

# Policy Snapshot

Policy-relevant findings from selected EU research projects

Issue 4 | December 2012

**EU policy priority** Sustainable Growth

**Research focus** Nexus between energy,  
environment, transport & land use

Featured projects

PACT, PASHMINA, SPREAD

Research results on:

- Sustainable lifestyles
- Socio-economic paradigm shifts
- Post-carbon pathways



# Policy Context

## The Quest for Sustainable Growth

*Sustainability is becoming the 'holy grail' of Europe 2020. But our need for it could not be more urgent or more real.*



Facing severe economic and financial strain, Europe is desperate for growth. In this context, sustainability would seem a secondary concern. Indeed, where unemployment is rampant, poverty is rife and businesses are failing, sustainability may not be the number one priority. Yet we all know that our future prosperity - indeed our survival - depends on sustainable development.

Europe's sustainability quest is driven by an awareness that our current economic and social models are increasingly *unsustainable*. Confronting global economic pressures, environmental degradation and diminishing natural resources, Europe has committed itself to pursuing a paradigm shift. An important reiteration of this commitment is found in the European Commission's Annual Growth Survey 2013<sup>1</sup>. Within the first five pages of that brief report, the words 'sustainability' or 'sustainable' are used 13 times.

Further evidence of Europe's quest for sustainable development is reflected in the visionary work being carried out in a host of EU-funded SSH research projects.

Highly interdisciplinary and forward-looking, these projects offer orientation for efforts to put Europe on a path to sustainable development.

While some objectives in Europe's sustainability drive (such as a low-carbon economy) are already clear, others have yet to be defined, and there is little consensus on what steps to take next. The sustainability insights provided by projects like those highlighted in this Snapshot offer essential guidance for tackling these challenges and plotting Europe's future trajectory.

## Policy Thrust

Europe 2020's emphasis on sustainability<sup>2</sup> is reflected in two flagship initiatives: 'Resource efficient Europe' and 'An industrial policy for the globalisation era'.

### → Improve resource efficiency

Hoping to decouple economic growth from resource and energy use, the EU aims to:

- Substantially reduce CO<sup>2</sup> emissions
- Promote greater energy security
- Reduce the resource intensity of what we use and consume

### → Adapt industrial policy

To help European businesses remain globally competitive while contributing to a low-carbon economy, the EU aims to:

- Boost support for entrepreneurship
- Factor in global value chain (including access to raw materials)

## Targets

Three sustainability targets are identified in the Europe 2020 growth strategy:

1. Reduce greenhouse gas emissions 20% compared to 1990 levels by 2020 (The EU may raise this to 30% depending on action by other countries.)
2. Increase the share of renewables in final energy consumption to 20%
3. Move to increase energy efficiency by 20%

<sup>1</sup> European Commission, Annual Growth Survey 2013, 28 November 2012, COM(2012) 750 Final

<sup>2</sup> European Commission, Europe 2020, 03 March 2010, COM(2010) 2020 final

# Research Findings

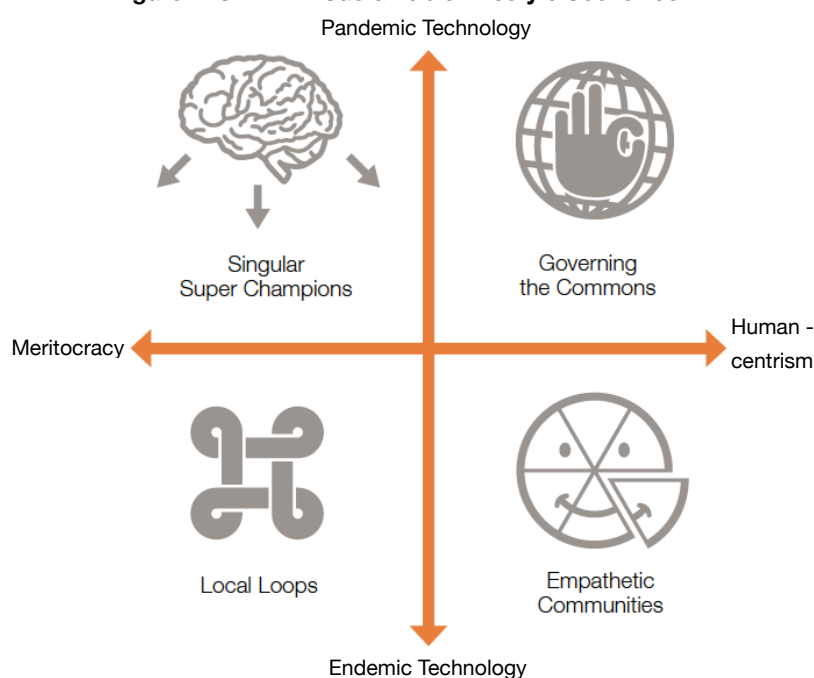
From selected SSH projects focusing on sustainability

## ► SPREAD Sustainable Lifestyles 2050

A social platform project, SPREAD sought to identify opportunities for enabling more sustainable lifestyles across Europe. The project started from the premise that modern European lifestyles are associated with overproduction and overconsumption and are therefore unsustainable. Like other projects featured in this Snapshot, SPREAD notes that dwindling oil reserves and dangerously high concentrations of greenhouse gases in the atmosphere are factors that set limits to meaningful future living.

Looking ahead to the year 2050, SPREAD developed four future scenarios<sup>3</sup> of possible societies (next page) that support more sustainable ways of living. The scenarios are driven by two critical variables: technology (which can be largely pandemic or endemic) and the governing principle of society (which can be more human-centric or more meritocratic). These variables form the axes that separate the scenario quadrants (figure 1).

**Figure 1: SPREAD Sustainable Lifestyle Scenarios**



## Critical Variables for Future Scenarios

### Technology

#### **A. Pandemic**

In future scenarios where technology is pandemic, there are a few dominant technologies for any task or human need. Technologies for building, transportation, energy production, and communication exist everywhere and look similar. There is fierce competition on the global markets and commercial dominance yields huge rewards. Technology in 2012 could be called pandemic. Everyone is on Facebook and drives a car (produced by a few global manufacturers) that runs on petrol or diesel fuel (globally exchanged goods).

#### **B. Endemic**

In future scenarios where technology is endemic, the tools, infrastructures, and solutions we use are born and grown locally: technology emerges out of local conditions, resources, and peculiarities. Local living conditions rule technology. Where there is wood, houses are built of timber – where the days are extremely hot, people live in tents. The corpus of global science and technology is wide, yet applications are local. The economy is driven by efficiency and innovations gained through thinking and acting locally.

### Governing Principle of Society

#### **A. Meritocracy**

A meritocratic society circles around professional skills. The most commercially valuable professional skills are the engines of the economy. Members of those professions are paid accordingly. Policies and structures are customized to facilitate work of the leading industries and professions. Division of labour is at its extreme. You do only what you're really good at.

#### **B. Human-centrism**

A human-centric society pivots around widening the use of human capital in all its forms. Both civic and public use of skills is valued. Everyone has something valuable to give or to do. Society's success depends on everyone contributing and on everyone's ability to be good citizens, family members, neighbours and professionals. There is some division of labour, but self-improvement through leisure is also very much appreciated: e.g. through family time, active consumption, civic activities, handicraft, arts. You do what you can – and what you feel motivated to do.

<sup>3</sup> SPREAD Project, 'D4.1 - Future Scenarios for New European Social Models with Visualisations', (n.d.), [www.sustainable-lifestyles.eu](http://www.sustainable-lifestyles.eu)

## SPREAD's Four Scenarios for Sustainable Societies

SPREAD's sustainability scenarios focus on people's lifestyles. They were developed out of the recognition that food and drink, private transport and housing currently account for 70-80% of Europe's environmental impacts stemming from final consumption. The scenario-building exercise was informed by an awareness that our current material footprint (consisting of household goods, food and beverages, everyday mobility and tourism, electricity, heating and housing) amounts to 27,000 – 40,000 kilograms per person every year. In all SPREAD scenarios the material footprint is reduced to 8,000 kg per year, the minimum level considered necessary by the project to achieve a sustainable lifestyle.

### 1. Singular Super Champions

In the scenario Singular Super Champions Europe has made the leap to a new type of sustainable, competitive and equitable economy: a result of numerous treaties, declarations and official goals starting from 2035. The leap is achieved with the deployment of market instruments that also radically reform many conditions that have shaped European lifestyles over the past decades. Cleantech and upcycling businesses flourish as sustainability becomes the business opportunity of the century. The Europe of Singular Super Champions is a society that celebrates an ethos of learning, achieving and self-mastery.

### 3. Governing the Commons

Governing the Commons is a scenario mostly in digital reality that helps people to break free from many cultural constraints and, eventually, to reach sustainability. Ubiquitous computing enables the smart use of resources and, at the same time, redirects people's behaviour and focus of attention from material consumption and their physical surroundings to interaction in the digital realm. People abandon many institutions of the 20th century, liberate themselves in order to lead more meaningful lives and engage in new forms of collaboration.

### 3. Local Loops

Local Loops is a scenario in which a radical energy crisis forces societies to re-evaluate fundamentally the foundations of their well-being. Energy and resource systems are increasingly seen through "Local Loops", which is a technical concept that can be applied in the context of local and regional production cycles. People build their lifestyle and ways of belonging around their work, while technology is better adapted through local design solutions, thus creating room for new kinds of professionalism. A new ethos of craftsmanship and professional communities shape the way people live, organise their work and spend their leisure time.

### 4. Empathetic Communities

Empathetic Communities is a scenario where Western societies face a crisis they had long dreaded, and how the change turns out to be easier and more fruitful than anyone expects. It is a story in which the global economy as we knew it in 2012 fails, followed by paralysis of nation states and their political decision-making structures. By 2050 this all leads to lifestyles in which communities have an important role in everyday life. New forms of collaboration and governance grow on the level of cities and towns, making them the most powerful level of public decision-making. In Empathetic Communities the fruits of global culture and technological advancement are enjoyed, although people in general focus on communicating and developing solutions on the local level.

## Conclusions

SPREAD emphasizes that its scenarios are not predictions or forecasts. Instead, they are intended as thought exercises to help plan sustainable lifestyle options for the future.

As for policy orientation, SPREAD's research suggests that in order to make progress toward sustainable lifestyles in 2050, the focus should be on three broad fronts:

- strategies to assist, motivate and inspire behavioural change,
- the role of infrastructure, and
- enabling sustainable living environments.

## ► PACT - Pathways for Carbon Transition

PACT addressed the implications of one of Europe's central sustainability objectives: weaning ourselves off fossil fuels. Looking ahead to the year 2050, the researchers agreed that a global post-carbon society is feasible within that time frame. The key questions are: How will that come about? And what approach should policymakers take to assure a favourable transition?

PACT elaborated three possible scenarios<sup>4</sup> for achieving a post-carbon society. All three assume that CO<sub>2</sub> levels in the atmosphere will stabilise at about 500 parts per million. But each has distinct socio-economic implications, and each is predicated on a different weighting of policy priorities (figure 2).

### Three Post-Carbon Scenarios

#### 1. Spacecraft

Governmental-led top-down approach where emission reduction targets are agreed between major CO<sub>2</sub> emitting countries, while retaining a shared priority towards maximising GDP growth. The transition is characterised by technological innovation, driven mainly by big industries. Strong public and private support exists for centralised renewable energy.

#### 2. Smartphone

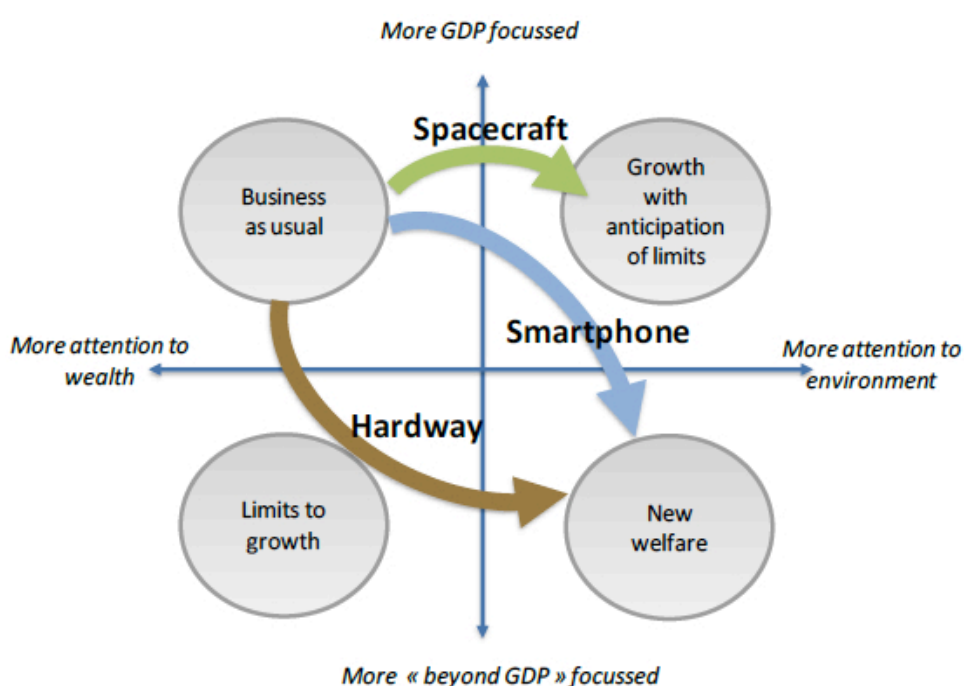
Governments fail to implement effective change by themselves, but foster and encourage local initiatives, driven primarily by the general public and non-governmental organisations. GDP is no longer recognised as the best proxy for welfare; societal expectations increasingly extend 'beyond GDP' and new welfare measurement is adopted. No global commitment on greenhouse gas emission reductions exists, but most cities

voluntarily adopt ambitious climate strategies. Decentralised initiatives (such as photovoltaic solar panels on private houses and individual lifestyle choices) become important.

#### 3. The Hard Way

Business-as-usual scenario where no significant action is taken until the growing crisis in fossil fuel availability forces people to change their lifestyles and adopt alternative technical solutions. This reactive approach does not favour technological innovation or investment on a large scale.

**Figure 2: PACT Post-carbon Pathway Matrix**



### The Risks of Business as Usual

As one might suspect, PACT's 'Hardway' scenario offers insights into just how unpleasant the transition to a post-carbon world could become. This path sees Europe stumbling into a low-carbon era through a series of violent and brutal crises. Stretching environmental limits and over-exploiting natural resources could result in conflicting relations between nations, the researchers suggest. Having weighed the implications of the Hardway scenario, one has little difficulty recognising the merits of a more adaptive approach.

<sup>4</sup> PACT Project, 'D6 - Three scenarios to assess post-carbon transitions', September 2011, [www.pact-carbon-transition.org](http://www.pact-carbon-transition.org)



Like their counterparts in the SPREAD project, the PACT researchers avoid openly advocating any particular course of action. But they do offer some valuable observations:

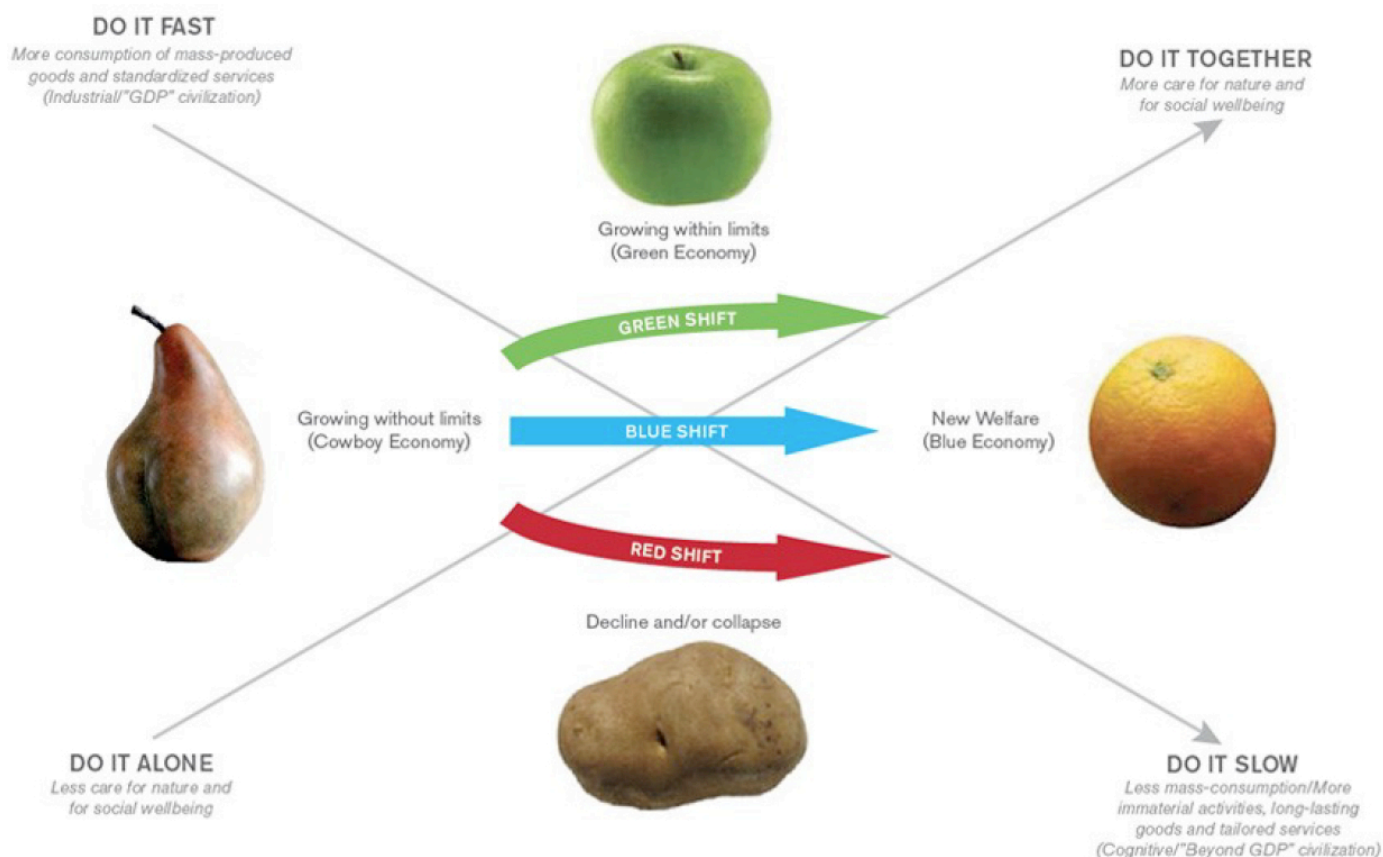
PACT's Key Messages (shared by PASHMINA)	
• Massive reductions in fossil fuel consumption and CO <sup>2</sup> emissions are entirely feasible for the EU within the next 40 years.	
• There is no single way of properly planning and implementing the carbon transition.	
• Failure to properly plan and implement the transition to a low-carbon society will have enormous social and economic costs.	
• The transition pathway will be very different depending on which social forces prevail: those promoting the model of economic growth that has dominated OECD countries for the past 50 years, or those favouring a 'beyond GDP' model.	

## ► PASHMINA - Paradigm Shifts Modelling and Innovative Approaches

Like SPREAD and PACT, the PASHMINA project looked at sustainability challenges facing Europe over the next 40 years and explored a range of possible scenarios<sup>5</sup>. But whereas PACT focused on pathways to a low-carbon future and SPREAD concentrated on sustainable lifestyles, PASHMINA cast its net much wider. Emphasising development of new modelling tools, the project worked on assessing: a) interactions between the economy and the environment, b) paradigm shifts in the energy-transport-environment nexus and c) shifts in the economic growth paradigm. Experimental modelling techniques and new types of indicators played a central role in the project.

Much of PASHMINA's work was extremely technical in nature. Yet the project also produced simplified models (e.g. figure 3) that helpfully illustrate for a broader audience the issues at stake in potential paradigm shifts.

Figure 3: PASHMINA Paradigm Shifts



<sup>5</sup> PACT project, 'D 1.1 - Qualitative Scenarios', December 2010, [www.pashima-project.eu](http://www.pashima-project.eu)

## Sustainability is Orange

The most sustainable scenario in the PASHMINA matrix places a high value on nature, social well-being and growth within limits. In this 'Orange' world the focus is on cooperation ('Do it together') and a moderate pace ('Do it slow'). The orange scenario is contrasted with a less sustainable pear-shaped world driven by consumption and typified by the credo: 'Do it fast, do it alone'.

The speed axis in PASHMINA's simplified diagram is particularly interesting from a sustainability perspective. It illustrates the same tensions identified by the PACT project between competing social forces: one backing the traditional GDP model of economic growth, and the other backing a 'beyond GDP' model. Where the former is based on consumption of

mass-produced goods and standardised services, the latter is oriented around less mass consumption, longer-lasting goods and bespoke services.

Some of PASHMINA's key messages to policymakers are virtually identical to those articulated by the PACT project (summarised on page five). Reflecting cross-fertilisation in SSH research, the common conclusions suggest a possible basis for consensus-building.

THE PASHMINA researchers experimented with a vast array of modelling techniques, integrating some 50 different indicators. Many of these indicators were newly created by the project for the purpose of monitoring global change and developing story lines that could prove useful in future policy development.

## SSH research projects highlighted in this snapshot

The following research projects provided key content for this document. All of these projects were developed within the European Commission's Seventh Framework Programme for Research and Technological Development (FP7) under the theme Socio-economic Sciences and Humanities.

Project	Title	Start Date	End Date	Website
<b>PACT</b>	Pathways for carbon transitions	01.10.2008	30.09.2011	<a href="http://www.pact-carbon-transition.org">www.pact-carbon-transition.org</a>
<b>PASHMINA</b>	Paradigm shifts modeling and innovative approaches	01.11.2009	31.10.2012	<a href="http://www.pashmina-project.eu">www.pashmina-project.eu</a>
<b>SPREAD</b>	Sustainable Lifestyles 2050	01.01.2011	31.12.2012	<a href="http://www.sustainable-life-styles.eu">www.sustainable-life-styles.eu</a>

## Related FP7 research projects

<b>DERREG</b>	Developing Europe's rural regions in the era of globalisation	01.01.2009	31.12.2011	<a href="http://www.derreg.eu">www.derreg.eu</a>
<b>POLINARES</b>	Policy for natural resources	01.01.2010	31.12.2012	<a href="http://www.polinares.eu">www.polinares.eu</a>
<b>SUSTAINCITY</b>	Micro-simulation for the prospective of sustainable cities in Europe	01.01.2010	31.12.2012	<a href="http://www.sustaincity.org">www.sustaincity.org</a>

# About FLASH-IT

FLASH-IT is a European Union dissemination project offering enhanced access to research findings in Socio-economic Sciences and Humanities (SSH).

Part of a broader effort to consolidate knowledge resources within the European Research Area, FLASH-IT aims to help bridge the communications gap between Europe's research and policymaking communities.

Using a custom-built IT interface, FLASH-IT provides consolidated results from EU-funded SSH research projects that are thematically linked to the Europe 2020 priorities of smart growth, sustainable growth, inclusive growth and economic governance.

FLASH-IT focuses on five distinctive yet mutually reinforcing priorities, corresponding to those of the Europe 2020 strategy for smart, sustainable and inclusive growth and to the societal challenges addressed by Europe's 'Horizon 2020' research programme.



FLASH-IT strives to accommodate the interests of a broad range of stakeholders – public bodies, researchers, corporations and civil society organisations – and is particularly geared toward serving the needs of evidence-based policymaking initiatives.

For more about FLASH-IT, please visit our website:

[www.flash-it.eu](http://www.flash-it.eu)

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The views expressed in this document do not necessarily reflect those of the European Commission.

FLASH-IT has received funding from the European Union's Seventh Framework Programme (FP7) under grant agreement number 290431.