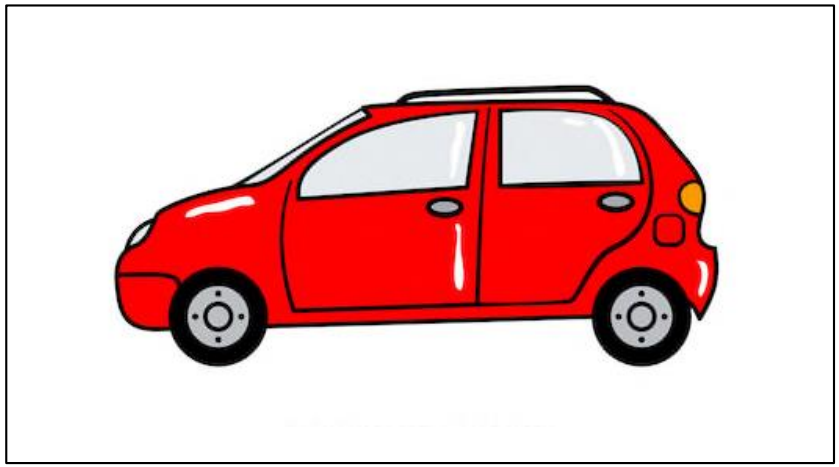
Health & well-being…

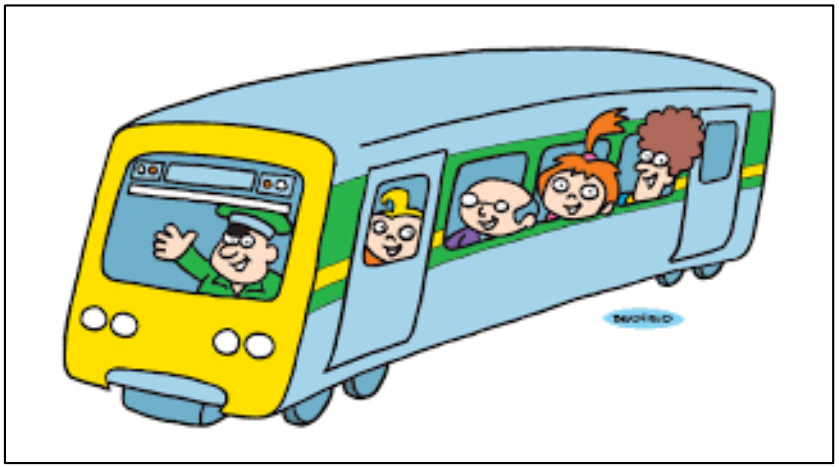


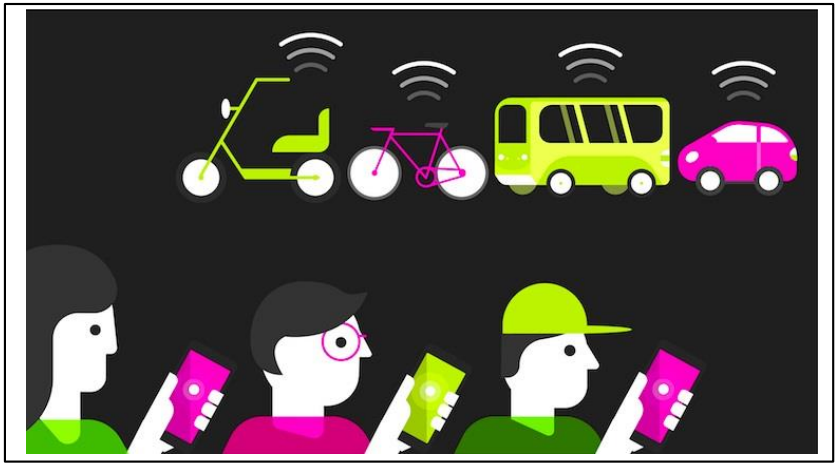




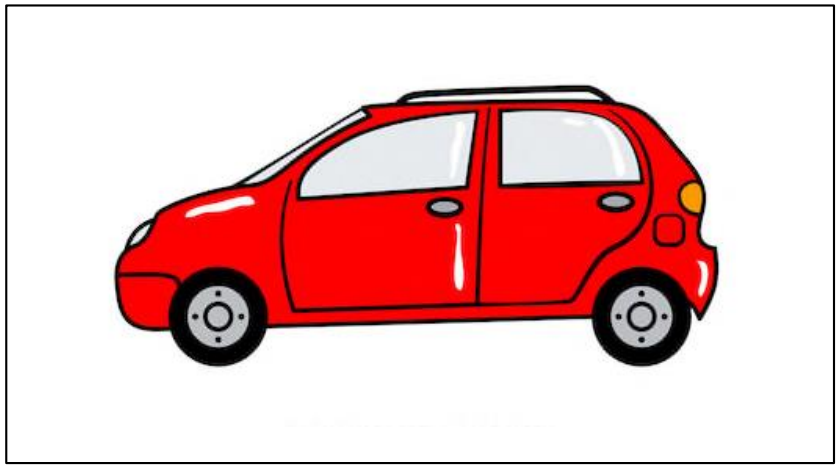
Technology adoption…

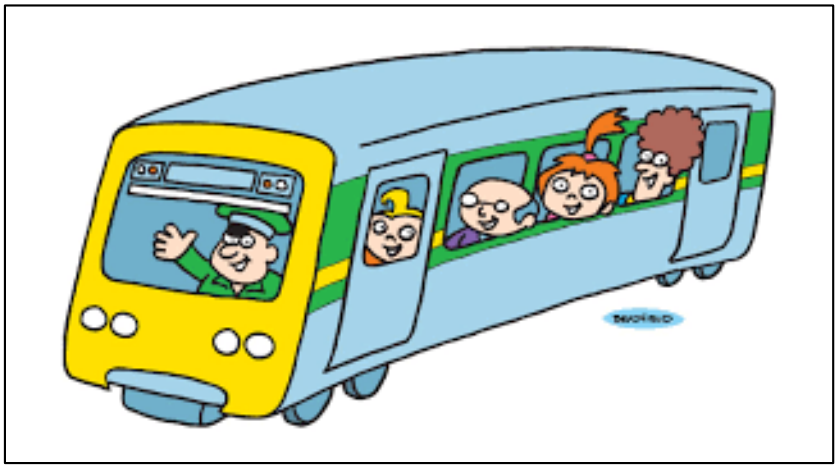


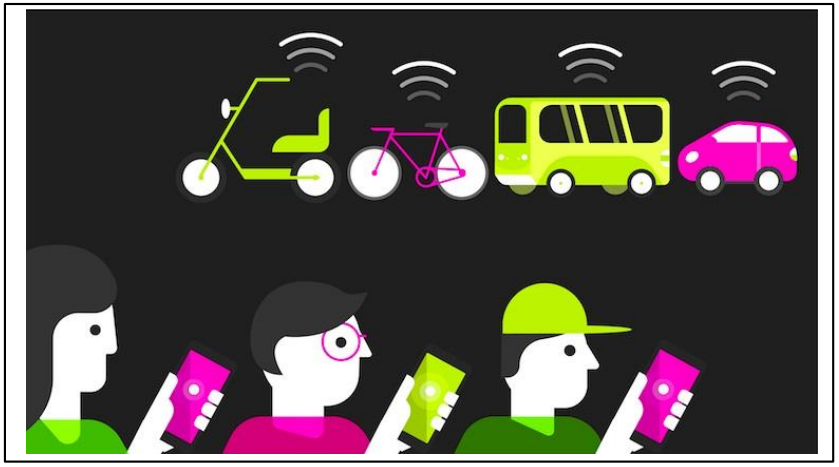




Incentivizing change…



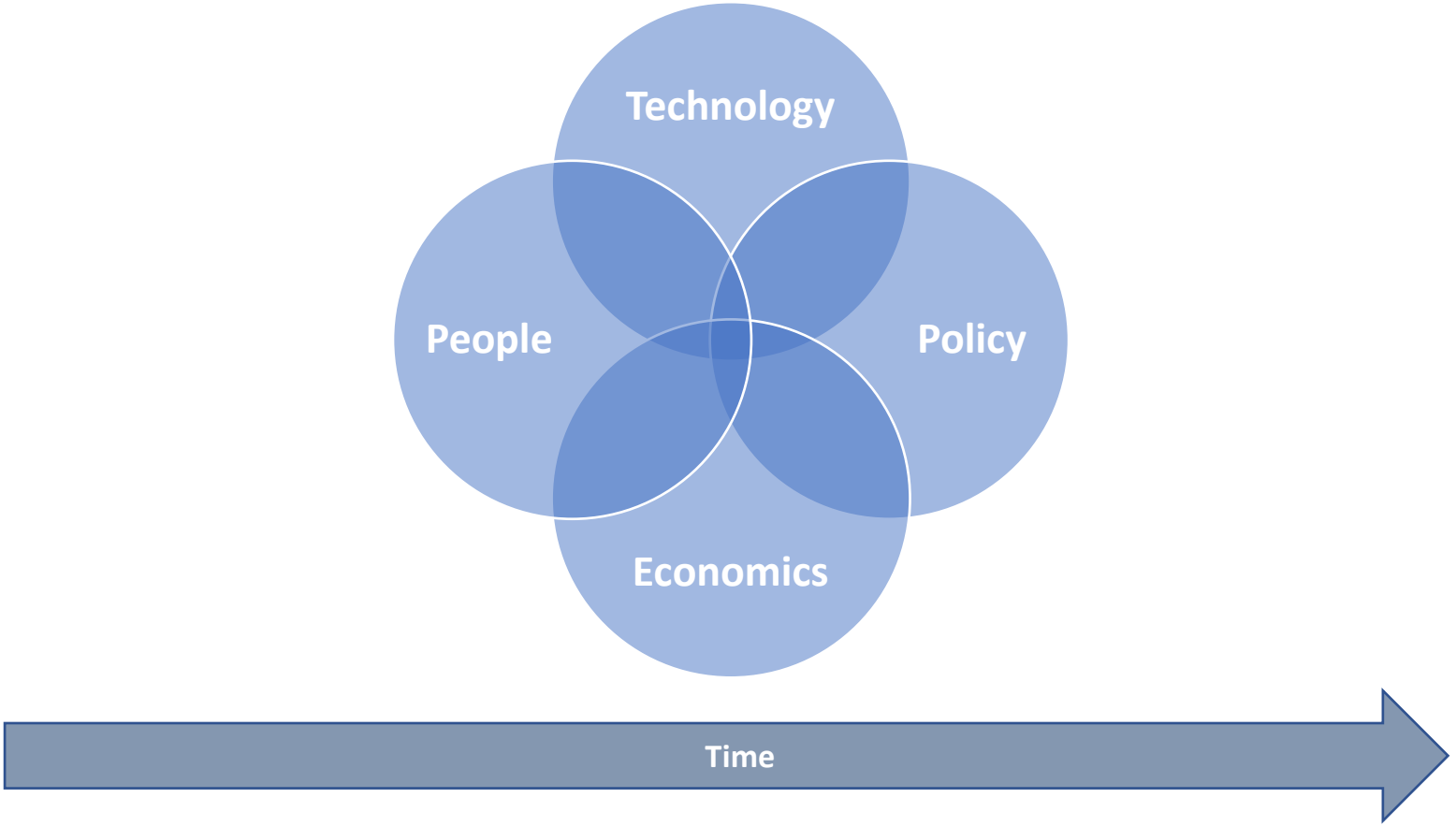




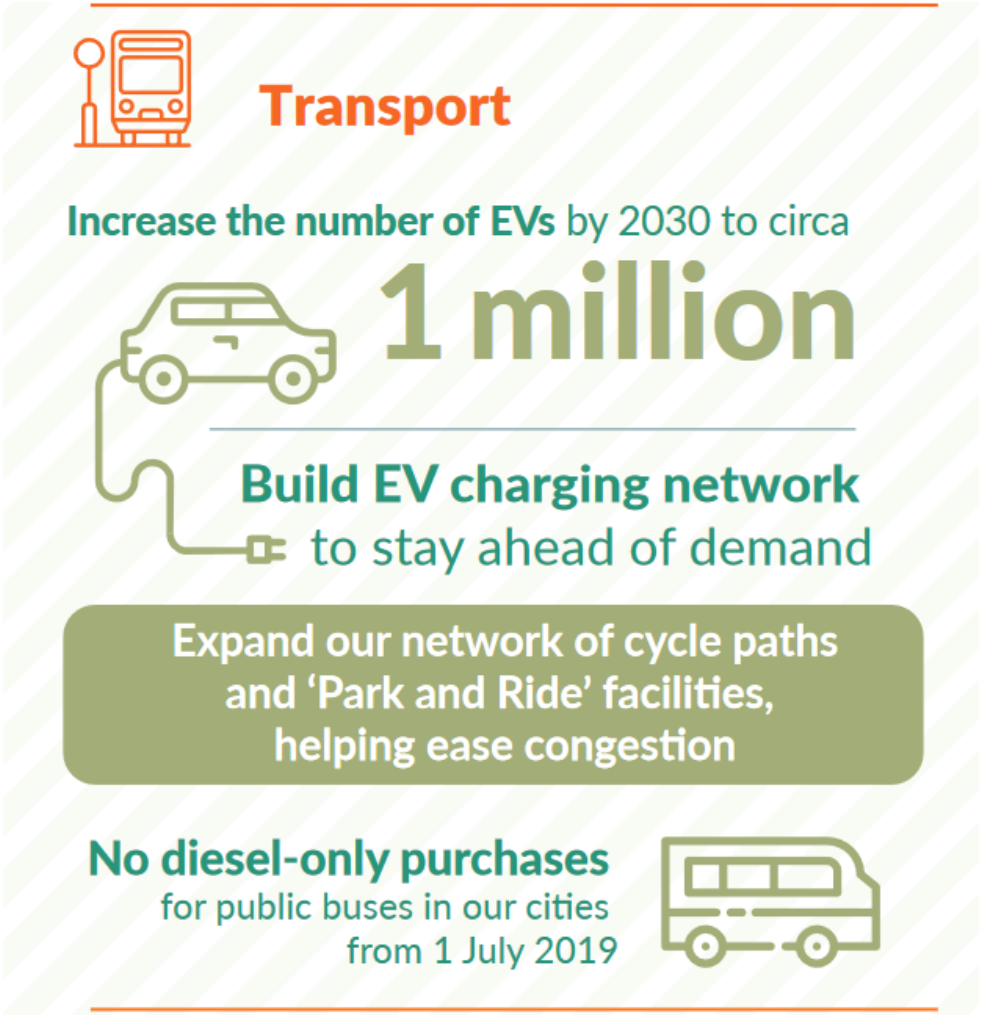
Decarbonising transport

- Mode fuel efficiency (EVs, hybrids, biofuels)
- Modal switching (from private to public)
- Human power (walking, cycling)
- Mobility as a service (car-sharing, etc)
- Not travelling (remote working, etc)

Exploring Energy Futures



Climate Action Plan

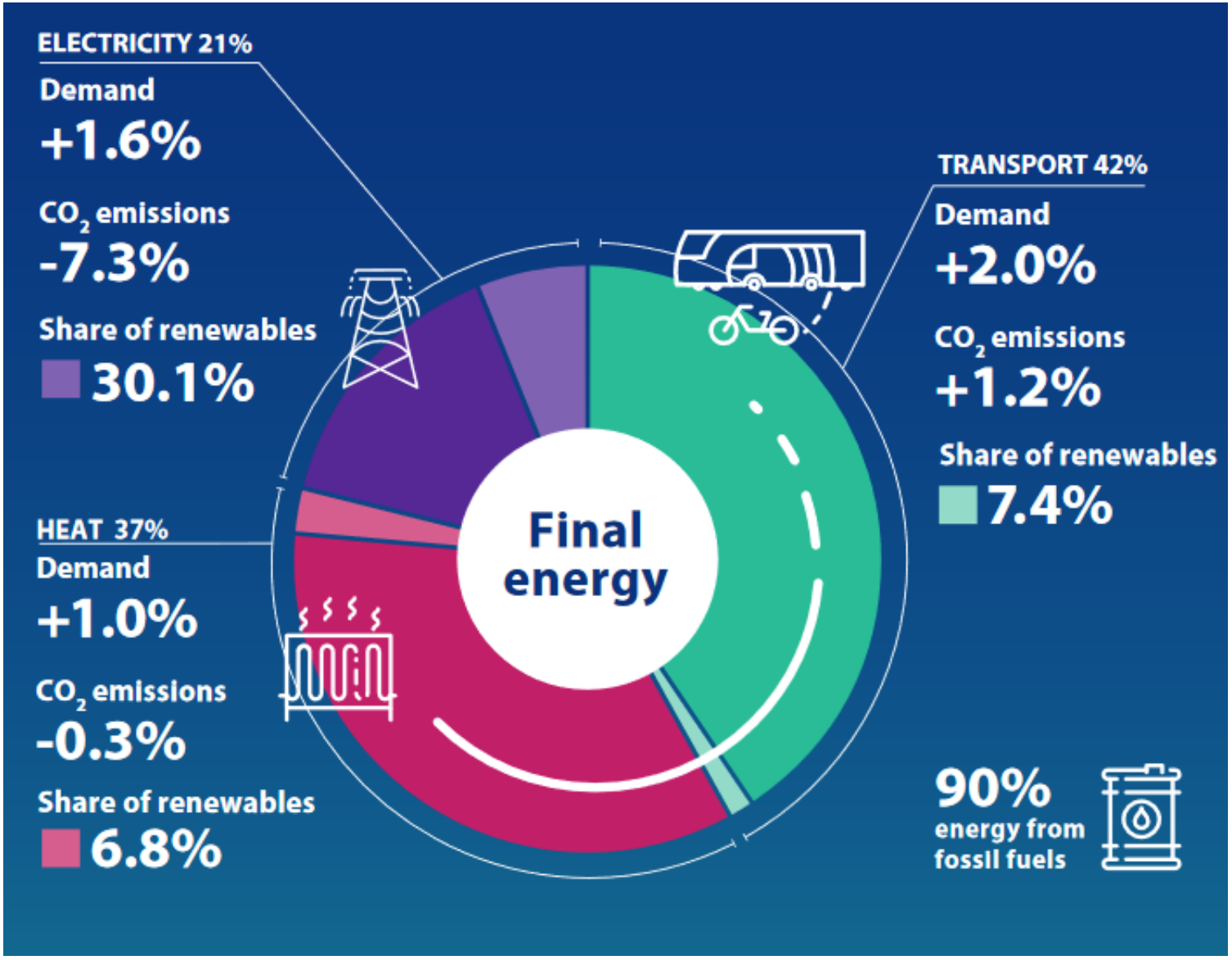


Climate Action Plan

Transport

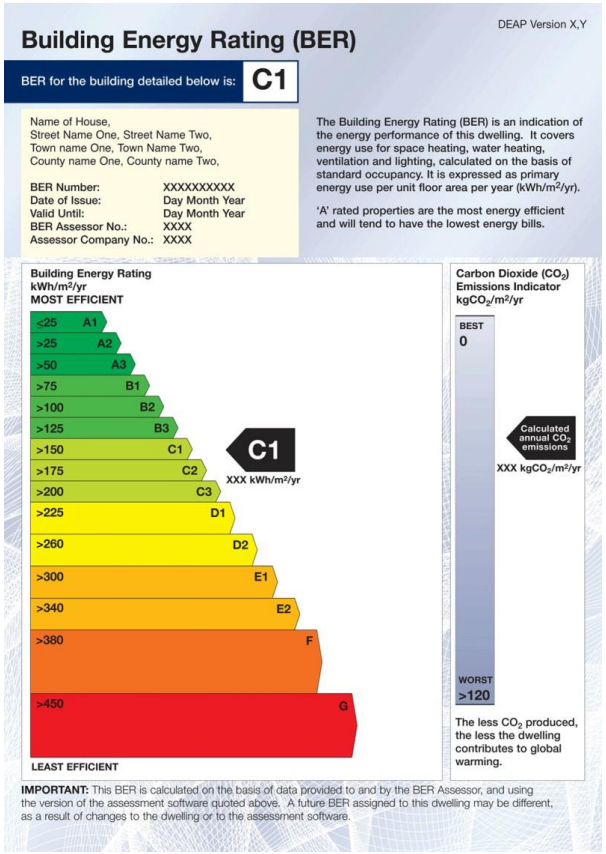
- Accelerate the take up of EV cars and vans so that we reach 100% of all new cars and vans being EVs by 2030. This will enable achieving our target of 950,000 EVs on the road by 2030. This means approximately one third of all vehicles sold during the decade will be Battery Electric Vehicle (BEV) or Plug-in Hybrid Electric Vehicle (PHEV)
- Make growth less transport intensive through better planning, remote and home-working and modal shift to public transport
- Increase the renewable biofuel content of motor fuels
- Set targets for the conversion of public transport fleets to zero carbon alternatives

Ireland's Energy Consumption (2017)

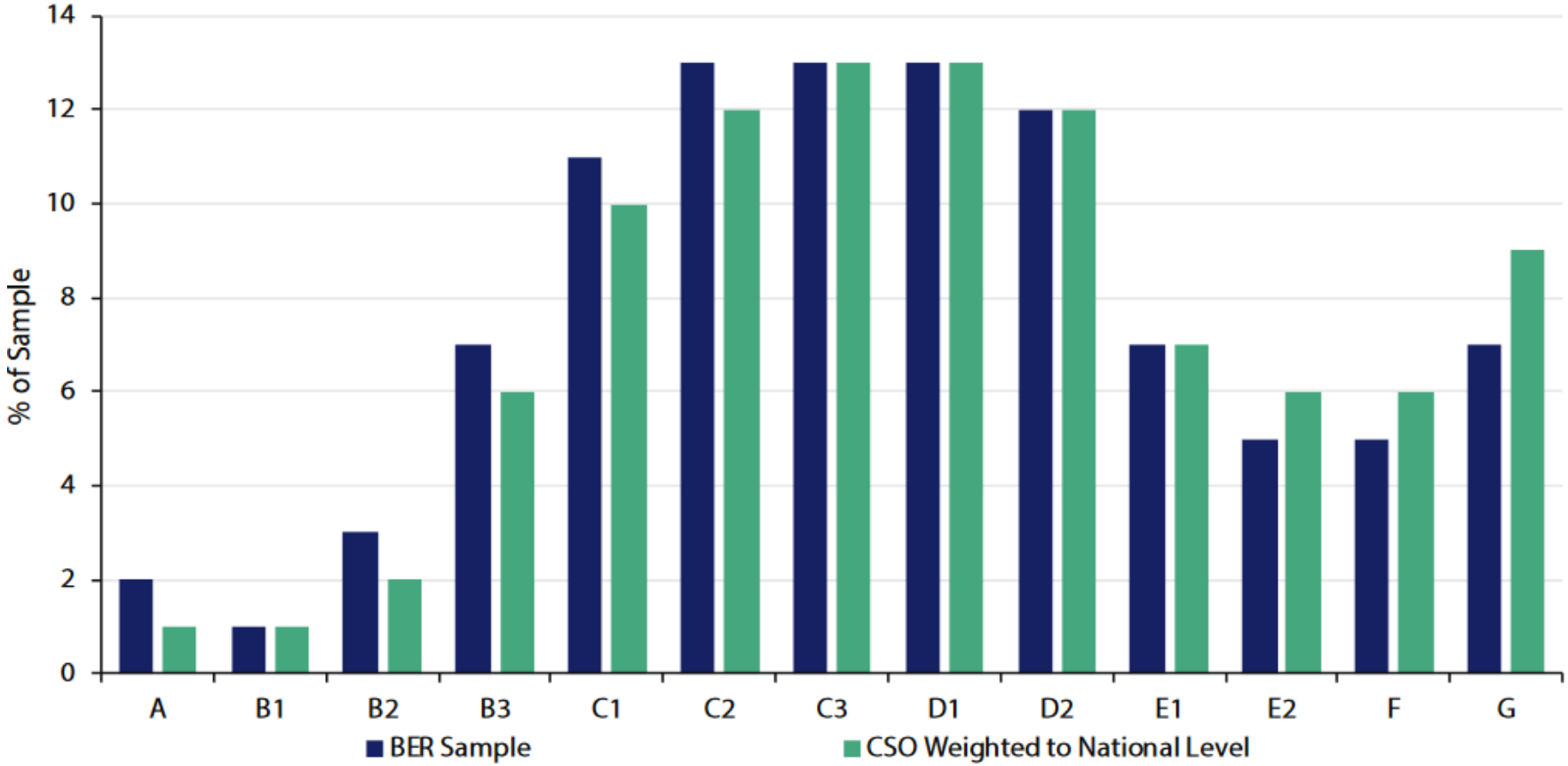


What is the BER of your home?

- A
- B
- C
- D
- E
- F
- G
- Don’t know



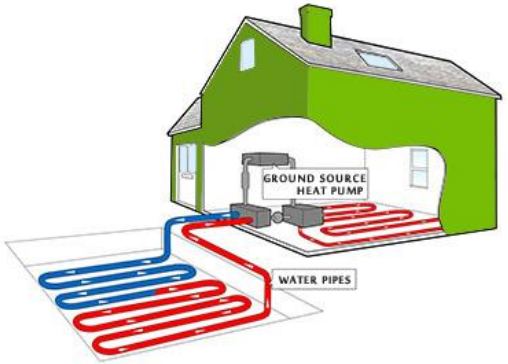
Distribution of BERs in the BER database and for the national housing stock, 2016

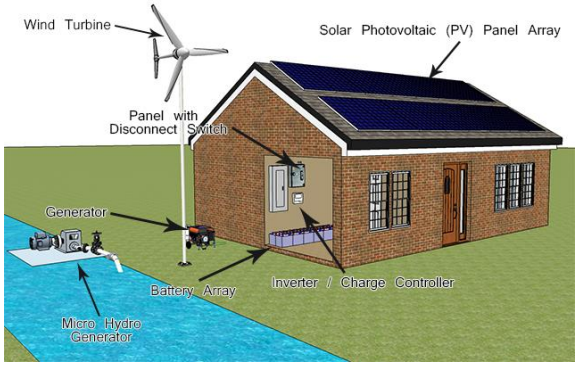


Source: SEAI

In 10 years what will be BER of your home?

- A
- B
- C
- D
- E
- F
- G
- Don’t know

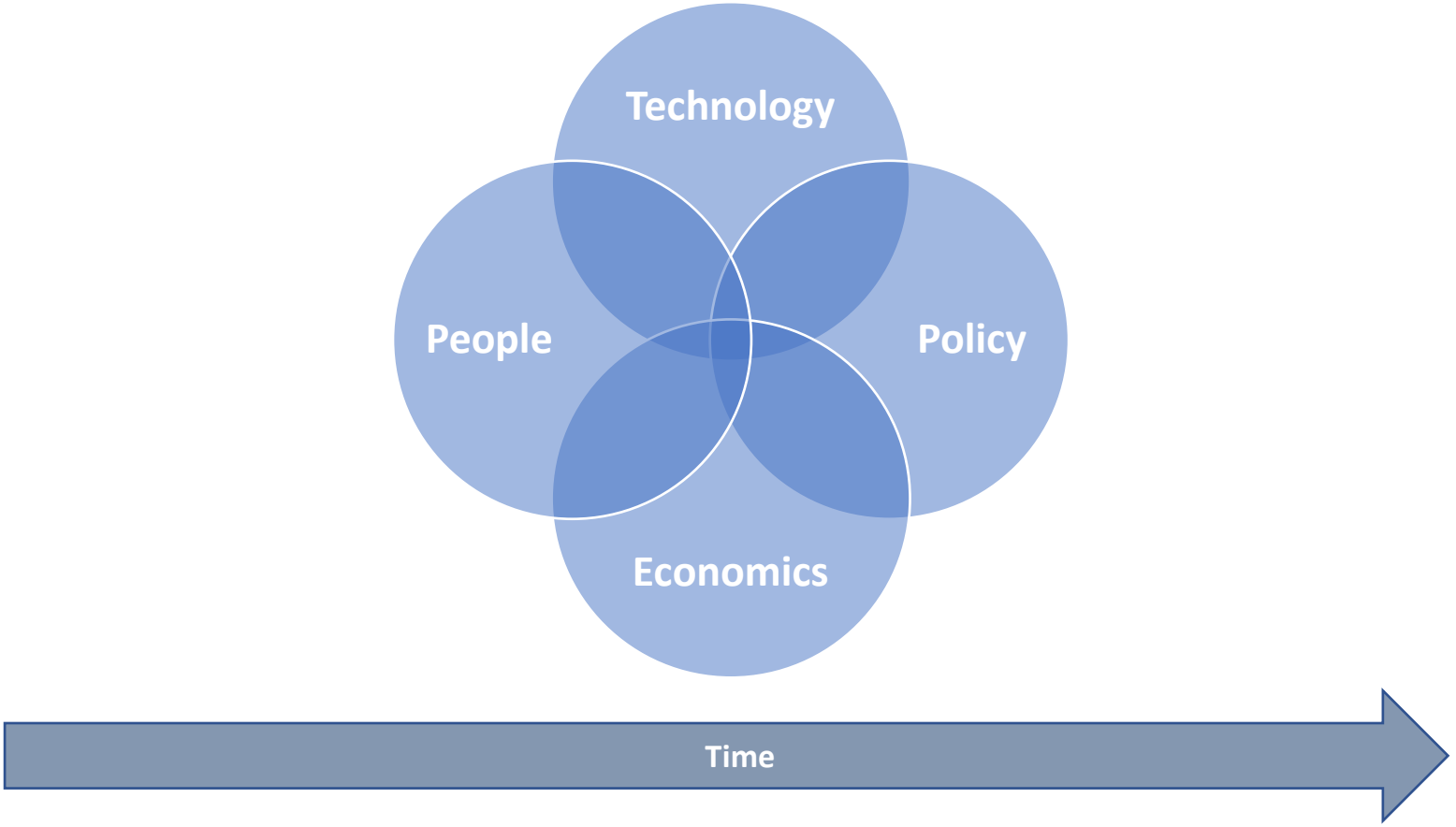




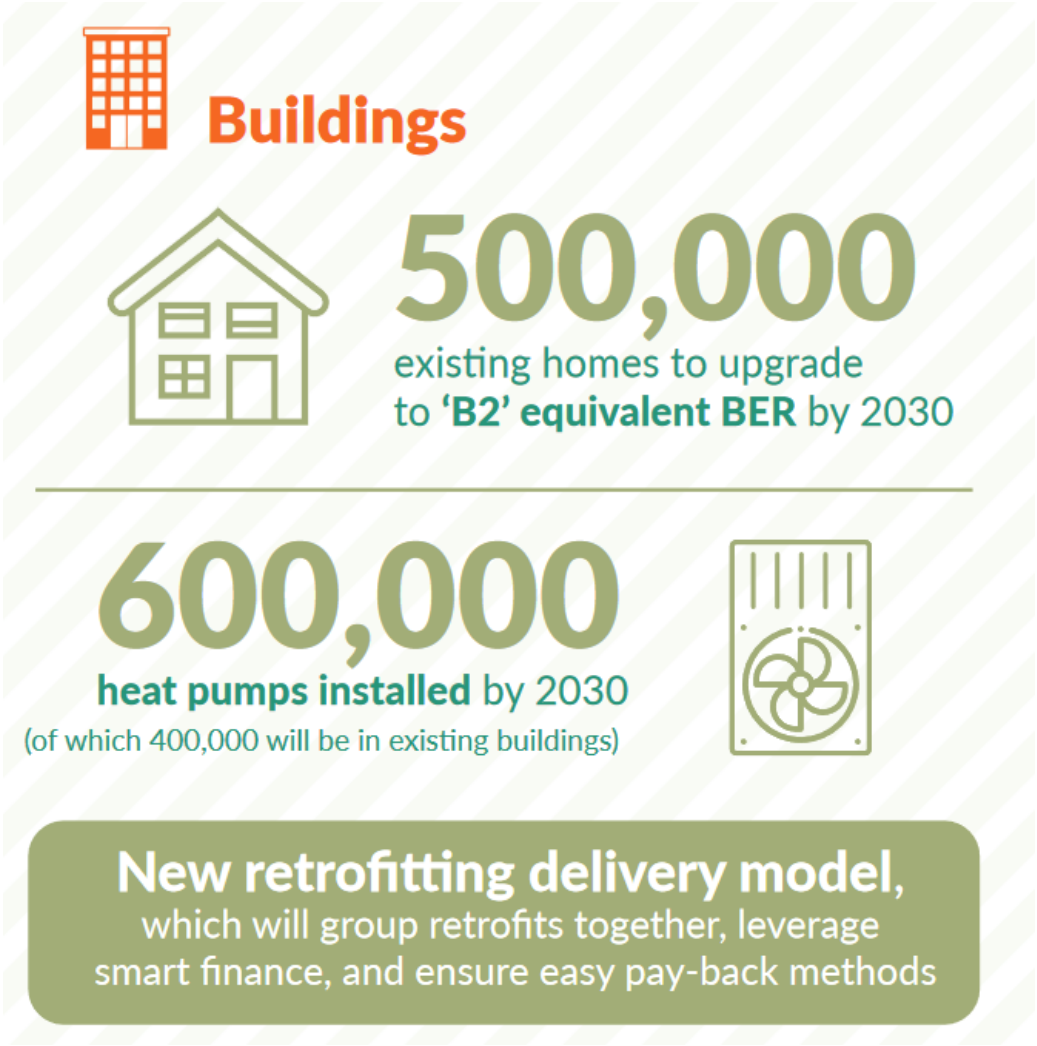
Discussion

- What did you base your decision on?
- What did you feel you lacked to make a decision? information, money?
- What would make you change your decision?
- What are long-term implications of your decision?
- What else would you change about your home?

Exploring Energy Futures



Climate Action Plan



Climate Action Plan

Buildings

- Introduce stricter requirements for new buildings and substantial refurbishments
- Design policy to get circa 500,000 existing homes to upgrade to B2 Building Energy Rating (BER) and 400,000 to install heat pumps
- Build a supply chain and a model for aggregation where home retrofits are grouped together to allow this level of activity to be funded and delivered
- Deliver two new district heating systems, and implement a roadmap for delivering District Heating potential
- Increase attention to Energy and Carbon ratings in all aspects of managing property assets

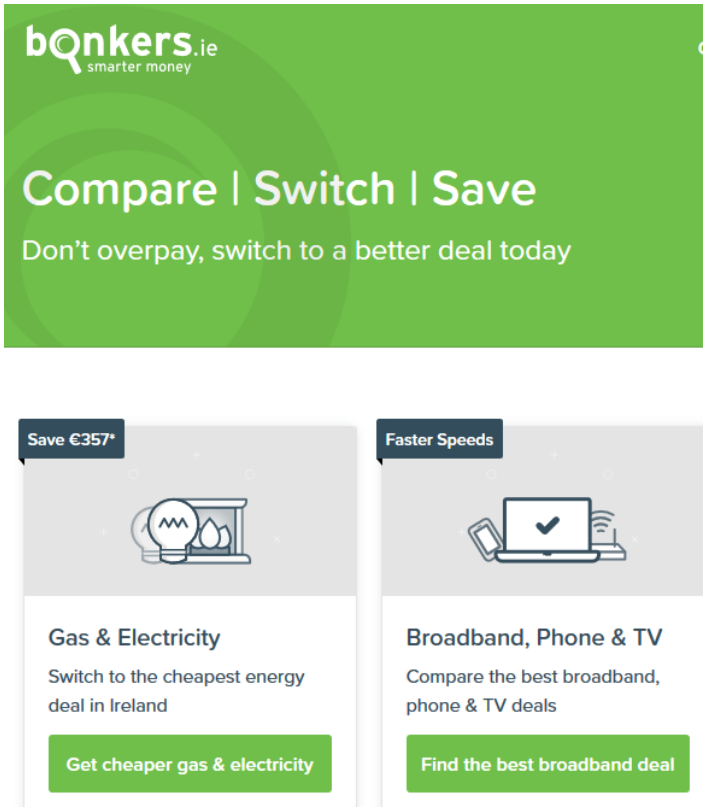
How do you choose an electricity supplier?

- Choice based on cost
- Choice based on environmental performance
- Electricity partly generated onsite (e.g. solar PV, micro-wind turbine)
- I never think about or change electricity supplier
- Other

After this weekend, how will you choose an electricity supplier?

- Choice based on cost
- Choice based on environmental performance
- Electricity partly generated onsite (e.g. solar PV, micro-wind turbine)
- I never think about or change electricity supplier
- Other

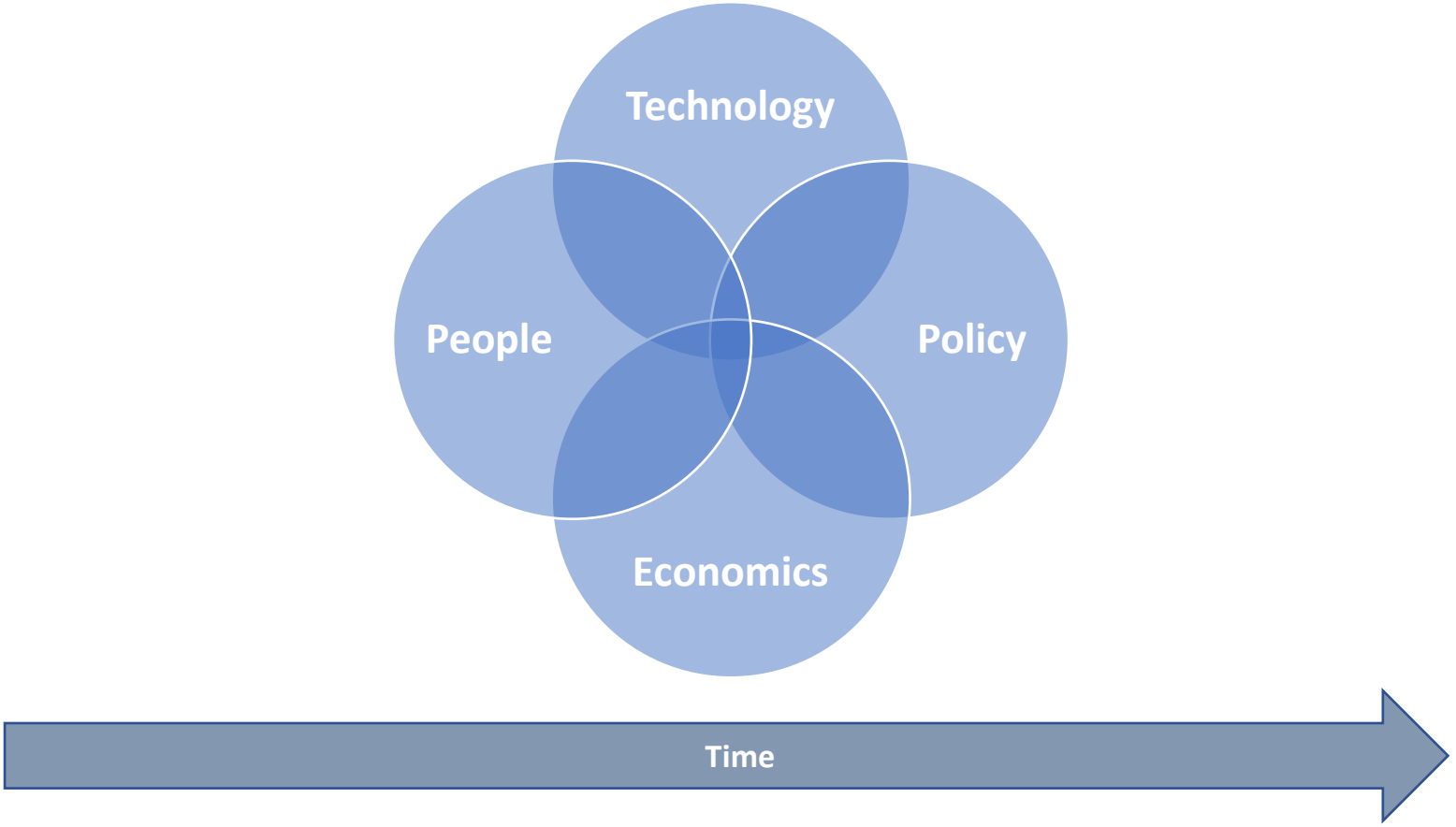
Information for choosing an electricity supplier



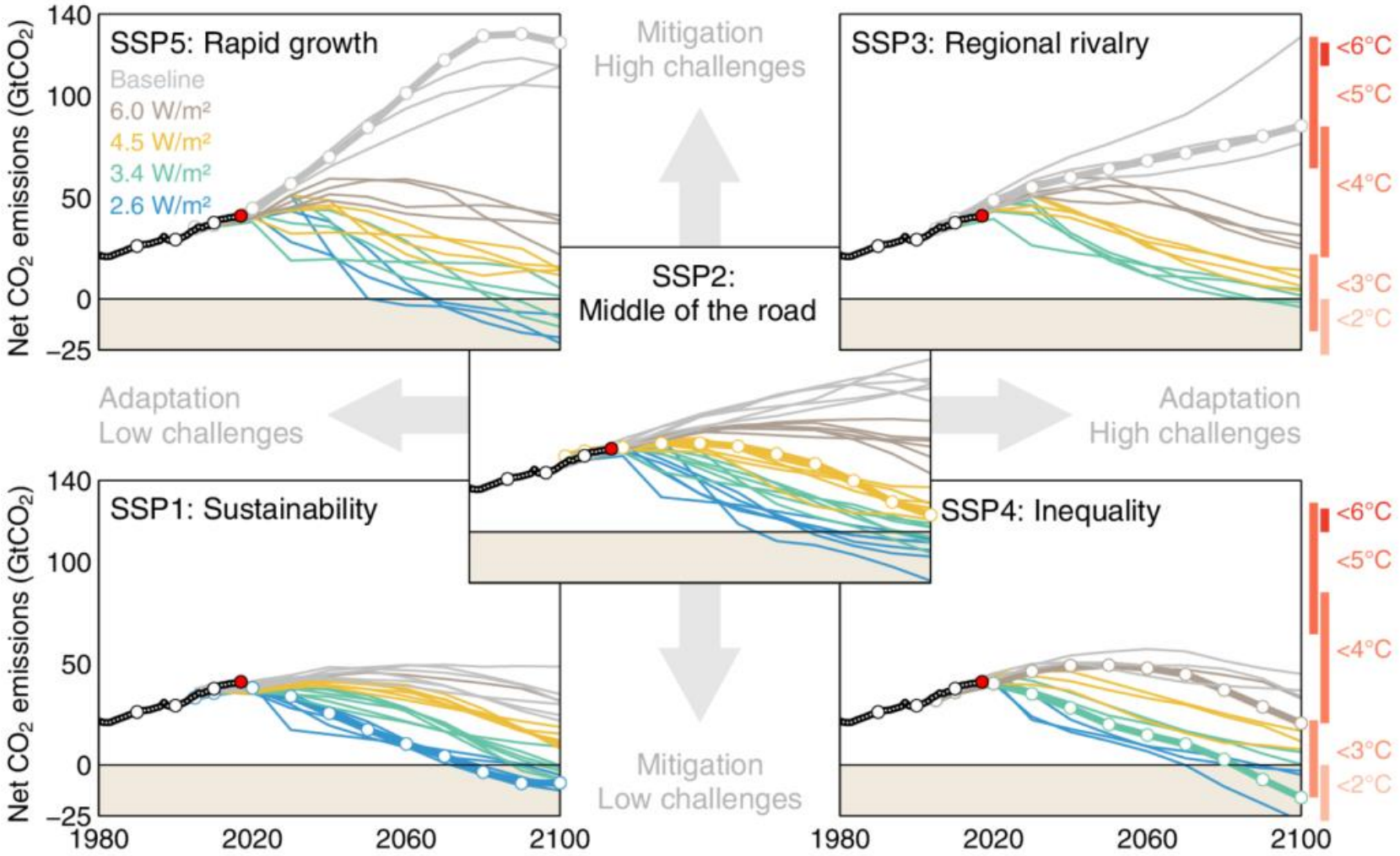
Discussion Points

- Energy consumer?
- Energy citizen?
- Local objection?
- Community ownership?

Exploring Energy Futures



Shared Socio-Economic Pathways (SSPs)



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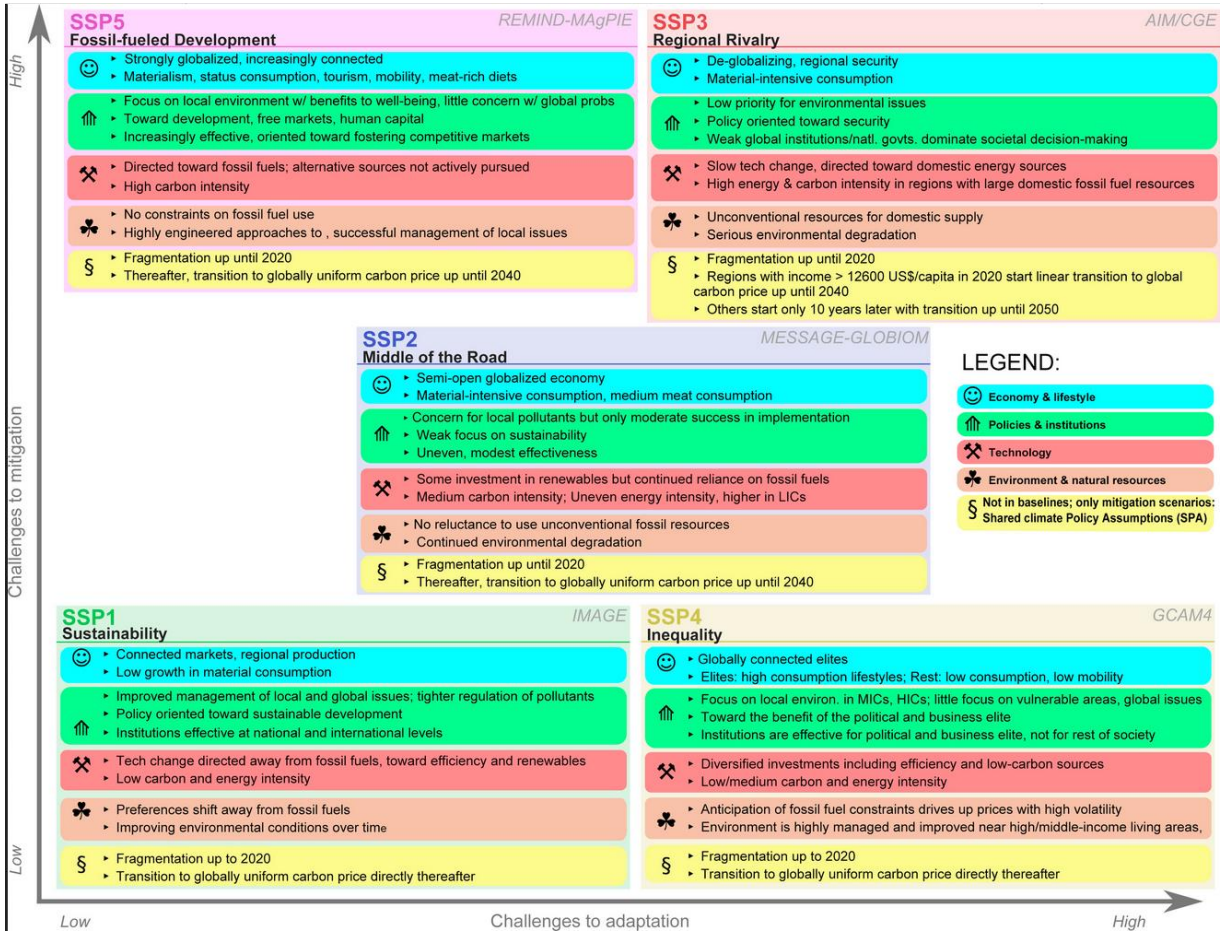

LEGEND:

- Economy & lifestyle
- Policies & institutions
- Technology
- Environment & natural resources
- § Not in baselines; only mitigation scenarios: Shared climate Policy Assumptions (SPA)

Source: (Bauer et al, 2017)

Shared Socio-Economic Pathways (SSPs)

SSP5: Conventional Development

- Rapid economic development
- Stabilizing population
- Eradication of extreme poverty Consumerism
- High fossil fuel dependency
- and universal access to education and basic services
- Highly engineered infrastructure and ecosystems

SSP1: Sustainability

- Strong economic development
- Stabilizing population
- Decreasing income inequality
- Focus on sustainable development
- Early MDG achievement
- Low resource intensity and fossil fuel dependency
- Strong int'l governance and local institutions
- Well managed urbanization
- Environmentalism

SSP2: Middle of the Road

- Current trends continue
- Strong economic growth
- Moderate population growth
- Increasing income convergence between industrialized and developing countries
- Delayed MDG achievement
- Reductions in resource and energy intensity at historic rates
- Environmental degradation

SSP3: Fragmentation

- Slow economic growth
- Rapid population growth
- Continued income inequality
- Failing to achieve MDG
- High resource intensity and fossil fuel dependency
- Low investments in technology development and education
- Unplanned settlements
- Weak int'l governance and local institutions

SSP4: Inequality

- Stabilizing population
- Slow income growth globally
- Increasing income inequality
- Governance controlled by a few rich global elites
- Limited access to education, basic services for most populations
- Energy tech R&D made by global energy corporations
- Low social cohesion

Source: (Waldhoff, 2014)

SSP1 Sustainability – Taking The Green Road

Human Welfare

- High investment in education
- Higher and more equal incomes
- Low population growth

Policies & Institutions

- Open and global trade
- Commitment to international agreements
- Reduced inequality both within & between countries

Consumption

- Economic growth & material consumption decouple
- Less intensive lifestyles
- More efficiency

Environment

- High environmental awareness & stewardship
- Fast phase-out of fossil fuels
- Indigenous development of renewables

SSP3 Regional Rivalry – The Rocky Road

Human Welfare

- Low investment in education
- High inequality in incomes
- Fast population growth

Policies & Institutions

- Regionalism and focus on security
- Weak international agreements
- High inequality both within & between countries
- Trade barriers

Consumption

- Economic growth & material consumption stay coupled
- Resource intensive lifestyles
- Reduced efficiency

Environment

- Environmental degradation and negative impacts of climate change
- Food and energy security prioritised over phase-out of fossil fuels
- Slow development of renewables

SSP1 Sustainability – Taking The Green Road (Ireland)

Human Welfare

- High investment in education
- Higher and more equal incomes
- Low population growth (balanced by immigration)

Policies & Institutions

- Open and global trade (export led economic growth, large bioenergy imports)
- Commitment to international agreements
- Reduced inequality both within & between countries

Consumption

- Economic growth & material consumption decouple (modal switch to public transport)
- Less intensive lifestyles (less aviation, more veganism, circular economy practices)
- More efficiency (high take-up of deep retrofitting, bioeconomy)

Environment

- High environmental awareness & stewardship
- Fast phase-out of fossil fuels
- Indigenous development of renewables (large installation of wind & PV farms)

SSP3 Regional Rivalry – The Rocky Road (Ireland)

Human Welfare

- Low investment in education
- High inequality in incomes (**fall in living standards**)
- Fast population growth (**high emigration**)

Policies & Institutions

- Regionalism and focus on security
- Weak international agreements
- High inequality both within & between countries
- Trade barriers (**limited bioenergy availability**)

Consumption

- Economic growth & material consumption stay coupled (**animal-based agriculture continues, high car dependency**)
- Resource intensive lifestyles
- Reduced efficiency

Environment

- Environmental degradation and negative impacts of climate change (**floods, volatile weather patterns, extreme events**)
- Food and energy security prioritised over phase-out of fossil fuels
- Slow development of renewables