

Royal Society of Chemistry

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Spending time in a low carbon society:  
**Less stuff, more fun?**

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## Acknowledgements:

Tim Jackson

Director of the Centre for the  
Understanding of Sustainable Prosperity (CUSP)

<http://www.cusp.ac.uk/>



# Paris Climate Agreement

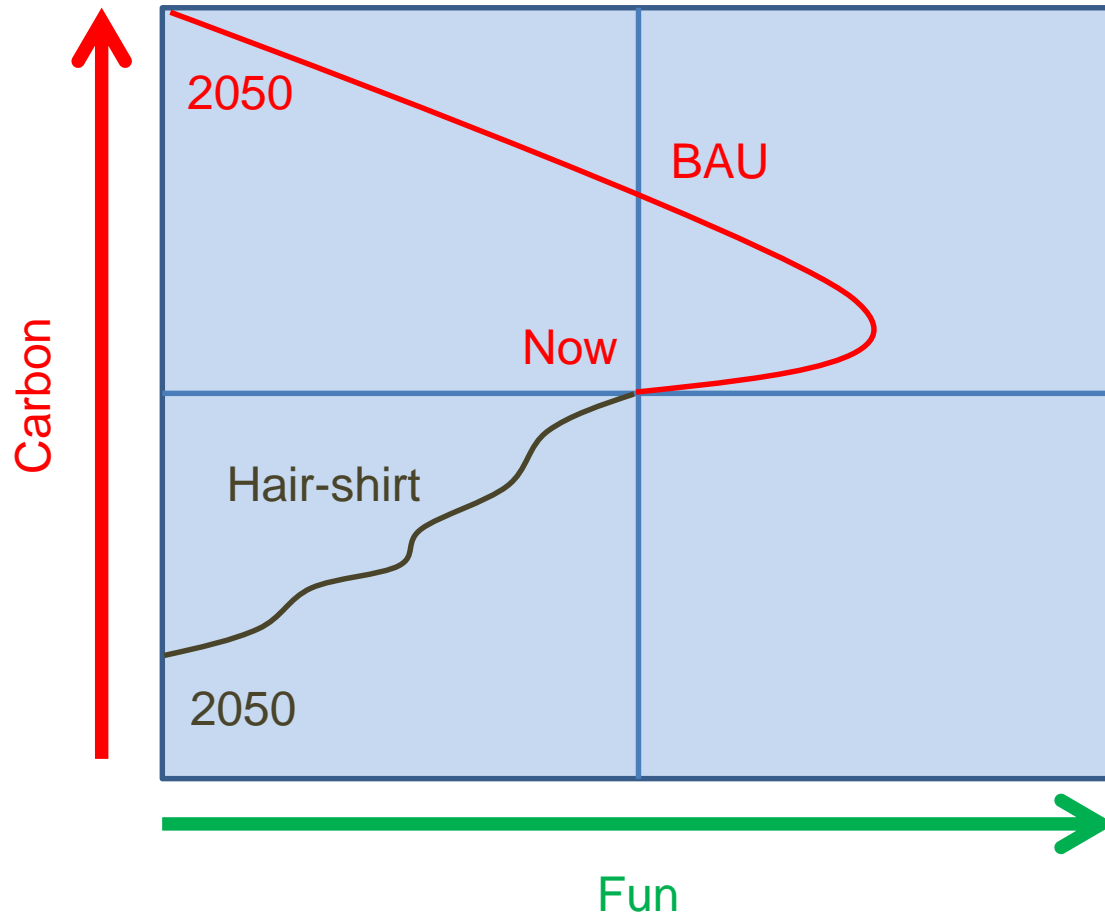
The first-ever universal, legally binding global climate agreement to put the world on track to avoid dangerous climate change.

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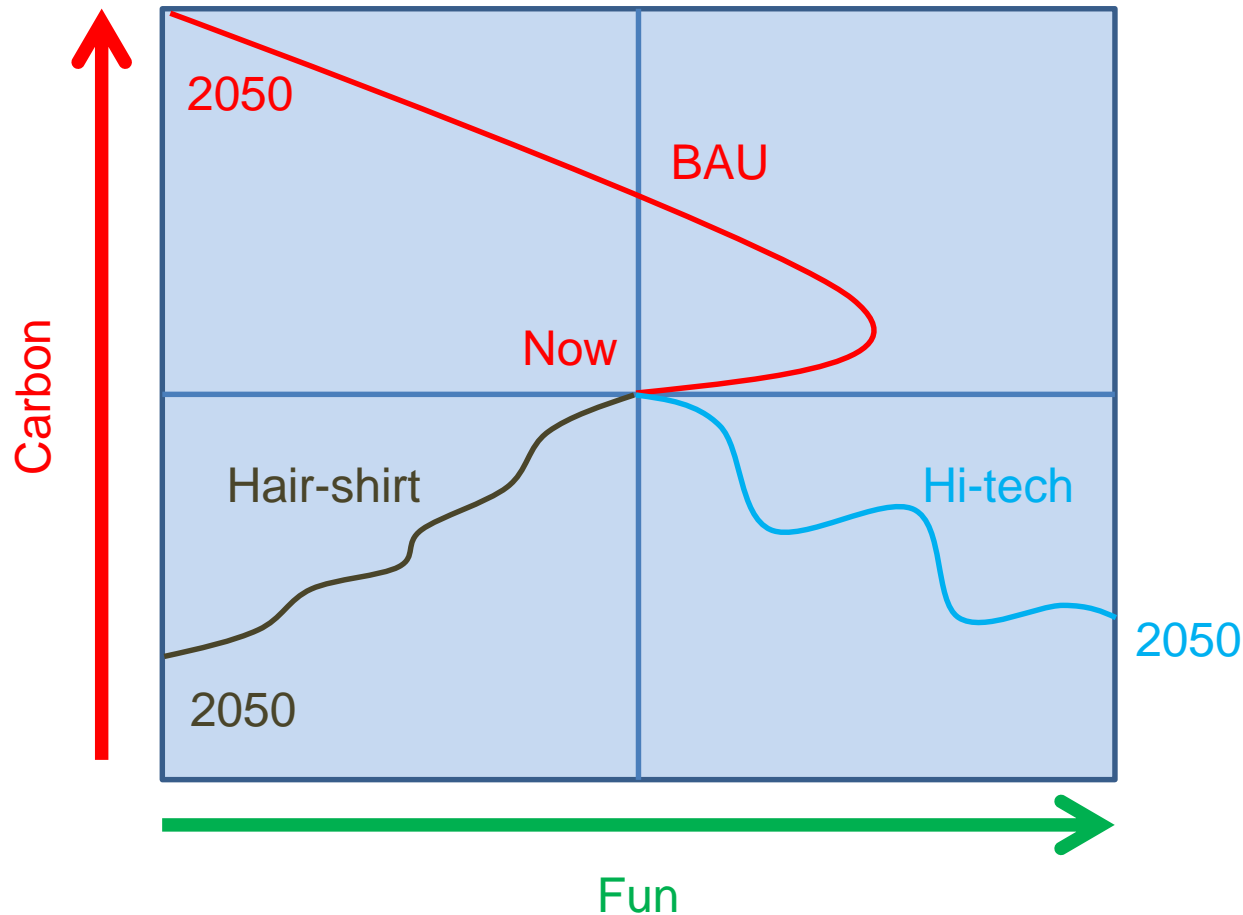
# Starting point

- Premises:
  - technological change is not enough
  - lifestyles also need to change
  - how we use our time matters
  - change which is fun is more likely to happen
- Two candidates for low-carbon, high-fun
  - Hi-Tech: digitalisation, dematerialisation
  - Slow-living: consume less, localism

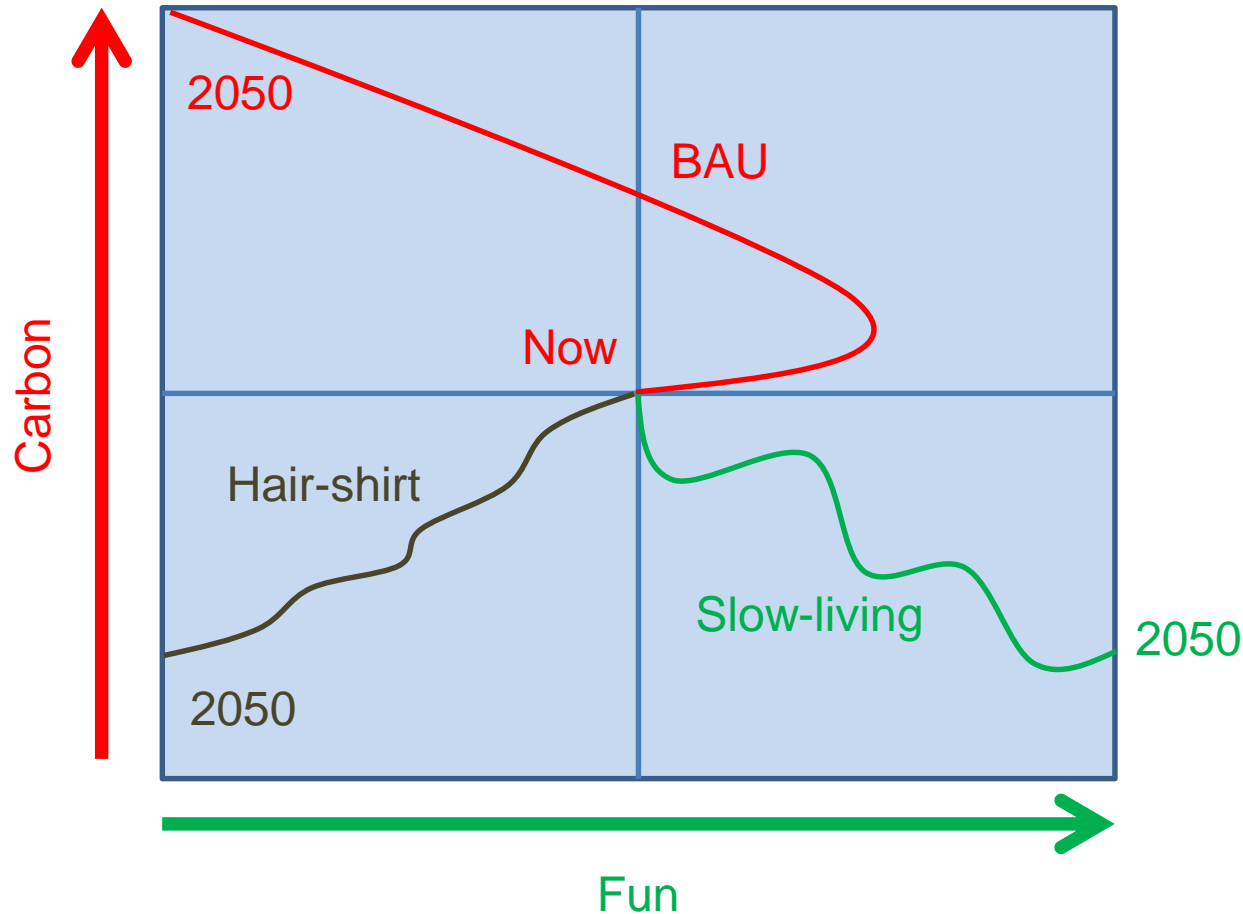
# Starting point



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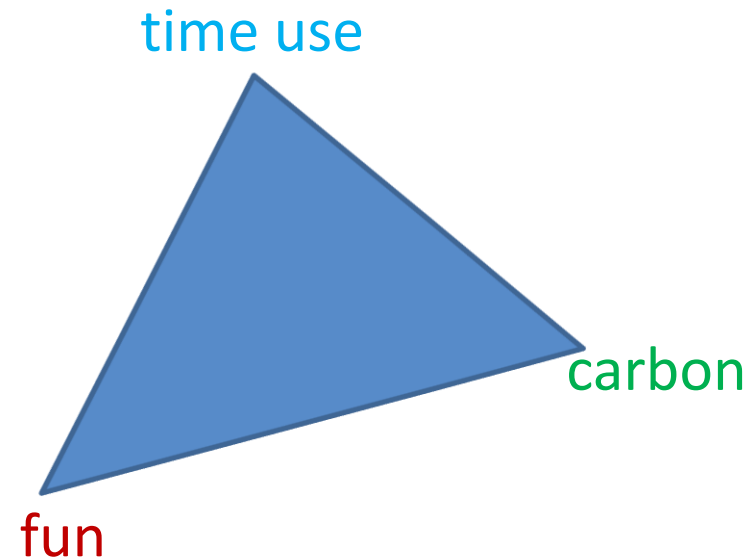


# Guiding Questions

- Which lifestyles require less stuff and deliver more fun?
- Which is more effective?
  - Hi-Tech: digitalisation, dematerialisation
  - Slow-living: consume less, localism.

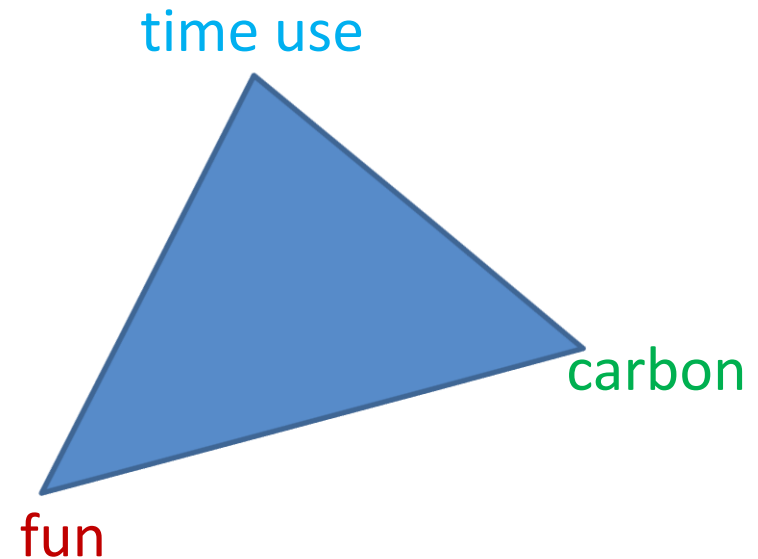
# Plan

- Set the scene
  - Understanding time and time use
  - What do we mean by ‘fun’?
- Review some evidence
- Implications?



# Plan

- Set the scene
  - Understanding time and time use



*time use*

*‘An individual’s main objective in consumption is to help create the social world and to find a credible place in it.’*

Mary Douglas (1976)

But how does this help?

- One of the barriers to sustainability is growing inequalities;
- Is time use more egalitarian?
- Whether we are rich or poor, have time on our hands, or excessively busy, each of us only has 24 hours per day

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# Wealth in time

- ....“*having enough time at the right time and feeling comfortable with one’s time frames and institutions*”.
- Aspects of time wealth:
  - Sequence and timing are important
    - Chronologic: right time at right time of day/week/season according to personal and natural rhythms
  - Personal time autonomy in setting one’s own pace and determining working hours and content
  - Synchronization with time constraints of significant others

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# Inequalities in time use

- Time poor: lone parents;
- Fragmentation of time:
  - Men's leisure time is generally more 'usable' than women's
  - .....but roles are changing.....

# How good are we at managing our time?

## .... current practices.....

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Use computers etc too much...

Drive & sit in traffic too long

.... at the wrong time

Eat too fast

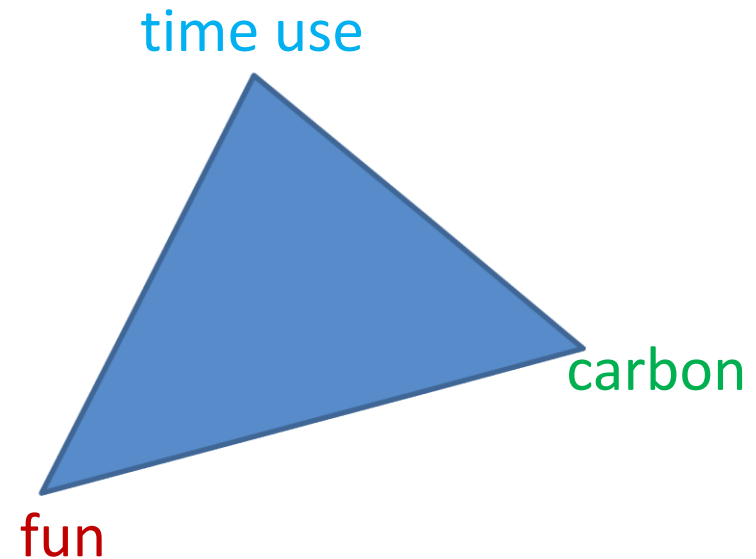
Sleep deprived

# Summary so far.....

- We could improve the way we use our time
  - Current practices undermine well-being, ties with family/friends, physical health
- Reducing carbon emissions is generally approached through the lens of consumption;
- Looking through the lens of time use may be a helpful complement:
  - Different properties to monetary consumption
    - Time uses are not interchangeable at will (cf Becker (1965)).
  - More egalitarian?

# Plan

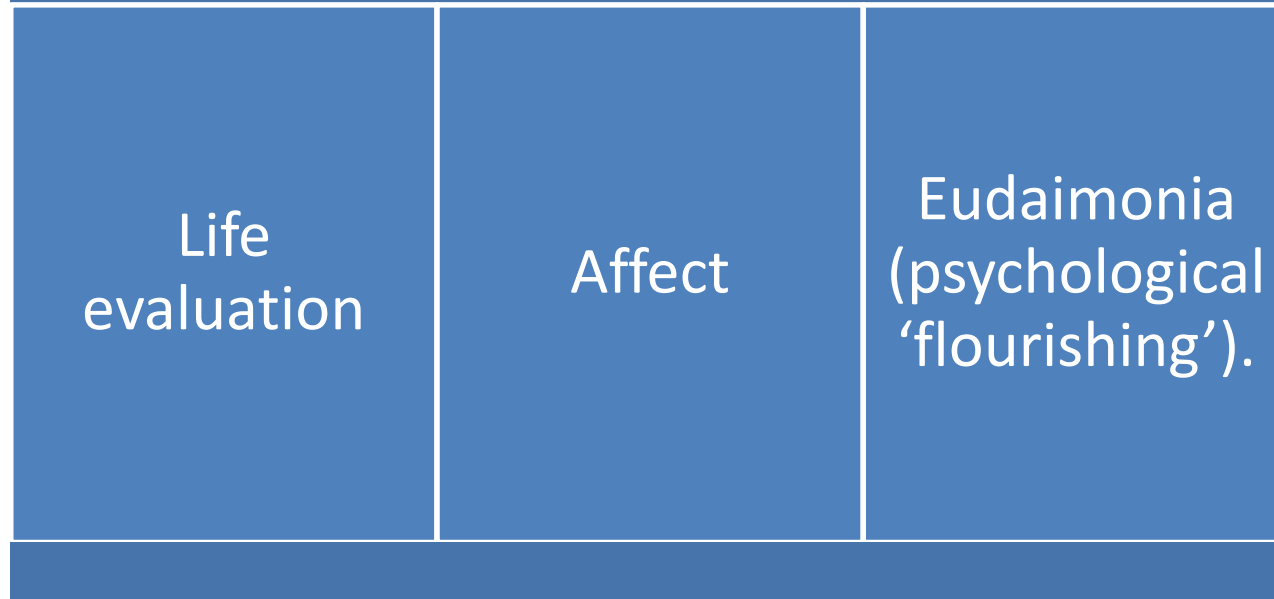
- Setting the scene
  - Understanding time and time use
  - **What do we mean by 'fun'?**
- Evidence
- Implications



# What do we mean by 'fun'?

- Concept of 'fun' is not just 'frivolity'
  - 'fulfilment', 'flourishing' 'flow'.
- Incorporates positive message – agency, hope, positivism
- Subjective wellbeing as starting point
  - *'analysis of how people evaluate their lives—both at the moment and for longer periods' .....[it includes] 'people's emotional reactions to events, their moods, and judgments they form about their life satisfaction, fulfilment, and satisfaction with domains such as marriage and work'. Diener et al (2003)*

# Subjective Wellbeing



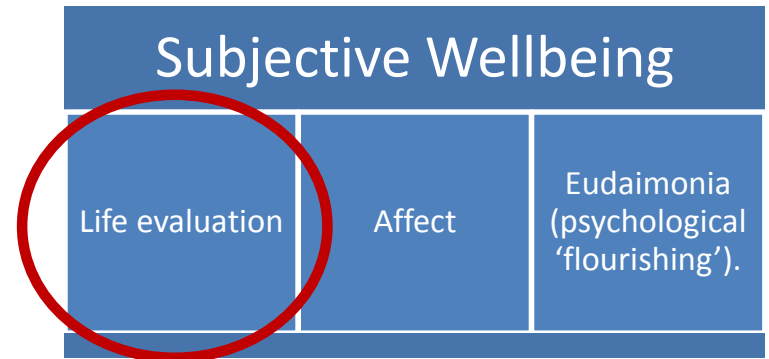
OECD Framework

OECD (2013)

# Life evaluation

*“Overall, how satisfied are you with life as a whole these days?”*

- A reflective assessment of how one's life is going
- Often appears close to construct that people use in decision making
- Fairly easy to assess
- Draws on how we remember things rather than how we experience them



The peak/end rule states that our evaluation of an experience tends to be dominated by the most intense (peak) emotion felt during the experience and the emotion felt at the end of the experience rather than on the average or integral of emotional intensity across the experience.

# Affect ('happiness yesterday')

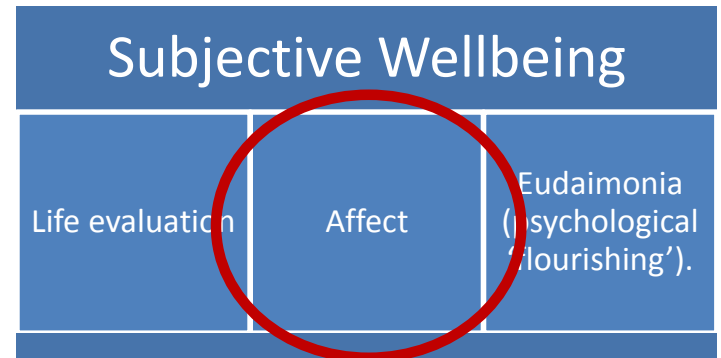
*How did you feel yesterday on a scale from 0 to 10?*

*How about happy?*

*How about worried?*

*How about depressed?*

- How experience life rather than how they remember it
  - Positive affect
    - Happiness, joy and contentment
  - Negative affect (multi dimensional)
    - Sadness, fear, anger, anxiety
- Assess through Experience Sampling Method or Day Reconstruction Method

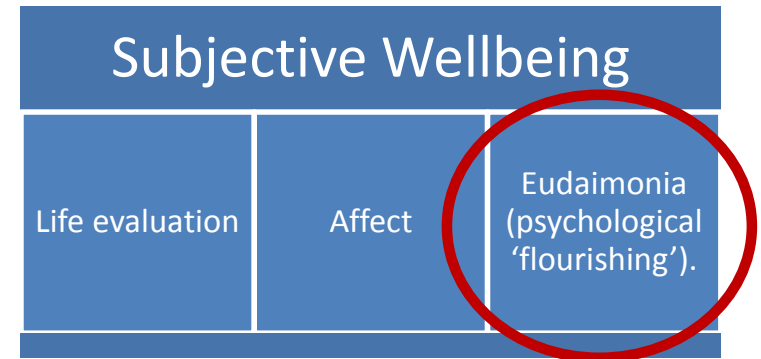


# Eudaimonia (psychological ‘flourishing’)

*“Overall, to what extent do you feel  
the things you do in your  
life are worthwhile?”*

Includes:

- Perceptions of the meaningfulness of lives
- Feelings of agency.



# What do subjective well-being studies tell us?

- High contributors to positive subjective wellbeing:
  - Health
  - Income
  - Having a job
  - Social contact
  - Meaningful political engagement

But here we look at how we can achieve these attributes from a time use perspective

➤ so need to bring in additional concept

Sources include: Diener (2000), Kahneman et al. (2004), Csikszentmihalyi (2006), Holmberg et al. (2012), O'Donnell et al. (2014).

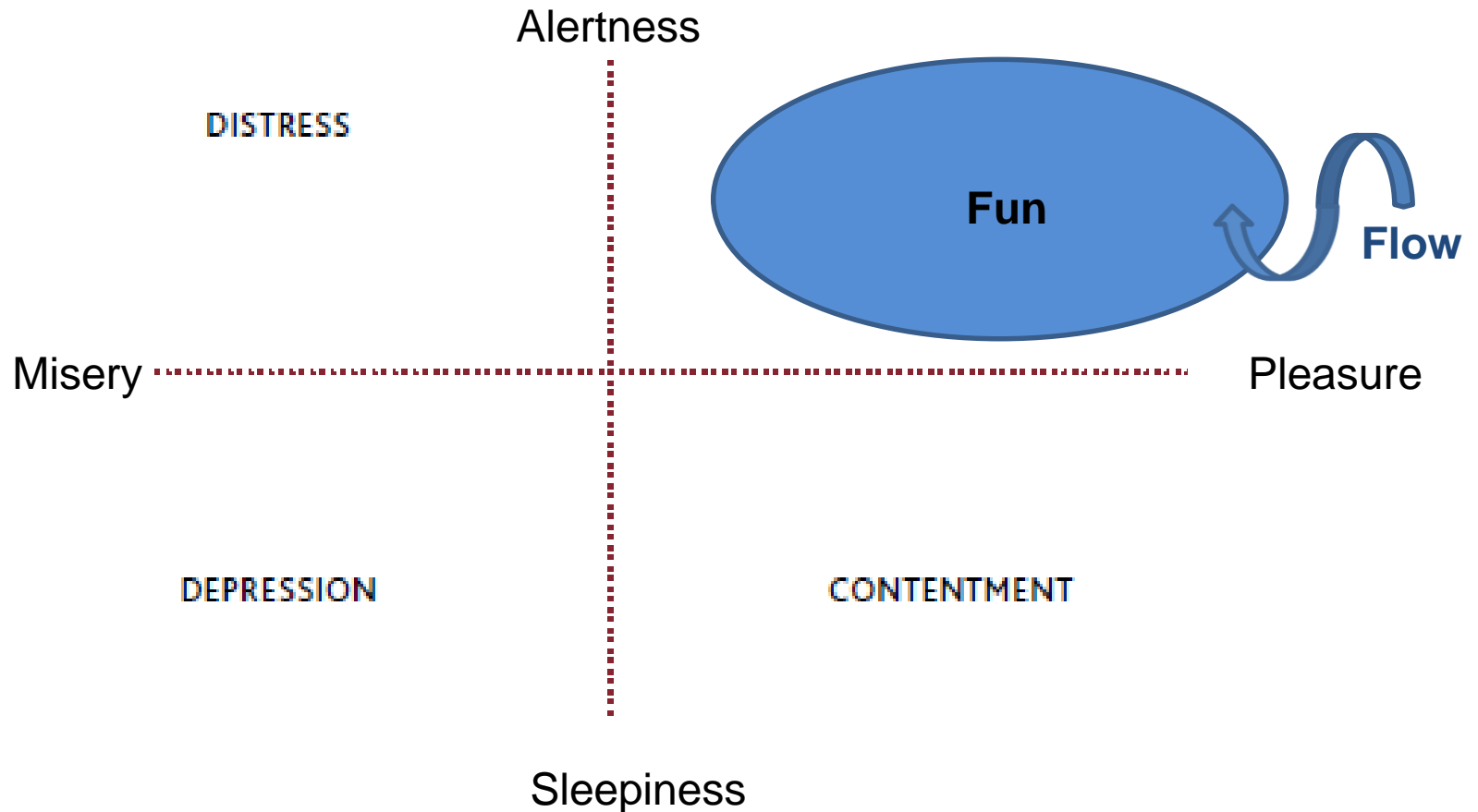
# Flow

*“Have you recently been involved in something so deeply that nothing else seems to matter and you lose track of time?”*

Mihaly Csikszentmihalyi (1997)

- State of total involvement in an activity that requires complete concentration
- Goal orientated activities
- Experience Sampling Method

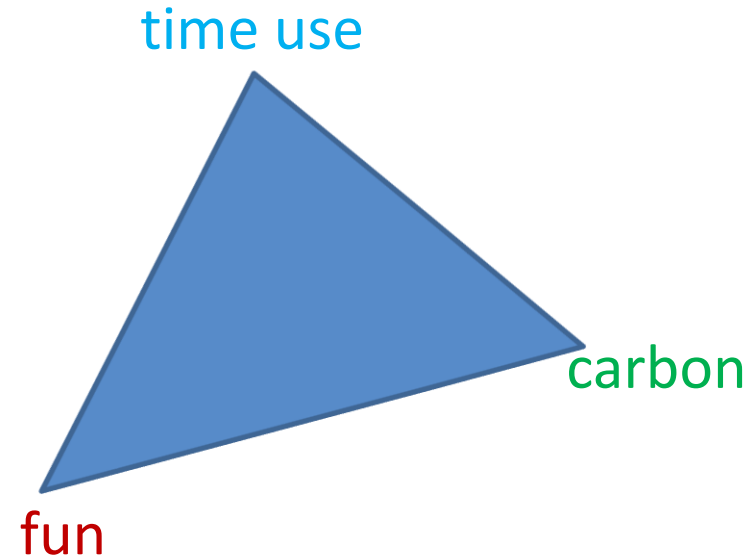
How does '*fun*' fit into this?



**Circumplex Model of Affect** Russell 1980  
adapted by the author to show fun

# Plan

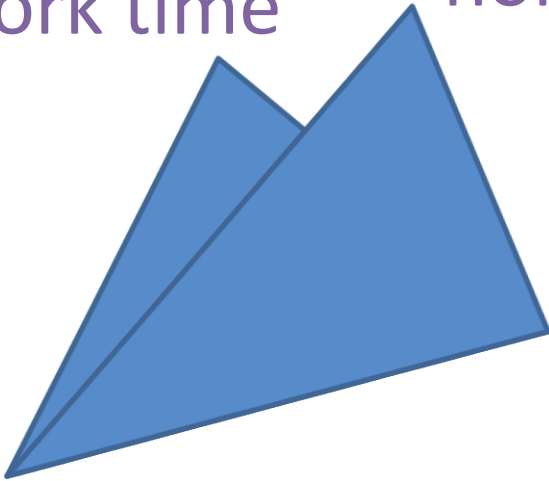
- Setting the scene
  - Understanding time and time use
  - What do we mean by 'fun'?
- **Evidence**
- Implications



# Differentiate between different types of time use

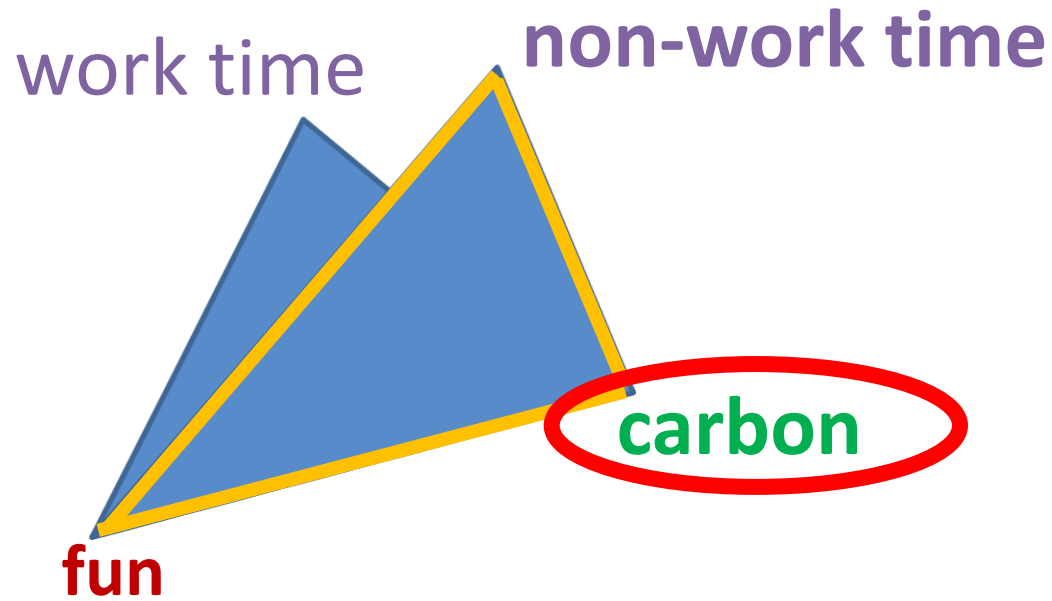
Time use

work time      non-work time



# Differentiate between different types of time use

## Time use



### (a) Link

- Non-work time
- Carbon
- Fun

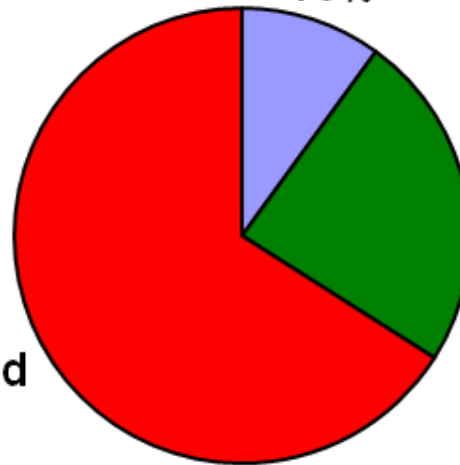
# Types of carbon emissions attributable to households



Direct - travel  
10%



Embedded  
66%

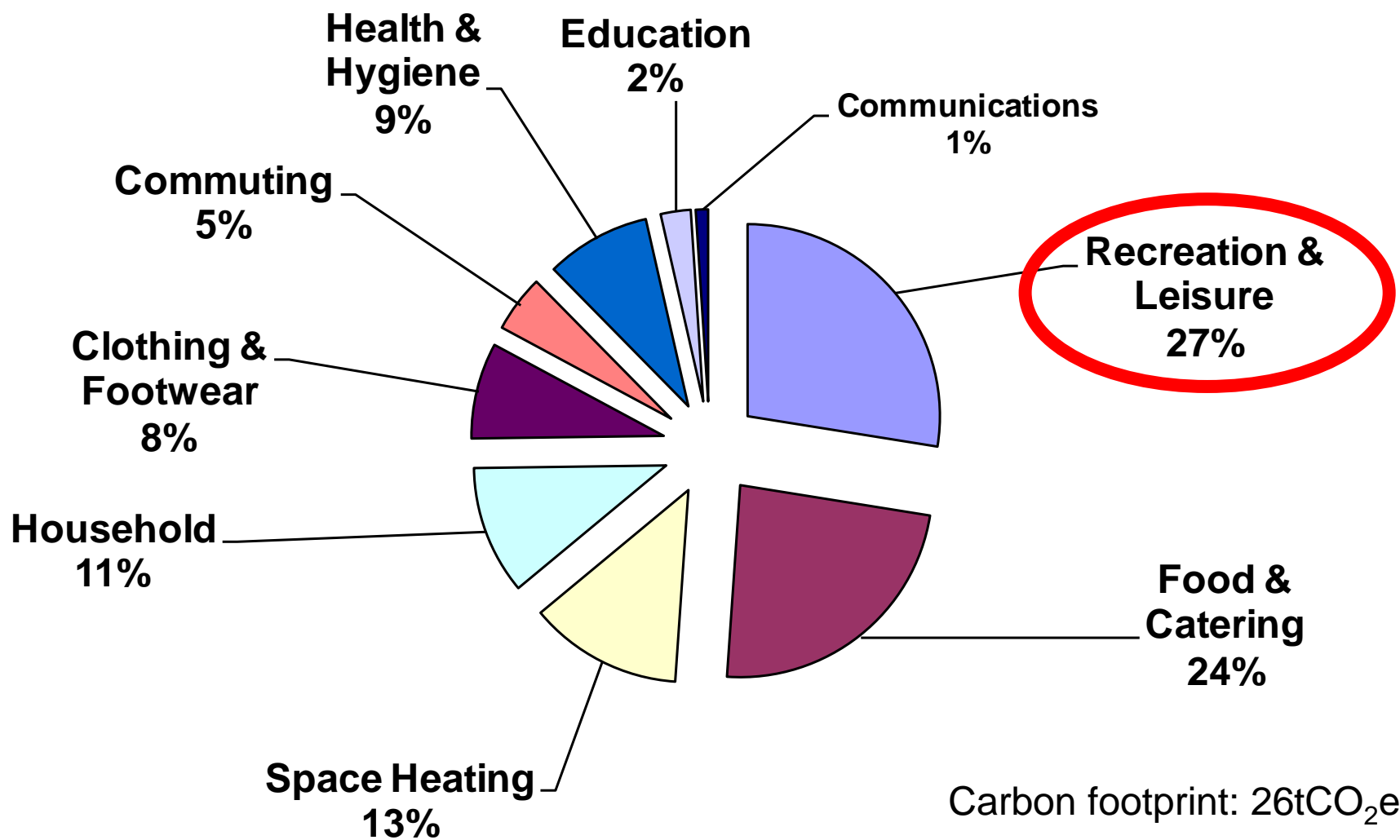


Direct -  
household  
(including  
electricity)  
24%



**Average UK household footprint: 26tCO<sub>2</sub>e**

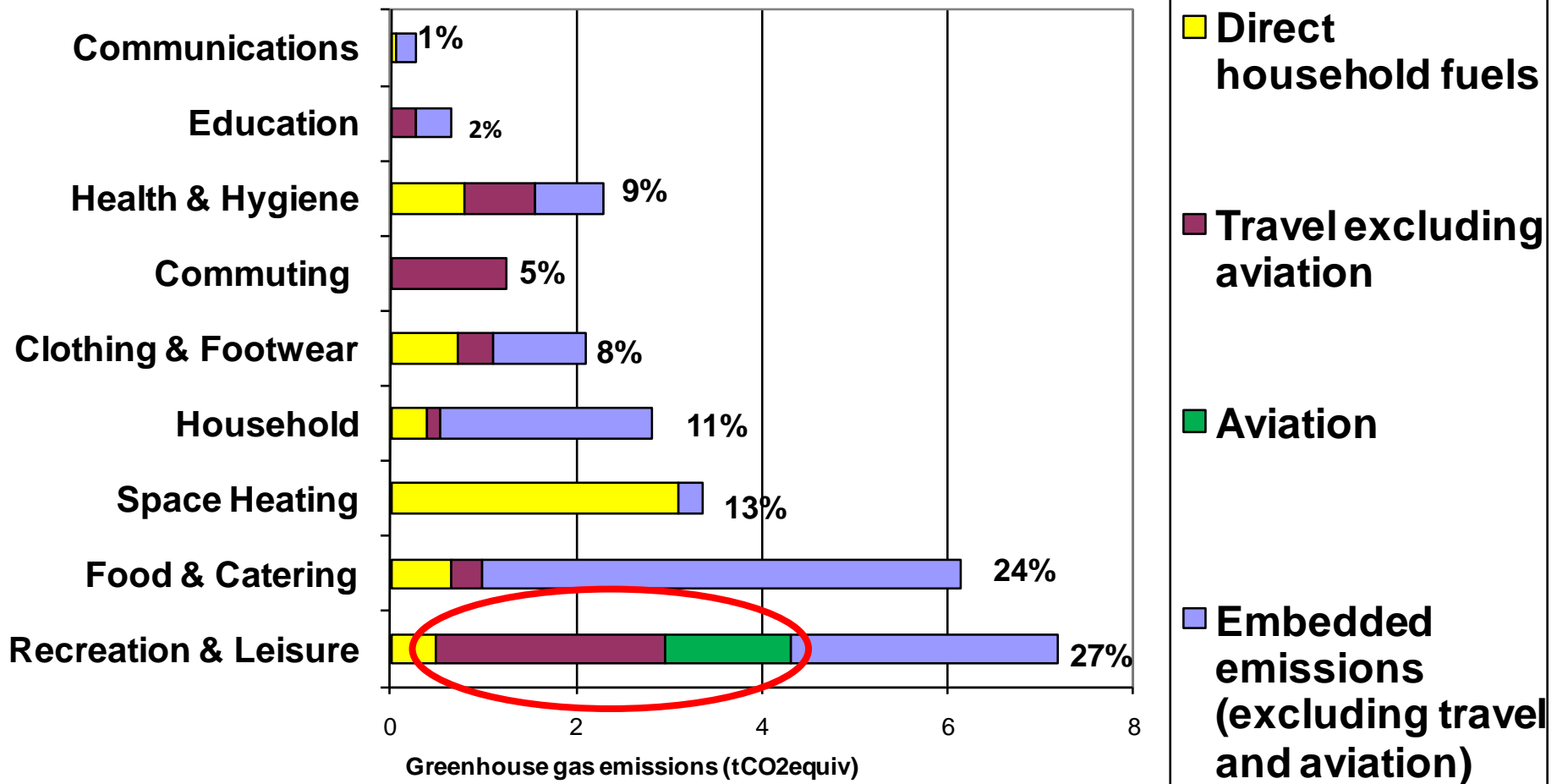
Source: Druckman and Jackson 2010



**GHG emissions for an average UK household (2004)  
attributed to Functional Uses**

**Source: Druckman and Jackson (2010)**

# The Crucial Role of Mobility



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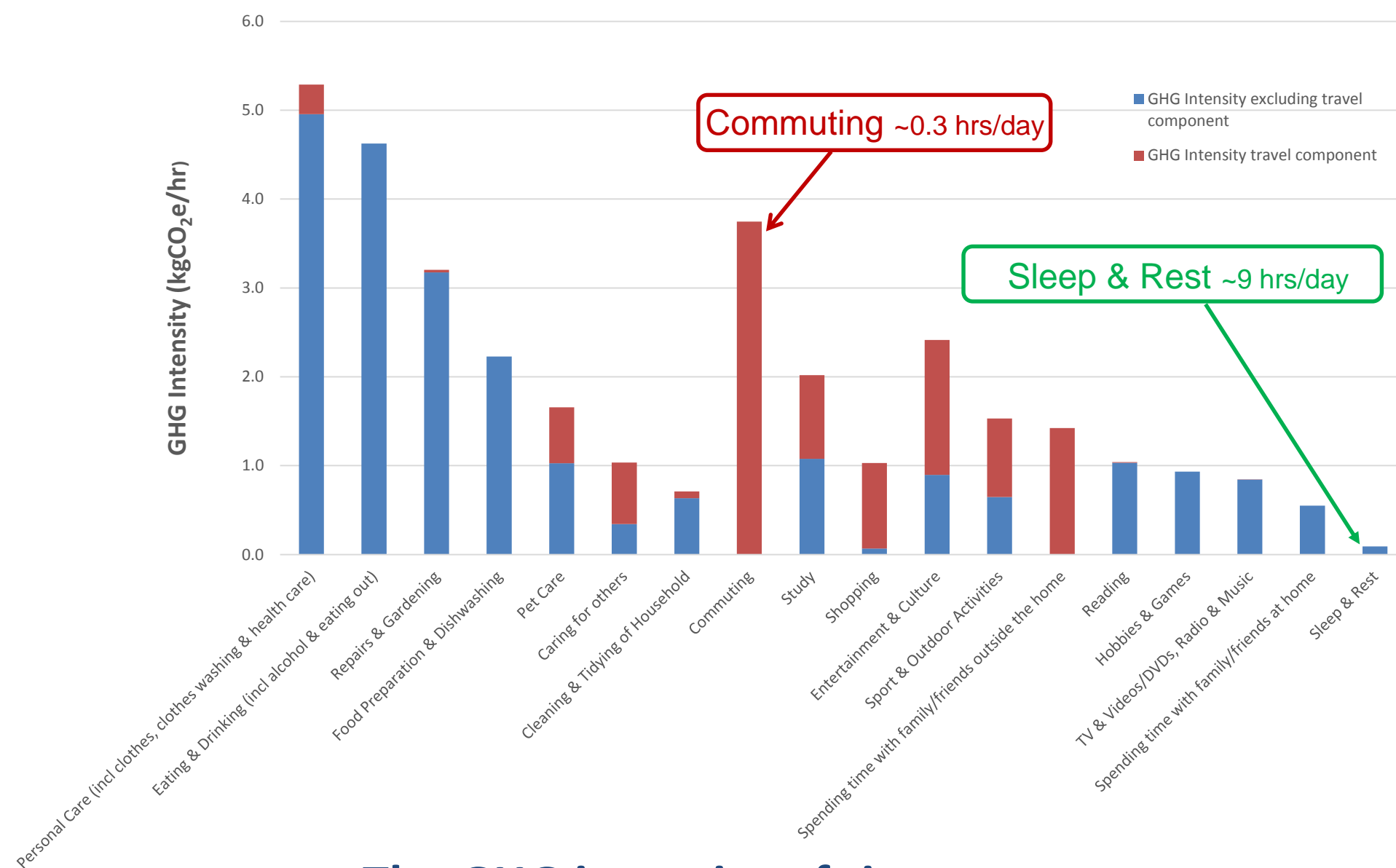
**~27% of an average  
UK household's  
carbon footprint**  
Druckman and Jackson (2010)

**Travel**  
**- a derived demand**

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copyright

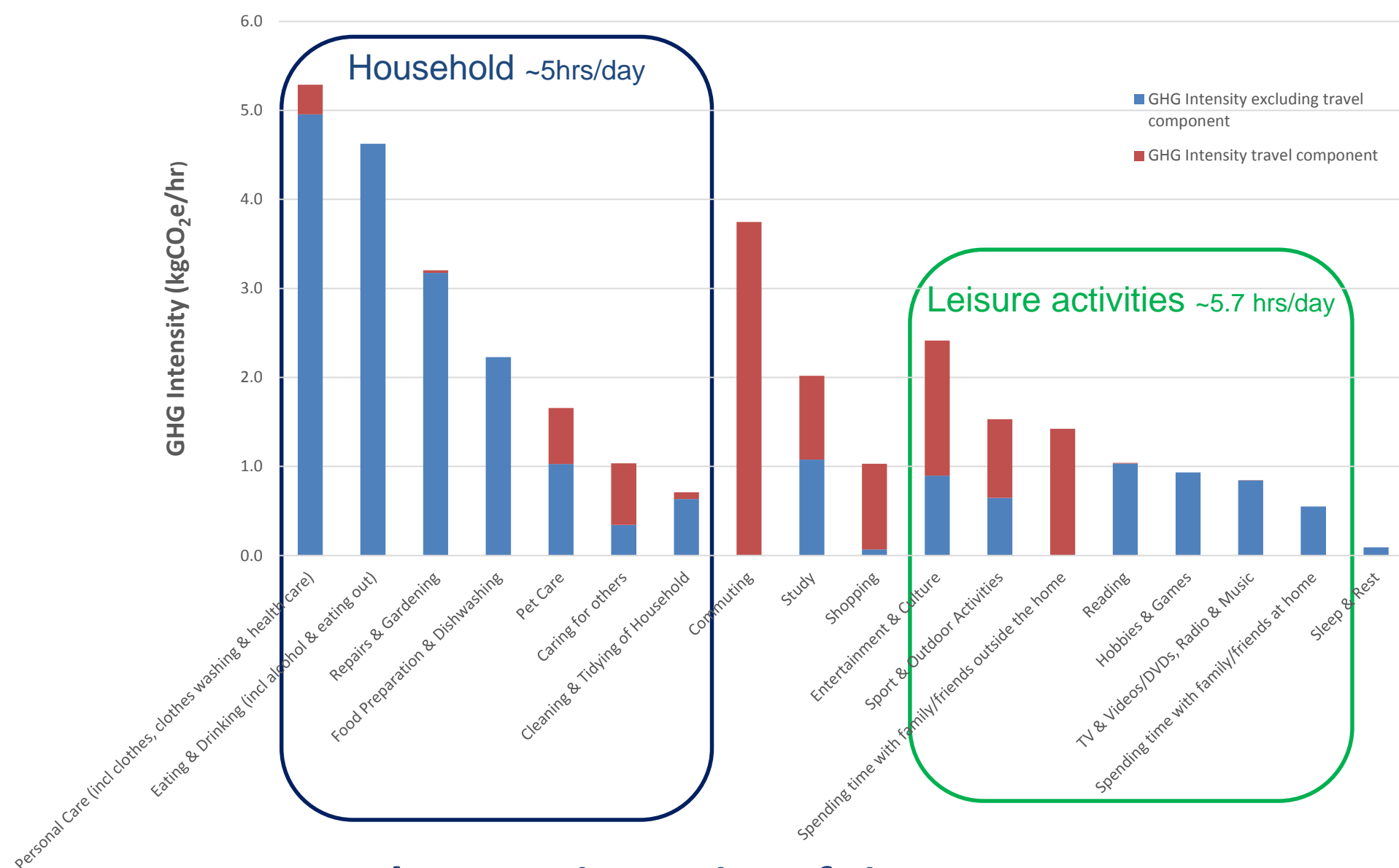
But focus here is  
on time use:

What is the  
carbon intensity  
of our various  
activities?



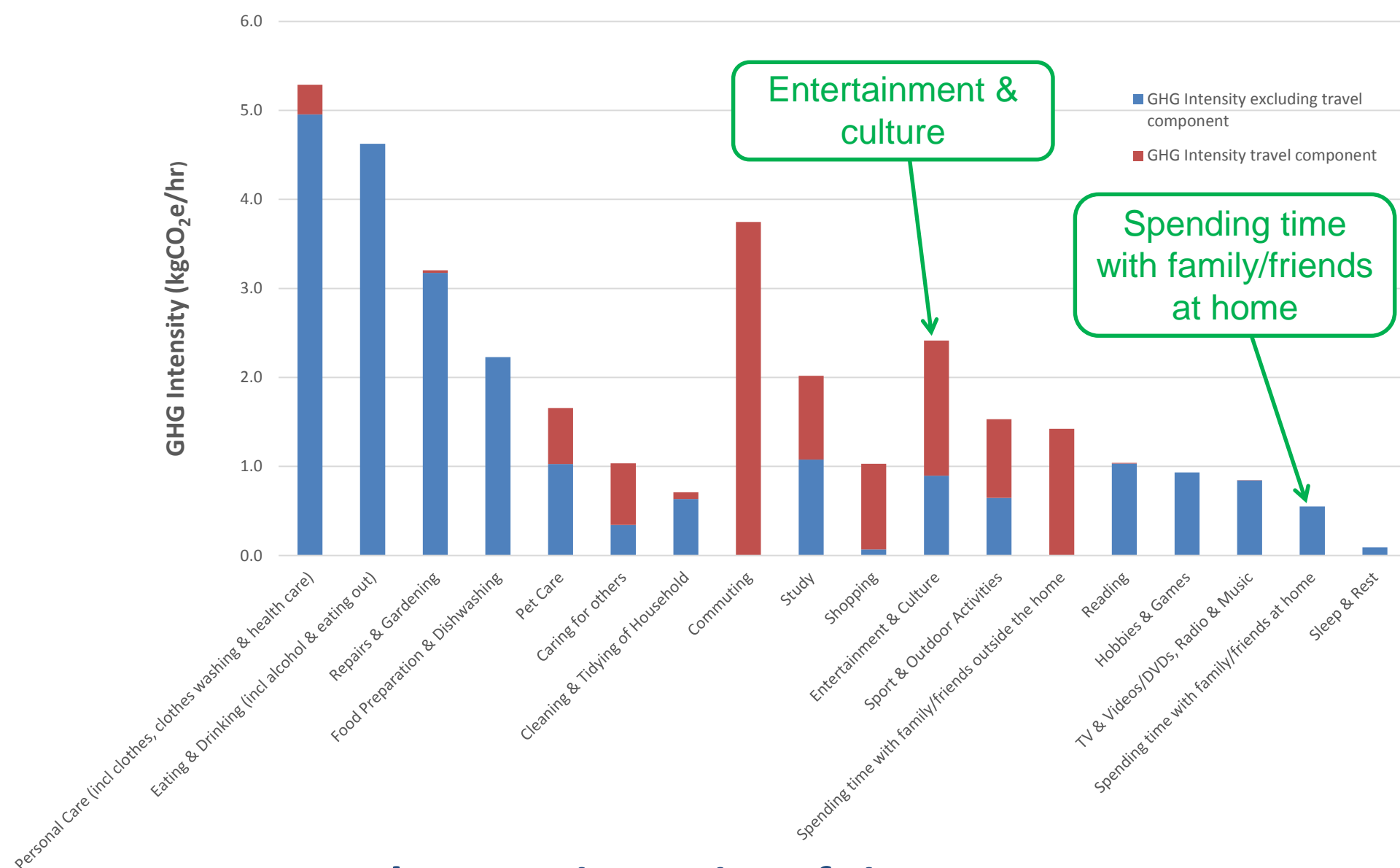
## The GHG intensity of time use

Source: Druckman et al (2012)



## The GHG intensity of time use

Source: Druckman et al (2012)



## The GHG intensity of time use

Source: Druckman et al (2012)

# Which activities are fun and low carbon?

- Social activities
  - Conversing with friends & family, making love
  - Avoid loneliness

Sources: Csikszentmihalyi (2006); Holmberg (2012); Kahneman & Kreuger (2006); Kahneman et al (2004); Caprariello and Reis (2012); Gatersleben et al (2008); Waldinger (2015), Macrory (2016); Stoll et al (2012); Aked et al (2009). .

# Avoid loneliness

- 6% UK adults consider themselves to be lonely 'all or most of the time'.

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# Which activities are fun and low carbon?

- Social activities
  - Conversing with friends & family, making love
  - Avoid loneliness
- Physical activities
  - Walking, exercising, sport
- Goal orientated activities
  - in the ‘flow’ (Csikszentmihalyi, 2006).
  - gardening, reading, painting
- Volunteering

Sources: Csikszentmihalyi (2006); Holmberg (2012); Kahneman & Kreuger (2006); Kahneman et al (2004); Caprariello and Reis (2012); Gatersleben et al (2008); Waldinger (2015), Macrory (2016); Stoll et al (2012); Aked et al (2009). .

# Volunteering

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- Contributes to meaningfulness
- Combines autonomy and relatedness
- Strong spillover into other activities

Volunteers at the London Olympics

# National Citizen Service (UK)

- Team project to help community
- 16 and 17 year olds
- *“During my time on NCS I volunteered at OPEN, an incredible youth trust in Norwich that provides facilities and free activities. I helped renovate parts of the centre to increase its appeal, attract other young people in and secure its legacy for others to benefit.”*  
Jessica Oghenegweke, 16, Norwich

# National Citizen Service (UK)

CHANGE IN PERCENTAGE OF YOUNG PEOPLE WITH HIGH WELLBEING / LOW ANXIETY BEFORE AND AFTER NCS



Source: O'Donnell et al (2014)

# Which activities are fun and low carbon?

- Social activities
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  - Avoid loneliness
- Physical activities
  - Walking, exercising, sport
- Goal orientated activities
  - in the ‘flow’ (Csikszentmihalyi, 2006).
  - gardening, reading, painting
- Volunteering
- Being close to nature

Sources include: Csikszentmihalyi (2006); Holmberg (2012); Kahneman & Kreuger (2006); Kahneman et al (2004); Caprariello and Reis (2012); Gatersleben et al (2008); Waldinger (2015), Macrory (2016); Stoll et al (2012); Aked et al (2009); Schor (2010); Jackson (2009).

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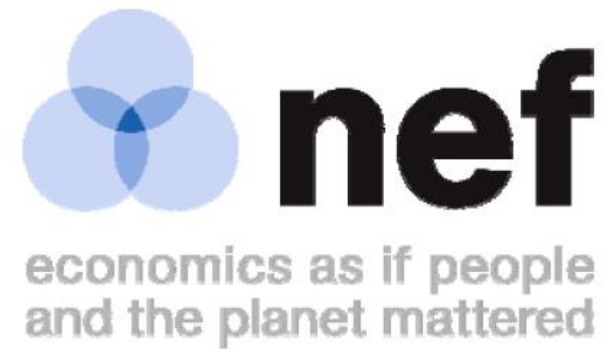
Urban orchard and community garden, Union Street, London SE1

<http://www.urban75.org/blog/urban-orchard-and-and-community-garden-union-street-se1/>

# Being close to nature

- Visiting parks & gardens, and simply being in nature/outdoors
  - helps people relax
  - reduces stress
  - promotes emotional balance
  - reduces blood pressure
  - improves muscular health
- Patients recover faster when exposed to plants flowers & trees
- Workers productivity & well-being improves with natural light & access to outdoors

# Five ways to wellbeing



**Connect...**

Be active...

Take notice...

Keep learning...

Give...

# Changes in leisure consumption

- Expenditure has increased more than leisure time
- Increased
  - Commercialisation & commoditisation
  - Diversification
  - Specialisation
  - Transport/resource intensity
  - Number of leisure activities per unit time
  - Number of holiday trips per year

T20 cricket

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Holidays ~10% of entire footprint (average UK household)

Druckman and Jackson (2010)

*'A holiday is a holiday'*

Barr et al (2010)

People take vacation from their environmental behaviour

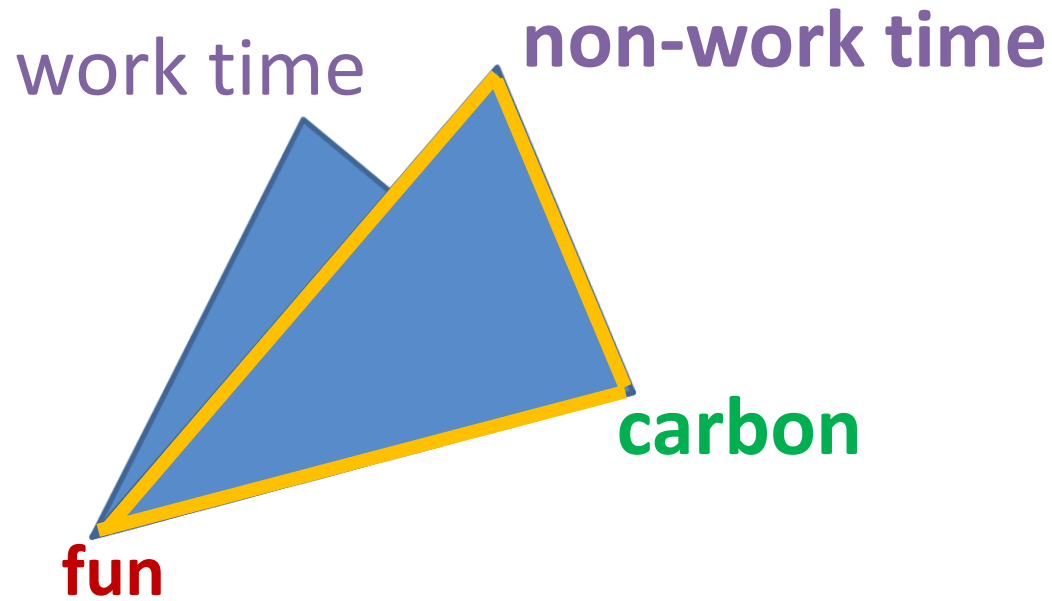
# Tourism resource paradox

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- Environmental resources and compelling backdrops are essential drivers for many tourism experiences.
- Natural environments that tourists experience are exploited and frequently degraded while attempting to satisfy the tourists' demands.

Source: Williams and Ponsford 2009 and <http://www.africannaturalheritage.org/Victoria-Falls-Zimbabwe-and-Zambia/>

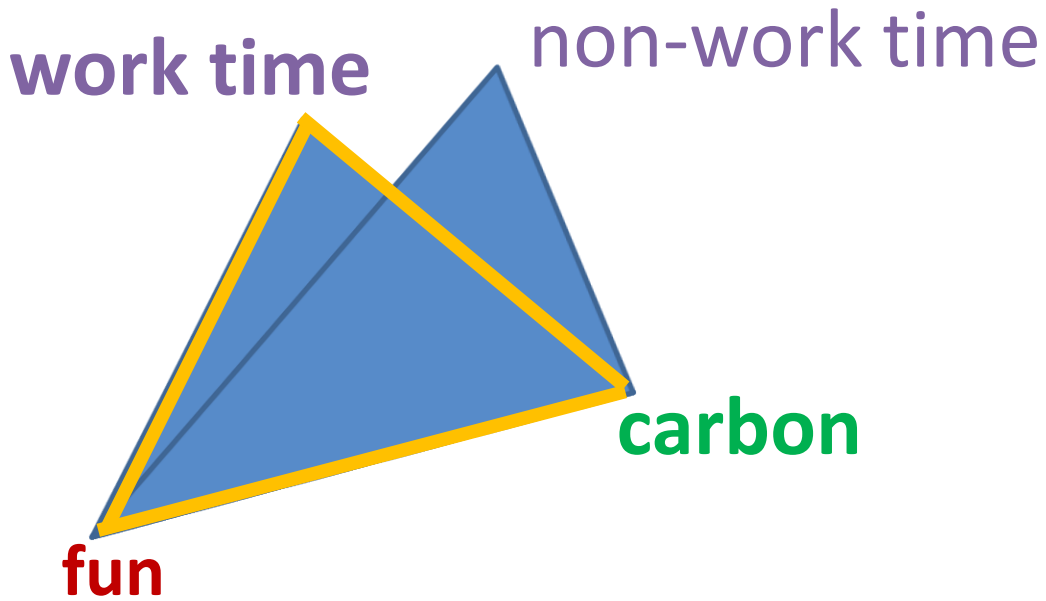
## Time use



### (a) Link

- Non-work time
- Carbon
- Fun

## Time use



### (a) Link

- Non-work time
- Carbon
- Fun

### b) Link

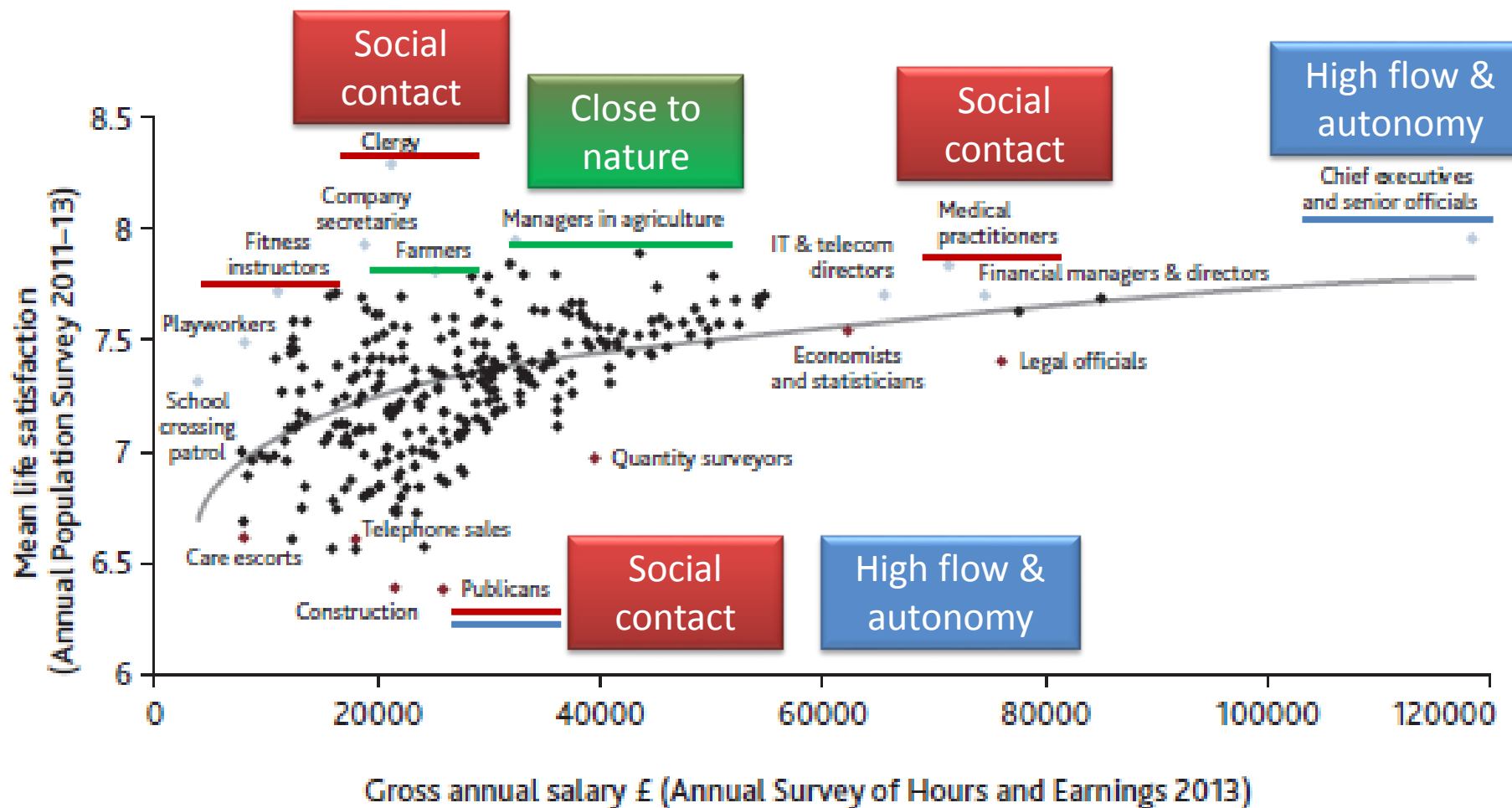
- Work time
- Carbon
- Fun

# Employment matters

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- Job security
- Degree of autonomy/freedom
- Flow
  - Even the most mundane job can produce flow
  - Managers often higher flow than workers
- Understanding the boss
- Understanding role
- Feeling valued, identity, social standing

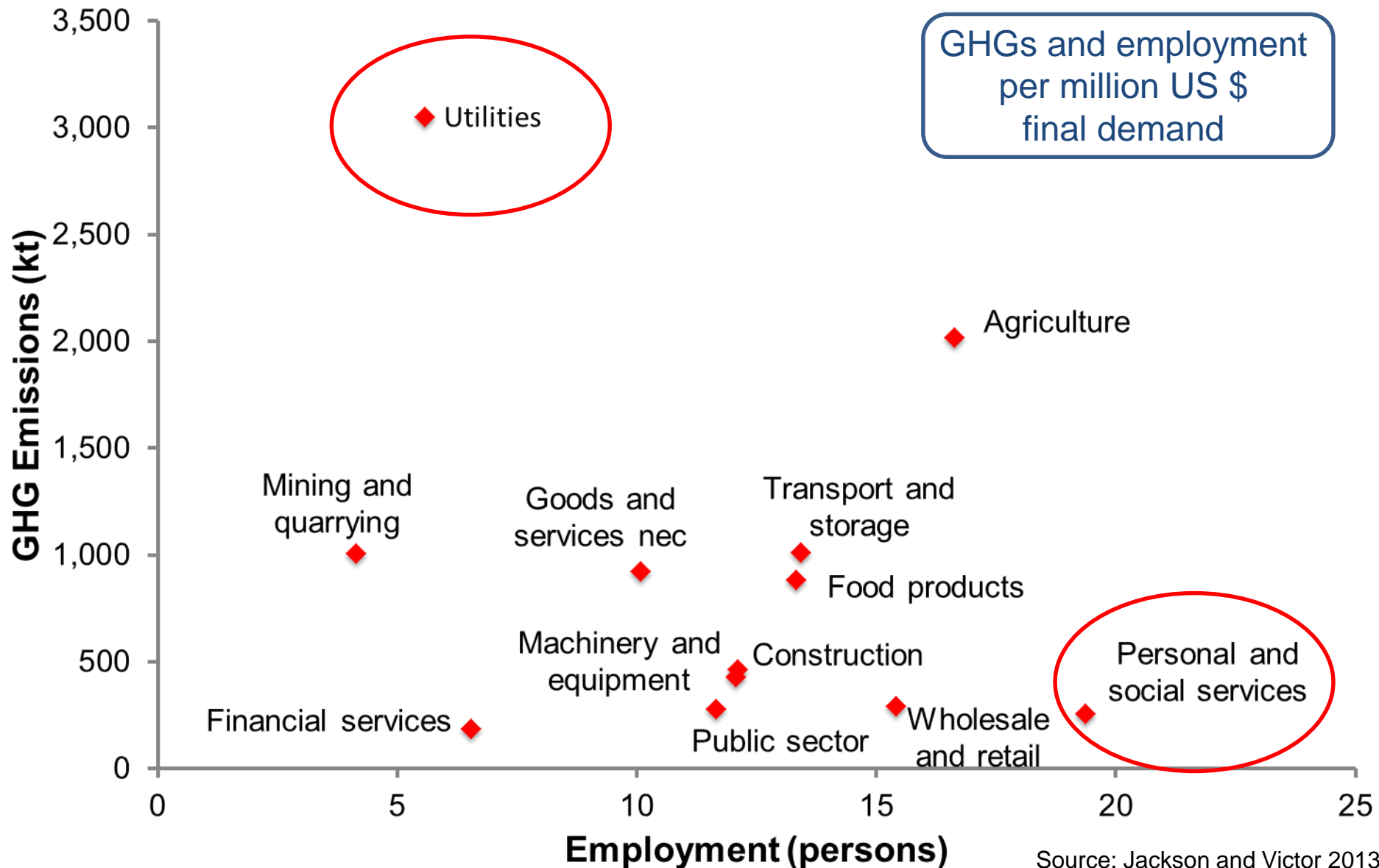
Sources: Shephard and Caan (2012), Burchell et al. (2014) O'Donnell et al (2014), Hofstetter and Madjar (2003), Csikszentmihalyi (1997), Origo and Pagani (2009), Burchell et al. (2014).



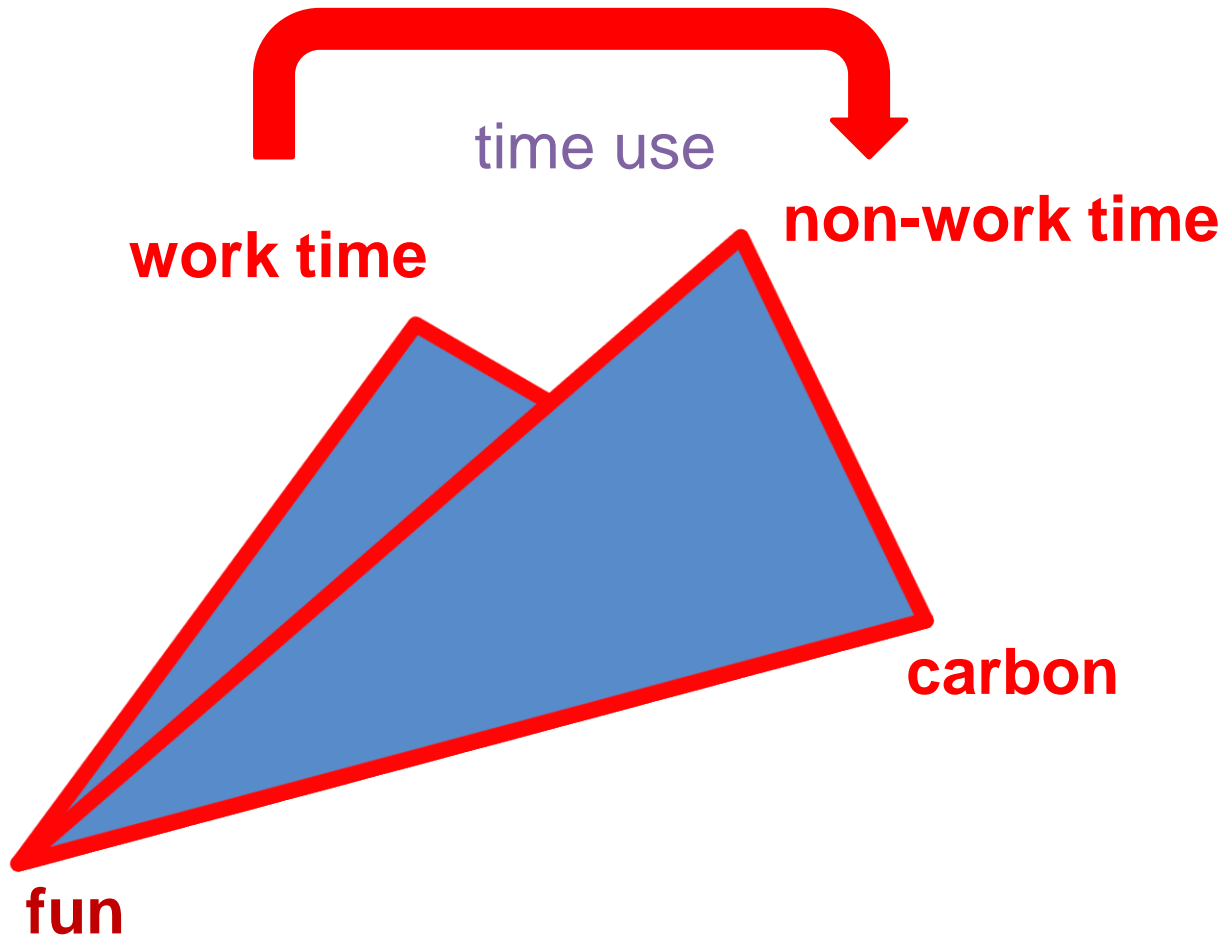
Life satisfaction by occupation for mid-career age groups

Source: O'Donnell et al (2014) page 72

# Which sectors are low carbon, high employers?



# Work-life balance

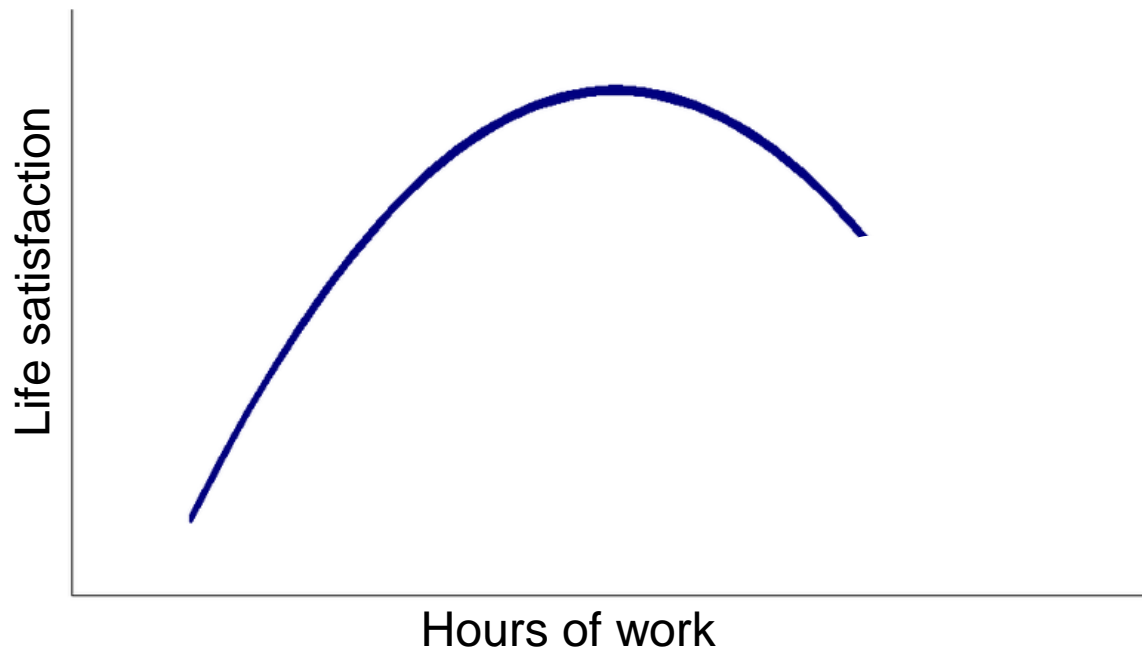


# Work-life balance

- Shorter working week generally improves wellbeing
- Time available for socialising, exercising, volunteering
- Some evidence:
  - Lower levels of time pressure (Larsson (2012), Lippe (2007))
  - French employees reduced to 35hrs reported overall improved QOL (Hayden 2006)
  - 400 Swedish employees, reduced to 6 hrs/day for 18 months
    - Improved life satisfaction, health, gender equal time use re housework & childcare (Bildt 2007)

# Work-life balance

- But evidence is mixed:
  - Working overtime can have a positive effect on job satisfaction.
  - Inverse U-shaped relationship between life satisfaction and the number of hours worked



# Theoretical effects of work time reduction

## Outcomes(?)

- Scale effect:
  - reduce incomes, expenditures, & consumption
- Compositional effect:
  - changes in time and expenditure budgets

# Outcomes of work time reduction

- Reduced environmental burdens:
  - Reduced consumption leads to reduced resource use and carbon emissions
  - Reduced commuting
- Reduced unemployment and inequalities
- Increased time affluence
  - Time available for socialising, exercising, volunteering, community

Sources: Buhl and Acosta (2016); Nassen and Larsen (2015); Gough (2013), Ropke & Godsken (2007) ; Aall et al (2011); Hayden & Shandra (2009)

# Work time reduction precautions

- Reduced work hours may increase productivity
  - Take productivity improvements in form of more leisure rather than more goods
- Loss of meaning:
  - Help those who depend on work for meaning, to find meaning through different activities
  - Strengthen institutions
- Special measures for low income households
  - Consider basic income scheme?

Sources: Buhl and Acosta (2016); Nassen and Larsen (2015); Gough (2013), Ropke & Godsken (2007) ; Aall et al (2011); Konrad & Mangel (2000); Seaford (2014)

What does this tell us about our candidates?

- Hi-Tech: digitalisation, dematerialisation
- Slow-living: consume less, localism
  - Assumed to include work time reduction

# Ambivalent role of digital technology

- Broader social networks & remote contact
- More entertainment
- Less travel?
- Greater freedom
- Safety/security
- Higher growth?
- More leisure time?
- Stimulates thirst for consumerism and travel
- A 'hurried lonely society' (Davis 2013)
  - Status symbol of being busy
  - No time to care for belongings
  - Constantly connected, doing more, faster.
  - Replacement of face-to-face contact with remote contact
  - Loneliness
- Cyber-bullying
- Less sleep
- Less employment?

# Ambivalent role of localism & slow living

- Stronger local communities
- Better integrated work lives
- More connection to environment
- More active lifestyle
- Less stress
- More sleep
- More employment?
- Shorter horizons
- Loss of opportunities?
- Less life-experience?
- More repressive social mores?
- Lower social mobility?
- Lower growth?

# Development and analysis of narratives of sustainable prosperity



## Themes:

**Meaning and moral framings of the good life;**

**Arts and culture in developing visions of prosperity;**

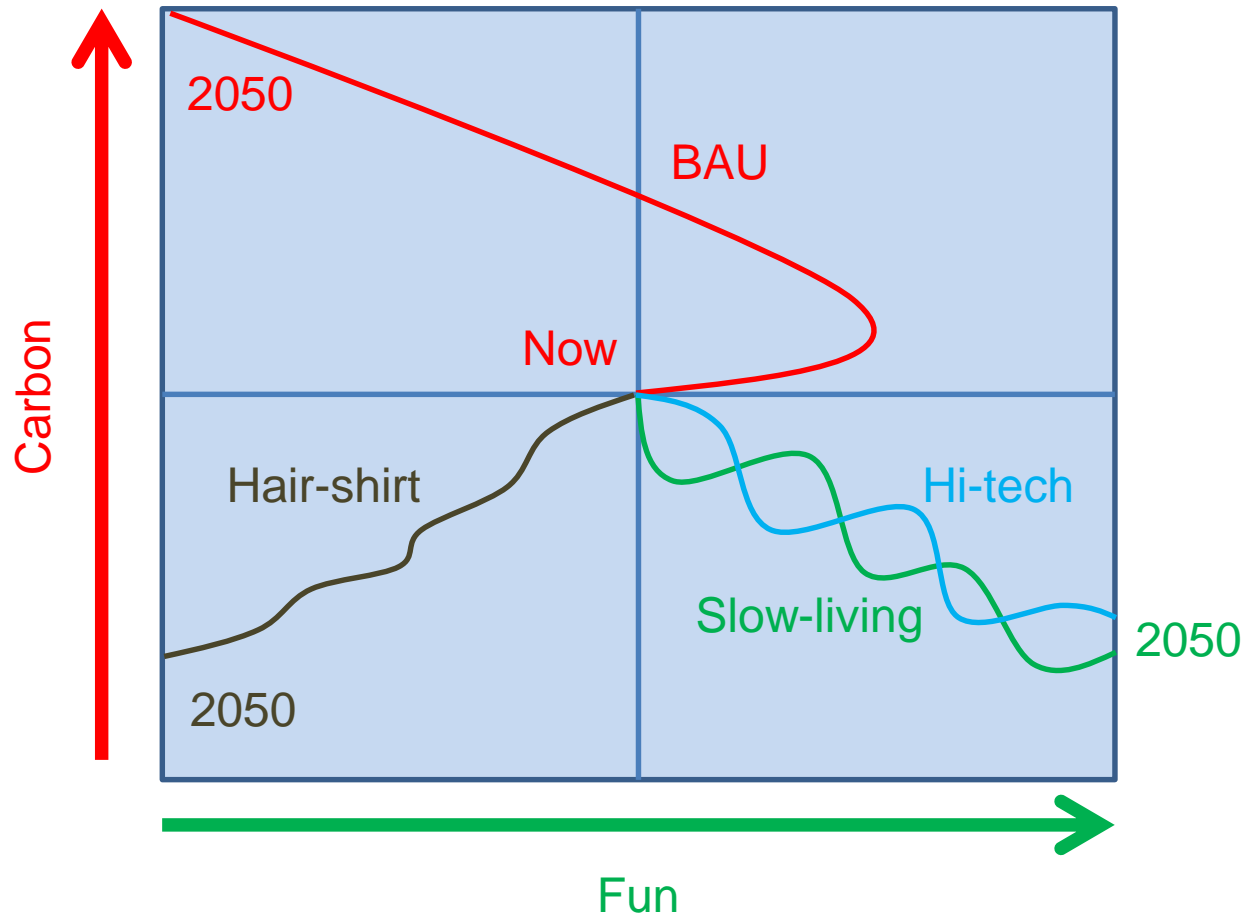
**Political and organisational dimensions of sustainable prosperity;**

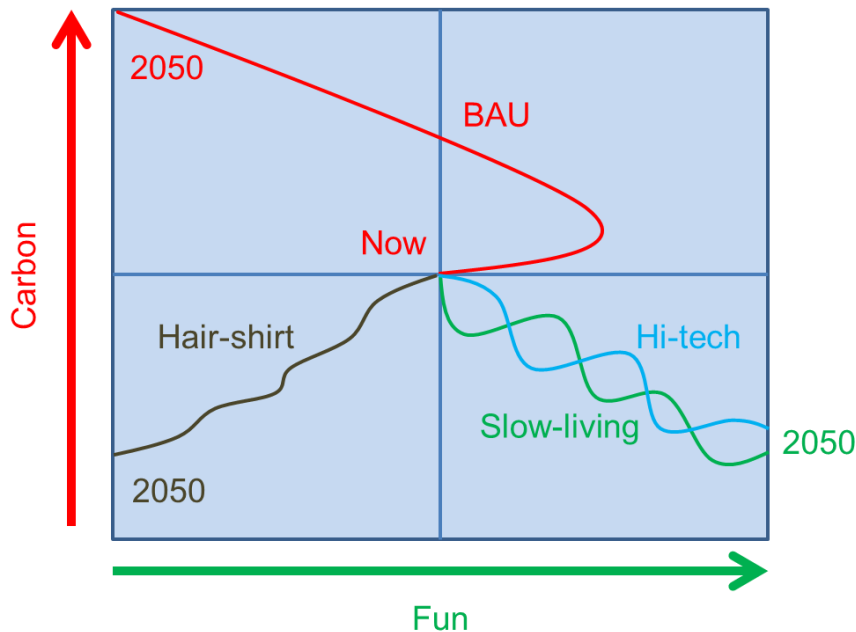
**Social and psychological understandings of the good life;**

**Systems analysis to explore narratives of sustainable prosperity.**

See <http://www.cusp.ac.uk/>

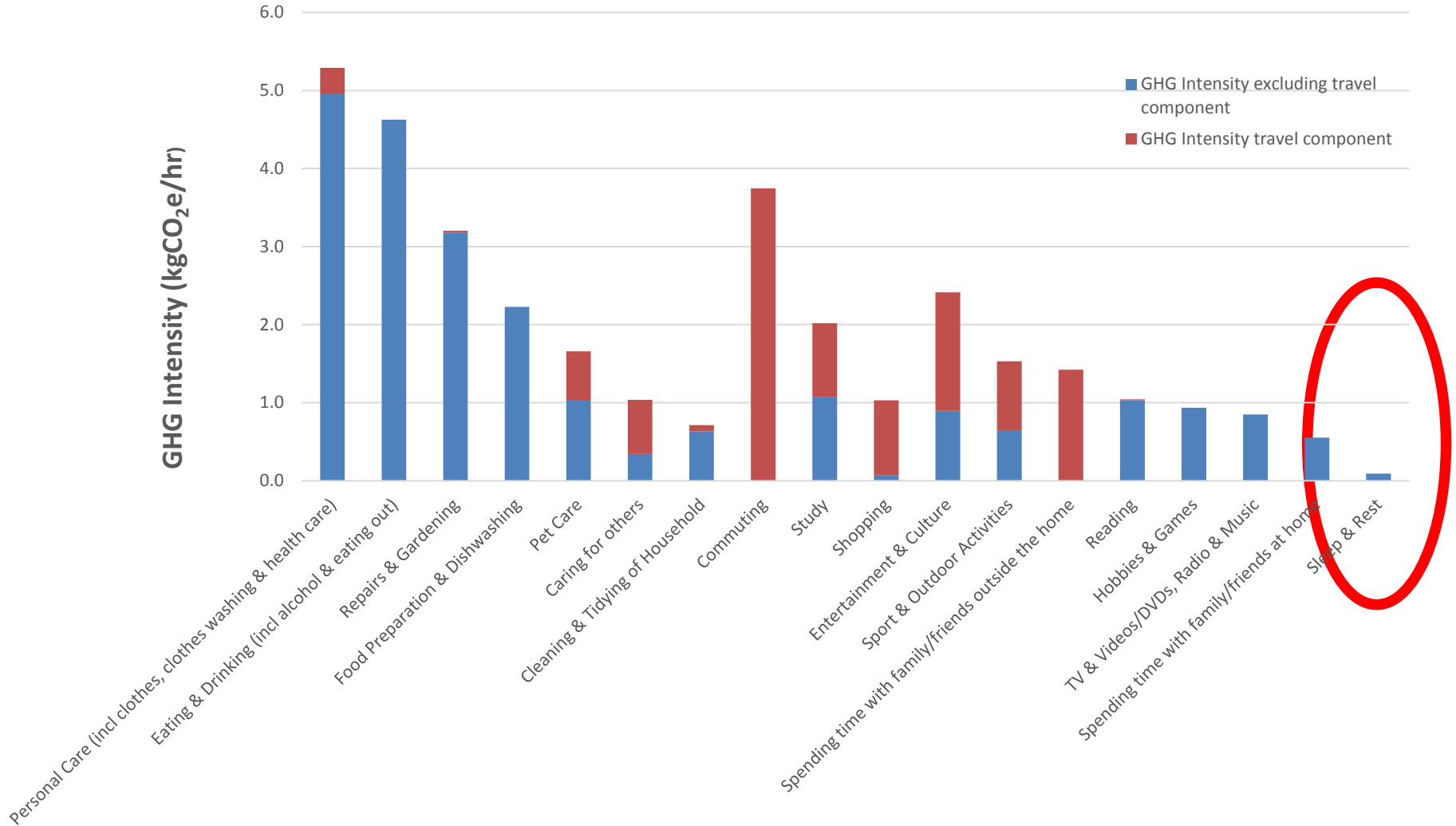
# Explore the evidence





- An economy with balanced investment?
  - low carbon infrastructure
  - public goods and spaces
- Enhanced connectivity?
  - digital innovation
  - better local services
- Rethink work-life balance?
- Protecting well-being?
  - equity
  - democratic participation
- Flow and fulfillment?
- Change which is fun is more likely to happen

# The extraordinary value of rest



Source: Druckman et al (2012)

Royal Society of Chemistry

London

13 October 2016

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**Less stuff, more fun?**

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