ONE PLANET SPORT

Part 2: The athlete's role in sustainability

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This report was written by Ronan Leyden and Daisy Chen on behalf of BioRegional.

We would like to thank our four athletes for taking time out of their busy training schedules to share detailed information on how they live and train throughout the year. This report would clearly not be have been possible without you, and we are very grateful for your work as Athlete Ambassadors for Sustainability. Thank you to:

Aaron Phipps, Etienne Stott, Jennifer Pinches and Sophie Cox.

BioRegional

BioRegional is an entrepreneurial charity which initiates and delivers practical solutions that help us to live within a fair share of the earth's resources – what we call one planet living. Our One Planet initiative consists of a range of practical projects and partnerships with companies, developers and local authorities.

WWF

This publication has been made possible with the kind support of WWF. WWF is at the heart of global efforts to address the world's most important environmental challenges. We work with communities, businesses and governments in over 100 countries to help people and nature thrive. Together, we're safeguarding the natural world, tackling climate change and enabling people to use only their fair share of natural resources.

Front cover: Olympic Champions Tim Baillie and Etienne Stott at the London 2012 Olympic Games, Credit: AE Photos.

Introduction

Sustainability in sport is so important not only because the environmental, social and financial impacts of its events and activities can be hugely significant but almost more importantly because sport has unique powers to inspire and influence people. But what of sports men and women themselves? What are their eco-impacts, and what might be done to improve these – and enlist them in the drive for sustainability?

As part of WWF and BioRegional's exploration of what sustainability means for sport, BioRegional carried out an ecological footprint analysis of four Team GB athletes, who all participated in London 2012 Olympic and Paralympic Games.

We met them during the 2012 Games, where BioRegional hosted the 'One Planet Centre' at the heart of the Athletes' Village - an interactive hub that aimed to inspire athletes with activities and information about the positive steps that can be taken to help build a cleaner, healthier, and more sustainable future.

This research takes this one step further by looking in-depth at the impacts and lifestyles of four individual athletes. As we shall see, whilst there are a range of actions being taken to live a sustainable lifestyle, this is counter-balanced by the pressures of being an elite athlete in a less than sustainable world!

BioRegional has a freely available online personal footprint calculator which can produce a quicker estimate of an individual's ecological and carbon footprint and a short action plan on what to do about it.

Overview to Ecological Footprinting

Ecological footprinting is based on estimating the amount of biologically productive land and sea (called global hectares - gha) required to meet people's demand for natural resources – i.e. forests, fisheries, grazing and crop growing land – alongside the area occupied by built up infrastructure, and the area needed for the planet to sequester the carbon dioxide we emit.

The UK's ecological footprint is currently 4.7 global hectares per person (gha), but our planet's global bio-capacity[1] is just 1.8 gha per person (2008 data). This means if everyone in the world lived like an average UK citizen, we would need about three planets to support all of our needs.

There is a close correlation between the wealth of a country (typically measured in GDP), and the ecological and carbon footprints of its residents. As a country becomes more developed and wealthier, its citizens generally consume more, leading to higher impacts. However, there can be large variations within regions and individual lifestyles.

This research focuses on one such 'lifestyle' – the extremely demanding activity of being an elite athlete. In doing so, we can start to build a picture of how to develop genuinely sustainable sports.

Average UK eco impact:

The UK's per capita footprint is relatively high - ranked 27th out of 149 countries assessed.[2] The largest component of the UK's ecological footprint is food; contributing to 27% of the impact. This is mainly due to high consumption of meat (fresh and processed) and dairy in the average UK diet.

The impact of housing and transport is also significant; each accounting for some 20% of the overall ecological impact, with a quarter of the UK's energy demand used to heat our homes[3] and road transport carbon emissions equating to 18% of the UK's total greenhouse gas emissions.[4]

The combined consumption of goods and private services accounts for 19% of our ecological footprint, whilst the impact of 'government and capital investment' (areas that are outside an individual's control) is about 13%.

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1. *Global biocapacity is the ability of our ecosystems to produce these useful biological materials and absorb any waste materials. A biocapacity deficit occurs when the footprint of a population exceeds the biocapacity of the area available to that population.*
2. *WWF, ZSL, GFN (2012), Living Planet Report [Online]. Available at: http://www.footprintnetwork.org*
3. *DECC (2013), Energy consumption in the UK [Online]. Available at: www.gov.uk*
4. *http://www.carboncalculator.co.uk/averages.php*

Research methodology

Detailed surveys and ecological footprint analyses have been undertaken with the following four Team GB athletes, all of whom competed in the London 2012 Games:

- Aaron Phipps, Wheelchair Rugby
- Sophie Cox, Judo
- Jennifer Pinches, Artistic Gymnastics
- Etienne Stott, Canoe Slalom (Gold medallist)

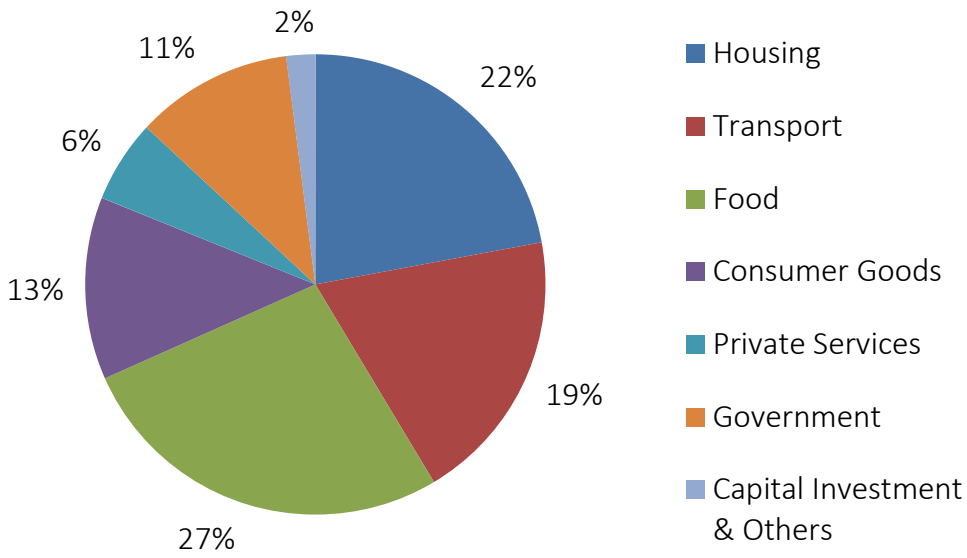
Each of these athletes is actively motivated by sustainability and chose to take part as this is something they recognise as important. Each undertakes lifestyle choices that help to reduce their own impacts, however, as we shall see this is counter-balanced but by the pressures of being an elite athlete in a less than sustainable world!

The survey covered a number of areas including: the athletes' training and competition schedules; travel details (to/from sports venue and personal destinations); diet; and details of spending on a range of sports equipment, consumer items and services.

The consumption and expenditure data obtained from the survey was analysed and translated into ecological footprint data using the Resource and Energy Analysis Programme (REAP[1]) tool.

Ecological footprints for individuals are normally analysed on a personal consumption basis which excludes business activities (e.g. business travel). However as sport is such an integral part of an athlete's personal life, this study also includes the impact of elite sporting activities (i.e. business activities). For comparative analysis, UK average data was used for all four athletes.

Ecological footprint of an average UK resident (4.7 gha)



1. *REAP is a footprint scenario modelling tool developed by Stockholm Environment Institute, SEI http://www.resource-accounting.org.uk/reap*

Athlete profiles

Name: Etienne Stott

Sport: Canoe Slalom

Date of birth: 30 June 1979

Where do you live? Gravesend, Kent

Olympic experience: Athens 2004, London 2012

Name: Sophie Cox

Sport: Judo

Date of birth: 23 December 1982

Where do you live? Gravesend, Kent

Olympic experience: Athens 2004, London 2012

Name: Jennifer Pinches

Sport: Artistic gymnastics

Date of birth: 25 May 1994

Where do you live? High Peak, Derbyshire

Olympic experience: London 2012

Name: Aaron Phipps

Sport: Wheelchair rugby

Date of birth: 7 April 1983

Where do you live? Totton, Southampton

Olympic experience: London 2012

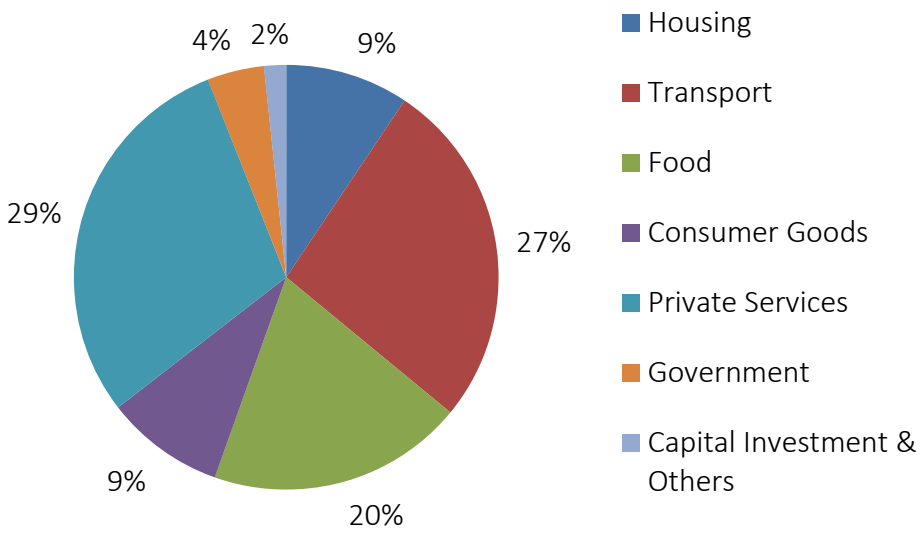
Athletes' Eco impact

The ecological footprint of our athletes' personal lifestyles ranges from 3 to 8 global hectares (gha), with an average of 3 gha. This is equivalent to about a 2 planet lifestyle (30% lower than the UK average).

However if you add on the impact from elite sporting activity to the total; the ecological footprint ranges from 10 to 12 gha, with an average of 11 gha. This is equivalent to a 6 planet lifestyle, and about twice the average UK citizen's personal footprint. This is unsurprising, since the UK average doesn't include people's professional activity, only personal impacts. However for our athletes, sport is such a central part of their lives, the line between personal and professional activity is hard to distinguish.

The larger footprints are almost entirely due to the way in which elite athletes have to consume food, travel and use services linked to their sporting careers. For example, on average they spend about 50% of their time on away-from-home depending on individual athlete's schedule. These consumption patterns are more resource and energy intensive therefore resulting in a larger footprint.

Ecological footprint of an average athlete including personal and elite sporting activity (11 gha)



Key areas of impact:

Private Services is the smallest impact component of the average UK citizen's personal footprint, but it forms the largest component of an athlete's impact; contributing to 29% of their ecological footprint (3.3 gha). This is 12 times greater than the average UK citizen. This is mainly due to the additional services athletes use, including accommodation during training and tournaments, and specialist services such as coaching, gym hire, massage therapy and psychology. The ecological footprint of the average athlete's accommodation use accounts for 1.8gha, over half of their 'private services' impact. Depending on individual schedules, the athletes spend 25% to 65% of their time (50% on average) in temporary lodgings. This is 44 times greater than an average UK citizen's ecological footprint from hotel accommodation (0.04gha or equivalent to £178 spending).

Transport is the next largest contributor to the athletes' ecological footprint, accounting for 27% of their total footprint (3 gha); with air and car travel the most frequently used transport modes. As Etienne (Canoe Slalom) and Sophie (Judo) frequently participate in overseas training and international tournaments, their air transport generates an average footprint of 2.7 gha, whilst their car footprint is similar to an average UK citizen at 0.29 gha. Aaron (Wheelchair Rugby) and Jennifer's (Artistic Gymnastics) travel patterns are mostly influenced by their daily travel to local or national training centres, consequently their car footprint is higher at 1.2gha.

It is important to emphasise that the athletes surveyed are trying to reduce their transport impact - for example, when in Nottingham, Etienne cycles to his daily training venue; Sophie commutes by train to work; while Aaron and Jennifer car share with their team mates to training whenever possible.

Food and drink consumption is responsible for one fifth of the athletes' eco-impact . Fruit and vegetables form a much larger proportion of an athlete's diet than they do for the average citizen, and therefore account for 30% of our athletes' food impact - around 2.5 times more than a typical UK citizen. They also consume only half the average amount of red meat as they prefer poultry which is a healthier, higher protein option. An athlete's diet varies depending on the type of sport in which they participate and if they are in an intensive training or competition period. For example, Aaron (wheelchair rugby) has a high protein diet during training which includes protein shakes, whilst Jennifer (artistic gymnastics) maintains a low calorie diet before competition (1,000 calories a day).

Following fruit and vegetables, catering is the second largest component in the athletes' food impact at 28% (0.62gha). This is again due to their 'away from home' training and competition schedules with an average 40% of their meals catered for (ranging from 20-70% depending on the individual athlete's schedule). This finding highlights a huge opportunity for event organisers and team managers as they can influence the choice of food and catering services the athletes consume.

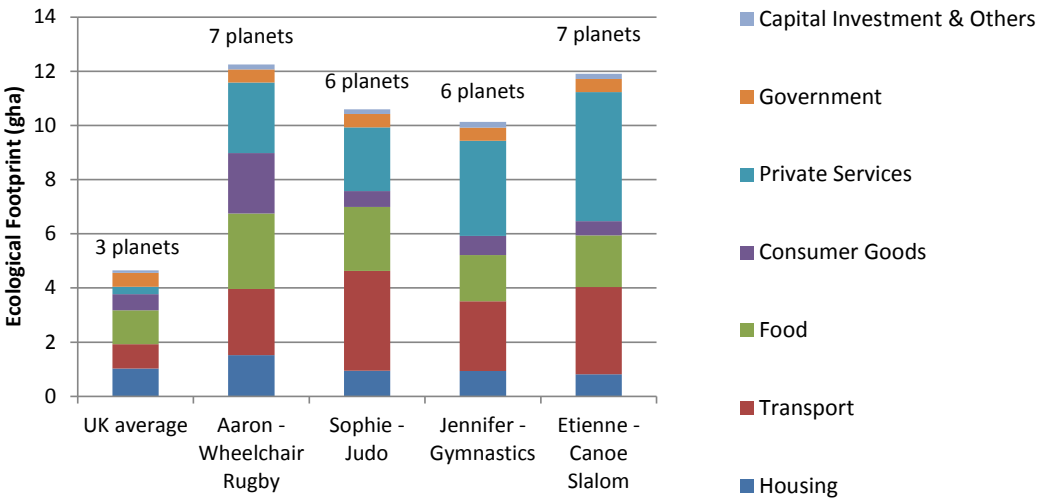
Consumer goods, including sports equipment, account for less than 10% of the athletes' overall impact. Although sports equipment can be the largest component within the goods category, the athletes also tend to spend less overall on consumer goods, with three out of the four athletes surveyed having a similar or smaller footprint than the UK average.

The footprint of the equipment used is dependent on the type of sport:

- Judo: this requires little need for equipment beyond punch bags and Judo uniforms.
- Artistic gymnastics: requires basic equipment such as training mats and uniforms.
- Canoe: although the footprint of the canoe is high, athletes tend to sell their used canoe to clubs or leisure canoeists; this re-use of the canoe makes the lifetime impact much smaller.
- Wheelchair Rugby: the equipment (e.g. wheelchair) is usually discarded after use due to high impact damage during training/ competition, so there is no scope for re-use.

Housing: The ecological impact of the athletes' housing is similar to the average UK citizen at around 1.04gha. Although the athletes spend a significant amount of time away from home, they share their homes with family members so household fossil fuel consumption remains similar to an average UK home.

Athletes' Ecological Footprint including personal and elite sporting activity



Recommendations/opportunities for reducing athletes' impact

Understanding athletes' consumption patterns and environmental impacts can assist them, their team managers and sports event organisers to plan more environmentally aware and efficient training and competitions. Our key recommendations for improving the eco-performance of athletes' impacts include:

1. Team managers and coaches could be careful to select catering and accommodation services that support healthy and sustainable lifestyles;

2. When arranging transport to/from daily training, team and training centre managers can support athletes to choose greener and lower cost options, such as cycling, car-sharing and public transport;

3. For international flight journeys to competitions, sponsors and/or competing teams may wish to consider carbon offsetting schemes;

4. Event organisers and caterers can provide nutritious and sustainably sourced meals for athletes including organic, seasonal, low meat and locally-sourced options;

5. Athletes to actively seek ways of reducing their impact and become public ambassadors for active and sustainable lifestyles.

As we have seen, the very rigorous demands which follow from reaching and then staying among the world's very best in a chosen sport can often compete with the quest for a more sustainable lifestyle.

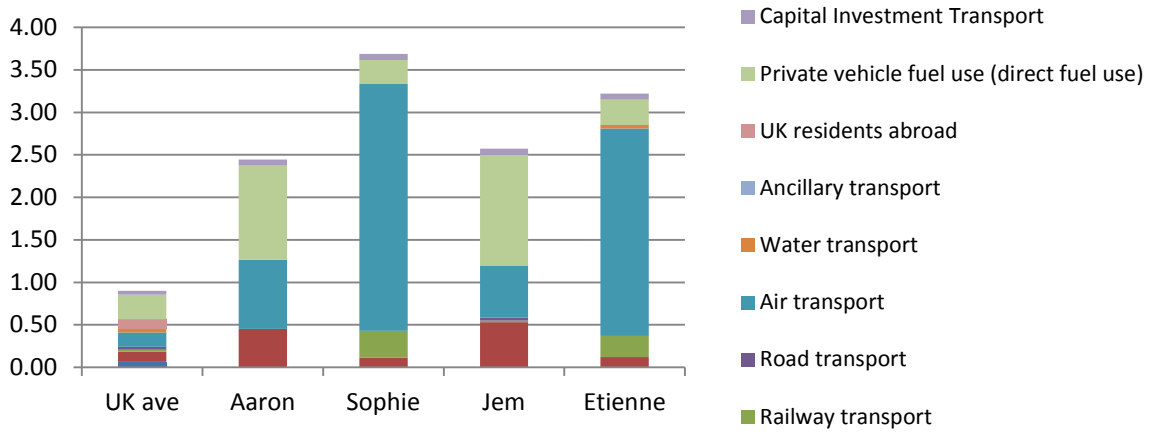
However, our athletes here have shown a strong commitment to doing what they can now, and a desire to drive more improvements in the future. And many of the issues faced by these athletes translate across to the professional and personal lives of the rest of the population.

So there is a huge opportunity for sport teams, federations, and the wider supporting service industry to move towards more sustainable operations and services that support elite athletes to sign up and champion sustainability as an aspiration for us all to strive towards.

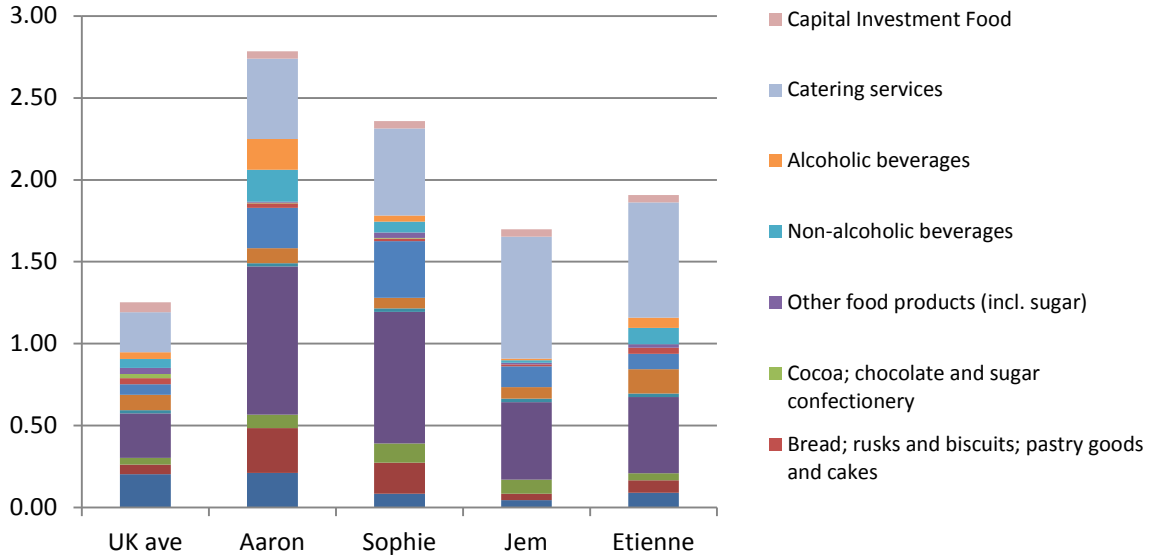
If we get it right, we will see sustainable lifestyles becoming the norm, allowing everyone to live healthy and happy lifestyles within a fair share of the earth's resources – what we call One Planet Living.

Appendix

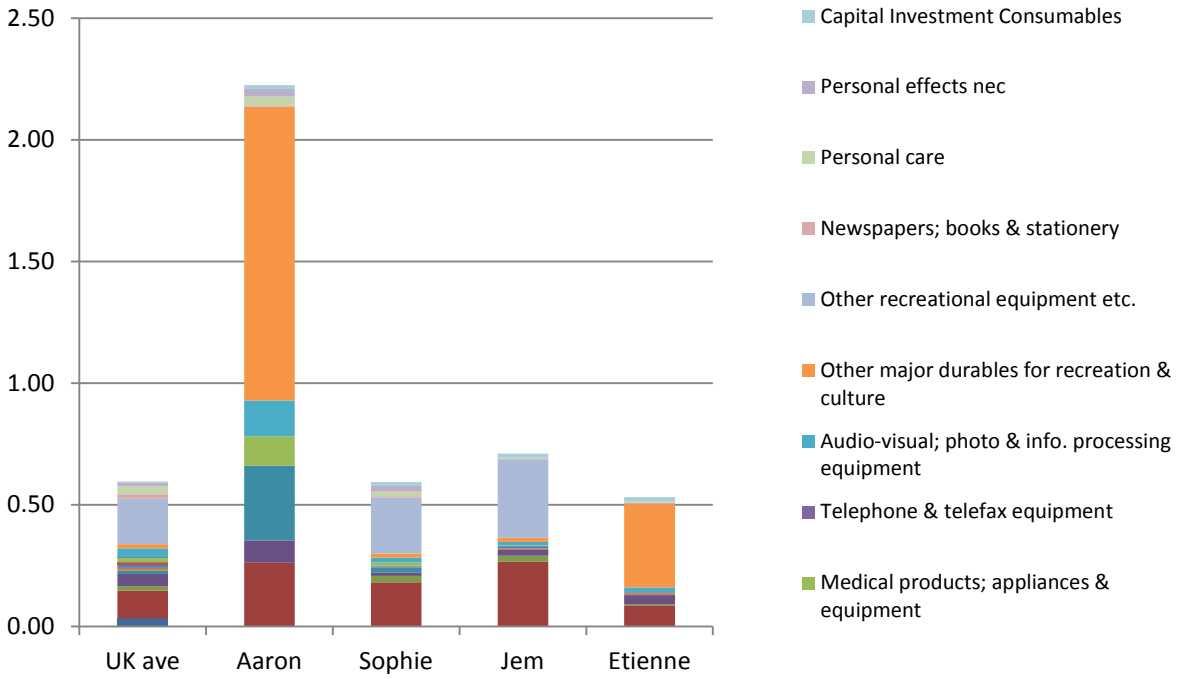
Transport footprint



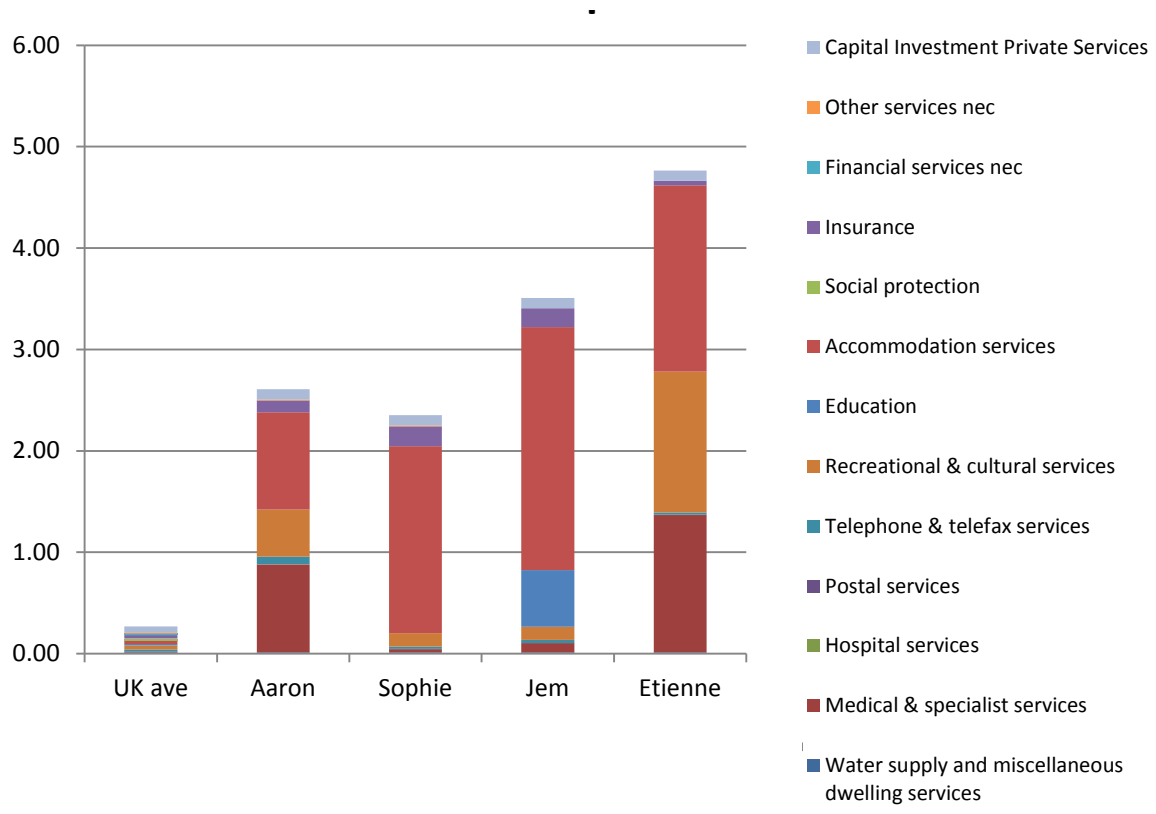
Food footprint



Goods Footprint



Private Services Footprint



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