



SUSTAINABLE  
LIFESTYLES  
REPORT

**BRAZIL**



wbcd sustainable lifestyles

# A vision beyond product improvements

WBCSD's Sustainable Lifestyles cluster has a clear vision: **that the innovative power of business can enable and inspire more sustainable lifestyles.**

We believe this is essential if 9 billion people are to live well and within planetary boundaries, particularly with an extra 3 billion people due to enter the middle classes by 2030.

To enable more sustainable lifestyles, business will need to go **beyond product improvements.** Lifestyle challenges need to be explored from a broader and systemic perspective. One that considers products but also infrastructure, technology, business models, policies and behaviour change.

The good news is this represents a tremendous opportunity for forward-looking business: acknowledging the limits of product improvements frees companies to explore more transformative ways of addressing key sustainability challenges. It points companies towards understanding how people are living, identifying where the highest impacts occur, and investing in the development of solutions that improve the system in which products are used – enabling more sustainable lifestyles and inspiring people to live them.



# In this report: A focus on Brazil

This report presents the findings of the WBCSD and CEBDS Sustainable Lifestyles workshop held in São Paulo, 26-27 May 2015. This workshop was the first in a series of four workshops held in 2015, in Brazil, India, China and the USA.



The report summarises the research and workshop discussions on where the highest consumption impacts are occurring in key lifestyle areas so we can begin to uncover the ways in which business can fundamentally reduce those impacts. The report serves as input towards a broader discussion between companies on how business can inspire sustainable lifestyles, by providing a focus on the issues and opportunities present in Brazil:

- **Section I** summarises consumption and lifestyle hotspot research carried out by CSCP<sup>1</sup>, ERM and HAVAS in advance of these workshops.
- **Section II** highlights current business, product and service solutions that some companies that attended the workshop<sup>2</sup> are already working on to enable and inspire sustainable lifestyles.
- **Section III** reviews some of the challenges faced when promoting sustainable lifestyles in Brazil, and suggests potential business solutions to overcome them. These solutions are drawn from the discussions that took place during the workshop between the organisations that attended. We consider potential solutions in relation to products, behaviour, infrastructure, technology and policy. Plus the potential for collaboration between companies and with relevant stakeholders.
- **The conclusion** suggests three cross-cutting big ideas for further development, building on the workshop discussions.

**Disclaimer:** The contents of this report are meant to provide a synthesis of the discussions that took place during the workshop, rather than workshop minutes. All information has been subject to the interpretation of the authors and does not necessarily reflect the views of the WBCSD, CEBDS, their member companies, or those companies and organisations that attended the workshops.

<sup>1</sup> Collaborating Centre on Sustainable Consumption and Production <http://www.scp-centre.org/>

<sup>2</sup> Workshop attendees are listed in Appendix 1.

# Executive Summary

## The state of lifestyles and sustainability in Brazil

Brazil is a huge country with staggering natural resource wealth. The country has been successful in moving many people out of poverty, but inequality remains very high. With so many Brazilians living on low incomes, average consumption footprints per capita are currently relatively low.

However, this is changing. Lower income groups are beginning to enter traditionally middle-class modes of consumption: access to credit has enabled widespread purchase of appliances such as washing machines and air conditioners. The lifestyle that the vast majority of Brazilians are aspiring to is that of the middle class. Middle class footprints in developed and emerging markets are similar: footprints are linked to relative income. People living on a 'local' middle income have access, globally, to similar things - a vehicle, a bigger home, a richer diet, more appliances, holidays, air travel and so on.

This report discusses areas in which business can encourage moves towards more sustainable, less impactful lifestyles in Brazil, particularly those that draw on its rich biodiversity, biocapacity and natural environment. We begin by providing an overview of the consumption trends identified in our research.

## Brazil: current lifestyle consumption trends & hotspots

### FOOD & NUTRITION

Brazilian culture and diets are deeply rooted in meat consumption (which has the highest material intensity of all foodstuffs). Average meat consumption is often twice daily, everyday. In addition to meat, diets are also rich in fruits and grains, which are locally produced. However, fast food is becoming more prevalent in modern diets. Food waste is not effectively managed from farm to fork, or from fork to landfill. People in urban areas are shifting towards more processed foods and sedentary lifestyles, triggering sugar-related and cardiovascular diseases, including diabetes.

### THE HOME

Access to adequate living spaces, particularly in urban areas, remains a challenge for many – resulting from a complex combination of property costs, poor construction quality, safety issues and inadequate public transport services. Building infrastructure and household energy consumption are at the root of key lifestyle challenges, both at the lower and middle-income levels. Millions of Brazilians live in informal housing, but recent shifts in credit availability have resulted in access to household appliances for this lower-income group. Alongside existing growth in use of household appliances (such as energy-intensive air conditioners and washing machines) from an already rapidly expanding middle class, this is driving significant increases in household electricity consumption. Creaky water infrastructure results in large losses of water from pump station to tap. Poor waste management, including sewage treatment, is a challenge and has serious health implications. Wastewater frequently flows into open canals or rivers that irrigate agricultural land. Landfills are saturated and recycling rates remain low.

### MOBILITY

While the elimination of subsidies, together with the economic crisis, have squeezed car sales in recent years, car or private vehicle ownership, including scooters/motorcycles, remains an aspiration for many Brazilians. Due to Brazil's commitment to diversifying energy sources through ethanol production and supporting a flex-fuel fleet, Brazilians may be driving 'greener' than in other countries. However, the mix of fuel is as often determined by price and availability as it is by environmental considerations. Lack of adequate public transport infrastructure, both in urban and rural areas, is a major challenge in Brazil, further driving a trend towards car ownership. Combined with a lack of urban planning processes, it is no surprise that Brazilians face long commuting times, traffic congestion, severe and real health risks from air pollution, and increasing transport-related CO<sub>2</sub> emissions. Public transport and more diverse mobility options are required.

### HOUSEHOLD GOODS

Brazil has come to be associated with beauty: cosmetics and perfumes are big business. Fashion consumption is also high among both men and women. There is an increasing interest in luxury products, including local brands, as well as imported clothes and accessories. New credit schemes, such as consumer credit financing, are attracting consumers from lower and middle income groups, who are now acquiring more household conveniences and beauty products than ever before, particularly lotions and cosmetics. The growing interest in foreign goods is creating pressure on local producers as well as on regulations for imported goods.

## Future sustainable lifestyle scenario: an aspirational target

Using a peer-reviewed methodology for calculating a sustainable level of resource use per capita (a sustainable 'lifestyle material footprint'), and working with our research partners at the CSCP, we have suggested what a sustainable lifestyle will need to look like in the future. The aim of this scenario is to provide a future target to aspire to and measure progress against.

This future sustainable lifestyle scenario provides a target sustainable Lifestyle Material Footprint of 8,000kg of material resource use per person per annum. The current Lifestyle Material Footprint of the average Brazilian is 11,400 kg per person per annum. This degree of difference seems small and manageable. However, current consumption in Brazil is projected to grow in such a way that an average Lifestyle Material Footprint is expected to be 13,200kg by 2030. A selection of real-world example Lifestyle Material Footprints, calculated for this workshop, showed middle class footprints already reaching between 20,000-40,000kg/p/a.

## The good news – solutions exist today

Companies that participated in this workshop identified business and product solutions that exist today that could already be positioned to address many of the current consumption hotspots. For example: healthy convenience food options, alternative fuel and flex-fuel car options, car sharing, efficient use of energy-saving appliances, more

efficient buildings and organic cosmetics and green chemistry. However, it is understood that many of these solutions exist in isolation and could benefit from connecting to other product solutions that will enable further scale and mass adoption.

## Three big ideas for collaborative business solutions

In the course of the workshop's discussions in Brazil, participants were most excited about three particular potential business solutions:

### Interconnected multi-modal transport and lifestyles

There is an opportunity to create a multi-modal transport system that goes beyond the notion of getting from A to B. Focused around hubs, urban mobility could be connected to other facets of everyday life such as work, health, childcare and food consumption. This streamlined and convenient mobility system would give people access to public, private and non-motorized transport options, while using new technologies to not only render multi-modal transport more efficient and convenient for the user, but also to link transport to different lifestyle propositions. Such a platform would need to overcome the current challenge of conflicting legislation and government initiatives to promote private car purchases on the one hand and more sustainable mobility on the other. So advocacy efforts counteracting these incentives against sustainable mobility would need to happen, alongside commercial solution development.

## Imagining the future transformative home: the 'good life' in 2050

The second opportunity is to collaborate with existing efforts in Brazil<sup>3</sup> to design and develop a model home for the future through a collaborative process with different stakeholders – from architects, designers and product developers to everyday people and students – to co-create, explore and experiment with what the 'good life' might look like in 2050. The technology and infrastructure could build on existing best practice globally, and generate a public debate and discussion around existing and necessary regulations to further promote 'sustainable' homes across all income groups that appropriately address specific challenges in Brazil. Using a home as a living laboratory for testing new technologies and products will help companies to engage individuals on more sustainable living, as well as improve the design of more sustainable solutions. This model is in line with efforts in other geographies<sup>4</sup> – an opportunity exists for more formal and effective collaboration globally.

## Catalysing sustainable lifestyles through media and communities

To reach the growing middle classes and the lower (but rising) income groups, there is an opportunity to engage with mass media and local communities to leverage Brazilian aspirational lifestyles from the top down and bottom up. Imagine a media campaign that promotes not 'sustainability' directly, but rather the good life as tied up with sustainable products and services that are cool, healthy and beautiful. And then imagine that message promoted through telenovelas and other television programs, as well as through celebrity outreach and social media campaigns.

<sup>3</sup> For instance, the NO.VA project: <http://www.endesa.com/EN/SALADEPRENSA/NOTICIAS/Enel-Brasil-introduces-first-ever-crowdsourced-home-of-the-future> with further information available here [http://www.domusweb.it/en/news/2015/09/23/arthur\\_casas\\_enel\\_no\\_v\\_a\\_project.html](http://www.domusweb.it/en/news/2015/09/23/arthur_casas_enel_no_v_a_project.html)

<sup>4</sup> The Whirlpool-Purdue University ReNEW House: <http://renewhouse.com/>

# I: Brazilian Consumption Hotspots and Lifestyle Material Footprint

**This section summarizes the research carried out by CSCP into current consumption-related hotspots in Brazil. These hotspots help identify the current baseline of lifestyle-related consumption, and where resources may be at risk due to lifestyle habits and trends. They also offer an indication of where to prioritize solutions, and provide a benchmark that can be used to measure how effectively business solutions are addressing the challenges in the future.**

## What is a consumption hotspot?

A consumption hotspot is a lifestyle or consumption trend that's on the rise, and that poses the biggest risk to the environment and social wellbeing. As such, hotspots reflect consumption trends with the largest degree of potential for change, and therefore indicate where intervention could have a significant impact. Lifestyle hotspots are calculated based on:

- Country-level environmental footprints (analyses of facts and trends about rapidly depleting and scarce resources in a country)
- Average household consumption expenditure (what people are spending more money on, and what goods and resources they are consuming the most)
- Growth trends (any evidence of social/societal innovation that has the potential to shift social norms if applied at scale – in a negative or positive way).

## Brazilian consumption hotspots

The research investigated current Brazilian consumption hotspots in four areas where impacts tend to be highest: food and nutrition, mobility, the home (including building materials, energy & water inputs and waste) and household goods (cleaning products, personal care, appliances and clothes):

## A sustainable lifestyle target for Brazil

As you can see in Diagram 1 on p.8, CSCP's research also investigated a 'Future Sustainable Lifestyle Scenario to provide a goal that solutions should work towards.

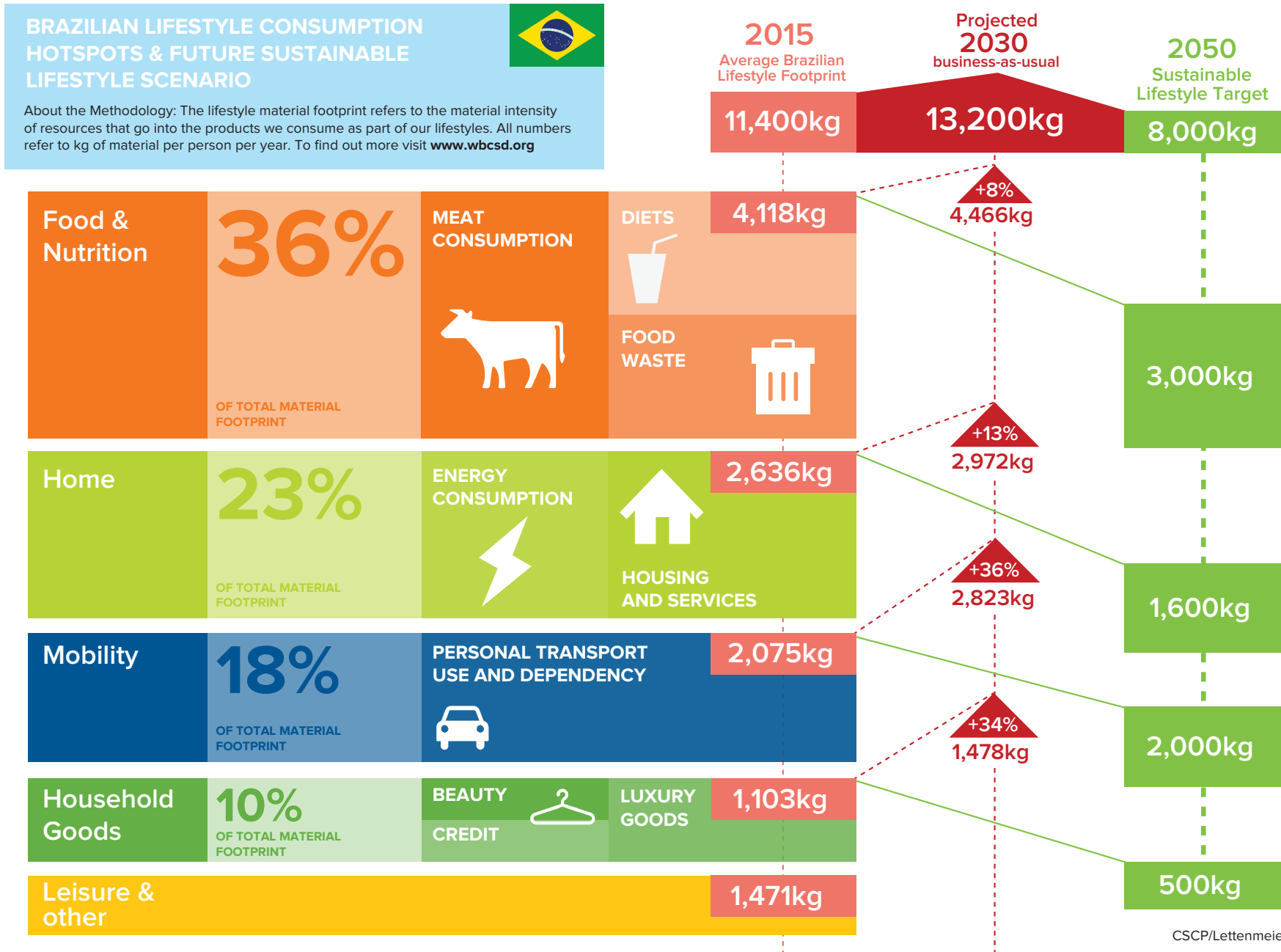
To determine this future target, the research quantified the average lifestyle material footprint based on national consumption averages (see diagram 3 and its accompanying explanation below for more information on how lifestyle material footprints are calculated). It then quantified what a sustainable lifestyle material footprint would need to look like in the future, based on global resource availability, planetary boundaries<sup>5</sup> and divided per capita assuming a 2050 global population of 9 billion.<sup>6</sup>

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<sup>5</sup> The 2015 updated Planetary Boundaries research can be accessed from the Stockholm Resilience Centre's website: <http://www.stockholmresilience.org/21/research/research-news/1-15-2015-planetary-boundaries-2.0---new-and-improved.html>

<sup>6</sup> For humanity to live within planetary boundaries global resource consumption should be halved by 2050 and an equal per capita use of resources should be achieved - SCHMIDT-BLEEK, F. (2009). The Earth: Natural Resources and Human Intervention, 1st ed. Haus Publishing: London, UK.

Diagram 1: Brazilian Lifestyle Consumption Hotspots & Future Sustainable Lifestyle Scenario



# A starting point

These hotspots, footprints and sustainable lifestyle targets are a springboard for deeper understanding – providing business with the information it needs to

identify opportunity spaces where it can enable and inspire Brazilians towards continuous improvement of well-being, while minimizing negative environmental impacts and social challenges. This research was provided in advance to all participants of the

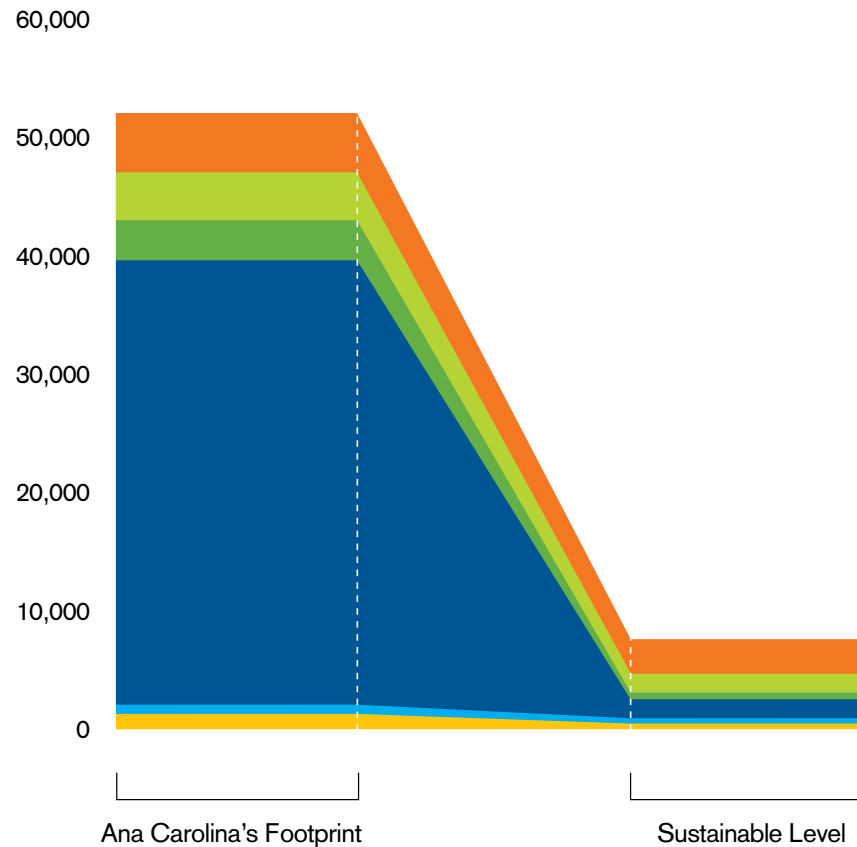
workshop in Brazil, as a starting point for discussions. A real-life example of the current lifestyle material footprint of a middle-income Brazilian:

Diagram 2: example of the current lifestyle material footprint of a middle-income Brazilian



**Ana Carolina**  
Architect  
Caxias do Sul, Brazil

- Food & nutrition
- The home
- Household goods
- Mobility
- Leisure
- Others



Ana Carolina's footprint is 51,900 kg/a, nearly 4.5 times the average Brazilian footprint.



She has meat, dairy and 2 cups of coffee daily. She buy groceries at supermarkets and doesn't take eco-labels into account.



She shares a house with her mother and has low electricity consumption.



Her household has 4 TVs and she buys 12 new pieces of clothing per year.



Ana Carolina travels at least twice a year by plane: once abroad and once in Brazil. She uses her car every day.



She has a dog and a cat. For leisure she enjoys a lively social life, loves to travel and spend time with friends on weekends.



Here is another example of a middle income Brazilian lifestyle. In this case, Mariane, a teacher, has a smaller footprint, as a result of a less material intense lifestyle, especially when it comes to travel. However, her footprint is still over 3 times the sustainable level, and in line with middle class lifestyles in Europe.

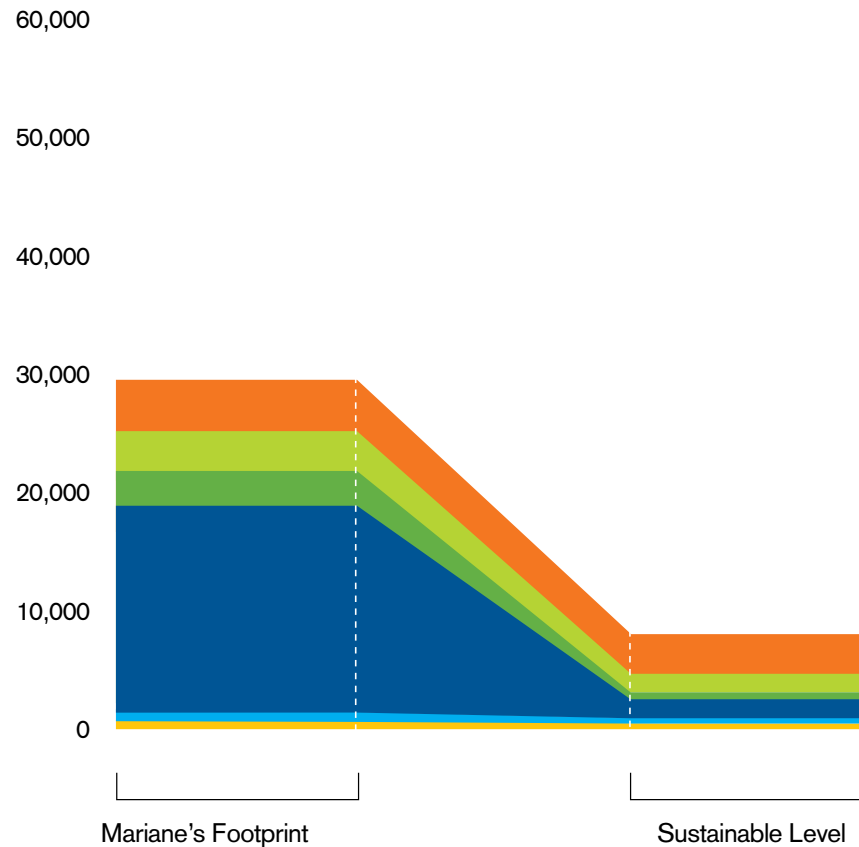
**Diagram 3: example of the current lifestyle material footprint of a middle-income Brazilian**



**Mariane**

Teacher  
Curitiba/PR

- Food & nutrition
- The home
- Household goods
- Mobility
- Leisure
- Others



Mariane's footprint is 29,800kg/a, nearly 3 times the average Brazilian footprint.



She eats meat, dairy and drinks coffee every day. She buys her groceries at supermarkets. She doesn't look for eco or organic.



She lives with her husband and consumes more electricity than the average Brazilian.



They both have a mobile phone and they share a TV. She buys 24 new pieces of clothing per year.



Her car is her main source of mobility, but she would change her job to reduce her commute. She takes planes on holiday.



She has an active social life and exercises 4 times a week either at the gym or jogging outdoors.

Diagram 4: Calculating a lifestyle footprint



Lifestyle footprint calculations convert all elements of a lifestyle into a material (kg) level of consumption of all goods and services in terms of natural resources and the material intensity required in production. The calculation includes consumption-based indicators of resource use; lifecycle-wide material resource use of all products and services used by households; sum of abiotic and biotic resource consumption plus agricultural and forestry-related erosion, and CO<sub>2</sub> emissions (embedded in the resource use).<sup>7</sup>

Using 2000 data as a baseline, and estimating a world population of 9 billion people by 2050, a per capita future material consumption target has been developed<sup>8</sup>, calculated at approximately 10,000kg per capita per annum (where abiotic resources account for 6,000 kg/cap/a and biotic resources account for 4,000 kg/cap/a). Of these 10,000kg, 8,000 kg/cap/a comes from personal lifestyle consumption and 2,000kg comes from public services. This methodology is peer reviewed and was used in a 2012 EU-funded research project that established pathways towards sustainable lifestyles in Europe through to 2050.<sup>9</sup>

CSCP has used this same methodology in WBCSD's 2015 investigations into Brazil, India and China to calculate country level average lifestyle material footprints as well as example individual footprints from a small sample of, in this case, Brazilians, representing diverse socio-economic situations and income-levels<sup>10</sup>. Individual current lifestyle material footprints from different countries provide an interesting snapshot of consumer footprints and impact areas and appear to be similar from country to country within relative income brackets.

<sup>7</sup> Lettenmeier, Michael et al. Eight Tons of Material Footprint—Suggestion for a Resource Cap for Household Consumption in Finland . Resources 2014, 3, 488-515.

<sup>8</sup> Bringezu, S., Kazmierczak R. ed, (February 2015 ) Possible Target Corridor for Sustainable Use of Global Material Resources, Wuppertal Institute, Wuppertal Germany.

<sup>9</sup> Sustainable Lifestyles 2050 www.sustainable-lifestyles.eu

<sup>10</sup> These Lifestyle Footprints are illustrative only, calculated from a one-off household surveys and self-reported data.

# II: The Good News Story: Current Solutions from Companies

The good news is companies that participated in the workshop are already involved in a variety of activities that could support more sustainable lifestyles across the four categories detailed in section 1 of this report.

## Food & Nutrition

- **Addressing fast food & meat intensive diets**  
Reducing the amount of sugar, salt and fat in foods, developing key ingredients from plant cells, identifying alternative sources of protein.
- **Addressing packaging waste**  
Reducing the material intensity of packaging, developing and promoting compostable polymer bags and films, improving plastic recycling solutions (including reverse logistics).
- **Addressing food sustainability**  
Developing a methodology and technical application for assessing the sustainability of food production, across the value chain, taking account of economic, environmental, and social indicators.

## The Home (Buildings and energy use)

- **Addressing inefficient building design**  
Designing buildings that allow for better use of natural light, maximizing use of rainwater and offering water-reuse solutions, providing waste management solutions, insuring better thermal insulation to avoid excessive air conditioning.
- **Addressing inefficient building materials**  
Developing products and technologies for more sustainable housing construction, including the use of window film to improve the energy efficiency of buildings, better-insulating construction materials, the recycling of construction materials, and innovative chemical solutions for new construction, maintenance, repair and renovation of structures.

## Mobility

- **Addressing motorized vehicle commuting**  
Putting more progressive corporate mobility policies in place, such as home office and car pooling, to reduce the need for individual motorized mobility to and from the workplace.
- **Addressing non-motorized mobility options**  
Supporting the development of cycle paths in São Paulo and other cities, which are reporting steady and significant increases in users.
- **Addressing car dependency and public transport access**  
Developing technologies to provide drivers with information on nearby public transportation options including detailed service information.
- **Addressing route inefficiency**  
Providing intelligent traffic management systems and the development of routing options within a more integrated urban mobility system.

## Household goods

- **Addressing product sustainability**  
Developing more efficient and sustainable products, using green chemistry principles, and investing in R&D around the biodegradability of packaging.
- **Addressing packaging waste**  
Promoting packaging with less material intensity, fewer environmental impacts in waste disposal, and more opportunities for packaging recycling.

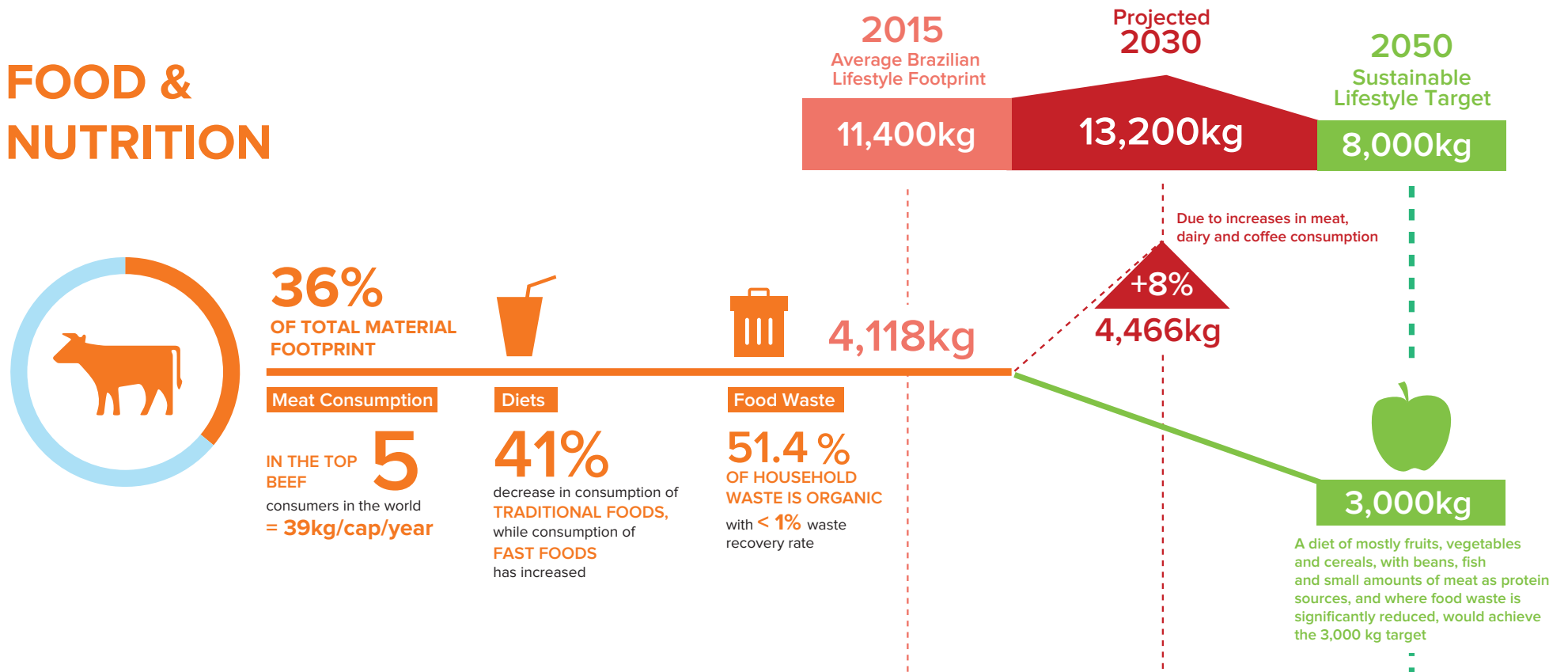
# **III: Future Business Opportunities – by Lifestyle Category**



# Food & Nutrition

Figure: Current average lifestyle material footprint of food and nutrition as a % of the total individual lifestyle footprint (average Brazilian) including the hotspots driving the footprint today and projected to 2030. A future sustainable lifestyle target level of material intensity for food consumption is also suggested.

## FOOD & NUTRITION



## Issues and challenges

Discussions in Brazil focused on **consumer demand, food production supply chain logistics and packaging waste:**

Tapping into consumer demand for more sustainable products was seen as a significant opportunity. Participants also discussed the importance of public health education and policy incentives more than corporate marketing campaigns.

From a business perspective, participants agreed price, brands and perceived food quality dominate consumption choices, while uptake of local and organic foods remains slow.

The 'sustainability' of food logistics and transport systems was also discussed – including the reliance on road transport, and inadequate cold storage in distribution leading to food loss.

Food loss and waste, as well as packaging waste, was also discussed, in particular, the fact policy barriers exist preventing the distribution of leftover food from supermarkets and restaurants through charitable organizations. Also that much of the household waste that is generated could be addressed through more biodegradable packaging.

## Key challenges to be overcome (identified by research and discussed at workshop)

- Sustainability factors are rarely taken into account in judging overall food quality.
- Food choices are largely determined by brand and price.
- Meat dominates Brazilian diets as part of the broader national culture.
- Obesity is an issue, including high sugar intake and increasingly sedentary lifestyles.
- Healthy food costs more than ready-made meals and fast food, which are considered more convenient.
- Financial incentives regularly promote the purchase of larger food portions to consumers (e.g. 2 for 1:s).
- Food's journey from farm to fork is highly complex.
- Food loss upstream is often due to storage and distribution issues.
- In terms of food waste management downstream, packing is an important factor.

## Sustainable Lifestyle Scenario: Key requirements

The group identified three key areas around food and nutrition, on which business could work, and that support a future more sustainable lifestyle scenario:

- A diet of mostly fruits, vegetables, cereals and fish as animal protein
- Dramatic improvements to food storage and logistics to reduce waste
- Reduced packaging and more use of recyclable materials.

## Business solutions and opportunity spaces

Key solutions identified by research and workshop participants	
Hotspot	Solutions
<b>Unhealthy and materially intensive food choices</b>	<ul style="list-style-type: none"> <li>Product solution: develop and promote access to healthier and more sustainable foods through product market development.               <ul style="list-style-type: none"> <li>Behaviour and policy solution: promote 'flexitarian' diets to reduce impacts from current materially intensive meat heavy diets.</li> </ul> </li> </ul>
<b>Food loss and food waste</b>	<ul style="list-style-type: none"> <li>Infrastructure, technology and product solution: reduce food-loss upstream and reduce packaging waste downstream by developing more connected infrastructure, technology and product solutions (e.g. reverse logistics seems largely underutilized).</li> </ul>
<b>Agricultural land and water use</b>	<ul style="list-style-type: none"> <li>Infrastructure and technology solution: improve sourcing and production techniques to reduce the material intensity of agriculture. And consider combined (inter-sector) approaches to improving industrial land and water use.</li> </ul>

### Developing the market for sustainable, healthy food products

**Product solution spaces:** The trend towards fast food with lower nutritional value and higher material footprints needs to be countered through the development of healthier, low-footprint food choices that don't compromise on convenience, taste or price.

Growing demand in the fast food category presents one strong opportunity to reach a wide audience beyond the current niche of higher-income groups who can afford local and organic food in Brazil. Middle-income groups can be incentivized to opt into healthy food lifestyles when food products are affordable, accessible, tasty and convenient. And consumer-facing food brands have a real opportunity to influence this change, as brand reputation remains the most important factor influencing prepared-food purchasing decisions in Brazil.<sup>11</sup>

For lower-income groups there remains clear opportunities in the development of fortified foods (dietary staples that include key minerals and vitamins), as well as a need for continued improvement in education around nutrition.

<sup>11</sup> Havas Worldwide and WBCSD, Sustainable Lifestyles Brazilian Context, May 2015, p.8

**Collaborative business solution spaces:** There are genuine opportunities for collaboration between producers, manufacturers and retailers to increase availability of healthy and sustainable food options. There are precedents for this kind of corporate and stakeholder collaboration, too. For example, the Consumer Goods Forum's work on areas such as Deforestation, Waste and Refrigeration.<sup>12</sup> In addition, multinational corporation commitments in areas such as deforestation will involve working closely with partners in their supply chains in Brazil, and these conversations could be used as the foundations for more extensive conversations aimed at bringing more sustainable food and nutrition to Brazilians. That way efforts to improve the sustainability of global supply chains could also address the social and nutritional needs of Brazilians.

## Diversified diets

**Behaviour and policy solution spaces:** Meat, and particularly beef, is an important part of the Brazilian traditional diet – and a key driver of the material footprint hotspots in Brazil. While educating people on the environmental implications of meat production is one part of the solution, the more significant opportunity may well be through the promotion of healthier, less expensive and more diverse diets now referred to as 'flexitarian' diets. These involve more vegetables, grains and some dairy, and more proteins from non-meat sources such as fish and legumes.

Business is working, both at a multinational level and at a smaller entrepreneurial and disruptive level, on improving the functionality and attractiveness of these diets and alternative sources of protein. Nonetheless, policy and behaviour must also be addressed to drive a shift towards meat-alternative foods and flexitarian

diets. A policy incentive exists, in that Brazilian public health care costs are already high and diet-related diseases such as diabetes and obesity are on the rise, but a more positive course of action is needed.

**Perspective on meat consumption behaviour change:** In terms of encouraging people to reduce their meat consumption, there is an opportunity to build on existing initiatives that seek to diversify diets. For example, in São Paulo the Brazilian Vegetarian Society has been running a Segunda Sem Carne or Meatless Monday program since 2009<sup>13</sup>, with the support of celebrities and social media campaigns. Businesses could promote these campaigns both in their canteens and through media campaigns aimed at the general public. However it's important to remember all campaigns should emphasize the health and financial benefits of reduced meat consumption, benefits more resonant with lower and middle-income consumers, rather than vegetarianism or sustainable food consumption.

## Food waste management

**Infrastructure and technology solution space:** Inadequate storage and poor distribution logistics are a major cause of food loss in Brazil. There is a need for infrastructure developments to improve food transport options, while technological developments could help track food and improve food logistics across complex supply chains. There is also an opportunity to identify and show businesses where food losses are financially impacting them. And a need to assess any existing incentives that could be encouraging food losses across the value chain.

Packaging is another key issue in terms of waste management in Brazil: packaging could be reduced,

non-recyclable packaging could be phased out, and packaging sizes could be further adapted to consumer needs. That said, packaging is a key factor in food preservation – so compromise is needed between combatting food waste and reducing packaging. Exploration of more creative approaches to end-of-life strategies should also be considered, particularly in the absence of a universal waste-management infrastructure.

**Collaborative business solution space:** Explore combining approaches to mobility and food logistics challenges, considering both infrastructure development, public transport and better technologies for managing food supply logistics.

## Supply chain process improvements

**Infrastructure, technology and product solution space:** Building on efforts already underway, there is an opportunity to improve the impact of food production on land, water use and local development. Existing mechanisms have been developed to assess the sustainability of food supply chains including their social, environmental and economic factors. These could be extended to consider landscape approaches to sustainability challenges between sectors, whereby collaborative efforts could cumulatively benefit a wide range of stakeholders and end users.

**Collaborative business solution space:** If we can combine existing business expertise in agriculture, food production and land use sustainability across different sectors, there is an opportunity to leverage infrastructure and technology solutions from all sectors and apply them more broadly across supply chains – from production and processing to transport and storage.

<sup>12</sup> Deforestation, <http://www.theconsumergoodsforum.com/sustainability-strategic-focus/sustainability-resolutions/deforestation-resolution>, Waste, and Refrigeration <http://www.theconsumergoodsforum.com/sustainability-strategic-focus/climate-change/refrigeration>

<sup>13</sup> <http://www.segundasemcarne.com.br>



# Home

Figure: Current average lifestyle material footprint of the home as a % of the total individual lifestyle footprint (average Brazilian) including the hotspots driving the footprint today and projected to 2030. A future Sustainable Lifestyle target level of material intensity for the home is also suggested.

## HOME



**23%**  
OF TOTAL MATERIAL  
FOOTPRINT

### Housing & Services

Over **50 MILLION**  
Brazilians = **34%**

of Brazilian urban population  
live in low quality,  
irregular houses

**ONLY 40-45%**  
of households are connected  
to sewage network



### Energy & Water

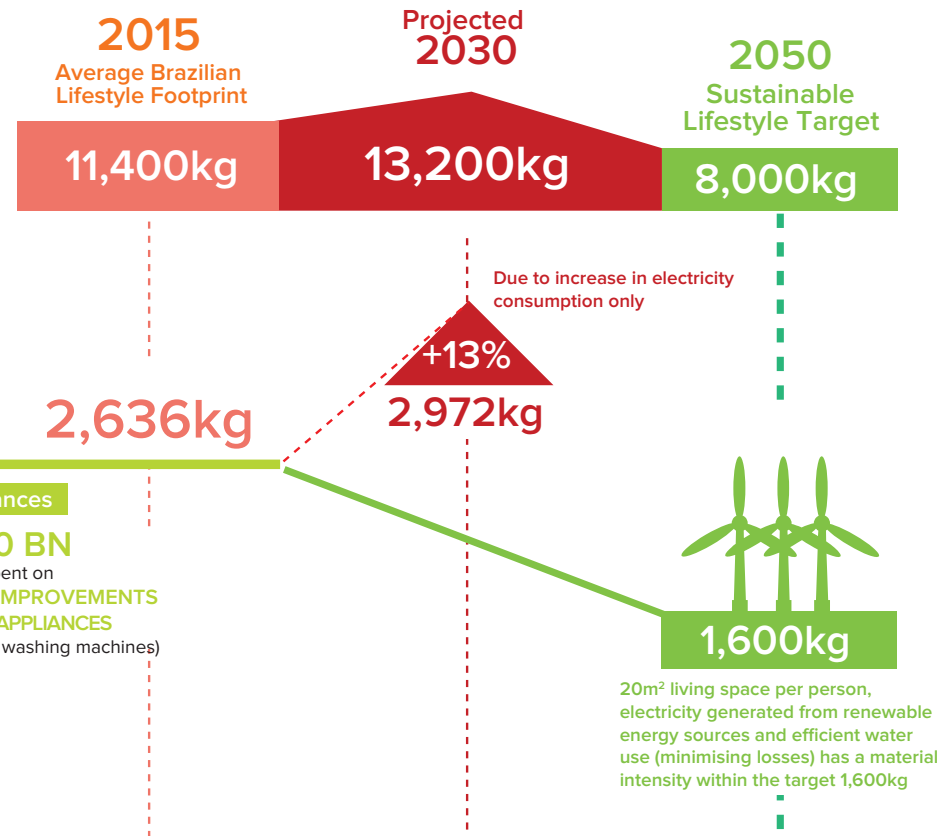
**15%** OF TOTAL  
ENERGY CONSUMPTION  
comes from residential use  
= **INCREASE OF  
5.7% IN 2014**

Hydro at **TIPPING POINT**,  
**FOSSIL FUELS** increasing  
**37%** water loss along  
the distribution system



### Appliances

**R\$50 BN**  
(2013) spent on  
**HOME IMPROVEMENTS**  
such as **APPLIANCES**  
(e.g. AC, washing machines)



## Issues And Challenges

The housing situation in Brazil represents multiple social and environmental challenges: where lower-income groups rely on informal housing, middle-class Brazilians have similar footprints to US and European counterparts.

Infrastructure, both in the informal and formal sectors, can be poor, resulting in water and electricity wastage as well as inadequate sanitation in some areas. The government is committed to large-scale housing developments for lower and middle-income groups, allowing more Brazilians to own their own homes in the formal sector. Yet the majority of developments do not currently take building or energy-efficiency standards into account. Waste management practices are limited, both of construction materials and household waste. Finally, a dramatic rise in access to credit, along with increasing affluence, is resulting in more appliances in all homes, including energy-intensive washing machines and air-conditioners.

### Key challenges to be overcome (identified by research and discussed at workshop)

- Infrastructure in both formal and informal building developments is often poor, contributing to inefficient water and energy consumption in the building usage phase. Effluent is often released directly into rivers and lakes.<sup>14</sup> There is a need for business and policy makers to work to clarify the benefits of a more systemic sustainable approach to development planning and construction.
- Large-scale renewable energy sources, including ethanol, wind and hydro in particular, have already been developed in Brazil. Wind and solar energy could be further developed, as well as more local and microgrid energy schemes, but the trend is for future energy demand to be met from fossil fuels.
- Energy consumption has risen in Brazil as lower and middle income consumers have gained access to credit, allowing the purchase of appliances such as washing machines, electric showers and air-conditioning units. Electric appliances can account for a large proportion of energy consumption.

### Sustainable Lifestyle Scenario: Key requirements

The group identified three key areas around the home 'system', on which business could work, and that support a future more sustainable lifestyle scenario:

- Electricity to be sourced from renewable energy sources.
- Clearer business case for architects, builders and planners, leading to widespread implementation of efficient building practices for low and medium-cost housing developments.
- Continued formalisation of the informal housing sector and improvement of its energy, water and sanitation infrastructure.

<sup>14</sup> Portuguese: <http://www.tratabrasil.org.br/saneamento-no-brasil> or English example: <http://www.seattletimes.com/nation-world/away-from-olympics-sewage-blights-vast-swaths-of-rio/>

## Business solutions and opportunity spaces

Key solutions identified by research and workshop participants	
Hotspot	Solutions
Poor infrastructure and construction methods due to lack of clarity around business case for more sustainable developments	<ul style="list-style-type: none"> <li>Infrastructure, policy and behaviour solution: support sustainable building development by highlighting the business case for more efficient development, and through financial instruments, incentives and policy support.</li> </ul>
Energy sources, supply and inefficient appliances	<ul style="list-style-type: none"> <li>Technology, policy and behaviour solution: create fair legal access to reliable renewable energy, and promote its consumption. Then develop more energy-efficient appliances to reduce significant increases in domestic energy use.</li> </ul>
Water loss	<ul style="list-style-type: none"> <li>Technology, policy and behaviour solution: reduce water loss and increase water efficiency through a mix of infrastructure and smart metering.</li> </ul>

### Sustainable housing development

**Infrastructure and policy solution spaces:** There is an opportunity to work with policy makers and the housing supply chain to make the large-scale developments planned for the future more sustainable and efficient. That includes making recommendations for improving life cycles of construction materials and reducing construction waste. Opportunities discussed included reducing urban property tax (IPTU) on sustainable buildings and offering credit lines for sustainability improvements. Much work could be done to reduce impacts by introducing regulations and guidelines to ensure new developments take sustainability into account in their planning (e.g. energy efficiency and sanitation infrastructure).

### Technology, policy and behaviour solution space:

There is a need to address water 'systems loss' upstream from households by supporting better infrastructure development and smart metering, as well as integrating better water management into building design and development.

### Technology and collaboration solution space:

Furthermore, WBCSD is working on a new business solution, a collaboration between the Energy Efficiency in Buildings (EEB) program and the Safe and Sustainable Materials Cluster, to perform more indepth Life Cycle Analysis of construction materials and building processes. This will help architects and developers innovate towards more sustainable apartments and houses.

**Collaborative business solution spaces:** There is an opportunity to work with the Green Building Council of Brazil (GBC Brasil) to further promote LEED certification and training across the country – several companies involved in the workshop are already members of this network. There is also an opportunity to use the GBC Brasil network to engage with housing developers, real-estate agencies and investors, as well as innovators in architecture, construction materials and energy resources, to promote more efficient commercial and residential developments. EEB program could be approached to further support businesses in progressing such discussions, particularly with regard to commercial developments.

## Domestic renewable energy

### Infrastructure, technology and policy solution

**space:** Further investigation in support of renewable energy generation at the community level is needed. These generation methods include the transformation of waste into biogas or electricity, and solar-powered rooftop installations. For the latter, Brazil has recently announced the possibility of reducing taxes for solar panels to promote wider use on rooftops by residential consumers.<sup>15</sup>

### New perspective for behaviour and technology

**change:** to address the question of peak load and the burden of material and installation costs, countries such as the United States have begun bundling together different types of buildings in joint solar programs, including households, schools and businesses.<sup>16</sup> Another model has been to promote the service of renewable energy generation to supply households with electricity, whereby companies take on infrastructure costs while gaining revenues from providing access to clean energy for households.<sup>17</sup> These approaches require policy makers, financial institutions and business to collaborate – ensuring that feed-in tariffs, tax incentives and regulations are able to support the early competitiveness of these new services.

## Smart appliance solutions

### Technology, policy and behaviour solution space:

The research, both from CSCP and Havas, highlighted an increase in the consumption of timesaving appliances among the growing middle classes in Brazil (and now also among low-income earners and informal workers due to access to consumer credit). There is therefore an opportunity to work with policy makers and utility providers to improve access to basic electricity services to address this demand – but wherever possible it should come from renewable energy sources. Furthermore, increased access to more affordable and efficient appliances in online and offline marketplaces will be required. One option could be to promote and subsidize more efficient refrigerators, lighting, electric showers and air-conditioning – the main energy-greedy appliances. Addressing electricity distribution ‘systems loss’ upstream from households will be equally important, by supporting better infrastructure development and metering, and testing ‘smart grid’ technologies where financially viable.

### New perspective for energy use behaviour change:

there is an opportunity for further public debate and action regarding certain norms around indoor air comfort. Business could take the lead in reducing air-conditioning and changing business attire, as has been done through the Cool Biz campaign in Japan, promoted by the Japanese Ministry of the Environment since 2005.<sup>18</sup> Initially designed for government offices, air-conditioning units were limited to 28°C between June and September, and a more liberal summer dress code was introduced. The campaign spread to the private sector and was supported by local department stores that began promoting Cool Biz clothing items. Following 2011’s tsunami (and resulting power shortages), Cool Biz now runs from May to October.

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<sup>15</sup> Dezem, V. (2014). “Brazil to Reduce Taxes for Distributed Solar Energy Generation.” Retrieved September 28, 2015, from <http://www.bloomberg.com/news/articles/2015-03-04/brazil-to-reduce-taxes-for-distributed-solar-energy-generation>.

<sup>16</sup> Sahakian, M. (2014). Keeping Cool in Southeast Asia: Energy use and urban air-conditioning. New York, London, UK, Palgrave Macmillan. page: 192; Browner, C., et al. (2014). “Clean Energy Investment in the United States: The View to 2030.” Retrieved September 28, 2015, from <https://www.americanprogress.org/issues/green/report/2014/06/10/91228/clean-energy-investment-in-the-united-states/>.

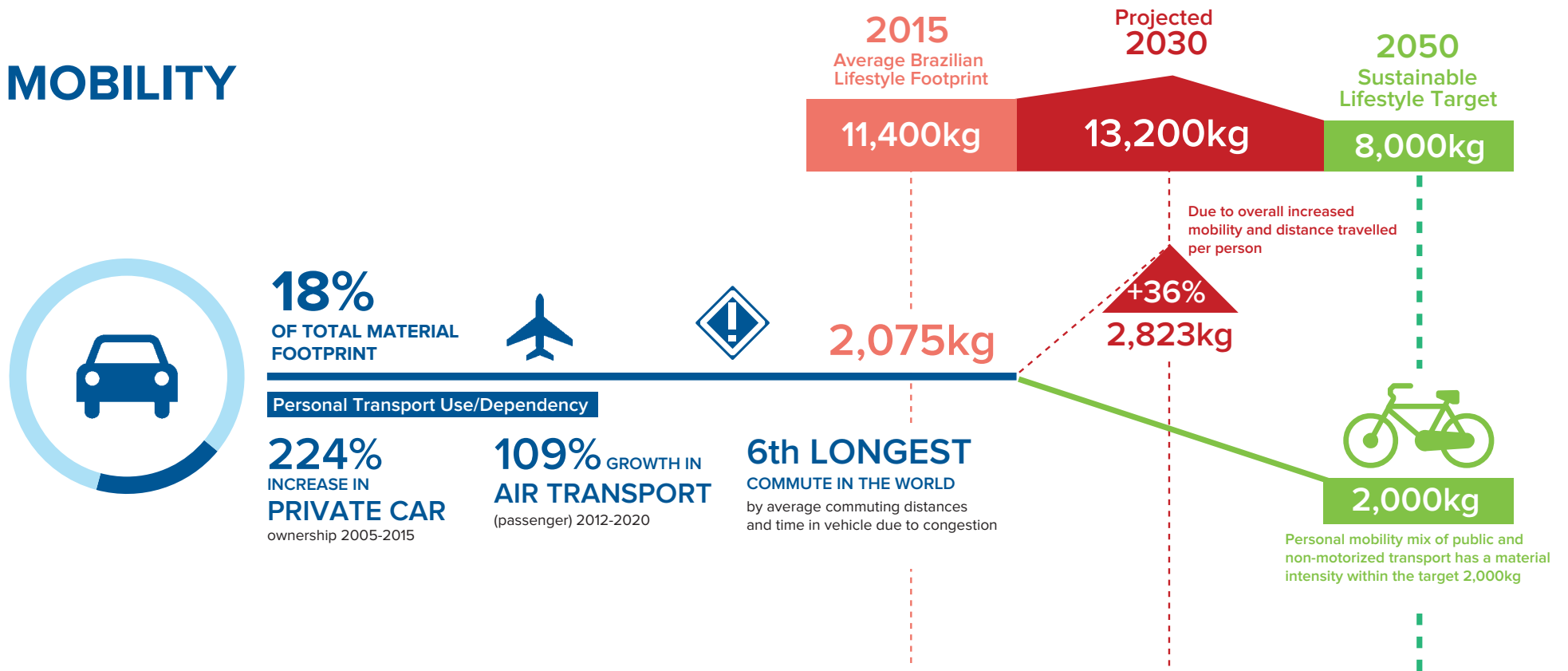
<sup>17</sup> Wheldon, A. (2014). “Selling energy as a service meets the poor’s needs and generates profits.” Retrieved September 28, 2015, from <http://www.theguardian.com/sustainable-business/selling-energy-service-meeting-needs-of-poor>.

<sup>18</sup> [https://en.wikipedia.org/wiki/Cool\\_Biz\\_campaign](https://en.wikipedia.org/wiki/Cool_Biz_campaign)

# Mobility

Figure: Current average lifestyle material footprint for mobility as a % of the total individual lifestyle footprint (average Brazilian) including the hotspots driving the footprint today and projected to 2030. A future Sustainable Lifestyle target level of material intensity for mobility is also suggested.

## MOBILITY



## Issues and challenges

The sheer size of Brazil presents significant mobility challenges. Nonetheless, the most pressing mobility challenges are local in nature.

In urban centers traffic is crippling, with long commute times, inefficient routing and a lack of public transport and non-motorized options. Metropolitan centers are producing significant CO2 emissions and unhealthy air pollution – in São Paulo air pollution is a greater killer than car accidents, breast cancer and AIDS combined.<sup>19</sup>

Between urban and rural areas transport infrastructure is poor. Road-traffic deaths are a critical issue. And there are few alternatives to road and air travel, as rail and waterway routes remain largely unavailable.

Public transport could be further developed but is subject to sometimes incoherent government intervention: on the one hand municipalities are required to develop sustainable mobility plans that favour non-motorized and public transport; on the other hand personal vehicle purchases are incentivized in support of the economically important internal auto-manufacturing sector.

### Key challenges to be overcome (identified by research and discussed at workshop)

- Traffic pollution is a serious health issue in cities, whereas road traffic deaths remain a significant challenge throughout Brazil.
- A boom in private vehicle ownership over the next decade is being fuelled by an increase in affluence, access to credit and lifestyle aspirations.
- Government intervention can be incoherent: legislation mandates that select municipalities with populations over 20,000 develop sustainable mobility plans, while government subsidies support the Brazilian auto-manufacturing sector and incentivise personal vehicle purchases.
- There are few alternatives to road mobility in Brazil: public transport and trains are poor and waterways are under-utilized. Given the size of the country, air travel remains necessary and appealing.

### Sustainable lifestyle scenario: key requirements

The group identified three key mobility challenges, on which business could work, and that support a future more sustainable lifestyle scenario:

- A personal inter-modal mobility mix of public and non-motorized transport, potentially developed through better integrated urban mobility hubs.
- Improved access to less impactful vehicles for individuals (e.g. hybrid and electric).
- Address significant increase in move towards individual (2 and 4 wheel) motorized mobility.

<sup>19</sup> ERM and WBCSD, Sustainable Lifestyles Social Issues Workshop Pre-Read, May 2015, p.3

## Business solutions and opportunity spaces

Key solutions identified by research and workshop participants	
Hotspot	Solutions
Preference for private transport addressed primarily through the integration of multiple modes of transport (including infrastructure and payment) into high quality and availability, multi-choice systems.	<ul style="list-style-type: none"> <li>Infrastructure, technology and behaviour solution: improve public and alternative transport systems, developing multi-modal integrated transport options centred around urban mobility hubs.</li> <li>Policy solution: address contradictory mobility incentives to focus on sustainable mobility drivers.</li> </ul>
More support for alternative fuel sources, including electric mobility	<ul style="list-style-type: none"> <li>Infrastructure and technology solution: further support existing infrastructure for fuel alternatives and removal of disincentives around uptake of hybrid/electric vehicles.</li> </ul>
Limited non-motorized transport options	<ul style="list-style-type: none"> <li>Infrastructure, business model and behaviour solution: promote and enable the benefits of non-motorized transport with 'walkable – bikable' city design and new business models.</li> </ul>

### Diversified private / public and motorized / non-motorized transport

**Infrastructure, technology and behaviour solution spaces:** technology already exists that would allow the ICT (Information and Communications Technology) and automotive sectors to implement more intelligent traffic systems – including sensor-enabled traffic lights, parking information and bike and Bus Rapid Transit (BRT) corridors. All these would combine to make it easy for people to reach their destination by the most efficient, least impactful route.

And yet access to streamlined information technology that is user friendly remains limited. In Brazil in particular, having multiple businesses providing public transport within metropolitan areas exacerbates this information gap. WBCSD, with the members of its Sustainable Mobility Project 2.0, has developed a set of 22 indicators that can be used to work towards more sustainable urban mobility<sup>20</sup>, and is collaborating with 6 test cities around the world, including Campinas<sup>21</sup> in Brazil, to progress the implementation of solutions.

**Collaborative business and public sector solution space:** lessons learned in Campinas can be quickly applied in São Paulo, a city with amongst the most urgent mobility requirements in Brazil. In addition the Santa Cruz transport center, an existing mobility hub already experimenting with a universal ticketing approach, could be radically modernized, transforming it into an inspirational and aspirational focal point for transport. Companies could work with city officials to design and construct an integrated inter-modal mobility hub here. Through this hub, more 'private' collective transport methods could be piloted, such as a luxury business-oriented bus/ rail routes for commuters, as well as bike and car sharing. ICT should play a role in further extending the idea of a single ticketing approach to develop a multi modal and single transit card that might allow users to transfer from parking to metro to biking seamlessly. The card could also extend to include leasing and sharing features, allowing users to access car or bike sharing from the hub or from home. Finally, such a hub should include other lifestyle services, such as retail and health care.

<sup>20</sup> WBCSD (2015) "Methodology and indicator calculation method for sustainable urban mobility", Retrieved September 28, 2015, from <http://wbcسدservers.org/images/Mobility-indicators.pdf>

<sup>21</sup> WBCSD (2015) "WBCSD promotes collaboration between cities supporting sustainable mobility", <http://www.wbcسد.org/Pages/eNews/eNewsDetails.aspx?ID=16467&NoSearchContextKey=true>

**Perspective on mobility behaviour change:** People are increasingly feeling a ‘time crunch’. This has an impact on lifestyle and related consumption patterns, including mobility. Considering time as a resource is a key opportunity for mobility solutions. The key is to overcome time constraints and achieve sustainability in a manner that is convenient for commuters in their everyday lives. Mobility hubs and transit spaces should be places where other consumer needs are met. Corporate benefits can also play a role by promoting home working options for employees, or taking up of commuting options that increase quality of life through improved use of time – some businesses are exploring the viability of offering incentives directly to customers.<sup>22</sup>

## Incentives

**Policy solution space:** The potential and feasibility of incentives encouraging diversified and public transport should be further evaluated across different income groups. For instance, could subsidies for public transport among lower income groups be increased, or could taxation on vehicle ownership for higher income groups be increased? National and local policies can be incoherent, for instance mandating municipal-level sustainable mobility plans on one hand and incentivizing individual car purchases on the other. Policies that are counter-productive and incompatible with moves towards more sustainable mobility options for Brazilians should be further explored and debated. Policy

applied outside the mobility space could be effective in shifting the mobility expectations of middle income Brazilians. For example, currently the norm is for real-estate developers to provide two car-parking spaces per unit. Limiting the ease of parking in middle-income developments and commercial centers, while simultaneously maximizing access to public transport systems, could support a shift in mobility choices.

**New business models, infrastructure and behaviour solution space:** Brazilian cities can expand efforts to test out new business models in areas such as bike sharing. These schemes are proving extremely successful in other world-leading cities;<sup>23</sup> one great example is Velibre in Paris.<sup>24</sup> São Paulo has already begun to develop cycle paths in the commercial centers of the city, advancing safe and viable cycling and walking in urban areas with infrastructure development. Rio de Janeiro and other Brazilian cities are also exploring schemes. Most bike sharing schemes require significant public subsidies to be operated successfully, which can be legitimately sought as these schemes form part of a city’s transportation network. They also democratize access to mobility and can connect lower-income neighborhoods, reduce congestion and pollution, and of course drive behavioural shifts in the way that people move around. Business can support and benefit from such initiatives too, as they can increase the wellbeing of their employees.

## Integrated Technofix

**Collaborative business solution space:** mobility and technology skill sets could and should be brought together. That’s because the required technologies exist today, but not always amongst incumbents, and certainly not in one single company. Companies are already collaborating with each other on drivetrain technologies, batteries and charging systems, but further cooperation is required around integrating intermodal options and access, infrastructure, and of course financial incentives for municipalities, businesses and individuals – it is these areas that the WBCSD Sustainable Mobility Project 2.0 is progressing.<sup>25</sup>

**New perspective for mobility behaviour change:** From a lifestyles perspective in Brazil, all companies could begin by incentivizing employees to use more sustainable travel options where they exist. This could include support for alternative commuting options (e.g. car pooling or company-run commuter buses outside peak times), alternative fuels (by mandating or rewarding use via company fuel cards) or the deployment of more electric and hybrid vehicles as part of corporate fleets. Such efforts could lay the behavioural foundations for larger scale efforts, such as the connection of a public transport mobility hub with not just lifestyle amenities (such as shopping, childcare, parking) but perhaps an intermodal corporate fleet as well.

<sup>22</sup> Hallauer, T. (2015), “The new face of mobility pricing is powered by connected services”, Retrieved September 28, 2015, from <http://www.ptolemus.com/blog/the-new-face-of-mobility-pricing-is-powered-by-connected-services/>

<sup>23</sup> Between 2008 and 2013 the number of bike-share systems more than doubled from 213 operating in 14 countries using 73,500 bicycles to 535 schemes, in 49 countries with a total fleet of 517,000 bicycles: Michell, N. (2014), “Bike-share schemes: what price a healthier city?”, Retrieved September 28, 2015, from <http://cities-today.com/bike-share-schemes-what-price-a-healthier-city/>

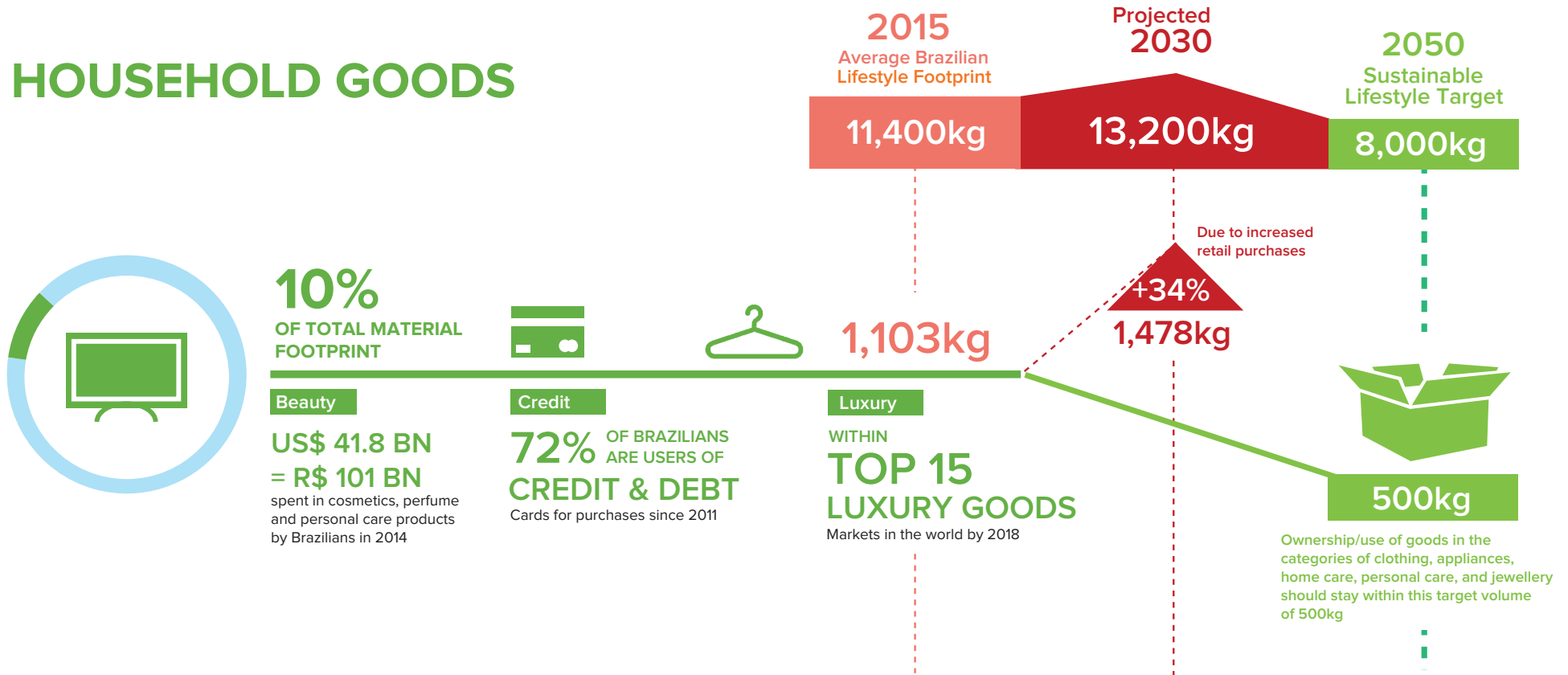
<sup>24</sup> Velibre bike sharing Paris [http://www.sustainablecitiesinstitute.org/Documents/SCI/Case\\_Study/Case%20Study%20-%20Bike%20Sharing%20Velib%20SF.pdf](http://www.sustainablecitiesinstitute.org/Documents/SCI/Case_Study/Case%20Study%20-%20Bike%20Sharing%20Velib%20SF.pdf)

<sup>25</sup> WBCSD (2013), “Sustainable Mobility Project 2.0 Executive Summary”, Retrieved September 28, 2015, from <http://www.wbcds.org/Pages/Adm/Download.aspx?ID=8727&ObjectTypeId=7>



# Household Goods

Figure: Current average lifestyle material footprint of household goods as a % of the total individual lifestyle footprint (average Brazilian) including the hotspots driving the footprint today and projected to 2030. A future Sustainable Lifestyle target level of material intensity for household goods is also suggested.



## Issues and challenges

The discussions during the workshop focused on the positive trend of growing awareness of more sustainable products, including cleaning and personal care items, which make up a significant portion of Brazilian household expenditures.

Brazil is a market leader in this respect, with a wide range of sustainable care products, using natural ingredients, available to consumers. However, there is a value-action gap between awareness of sustainability and actual purchasing decisions. Half of all consumers of personal care and cosmetics products believe it is important these products are produced in a sustainable way, and consumers are also increasingly aware of risks associated with packaging that might contain toxicity, heavy metals or contaminate the products in some way.<sup>26</sup>

Cleaning is a significant concern, especially amongst low income consumers – people are willing to, and believe they have, to pay more for brands they trust.<sup>27</sup> This again places brands in a powerful position to align consumer concerns with functionally equal and yet environmentally less impactful products for the home and individual. However, the group felt that corporate communications around sustainability have not been successful to date, particularly in the use of technical language.

### Key challenges to be overcome (identified by research and discussed at workshop)

- Cleaning products and personal care items make up 20% of Brazilian household spending; brand loyalty is an important factor in product purchase decisions.
- There is a lack of awareness amongst consumers about how to get sustainability performance out of more sustainably designed products – for instance concentrated detergents tend to be overdosed and people may not program machines to take advantage of single rinse performance capability.
- Brazilian consumers are concerned with their well-being and believe that products should be produced responsibly (concern is growing amongst consumers with regard to toxins).
- Recycling of all aspects of household waste has seen low levels of uptake at the household level – infrastructure for recycling is not widely available.

### Sustainable Lifestyle Scenario: Key requirements

The group identified two key household goods challenges, on which business could work, and that support a future more sustainable lifestyle scenario:

- More conscious consumption regarding the volume of goods purchased and how to use goods to reduce their environmental and social impacts.
- The use of Brazilians' existing engagement with fashion, beauty and cleaning to drive awareness of more sustainable lifestyle options.

The discussion group agreed that educating corporate departments outside the sustainability function (in particular R&D, marketing and sales) would be an important first step to being able to bring more engaging sustainability solutions to consumers. The opportunity for brands to communicate more

meaningful messages around sustainability was noted, and considerable interest was shown in a pre-existing idea to use popular television programming such as Brazilian soap operas to subtly bring sustainability and behavioural issues into public awareness and discourse.

<sup>26</sup> Havas Worldwide and WBCSD, Sustainable Lifestyles Brazilian Context, May 2015, p.26

<sup>27</sup> Havas Worldwide and WBCSD, Sustainable Lifestyles Brazilian Context, May 2015, p.24

## Business solutions and opportunity spaces

Key solutions identified by research and workshop participants	
Hotspot	Solutions
Personal care, cleaning products, clothes and shoes	<ul style="list-style-type: none"> <li>Infrastructure and product solution: develop more sustainable supply chain standards to address consumer concerns for toxicity and quality of product formulations and ingredients.</li> </ul>
Desirability of unsustainable products	<ul style="list-style-type: none"> <li>Behaviour solution: engage in capacity building and education campaigns to shift consumer perceptions regarding the desirability of more sustainable products.</li> <li>Business solution: engage with media partners to promote 'sustainable lifestyles' through trusted influencers in society, providing enabling conditions for improved use of more sustainable products that are currently available.</li> </ul>

### Developing the market & supply chain for organic and sustainable products

#### Infrastructure and product solution spaces:

Brazil's beauty-conscious and toxicity-concerned market presents the opportunity to develop organic and sustainable personal care and home care product markets. As health resonates with consumers more than 'sustainability', environmentally sound personal care and cleaning products could be promoted as contributing to personal health. Other relevant values discussed in the workshop included safety, wellbeing and hygiene. Starting from the perspective of personal

and homecare ingredients could allow companies to extend efforts, in line with new consumer expectations, to other challenges, such as more efficient behaviour and use of products and reduced packaging waste.

**Collaborative business solution spaces:** There is an opportunity for businesses and stakeholders to work together across value chains to explore the benefits of more interconnected industrial systems. Simple improvements to product logistics seemed to be available based on the group's discussions. For example, smarter ICT and tracking systems could

be used to share resources and transport needs among companies. Such collaboration could lay a solid foundation for exploration of deeper sharing of resources between companies and industries (industrial symbiosis<sup>28</sup>). WBCSD is exploring how to bring industrial symbiosis to scale through collaboration with the US BCSD.<sup>29</sup>

#### Collaborative business and policy solution spaces:

Policy support will be required to establish gradual targets that would allow for the phasing in of more environmentally and socially responsible materials (in terms of sourcing, production and effects in use).

<sup>28</sup> The best example of industrial symbiosis is the Kalundborg Eco-Industrial Park, Denmark: <http://www.symbiosis.dk/en>

<sup>29</sup> WBCSD (2015), "From waste to opportunity: Over 20 companies launch new project to scale up material reuse across US facilities", Retrieved September 28, 2015, from <http://www.wbcSD.org/Pages/EDocument/EDocumentDetails.aspx?ID=16526&NoSearchContextKey=true>

## Applying corporate marketing and communications power

**Behaviour solution space:** Participants were keen to leverage the influence of popular culture on the Brazilian population, particularly telenovelas<sup>30</sup> and their associated celebrities, to promote sustainable products and lifestyles, without necessarily branding them as such. Product placement, backed up by more explanatory advertisements, could be an effective measure to help guide the consumption preferences and aspirations of the growing middle classes. Beyond the use of cultural focal points, it was felt that marketing and communication specialists from across businesses and sectors should be engaged to work together on integrated solutions for influencing consumer behaviour.

**New perspective for behaviour change:** Product designers and marketers face considerable challenges when it comes to promoting more sustainable behaviours.<sup>31</sup> The most effective route by which to engage people in products and services has been difficult to identify. Focusing on lifestyle categories and related hotspots might seem like a reasonable first step (less packaging for instance), but it is unlikely to be a determining factor for anyone other than the actively eco-conscious consumer. People – and most businesses – do not plan their activities in accordance with categories such as food, mobility or the home. They are interested in cooking, entertaining, getting around, and being comfortable, and they are not always coherent in their choices. Better ways of inspiring more sustainable lifestyles are required: first, by understanding how business can make peoples lives ‘better’ (which is not to say ‘the same or more’) while simultaneously reducing impacts; second, by then connecting sustainable lifestyles with what is meaningful to people. WBCSD’s Sustainable Lifestyles working group will be looking into this on its members’ behalf.

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<sup>30</sup> These are currently *Além do tempo*, *I love Paraisópolis*, and *Regra do Jogo*.

<sup>31</sup> For instance, challenges (some admittedly driven by increases in affluence and therefore access to new lifestyles) such as washing machines becoming more water and energy efficient while frequencies of washes have also increased, or dishwashers allowing people to wash more dishes more often, leading homes to buy more glasses and plates, or lights becoming more energy efficient but overall household consumption of lighting significantly increasing.

# Conclusion

The ultimate goal of the workshop was for companies to explore new opportunities to collaborate across businesses and industries, linking existing product and service solutions for bigger positive impact against key current and future lifestyle hotspots.

From those discussions we have selected the three areas that participants got most excited about – ideas that might have the potential to lead to transformative action that could enable and inspire more sustainable lifestyles.

## Three Big Ideas: Companies collaborate to transform sustainable lifestyles

### Interconnected multi-modal transport and lifestyles

There is an exciting opportunity to create a multi-modal transport system that goes beyond the notion of getting from A to B. Focused around hubs, urban mobility could be connected to other facets of everyday life, such as work, health, childcare and food consumption. This streamlined and convenient mobility system would give people access to public, private and non-motorized transport options, while using new technologies to not only render multi-modal transport more efficient and convenient for the user, but also to link transport to different lifestyle propositions. Technology already exists that can provide individuals with a mobile dashboard indicating a preferred route for car, bus, or bike, but also the availability of shared cars and parking spaces, or commuters willing to share rides.

Among the challenges that such a platform would need to overcome are conflicting legislation and government initiatives to promote private car purchases on the one hand and more sustainable mobility on the other. So advocacy efforts counteracting such incentives against sustainable mobility would need to happen alongside commercial solution development.

To increase a mobility dashboard's utility, it could be enriched to present an overview of, for instance, the contents of an individual's refrigerator, indicating where local and organic produce is available on their route from work to home. Or suggest recipes for restaurants that would prepare fresh and healthy meals. To encourage healthy lifestyles, non-motorized transport could also be promoted, including walking or jogging routes through public spaces and parks, bike sharing with cycling routes and drop-off points, or safe areas for parking bikes. Integrating such a multi-modal dashboard with a single payment system could allow users to transfer from parking to metro to biking – but also shopping and services – seamlessly. Companies would also have access to a platform that allowed them to encourage and reward more sustainable lifestyle decisions (including low-carbon transit and low-environmental impact consumer good purchases) more creatively and in an integrated way. In time, companies could even integrate their own logistics requirements into such a multimodal and connected system.

### Imagining the future transformative home: the 'good life' in 2050

The second opportunity is to collaborate with existing efforts in Brazil<sup>32</sup> to design and develop a model home for the future through a collaborative process with different stakeholders – from architects, designers and product developers, to everyday people and students – to co-create, explore and experiment with what the 'good life' might look like in 2050. The technology and infrastructure could build on existing best practice globally, and generate

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<sup>32</sup> For instance, the NO.VA project: <http://www.endesa.com/EN/SALADEPRENSA/NOTICIAS/Enel-Brasil-introduces-first-ever-crowdsourced-home-of-the-future> with further information available here [http://www.domusweb.it/en/news/2015/09/23/arthur\\_casas\\_enel\\_no\\_v\\_a\\_project.html](http://www.domusweb.it/en/news/2015/09/23/arthur_casas_enel_no_v_a_project.html)

a public debate and discussion around existing and necessary regulations to further promote 'sustainable' homes across all income groups that appropriately address specific challenges in Brazil. Using a home as a living laboratory for testing new technologies and products will help companies to engage individuals on more sustainable living, as well as improve the design of more sustainable solutions.

Companies can come together from across sectors and, with individuals at the center of their solutions, think about what cooking, cleaning or caring for children might look like in the future. We need to challenge existing norms and habits around what is considered to be 'the good life'. For example, what is the best level of lighting and temperature in a home? What type of technology is needed for cooking and entertaining? How can people socialize where and with whom they want through maximized access to non-motorized mobility and public. And how does the home integrate with food and mobility?

This model is in line with efforts in other geographies<sup>33</sup> – an opportunity exists for more formal and effective collaboration globally.

## Catalysing sustainable lifestyles through media and communities

To reach the growing middle classes and the lower (but rising) income groups – the consumers of tomorrow – there is an opportunity to engage with mass media and local communities to leverage Brazilian aspirational lifestyles from the top down and bottom up. Imagine a media campaign that promotes not 'sustainability' directly, but rather the good life as tied up with sustainable products and services that are cool, healthy and beautiful. Then imagine this message promoted through telenovelas and other television programs, as well as through celebrity outreach and social media campaigns.

In parallel, work could be done within communities to engage everyday people in becoming part of the solution, improving existing ideas and testing and piloting new products and services. Helping to provide a focal point for communities, activities could take place in public spaces, which could regularly transform into demonstration and education sites for lifestyle and wellbeing improvement areas such as non-motorized transport, healthy food production and

more sustainable (and cost efficient) home economics. All such initiatives could be supported with online tools that can connect people and businesses in our increasingly connected world.

Finally, businesses are communities in themselves, and it is clear that companies could do more to promote sustainable lifestyles in Brazil. Workplaces can act as demonstration sites just as parks can. Driving change towards sustainability in the workplace can have an important impact in terms of scale, but more importantly it has a ripple effect, as employees gain new skills and experiences that can then translate into healthier and more sustainable lifestyles in their homes and communities.

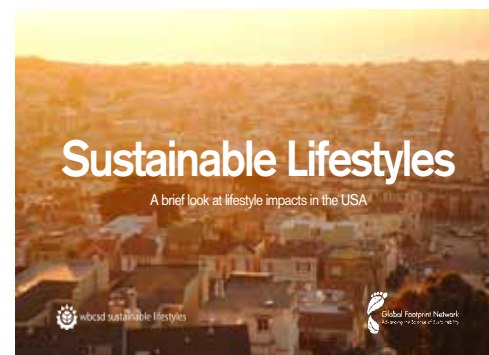
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<sup>33</sup> The Whirlpool-Purdue University ReNEWW House: <http://renewhouse.com/>

# Appendix I

## São Paulo Attendees & links to 2015 workshop reports

3M  
Abril  
Akatu  
AMBEV  
Apple  
BASF  
BMW  
Boticario  
Bradesco  
Bradesco Seguros  
Brasil Kirin  
Braskem  
CEBDS  
CSCP  
Ecofrotas  
Eight Sustainability  
ERM  
Firmenich  
HAVAS  
Lafarge  
MMA  
Monsanto  
Novos Urbanos  
OTEC  
Oxiteno  
Siemens  
Unilever  
Walmart



# Appendix II

## The Product Perspective

The “product perspective” considers the social and environmental hotspots across the entire value chain, from raw material production or extraction through manufacturing and distribution to use and end-of-life. This approach often identifies diverse impacts across various stages of the value chain. Some relate to processes under the direct control of retailers and brand manufacturers but typically the bigger impacts are “upstream” in the early stages of the value chain or “downstream” in product use and end-of-life. This makes it challenging for any one organization to tackle these alone. And yet, experience shows that through partnerships and novel business models, there are major opportunities to tackle these sustainability hotspots and unlock business value.

The Sustainability Consortium (TSC) has identified the hotspots and improvement opportunities across 120 different food and consumer product categories, representing approximately 60-80% of the sustainability impacts of the entire consumer goods value chain. TSC has contributed this knowledge to the WBCSD Sustainable Lifestyles Project. The aim of doing so is to allow WBCSD to re-use this pre-existing work and to put the focus on finding innovative partnerships and business models to drive change.

### The Results

Brazil, India and China are diverse markets each with their own characteristics. Nonetheless, there are many common themes, and common impacts, across the three: some of these generic aspects include:

- Inefficient production methods are a major source of waste, including unnecessary raw material consumption, water use and pollution and greenhouse gas emissions. And worker rights and worker health & safety are important considerations in agriculture, raw material extraction and manufacturing in some product value chains.
- Consumption and consumer decisions are often the major driver of the impacts. In some cases, these impacts are directly with the consumer, such as buying food that is then wasted. This causes extra greenhouse gases from food decomposition in landfill. But these can also have knock-on impacts upstream in the supply chain. In the food waste example, additional food needs to be purchased to substitute for the food that was wasted. This leads to additional upstream impacts because the additional food needs to be produced, with all the same associated social and environmental impacts in the supply chain.

- Infrastructure plays a foundational role in determining daily impacts. Good public transport, for example, can mitigate local air pollution and overall greenhouse gas emissions by offering citizens an alternative to a car-based daily commute (as well as often improving quality of life too). In most emerging markets, major infrastructure is still being built. Retro-fitting sustainability into existing infrastructure is typically much more challenging than including it from the outset. In all three countries, there’s a significant opportunity to build-in sustainability in the design from the outset. The flip-side to this is that, if the opportunity is missed, it locks in unsustainable patterns of use potentially for generations.





## Brazil

The major impacts can be organized into three categories, with product-related impacts playing a varying role, as follows:

### Product Supply Chain

The biggest sustainability impacts occur in the following product categories:

- Food & Nutrition: Beef; Pork; Juices and Soft Drinks; Coffee.
- Household Goods: Creams & Cosmetics; Shoes; Clothes; Appliances.

There are many efficiency improvement opportunities across all the steps in the product value chain, especially in food and often related to food waste. Not all have an immediate financial payback but the financial opportunity is significant by improving cost efficiency through reducing product waste. This is an opportunity in all of the major food supply chains including beef, pork, coffee, juice and soft drinks. It should be noted that worker rights is also an issue in the upstream stages of some supply chains.

For example, in the coffee supply chain there is a risk of forced or child labour.

### Behaviour

Consumers have an important role in many aspects of product choice and product use and disposal. Helping consumers to minimize food waste is a major opportunity.

The most symbolic opportunity, however, is in the sustainability of changing diets. In particular, high beef consumption and the “westernization” of diet is a major driver of additional impacts. The sustainability of diet is important in its own right but also symbolic as action here can then create political space for wider systemic changes.

### Infrastructure

Indirectly linked to product impacts is the underlying infrastructure that influences how people live their lives and the production systems that support them. For example, personal mobility is a big opportunity, especially in the cities. Mass-transit systems have the potential to significantly improve quality of life and also make major impacts to air quality and GHG emissions.

# Appendix III

## The Social Perspective

### Background

**Managing social issues is complex.** The concept of a 'social licence to operate' is gaining traction as a key element of reputational risk management, corporate value protection and access to capital. However, the application of social impact assessment at a product- or consumption-level is not yet well understood nor systematically considered as part of product design. By contrast, approaches to analysing the environmental impacts of a product are well-established and no longer seen as an emerging science or innovation.

### Stakeholder expectations are changing.

Provocative images in traditional and social media - a clothing factory collapse in Bangladesh <sup>(1)</sup> - a child picking tobacco in the US <sup>(2)</sup> - controversial resettlement of indigenous people in Ethiopia <sup>(3)</sup> - drive customers to demand greater transparency on where and how products are made. The risks and opportunities presented by social issues are a focal point on the agenda of leading investors and forward-thinking C-suite executives. Such changing attitudes encourage companies to develop more transparent and ambitious social performance programs.

<sup>(1)</sup> <http://www.theguardian.com/world/rana-plaza>

<sup>(2)</sup> <https://www.hrw.org/report/2014/05/13/tobaccos-hidden-children/hazardous-child-labor-united-states-tobacco-farming>

<sup>(3)</sup> <http://www.theguardian.com/environment/2015/sep/03/eu-diplomats-reveal-devastating-impact-of-ethiopia-dam-project-on-remote-tribes>

<sup>(4)</sup> <http://www.ilo.org/global/topics/forced-labour/lang--en/index.htm>

<sup>(5)</sup> <http://www.wbcscd.org/Pages/EDocument/EDocumentDetails.aspx?ID=16382&NoSearchContextKey=true>

### Step-change legislation on human rights

**is changing the benchmark.** The California Transparency in Supply Chains Act 2010 and the UK Modern Slavery Act 2015 have been developed in response to the astounding finding that nearly 21 million people live in forced labour conditions <sup>(4)</sup>, in addition to numerous other well-known existing and ongoing human rights issues. Furthermore, Denmark, the Netherlands and the UK are developing national action plans to implement the UN Guiding Principles on Business and Human Rights, which will help to establish a new benchmark. WBCSD's Social Impact group has developed a brief that is helping companies operationalise these guiding principles <sup>(5)</sup>.

### Social benefits can present significant

**opportunities.** Much of the attention on social issues surrounds risk management and supply chain initiatives, as this is where some of the most significant known issues sit. However, better management of supply chain and operational risks, together with an improved ability to address social challenges or deliver social benefits through product and service design, offer huge market potential to forward-thinking companies. For instance, SCA has recognized this opportunity and it is working in China to improve the lifestyle and health of senior citizens through more accessible incontinence products.

### Workshop Inputs

Over the last year, the Sustainable Lifestyles working group has explored which products and services are associated with the highest lifestyle impacts, and where business should focus its efforts to enable more sustainable lifestyles. ERM provided China-specific social hotspot information for the Beijing workshop to encourage participants to reflect on and to discuss social performance challenges and opportunities across each product category's value chain. The key social hotspot themes for Chinese value chains are summarized in the table below.



	<b>Mobility</b>	<b>Food</b>	<b>Home</b>	<b>Household goods</b>
<b>Upstream supply chain</b>	Business ethics and human rights	Forced labour; gender inequality; health and safety for farm workers; land use and competition with local communities; training and skills	Business ethics and human rights	Business ethics and human rights
<b>Corporate operational boundaries</b>	Occupational health & safety during manufacture; gender and diversity in workforce; employment	Processing techniques and link to food health and quality (eg fat, salt, meat content); employment	Fair wages; human rights; health and safety for builders; training and skills; employment; business ethics	Fair wages and labour issues; health and safety; employment
<b>Downstream consumer activities</b>	Health impacts from urban air pollution; road safety; increased access for low income earners; consumer debt	GMOs and consumer health; affordability and access; health impacts of highly processed foods (particularly for children and teenagers); shopping behaviours and waste management	Access to safe and affordable housing; ownership; access to electricity and water; consumer knowledge on proper disposal; design of materials to reduce H&S impacts during disposal (eg removal of toxic materials); debt/access to credit	Affordability and access to products; consumer confidence and well-being; improvement to health; consumer knowledge on proper disposal

### Workshop Analysis

Aspirations to increase the mean standard of living, in addition to a rapidly growing middle class, are fundamental drivers of lifestyle impacts in Brazil. Access to safe and affordable housing, choice over modes of transport, healthy food and quality goods are priorities for Brazilian consumers. However, Brazil has significant regional differences in social indicators such as health, nutrition and infant mortality creating very different issues for a large part of the population. The enablers of increasing productivity (eg education, training and access to opportunities) and decreasing corruption are two significant issues that impact social performance across all categories. Many companies in Brazil have advanced and forward-thinking social compliance and organizational/community investment programs. However, social impacts in the context of sustainable lifestyles or consumption is a relatively new concept. Emerging themes on how this space could be progressed are summarized below.

- A business case is needed to identify social performance opportunities. Management of a product’s social issues may entail costs without an immediate or direct return. Techniques to analyse the broader social return on investment (eg reduced long term public service health costs if a healthy diet is maintained or pollution is reduced) can build an attractive case.
- Companies – even large ones – cannot act alone. Industry partnerships and involvement in policy-making is required to advocate positive change and can provide early-mover advantages in the marketplace.
- A systematic approach is needed to assess, prioritise and manage social performance in supply chains, company operations and consumer activities. As companies innovate and diversify products and business models to enable more sustainable lifestyles, social issues will need to be tracked against a baseline to mitigate risk, enhance reputation and build on benefits that are differentiators.

This year’s work program has provided insight into what social hotspots are relevant for mobility, food, home and household goods product categories in Brazil. When considering the three ideas for collaborative business solutions presented earlier in this report, the top-level social issues that could be used as a starting point to springboard the inclusion and integration of social issues into sustainable lifestyle discussions are summarized below.

<b>Collaborative business solutions for Brazil</b>	<b>Social issues to consider as the ideas are progressed</b>
Interconnected multi-modal transport and lifestyles	Road safety, health impacts from air pollution, quality of life and access to the solution itself, employment
Imagining the future transformative home: the ‘good life’ in 2050	Supply chain ethics and human rights in upstream activities, H&S related to home construction, well-being and access/affordability
Catalysing sustainable lifestyles through media and communities	Job creation, skills and knowledge, well-being



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