Designing policy for sustainable user innovation and entrepreneurship
Report prepared for the EU-InnovatE project (Deliverable A6.4)

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Chapter 1

Background and goal

This report is a Deliverable (D 6.4) within the EU-InnovatE research project. According to the project’s Description of Work (DOW), the aim of this report is to contribute to the development of policy tools supporting end-user integrated and end-user lead sustainability innovations (referred together in our work as the umbrella term Sustainable End-user Innovation - SEI). The authors’ task is to “recommend new policy instruments and tools” and “suggest how to optimize existing policies and tools beyond the prevailing information paradigm, including novel instruments encouraging user sustainability innovation”. As examples of the latter, the DOW lists user innovation platforms, ‘incubators’ of companies to support inventive users, regional activities to support user-entrepreneurs, competitions and activities of venture capital funds, pro-bono activities of consulting companies and the like. Through our prior work deliverables, D 6.1 and D 6.2, we identified further policy tools that could be implemented in order to promote SEI - focusing on the barriers and drivers of SEI from a motivational, ability and opportunity perspective. These include, e.g., open source competitions, DIY courses and groups, crowdsourcing and -funding and a myriad of other options (see D 6.1). Based on our observations from a series of interviews with EU and national-level policymakers their recommendations are to primarily focus on firstly, increasing awareness of SEI, secondly, develop flexible funding opportunities for SEI and thirdly, identifying effective mechanisms for diffusion of inventions created by SEI.

Moreover, researchers involved in EU-InnovatE’s “Policy Work Package” (WP 6) are currently continuing this research into policies for sustainability innovation through two other innovative methods: firstly, large scale lab experiments on crowdfunding behaviour using different value frames as choice settings, and secondly, a social media enabled conference on policies for SEI – the “Sustainability Innovation Exchange” (A 6.5). These are discussed further in the Research Directions sections at the end of the report.

On both EU and national level, there is increasing interest in tapping new and hitherto neglected sources of innovative solutions promoting more sustainable lifestyles and the Green Economy. The quest for policy makers is to design and implement policies that are effective, efficient, aligned with societal values and goals as well as with existing policies and regulatory frameworks. Our task is to merge and digest latest insights from innovation policies, sustainability policies, as well as the still scarce evidence about user-integrated and user-led innovations, in order to design a policy tool box for policy makers interested in promoting SEI. The report aims to suggest successful and relevant instruments in a comprehensive yet condensed way to make the results accessible and useful for policy makers and policy shapers.

This report has been drafted under the lead of Copenhagen Business School (CBS) with the support of Cranfield School of Management (CRAN). In line with the goal and aim of this report to condense the knowledge base on “What works?” we draw on work completed within the first 30 months of the project. We use in particular:

1. The systematic literature review on drivers and barriers for sustainable end-user innovation as well

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1 Both activities are scheduled to take place during the year 2016: the Sustainability Innovation Exchange on May 25th, the experiments in summer/fall 2016. Hence, results are not yet available for this report (which is due in Month 30); we can, however, provide some initial findings from the online exchange.
as on effective policies promoting SEI. The methodology and results have been documented in D 6.1 (Nielsen, Reisch & Thøgersen 2014; published as Nielsen, Reisch & Thøgersen 2016).

2. The results of more than 25 in-depth personal and phone interviews as well as additional written and oral feedback from policy makers and policy shapers as a response to D 6.1 (“Reality check”). The aim was to put our findings on policies for SEI on an empirical test bed and to have it scrutinized by knowledgeable actors of practice in the field. Policy makers and policy shapers were asked for their expert opinion regarding drivers, barriers, and supportive policies for SEI. The methodology and results are documented in D 6.2 (Nielsen, Nielsen & Reisch 2015).

3. Two international “Policy Innovation Workshops” organized by CBS in Copenhagen in June 2015 and February 2016 as a platform of exchange between policy makers and politicians, entrepreneurs, researchers and NGOs. With the support of Forum of the Future (UK) and WP1 representatives, both workshops focused on existing and potential policies supporting SEI. The results are documented in D 6.3 and D 1.5 respectively.

4. A documentation of a half-day session on policy tools at the EU-InnovatE General Assembly in Munich in January 2016 pulling together the diverse threads and policy related activities from the different work packages (Watson, Nielsen & Armstrong 2016).

5. Policy briefs for different target groups (A 8.3).

The report is organized as follows: Following this introduction to background and goals, we clarify the conceptual base of our analysis and hence of our policy suggestions. We then introduce a policy toolbox scoping potential policy measures supporting SEI. In a next step, we list and categorize those policy tools that have been identified as potentially effective and applicable on both EU and national level. We do look specifically into behavioural insights based policies that seem to be a promising new addition to the traditional tool box and are “beyond the information paradigm”. Concluding, we sketch policy recommendations and implications for research.
The development of the mountain bike was achieved not by a company or firm, but by biking enthusiasts (end-users) who started tinkering with existing commercial bikes that were otherwise not suited for rough use. They developed stronger frames, balloon tires, and other modifications to make them viable for off-road purpose – creating a bike that we would later recognise as a mountain bike. The success of the mountain bike was not immediately driven by commercial gains, but by end-users’ enthusiasm and the active sharing of ideas on how to create a bike that better suited their needs. Even the current commercialisation of the mountain bike has not stopped additional end-user innovation and specialisation. On the contrary, ideas are still freely shared and mountain bikers with specialised needs further develop existing mountain bikes towards their own ends; be it high speed downhill racing, jumping or other forms of extreme mountain biking.

In addition, or as an alternative to this intensive degree of innovation on behalf of the end-user, (s)he can also play a less intensive but still highly impactful role in terms of co-financing sustainable innovation. Crowdfunding, e.g., illustrates nicely the increasing role of the end-user as an innovation driver and financier also when it comes to sustainable innovation. The example of the German crowdfunding platform EcoCrowd (https://www.ecocrowd.de/en) illustrates how public finances can be utilized to create platforms to tackle environmental challenges. The added benefit of these types of platforms is that they, if successful, become self-sustaining resource centers for sustainable ideas and ventures. In addition, they also act to engage end-user in the process of sustainable innovation in varied capacities – from intensive engagement in the form of initiating a campaign to less intensive engagement in the form active campaigning for a specific project or passive contributions. The co-financing of projects if they hit a certain level of financing could be an additional way for policymakers to draw-upon the potential of crowdfunding. For example, the former Mayor of London, Boris Johnson, utilized city funds to co-finance community projects seeking funding via the civic crowdfunding websites such as SpaceHive. One example included the ‘The Peckham Coal Line urban park’ that sought to convert the old raised Peckham coal line in London into a raised urban park. The community-initiated project ultimately successfully raised £64,140 of which government funds represented £10,000 in backing. An added benefit to civic crowdfunding is that these community projects typically enjoy, at least initially, a high degree of democratic legitimacy and can thereby also draw upon the goodwill of multiple sources of volunteers.

Overall, we argue that this method could prove both an affective mechanism to ensure co-financing of projects creating more value for public money, but also act as means for mobilizing and litmus testing potential ideas. Government projects could rather than being implemented solely top-down be facilitated via the entrepreneurial ideas from a community of end-users. Thereby citizens play both an active role in supporting the projects they would like to see happen, while also seeing the government as a facilitating actor in enabling these projects.

These two cases – end-user product development and crowdfunding of sustainable projects –nicely illustrate that while we may perceive consumers, or end-users, as passive adopters of products and services, there is another trend emerging: Today, end-users are increasingly recognised as important drivers of innovation, playing an active role in the improvement and development of novel products or services. However while the importance of end-users is recognised within traditional innovation literature they remain an overlooked source of innovation for sustainability. Policy makers are hence left with often only case-based or anecdotal evidence for this type of innovation process. What stays unclear is whether end-user innovation for sustainability makes
sense – both environmentally and financially, as well as which policy tools are available (and effective) for policy makers who want to support sustainability innovations based on user-integration.

Against this backcloth and based on earlier work (Nielsen, Reisch & Thøgersen 2016), we characterise the role that the end-users play within sustainable innovation as either independent or facilitated in nature. Independent SEI reflects innovation on behalf of the end-user that is not facilitated by outside involvement, while facilitated SEI is characterised by the integration of the end-user into a firm or project-driven sustainable innovation process. While end-users play a central role in both of these two idealised innovation processes, distinguishing between the two is highly relevant from policy perspective as they have different drivers and barriers – and hence require different policy approaches. Regarding such policies, some definitions and clarifications are needed.

In this report, we use the term regulation in its broadest sense to include all forms of formal and information regulation, including social control, approaches that harness wider social forces beyond government, and including the influence of businesses and other actors in society (Gunningham & Sinclair 1999).

Moreover, responding to the recent “behavioural turn” in policy making, we also include what has been termed “behaviourally informed” (Barr, Mullainathan & Shafir 2015) or “empirically informed” regulation (Sunstein 2011). This type of regulation is explicitly based on empirical evidence regarding people’s decision making behaviours as real life “humans” (and not “econs”, i.e., homo oeconomici). Its key approaches are the deliberate use of choice architecture and so-called “nudges” as additional policy tools (Thaler & Sunstein 2008). Beyond that, behavioural insights based policy has a specific process dimension: it is based on empirical evidence from pilot studies and randomized controlled trials, lab and field experiments and surveys; it follows a “test-learn-adapt-share” policy cycle approach that is based on (ex ante, ex interim and ex post) evaluation (Sousa Lorenco 2016), often (but not exclusively) in the form of cost-benefit analysis.

The term instrument (or “tool”) is used to refer to a component part that makes up regulation. Instruments include traditional direct regulation such as laws and orders, regulation based on licensing and inspection, economic instruments such as taxes and subsidies, approaches intended to change behaviour through better information provision and personalized advise, approaches negotiated between government and industry relying on industry self-regulation, approaches seeking to increase knowledge and capacity (education) as well as behavioural approaches (“nudges”) beyond better information and simplification such as defaults (Sunstein & Reisch 2014).

The question when a policy can be said to be a “success” and have “relevance” also needs clarification. While “success” can be measured in principle through impact (for methods and limitations, see e.g., Capacci et al. 2012), “relevance” is less clear. In this report, in line with the state of the art of policy analysis (e.g., Dunn 2016), we understand policy instruments as “relevant” that align with general criteria of “good government” and policy evaluation, namely:

- have proven to be effective and show expected benefits (“it works”);
- are efficient (the benefits can be reached with acceptable costs) in a substantial number of cases;
- are an adequate response to the identified problem;
- are (ethically) accepted in society as an equitable policy tool;
- do not (or hardly) create unintended “boomerang” effects or problematic redistributive effects;
- are in line with European legal framework and administrative practice;
- lie within the comfort zone between individual autonomy and paternalism and do not undermine the democratic relationship between citizens and government.

In a more pragmatic perspective we suggest instruments for the “SEI toolbox” that

- have been implemented in different contexts and different target groups, so that there is some evidence and track record;
- are administratively feasible regarding resources, competences, timeframe etc.;
- have some political appeal and are hence attractive for policy makers.
Chapter 3

The policy toolbox

3.1 A typology of instruments

The European quest for “better regulation” seeks to improve existing policy and regulatory outcomes at fewer burdens for the actors involved. The focus is on making policies and politics more effective and navigable, which often means simpler, better and more targeted. In fostering sustainable lifestyles through sustainability innovations, no single policy intervention will deliver all the outcomes. Rather, the most effective approach will be to assemble a tool box for policy makers that they can fit to the specific target groups and target behaviours. To date, there is a paucity of evidence on what works why, when and with whom. Our work in WP6 showed that policy makers have a wide range of instruments at their disposal and are seeking ways to harness the influence of non-governmental resources to encourage SEI.

As a basic approach, we suggest following Taylor et al. (2013, Table A1) who have recently proposed a useful rough typology of policy and regulatory instruments for environmental policy that seems an excellent fit with the aim and scope of the present report. Together with the UK’s Department for Food, Environment and Rural Affairs (DEFRA), the research group has developed a short guide to instrument selection for policy makers and regulators that deserves scrutiny. An overview can be found in Figure 1 below:

Figure 1. Policy and regulatory instruments for environmental policy

Source: Taylor et al. 2013
3.2 Beyond the information paradigm: Behavioural insights based policies

While the above framework does include some aspects of behavioural insights based policies (notably the MINDSPACE scheme introduced to policy making by the British Behavioural insights Team, BIT 2015; see Appendix 1), there is a new set of instruments that have been studied and applied more recently under the term of “behaviorally informed regulation” or “nudging” (Thaler & Sunstein 2008). These approaches are strictly empirical, being based on actual consumer or user behaviour as opposed to models of a rational, informed, self-seeking homo oeconomicus for whom more information means better choices. Nudge policies are informed by empirical – often experimental and survey – data, and follow a trialling “test-learn-adapt-share” policy process (Halpern 2015; Sousa Lourenco 2016).

Many of these instruments are best applied at local level (e.g. providing easy access to maker spaces or FabLabs, see, e.g., Gershenfeld 2005) or individual levels (e.g., motivating framing of letters or crowdfunding websites). However, nudges can also be used to improve national policies such as the simplification of the application forms and processes in funding schemes. Basically, every tool and tweak that simplifies and eases access to SEI settings or that improves the quality and accessibility of information for sustainable user entrepreneurs, may count as a “nudge”. While not highly visible and rather unspectacular (and hence maybe less attractive for public officials), the removing of barriers – or: “sludges” (Cass Sunstein, oral contr.) – is a very effective way to promote access.

Fundamentally, behavioural economics is concerned with the question of how people actually behave in decision-making situations. A primary focus is placed on two aspects: first, on what are referred to as decision heuristics and biases on the part of consumers, and second, on the specific effect of the situation – or setting – in which the decision takes place. Decision heuristics and biases come into play where situations involve uncertainty – a relevant factor in most decision-making situations, and certainly when working as an innovator and user entrepreneur. Empirical research has shown that in our everyday choices we humans are far from “rational” – in the sense of following our own preferences, intentions or long-term interests – and generally inform ourselves to a far lesser extent than is assumed by the prevailing “rational choice” model of the sovereign, educated, information seeking consumer. In fact, human actors are “cognitive misers”, carefully rationing their time, energy and attention; a wealth of choices can lead to information overload and inaction rather than sophisticated choices (Mick et al. 2004). Moreover, people scarce on resources of time, education, and money might particularly benefit from nudging policies (Mullainathan & Shafir 2013). Defaults, simplification, one-stop browsing, and condensed information cues are typically more effective than detailed in-depth information – in general and in particular in disadvantaged target groups who might benefit the most.

In the past years, political interest in such behavioural “nudging” tools has increased. The reasons are manifold:
- Some nudges (in particular: defaults and simplification) have proven to be robust and powerful in many real world applications – ranging from filling in college application forms to making the fine print of financial products more accessible;
- most nudges are low-intrusive and low-cost, hence comparatively easy to change and easy to adapt without profound political debates;
- in some cases, nudges are the only feasible alternative to “doing nothing” due to the political situation and lack of policy support;
- typically, the test-learn-adapt policy approach of pilot testing prevents programs to be rolled out even though they are not effective;
- last but not least, people in Europe seem to approve of nudges as policy tools, at least when their aim is achieving environmental, social and health goals (Reisch & Sunstein 2016).

Whatever the reasons may be: To date, about 180 governments worldwide employ elements of behavioural regulation (Whitehead et al. 2014; Sunstein 2016). The World Bank (2014) and the OECD (2010) are committed

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into using behaviourally based regulation to increase the impact of their policies in development, well-being,
and sustainability. Making use of this approach to foster SEI activities – that depend to a large extent on user's
motivation, their ability and also the opportunity to innovate provided by a specific setting – seems obvious.
In the US, President Obama has created the White House Social and Behavioral Sciences Team (SBST) – a
cross-agency group of experts in applied behavioural science that translates findings and methods from the
social and behavioural sciences into improvements in federal programmes and policies. Building on SBST’s
first year of work, in 2015 President Obama signed Executive Order 13707 entitled “Using Behavioral Science
Insights to Better Serve the American People” that codifies the practice of applying behavioural science insights
to Federal policy. In Europe, spearheaded by the British Behavioural Insights Team (2015), national govern-
ments (e.g., Germany, the Netherlands, Denmark) and the European Commission are increasingly looking
into behavioural regulation as a new policy tool, also as regards sustainable consumption and production
(Reisch & Sandrini 2014; Federal Ministry of the Environment 2016).

In recent political debate, a major concern had been that this kind of “soft paternalism” crowds out “hard paten-
nalism” (e.g. laws and binding standards), and that nudging therefore promotes a “regulation-light” approach
that does not correspond with the urgent policy action needed to combat climate change and social inequality.
However, at least in principle and in intention, nudging policies are not substitutes for established policy op-
tions, although in specific cases they may represent effective alternatives. Ideally, both types of policy options
complement each other and contribute to an efficient mix of policy tools that do neither undermine nor con-
tradict each other, nor crowd each other out (e.g. Shafir 2013). For instance, many applications have shown that
the framing and simplification of user information are not “irrelevant factors” (Thaler 2015), but rather quite
effective stimuli (Oliver 2013). In addition, it is worth emphasising that nudges are not usually introduced into
an unstructured choice situation. Indeed, behavioural informed interventions start from the idea that every
environment and way of doing things has effects in terms of behavioural psychology and choice architecture,
whether we realise this or not. In other words, nudges do not represent a new form of “interference”, so much
as a more deliberate and thoughtful use of the fact that every environment tends to direct human choices in
particular ways. What is new in ‘nudging’ is the effort to explicitly consider and research these effects and de-
ploy them for socially endorsed ends.

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Chapter 4

Policies supporting end-users to innovate

4.1 Independent SEI

Independent SEI is driven by a number of factors, but most pronounced is the end-users’ interests, passions and even idealism rather than the expectation of monetary return (Nielsen, Reisch and Thøgersen 2016). They therefore operate in what could be called an individual and social-need framework, seeking localised niche solutions to significant systematic issues. Given their independent nature, they are often carried out by only a few active individuals, relying heavily on limited external resources, their own personal finances and volunteer work by community members. Finally a significant number of independent end-user innovators seek to engage in radical innovation, such as localised food and energy systems or community currencies. This invariably causing significant barriers to the diffusion of the invention - both given the radical nature of the invention itself, but also a lack of willingness on behalf of the inventor(s) to engage or integrate into the dominant regime - specifically as this is often perceived as ‘selling out’.

Policy should therefore typically strive to ameliorate end-user competences and support the motivations for innovating in the first place. Especially the utilisation of awards and competitions and DIY/self-building courses and groups represent simple and practical policy tools for supporting independent SEI with regard to increasing end-user competences, facilitating intergroup collaboration and learning, and with regards to making sustainable innovation doable and enjoyable. The implementation of simplified micro-grants also represents a potential driver as end-user typically face issues gathering very early stage seed-funding. Finally, independent SEI often depends not only on the end-user innovators themselves, but also on intermediary actors (such as cooperatives and voluntary associations) who support the independent SEI processes in a number of capacities. Policy makers should therefore not only seek to support the end-user innovators but should also consider the relevant intermediary actors. Table 1 below provides an overview of the policies supporting independent SEI.

<table>
<thead>
<tr>
<th>Framework</th>
<th>Independent SEI</th>
<th>Policy Tools</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Individual and social-needs framework.</td>
<td><strong>Awards and competitions:</strong> Exposure, Credibility, Public awareness and Encouragement</td>
</tr>
<tr>
<td>Drivers</td>
<td>Personal projects based on interests, passions and idealism. Typically facilitated by individuals or small groups.</td>
<td><strong>DIY and self-building courses and groups:</strong> Ameliorate perceived (and real) lack of necessary skills, empower the end-user(s), deepen community membership and facilitate the enjoyment of creating and sharing competences.</td>
</tr>
<tr>
<td>Solutions</td>
<td>Localised and context specific solutions to larger issues. Dominance of system innovation.</td>
<td><strong>Intermediary actors:</strong> Foster community awareness, empowers end user(s) by giving them a voice, builds end-user confidence, ameliorates the dissemination process</td>
</tr>
<tr>
<td>Resources</td>
<td>Grant funding, voluntary input, crowd sourced competences via e.g. internet forums. Some commercial resources if successful.</td>
<td><strong>Micro-grants:</strong> Initial small-scale seed-financing Data accessibility:** Open source standardised datasets</td>
</tr>
</tbody>
</table>

For more policy options see our report ‘Users, Innovation and Sustainability’

Table 1. Policies supporting independent SEI
4.2 Facilitated SEI

Facilitated SEI is conversely often focused on the marketability of the given sustainable innovation as it generally operates within a market-driven framework. This at times limits the parameters for innovation as the given innovation often has to be applicable in a current setting. Radical innovations typically in the early stage represent a niche phenomenon that have a marginal economic value – hence organisations are in some cases limited in their pursuit of innovation as it needs to be commercially viable or at least cost neutral. As a result, the innovations produced appear to often be incremental improvements on existing products and services carried out in order to find generalizable sustainable innovations that could be applied at scale.

The primary issue facing many facilitated SEI processes is aligning end-user and expert (project leader) motivations and expectations and reconciling differences. While some have also noted (Heiskanen, Johnson and Vadovics 2013) that current funding schemes also lack the flexibility to encourage end-user integration, the primary concern remains identifying methods for facilitating end-user and expert collaboration. One method for successfully engaging end-users is to identify so-called ‘lead-users’. These lead users are characterised as playing a particularly active role in the sustainable innovation process. Identifying these lead users and co-opting them into a facilitated innovation process has already been a successful technique for driving innovation within classical user innovation (von Hippel 1986; 2005). We suggest a similar approach within sustainable innovation could be used, where the utilisation of forums, blogs and other online represent a method for identifying lead users. The emergence of the interconnectivity of internet has also facilitated the potential use of the “crowd” as source of knowledge, ideas and resources through the use of crowdsourcing and -funding. The success of the Harvard Crowd Innovation Lab and NASA Tournament Labs illustrating the complexity of problems that “crowd” can solve. The Climate CoLab (http://climatecolab.org/) at the MIT illustrates the real potential of crowdsourcing sustainable challenges.

The rapid growth of crowdfunding could also represent an additional interesting policy tool for policymakers to consider. In the UK experimentation with crowdfunding as co-investment tool has already been implemented. For this same reason CBS in collaboration with TUM is conducting a series of experiments to explore further what motivates individuals to invest in a given campaign. This will contribute to our understanding of how crowdfunding could be leveraged to support sustainable innovation.

Finally the LivingLabs (LL) method represents a novel approach to integrating end-users into the innovation process via direct end-user involvement. Specifically by involving the end-user not within an external context, via e.g. workshops at a university, but instead within their own everyday lived lives and context. Table 2 below provides an overview of the policies supporting facilitated SEI.

<table>
<thead>
<tr>
<th>Table 2. Policies supporting facilitated SEI</th>
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<tbody>
<tr>
<td><strong>Facilitated SEI</strong></td>
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<tr>
<td><strong>Framework</strong></td>
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<tr>
<td><strong>Drivers</strong></td>
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<tr>
<td><strong>Solutions</strong></td>
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<td><strong>Resources</strong></td>
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</tbody>
</table>
4.3 A policy toolbox for SEI

Mapping these policy tools above into typology adapted from Taylor et al. (2013; see Figure 1 above), we propose an emerging policy toolbox across both facilitated and independent SEI. In addition, we have populated the second column of this toolbox with the emerging policy recommendations derived from the Sustainability Innovation Exchange online consultation as presented below. As indicated, these are preliminary findings.  

Table 3. New policy tools for SEI – An overview

<table>
<thead>
<tr>
<th>Typology of instruments (adapted from Taylor et al 2013)*</th>
<th>Policy tools from literature review</th>
<th>Policy recommendations from Sustainability Innovation Exchange</th>
<th>Source: SIE participants 25th May 16</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Direct “command and control” regulation</strong></td>
<td></td>
<td>Protect IP of sustainability entrepreneurs [supported by corporate venturing]</td>
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<tr>
<td>Intellectual property rights</td>
<td></td>
<td>Open source university IP for entrepreneurs to take to market</td>
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<tr>
<td><strong>2. Economic instruments</strong></td>
<td></td>
<td>Establish grant-giving foundations to support development of innovative sustainability curricula and teaching resources</td>
<td></td>
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<tr>
<td>Payments (Source: Nielsen, Reisch &amp; Thørgersen (2016))</td>
<td>Micro-grants</td>
<td>Incentivise investment in sustainable activities through e.g. tax credits</td>
<td></td>
</tr>
<tr>
<td>Taxes and subsidies</td>
<td>Flexible funding schemes to encourage integration of end-user insights</td>
<td>Tax allowances to support demand</td>
<td></td>
</tr>
<tr>
<td>Investment incentives</td>
<td>Co-investment in crowdfunding</td>
<td>Support crowdfunding: co-investment and /or the platforms themselves</td>
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<tr>
<td></td>
<td></td>
<td>Offer green bonds as a more secure alternative for investors</td>
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<tr>
<td></td>
<td></td>
<td>Support corporate venturing as a positive source of finance</td>
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<tr>
<td></td>
<td></td>
<td>Move towards a financial system that takes a longer-term view</td>
<td></td>
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<tr>
<td><strong>3. Co-regulation</strong></td>
<td>Organize intermediaries to help facilitate the process of cross-regional learning</td>
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<tr>
<td>Covenants and negotiated agreements</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>4. Information based instruments</strong></td>
<td>Open source platforms for sustainable innovation (Source: Nielsen, Reisch &amp; Thørgersen (2016))</td>
<td>Provide advice to potential crowdfunding investors</td>
<td></td>
</tr>
<tr>
<td>Targeted information provision</td>
<td>Data accessibility</td>
<td>Shared promotion with sustainable businesses</td>
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<tr>
<td>Registration, labelling and certification</td>
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<td>Light touch reporting on non-financial metrics for SMEs</td>
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<tr>
<td>Naming and fame/shaming</td>
<td>Awards and competitions</td>
<td>Government reporting (every 3 years) on their contribution towards SDGs</td>
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<tr>
<td></td>
<td></td>
<td>Use measures of innovativeness (e.g. CIS) to facilitate scaling up and collaborations</td>
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<tr>
<td></td>
<td></td>
<td>Awards for suppliers</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Support prizes that help share best practice cases</td>
<td></td>
</tr>
</tbody>
</table>

*This toolkit will be refined further in the publishable manuscript we will write for D6.5.
| Typology of instruments (adapted from Taylor et al 2013)* | Policy tools from literature review | Policy recommendations from Sustainability Innovation Exchange
Source: SIE participants 25th May 16 |
---|---|---|
5. Civic and self-regulation |
Regulation by professionals | Policy tools from literature review |
| | Policy recommendations from Sustainability Innovation Exchange |
| | Source: Nielsen, Reisch & Thørgersen (2016) |
| | Source: SIE participants 25th May 16 |
| Mandate corporates to report on a range of non-financial metrics as a single standard for ease of comparison [Accountancy professionals] | | |
| Build transformational metrics that go beyond outputs to outcomes and impacts [Accountancy professionals] | | |
| Use models which include measures for Input, Output, Outcomes and Impact [Accountancy professionals] | | |
| Prioritise the highest impact investments by drilling down from SDGs or using modelling approaches [Investment professionals] | | |
6. Support and capacity building |
Research and knowledge generation | Crowdsourced innovation challenges | Adopt sustainability and innovation in school education |
| | Incorporate sustainable innovation into formal education | Support educators to teach sustainability innovation |
| | Toolkits for product innovation | |
Demonstration projects/ knowledge diffusion | DIY and self-building courses and groups | Adopt sustainability and innovation formally and informally in Higher Education |
| | Data accessibility | Join up policy making across departments at national and EU levels to avoid duplication and maximise learning |
| Network building and joint problem solving | Intermediary actors | Promote informal sustainability innovation networks |
| | Identify lead users | Support start-up business hubs, university collaborations and incubators |
| | One-stop shop for advice and funding: Information centres to build-up end-user abilities | Offer opportunities for conversation with government |
| | Co-location of start-ups, DIY labs, and open innovation platforms | Support networks involving NGOs and civil society, partnerships with universities and corporate collaborations to scale up innovations |
| | | Provide platforms to facilitate wider participation; to input into policies or remove financial barriers to participation in politics |
| | | Use the snowball approach to reach a broader range of ‘unusual’ stakeholders |
| | | Provide easy access one stop shops for citizens and innovators to find ways to participate, making use of technology to reduce time needed |
| | | Consider ‘gamefication’ to encourage participation |
| | | Consider secondments of citizens into government |
7. Behaviourally informed regulation (Nudging) |
| | Behaviourally informed simplification of funding schemes | |
| | Sustainable LivingLab | |
Chapter 5
Discussion and implications

5.1 Policy implications
A major goal of present policy makers and regulators is to investigate opportunities to reduce regulatory burdens and behavioural barriers whilst increasing the effectiveness of delivering sustainability benefits. An often overlooked (and underestimated) pathway is to support end-users in innovating for sustainable solutions. The present report compiled and condensed the results of diverse research activities, innovation workshops, expert interviews and more into a deliberately concise document. It goes without saying that practically each of the policy tools named would benefit from empirical research regarding its effectiveness, efficacy and efficiency, as well as its acceptability by the target user entrepreneurs. The methods of choice could be lab and field experiments, pilot tests with groups of user entrepreneurs as well as participatory processes involving the targeted systematically and over a longer period in policy making (“the co-creation of policies for co-creation”).

Over recent decades, the European Commission – and national governments – has built a framework of regulation aimed to spur and support innovation. More recently, sustainable entrepreneurs and new small-scale business models fostering sustainable development and green growth have come to policy makers’ attention. While policies promoting the latter are more than welcome, this framework has evolved in a piecemeal way and now consists of hard and soft regulations, guidance documents and procedures that appear to be fragmented, overlapping and inconsistent. For instance, support schemes for start-ups can appear over complex and difficult to navigate; in some countries, crowdfunding is hampered by well-meaning consumer protection regulation of small investments that makes lawful crowd investing nearly impossible. As shared in our practitioners’ workshops, these examples of a regulatory framework act as a barrier for user-entrepreneurs both to effective compliance with obligations and to growth. They simply lack the time and expertise to sift through all the potential scattered information. One practical way forward for a government interested in support SEI would be to review the relevant regulatory framework, decide on priorities in case of contradictory policies, compile the possibilities of support and funding, simplify as much as possible and provide easy access to all relevant information on one easily navigable website\(^5\) – a “www.user-innovation.eu” focal point would be a helpful first step.

5.2 Research Directions
There are two additional innovative research sub-projects currently taking place as part of EU-Innovat\(E\)’s “Policy Work Package” (WP 6): experiments into motivations for crowdfunding and a social media enabled sustainability exchange. Both are expected to provide further insight into some of the policy tools outlined in this report, as well as potentially add more policies to the toolkit. While the full results are not available yet (according to the DOW, by the end of the year), we do share some initial insights in the following.

**Experiment into motivations for crowdfunding**
Crowdfunding (CF) has, as noted, become a popular alternative source of finance for a variety of for- and non-profit ventures and projects. By enabling small incremental investments, typically through intermediary platforms like Indiegogo, CF increasingly allows non-professional investors to directly support their preferred project/venture (Mollick 2014). This development has therefore been hailed by some as a form of finance that could significantly enable more sustainable innovation, contending that crowdfunders are driven by a different investment logic as compared to professional investors that focuses on the projects’ core values and legitimacy.

\(^5\)An example in case is: **DEFRA (2013)**
CF has thus been welcomed as method for “riskier” sustainable ventures to gain early “seed investment” (Calic & Mosakowski 2016; Lehner 2013).

We empirically test this proposition and propose to explore how a series of value framed campaign texts influence the potential of crowdfunders’ willingness to invest in a number of hypothetical crowdfunding campaigns. These value frames are derived from the “Value-Belief-Norm theory” on environmentally significant behavior (Stern 2000; Stern et al. 1999). Using a novel survey-based experimental design that mimics existing CF platforms, we will explore how the respective expressed value frames influence investment behaviour and ultimately conclude which most significantly impacts the individual investments. From a policy perspective this work can help create an empirical understanding of whether crowdfunding is indeed something that correlates well with the needs of sustainability-oriented projects and should therefore be promoted policy wise. This "proof of concept"-test will help to examine the propositions within the academic literature that to date remains largely conceptual and theoretically grounded. If we identify significant correlations between individual investments and sustainability oriented campaigns, we can then proceed to tackle the “how” and “when” crowdfunding is effective; however, firstly, we must understand “if” it is effective.

**Sustainability Innovation Exchange**

The philosophy of the wider EU-InnovatE project is that it is important to involve users (consumers / voters) in sustainability innovations (the notion of open innovation or co-creation). This research project applied the same philosophy to the issue of sustainability policies, by consulting citizens actively in co-creating better policies for sustainability innovation.

The Sustainability Innovation Exchange, which took place on the 25th May 2016, was an online text-based “open innovation” conference with users about proposed policy ideas or recommendations arising from previous parts of the project. The flow of the data gathering process, which culminated in this event, is summarised in Figure 2.

**Figure 2. Data collection flow**

The key elements of the conference were:
- Seeding the conversation with specific policy proposals
- Evaluating these policy proposals for impact and feasibility (though user polls)
- Inviting users to propose variations to these policy initiatives or indeed to propose radically different initiatives, and for these to be equally debated

Over 340 participants from 40 countries registered to take part in the event, with 150 individuals logging in to take part on the day, posting a total of 1,700 unique comments. The participants came from diverse sectors and experiences. The 150 participants were asked to tick boxes to indicate all of the groups of which they identified themselves as being a member. There was no restriction on the number of boxes they could tick. 6 participants did not tick any boxes and so are not represented below. The majority of the remaining 144 participants chose...
to tick multiple boxes. Table 4 summarises the groups the participants identified with.

**Table 4. Identities of participants**

<table>
<thead>
<tr>
<th>Identity</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic</td>
<td>63</td>
</tr>
<tr>
<td>Business person</td>
<td>67</td>
</tr>
<tr>
<td>Citizen/voter</td>
<td>58</td>
</tr>
<tr>
<td>Entrepreneur</td>
<td>40</td>
</tr>
<tr>
<td>Investor</td>
<td>9</td>
</tr>
<tr>
<td>NGO member</td>
<td>22</td>
</tr>
<tr>
<td>Policy maker</td>
<td>9</td>
</tr>
<tr>
<td>Public sector employee</td>
<td>8</td>
</tr>
<tr>
<td>Thought leader/change maker</td>
<td>49</td>
</tr>
</tbody>
</table>

The conference was structured around topics associated with the lifecycle of a sustainability entrepreneur (see Figure 4). The day opened with a 30-minute plenary session before breaking into three 60-minute concurrent sessions on Education, Networks and Funding. The afternoon began with three more concurrent sessions on Scaling Up, Impact and Open Policy Making before closing with a 30-minute plenary Wrap Up session.

**Figure 3. Lifecycle of sustainability entrepreneur**

Figure 4 on the following page is a visualisation of one aspect of the discussion which took part in the Education topic room, showing the invited guest contributors, and illustrative example of responses to one of the three key questions posed by the moderator during the session.
A PDF file documenting the full text of this Education topic discussion can be found at Appendix 2 and the full discussions across all the session are available to view on the event website: www.globescanforum.com/sie (please register on the website to gain access to the full content).
Emerging findings
The discussions, which took place in the Sustainability Innovation Exchange, will be analysed in depth over the coming months and this data will form a key part of the publishable manuscript, which is written to fulfill Deliverable 6.5. However, at this stage, we are able to present some initial findings, which have already been shared with participants in the form of a Highlights Report (see Appendix 1).

Policy polls
Within each topic session, we sought feedback on three specific policy proposals, which the research team had distilled in advance from the prior stages of this Work Package. We asked participants to select which of these three policy proposals a) had the most potential impact on sustainability innovation and b) would be the most feasible to implement. The number of votes in each poll is small and the voting is not representative given the convenience sampling resulting from the self-selection of interested participants. However the voting process was useful to engage more passive participants to take part in the event, and gives an interesting indication of the consensus amongst this particular group. Figure 4 below presents pie charts showing the policies voted as having most potential impact on sustainability innovation in each of the topic areas.

Participant suggestion and case examples
We also invited users to propose variations to the suggestions put forward in the policy polls or indeed to propose radically different initiatives to be debated among the participants. This provided extremely rich data in terms of both the recommendations made by participants and real world examples of where those ideas can be seen in practice. Figure 5 and 6 on the following pages summarise these recommendations and case examples by topic area, as well as depicting the results of the policy polls on the dimension of most impact.
Figure 5. Participants’ suggestions and poll results (by element of lifecycle)
Figure 6. Participants' suggestions and poll results (by element of lifecycle)
Finally we have started the process of bringing out some key themes, which were discussed across multiple discussion topics. Figure 7 summarizes these four themes.
Bibliography


Appendices

Appendix 1 - Highlights from the Sustainability Innovation Exchange
On 25 May 2016, Cranfield University and Globescan hosted a unique event. The Sustainability Innovation Exchange was a day of online discussions between people from a diversity of nations, sectors and experiences. The objective was to share ideas about how to develop better policies to encourage governments, businesses and individuals to take action and to work together to develop sustainable innovations in order to support sustainable living.

Thank you to all those who took part and so generously shared their ideas and passion. This report celebrates the highlights, and reports on the key insights and suggestions from this fast paced and inspiring consultation on policy for sustainability innovation. The full discussion, including the resources shared by the participants, is still available to view at: www.globescanforum.com/sie

Many of you said you’d like to continue the conversations you started with others in the Exchange, so we’ve set up the Sustainability Innovation Exchange LinkedIn group so you can stay in touch with each other, and keep up to date with the progress of the project. www.linkedin.com/groups/8541583

Co-creating policies with different actors beyond the usual suspects, debating options, trialling, evidence, and sharing successes and pitfalls are all helpful. We need easy access one-stop shops for citizens and innovators to find ways to participate.

To some extent, what gets reported gets managed. Ask blue-chips to report formally on a range of non-financial measures, but don’t overload SMEs. Prizes and positive stories have an influence.

Collaboration is considered a good thing generally, and increasingly with unusual partners (NGOs and other parts of civil society); however, deriving a common mission/purpose is vital. Government can play a role in creating markets that make this happen.

Governments have a part to play in enabling funding for sustainability innovation, but are not good investors themselves. Better and more consistent tax and investment incentives – for entrepreneurs and both corporate and individual investors – are needed.

Networks are valued in all forms, with a preference for human interaction, and networks which are value- and purpose-driven. Their coverage is patchy, governments can help.

We need shifts in our education systems to enable sustainability innovation: including from formal to informal structures, and from standardised, test-driven learning to learner-centred programmes.

Next Steps... We will share your insights in face to face discussions with policymakers in October. You can keep up to date with our progress and continue the our conversations by joining the our Sustainability Innovation Exchange LinkedIn group: www.linkedin.com/groups/8541583
## Overarching themes

### Embedding Culture Change

Changing our society so that innovations which deliver improved social and environmental outcomes are valued, prioritised and celebrated. The ways and means to achieve this change were discussed throughout the day:

- Adopt a positive attitude to experimentation and learning from failure
- Legal vehicles which promote and privilege businesses with purpose
- Metrics for innovations’ positive non-financial outcomes which help prioritise and fund them
- Tax reliefs, credits, gamification and secondments into government to encourage citizens to engage with policy development and sustainability innovation

I think serious money has to be put into creative communications from the government that promote the impact of citizen voice in policy and show great sustainability innovations that came from piloting/testing/experimenting/collaborations. Give the people irrefutable proof that all of this matters, has already made a difference, can make a bigger difference in the future.

*Elizabeth Dove*

### Collaboration

Multiple, and often diverse, stakeholders engage with each other to drive sustainability innovation – and the more radical and complex the change involved, the more collaboration is needed. Having mutual respect and understanding, and agreeing a common mission and purpose is vital. This theme had multiple strands across our topics rooms:

- Networks for sustainability entrepreneurs to learn from each other and scale ideas
- Blue chips collaborating with users and entrepreneurs to drive innovation
- Opening up policy design to a broader set of ‘unusual’ stakeholders

A “sandpit” process brings an inter-disciplinary team of experts and enthusiasts into a room to throw around ideas. I want more sandpits! Today was a bit like a sandpit - a bit messy and chaotic and fun - and hopefully some brilliant future collaborations will emerge!

*Emma Macdonald*

### Measuring Value

Being able to articulate the environmental and social value of an innovation, in a way that is broadly understood and accepted by society, is central to encouraging sustainability innovation. Criteria for these metrics were discussed across topic rooms:

- Metrics that are specific and relevant to the purpose of a specific enterprise, but it can be shown to what extent they contribute to top down (national, EU, UN) objectives and targets
- Metrics that allow for prioritisation between opportunities as well as measurement
- Metrics that are visible and widely communicated

I’ve been looking at the ‘for benefit’ incorporation status that some companies like Kickstarter and Toms have adopted in the US. It’s allowing them to enshrine many of their sustainability principles into the obligations their company has. It goes beyond financial performance and (voluntarily) ties them to a set of measures that value their impact on society as a whole.

*Owain Cleary*

### Innovating Policy Making

Recognising that the inherent tension between our current conception of policy (regulation, standards, certainty) and innovation (experimentation and diversity) means that we may also need to change the nature of policy itself in order to support sustainability innovation. Success cases of innovations in the policy making process include:

- Involving stakeholders in policy development: Open policy making (or ‘Open Ministry’)
- Using policy to ‘nudge’ individual behaviour or to ‘create’ or ‘nudge’ a market
- Encouraging experimentation and testing in policy-making (test-learn-adapt-share); finding ways to make policy evidence-based yet agile

The problem with policies is that they seek uniformity and standardization. Sustainability innovation needs experimentation and diversity. We therefore need policies that encourage emergence and innovation, something that public authorities seem not to be comfortable with.

*Arnold Smit*
### Participant recommendations and case examples

#### Education
- Adopt sustainability and innovation in school education, preferably optionally but with credits/benefits for students who participate.
- Support educators to teach sustainability innovation and develop skills in children that help them to engage with and understand context, critical analysis and systems thinking by unlocking rather than stifling their creativity.
- Establish grant-giving foundations to support development of innovative sustainability curricula and teaching resources.

#### Networks
- Promote informal sustainability innovation networks, which systems theory and our participants’ experience suggest are effective.
- Build on participants’ positive experiences with start-up business hubs, university collaborations and incubators. Follow up one-off face-to-face events by developing information virtual networks.
- Offer opportunities for conversation with government e.g. UK’s Whitehall Industry Group [www.wig.co.uk](http://www.wig.co.uk) and German Council for Sustainable Development, to complement independent networking.
- [www.Impacthub.net](http://www.Impacthub.net) works to support sustainability innovation globally by linking and supporting members both virtually and at physical hubs.
- The UK’s Knowledge Transfer Network [www.ktn-uk.co.uk](http://www.ktn-uk.co.uk) connects large and small companies, government agencies and research organisations, with tech hubs and startups, public funding bodies, VCs and private investors, to drive innovation.

#### Funding
- Explore options to support crowdfunding as a useful mechanism to match sustainability entrepreneurs with funding, albeit recognising the risk involved and the lack of mentoring or other support contingent with the funds - “blind money.”
- Incentivise investment in sustainable activities through e.g. tax credits, but ensure that it’s driving new investment, not just greenwashing existing R&D.
- Support corporate venturing as a positive source of finance as long as Intellectual Property of entrepreneur can be protected: e.g. [www.leagueofintrapreneurs.com/toolkits](http://www.leagueofintrapreneurs.com/toolkits).
- Move towards a financial system which takes a longer-term view, including government policy so that incentives can embed and take effect, however financial sustainability needs to also be a priority for sustainability entrepreneurs. Finance Innovation Hub an example of a successful government-supported finance solution: [www.financeinnovationlab.org](http://www.financeinnovationlab.org).

### Policies voted as having the most potential impact on sustainability innovation*

<table>
<thead>
<tr>
<th>Policy Recommendations</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Requiring schools to run innovation programmes for children</td>
<td>53%</td>
</tr>
<tr>
<td>Higher education funding more dependent on compliance with programmes like PRME</td>
<td>23%</td>
</tr>
<tr>
<td>Tax incentives for business mentoring sustainability entrepreneurs</td>
<td>17%</td>
</tr>
<tr>
<td>Database of ideas</td>
<td>38%</td>
</tr>
<tr>
<td>Tax break for mentors</td>
<td>25%</td>
</tr>
<tr>
<td>Government-hosted networks</td>
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<tr>
<td>Government-funded green investment vehicles</td>
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<tr>
<td>Governments supporting or incentivising crowd funding</td>
<td>25%</td>
</tr>
<tr>
<td>Incentives for corporates to finance sustainability start-ups</td>
<td>25%</td>
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<tr>
<td>Governments supporting or incentivising peer-to-peer lending</td>
<td>25%</td>
</tr>
<tr>
<td>Other</td>
<td>10%</td>
</tr>
</tbody>
</table>

*Votes were on policy suggestions put to participants by Cranfield.
### Participant recommendations and case examples

#### Scaling-Up
- Open source university IP for entrepreneurs to take to market
- Recognize governments' role in incentivizing demand as well as supply e.g. shared promotion with sustainable businesses or aids to promotion such as awards for suppliers, plus tax allowances to support demand [www.watertechnologylist.co.uk](http://www.watertechnologylist.co.uk)
- Use measures of innovativeness to facilitate scaling up and collaborations: e.g. UK’s Community Innovation Survey [www.gov.uk/government/collections/community-innovation-survey](http://www.gov.uk/government/collections/community-innovation-survey)
- Support networks involving NGOs and civil society, partnerships with universities and corporate collaborations (cross-sectoral) as primary routes to successfully scaling up, despite their inherent challenges. Common mission and IP protection are vital. e.g. networking between 8000 participants at Hong Kong RISE Tech Conferences [www.riseconf.com](http://www.riseconf.com)
- Knowledge Transfer Partnerships via Innovate UK [www.gov.uk/government/organisations/innovate-uk](http://www.gov.uk/government/organisations/innovate-uk) is an example of government facilitating scaling up (need for this to continue when Innovate UK merges with UK Research Councils)

#### Impact
- Join up policy across government departments at national and EU levels
- Require light touch reporting for SMEs to reduce barriers to market entry and growth; support prizes that help share best practice cases
- Mandate corporates to report on a range of non-financial metrics (e.g. Green Investment Bank, or Nordic Investment Bank, or UK mandatory GreenHouse Gas reporting) as a single standard for ease of comparison (like ISO standards)
- Build ‘transformational’ metrics that go beyond outputs to outcomes and impacts. This is hard, but important to avoid unintended consequences e.g. UK’s Transformational Index [www.thetransformationalindex.org](http://www.thetransformationalindex.org)
- Use models which include measures for Input, Output, Outcomes, and Impact e.g. [dl-copenhagen.weebly.com/impact-assessment-tool.html](http://dl-copenhagen.weebly.com/impact-assessment-tool.html)
- Prioritise the highest-impact innovations by drilling down from sustainable development goals, or using modelling approaches. e.g. EMAS (Eco Management and Audit Scheme) reporting [www.emas.org](http://www.emas.org)
- Government TO report regularly (every 3 years) between now and 2030 on how they are contributing to achievement of the Sustainable Development Goals

#### Open Policy Making
- Provide platforms to give access to wider participation, whether to provide input to proposed policies e.g. [citizenlab.co](http://citizenlab.co), UK’s [www.Represent.me](http://www.Represent.me), or to remove financial barriers to participation in politics e.g. US’s [www.crowdpac.com/about](http://www.crowdpac.com/about)
- Join up government departments to avoid duplication and to maximise learning e.g. Denmark’s [www.mind-lab.dk/en](http://www.mind-lab.dk/en)
- Use the snowball approach to reach a broader range of ‘unusual’ stakeholders
- Provide easy access one-stop shops for citizens and innovators to find ways to participate – making use of technology to reduce time needed
- Consider ‘gamification’ to encourage participation
- Consider secondments for citizens into government
- Examples in practice include Citizen Juries e.g. jefferson-center.org/citizen-juries, Open Policy Initiatives [youtube/KqmgsUQir20](https://youtube/KqmgsUQir20), Trialling and Piloting schemes

### Policies voted as having the most potential impact on sustainability innovation*

<table>
<thead>
<tr>
<th>Policies</th>
<th>Percentage</th>
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<td>Low-interest loans to business for measures</td>
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<tr>
<td>such as energy efficiency</td>
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<td>Government-funded collaboration centres</td>
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<td>Measures of innovativeness to include</td>
<td>44%</td>
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<td>stakeholder engagement</td>
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<td>Prioritising help (e.g., grants) for innovations based on impact</td>
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<td>Showing consumers environment/social impact alongside price</td>
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<td>Company reporting or carbon, etc. alongside financials</td>
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<td>Other</td>
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</table>

*votes were on policy suggestions put to participants by Cranfield
Appendix 2 - Sustainability Innovation Exchange: Education Transcript
Room 1: Education
2:30am–5:30am PDT

In this topic we will discuss what we need to do better or do differently so that we are teaching and empowering individuals to innovate.

Emma Macdonald  MODERATOR  Cranfield School of Management  3:30am
It’s time to wrap up this session on education. Thank you to our guests and many participants. It has been an invigorating discussion!

Please vote on the poles and then join us again at 2pm UK time, 3pm Central European time. Themes after lunch are Scaling Up, Impact & Open Policy Making.
Likes: 1

Emma Macdonald  MODERATOR  Cranfield School of Management  3:34am
If anyone else wants to post helpful links to support our discussion then please do so.

Hugh Wilson  Cranfield School of Management  3:35am
Meanwhile if you didn’t get round to filling in the 3-minute pre-survey (not the same as the one-page registration form!), please do so now as it’s really important to our research! Click on the Home tab and the link’s there. Thanks very much & see you at 2pm UK time! Have a nice lunch! Hugh

Rachel Collinson  GUEST CONTRIBUTOR  The Green Party  3:33am
Here are some links to things I mentioned:
Universal Basic Income (“The People’s Venture Capital”):
http://freakonomics.com/podcast/mincome/
https://www.vice.com/read/something-for-everyone-0000546-v22n1

Skills the workforce of the future will need:
http://www.forbes.com/sites.sap/2014/05/12/are-you-ready-here-are-the-top-10-skills-
Higher Education and Research Bill (v worrying for innovation!)
Likes: 2

Emma Macdonald  MODERATOR  Cranfield School of Management
3:34am
Thanks Rachel

Julia Binder  Technical University Munich
3:32am
If we want to bring sustainability into the classroom, wouldn't the first step require that we teach our teachers the importance of sustainability? We seem to assume that schools and universities already possess this sustainability knowledge, but I don't really see this reflected in reality...
Likes: 4

Susan Wright  Earth Island Publishing
3:33am
Absolutely agree Julia

Giovanna Lastrucci  Cranfield School of Management
3:33am
This is a great point.

Susan Wright  Earth Island Publishing
3:32am
Very interesting discussion. Thank you all
Likes: 1

Alexander Lewis  GlobeScan
3:31am
Hi all, the rooms will all be open for a further two hours if anybody wishes to continue this fascinating discussions and vote in the polls. Thereafter this room will close for comments, but you will be able to return at a later date and review the discussion.
Likes: 1

Elizabeth Dove  Dove Consulting
3:31am
Fascinating discussion. Thank you all!
Likes: 1
Stephanie Müller  University Bayreuth  3:31am
I feel like the 3 suggestions don’t take children from less fortunate households in. Only children who also get help with big personal problems (like with a coach / Mentor as we had before) have a mind free and light enough to think about these things and understand the necessity and the fun in building sustainable ways of living. So in a way, I think that, if we want to implement sustainability drive in schools broadly, we need to make sure that children /young people know how to help themselves out of personal crisis or get help to do so.
Likes: 2

add a tag

Eric Anderson  GUEST CONTRIBUTOR  BT  3:31am
Thanks Emma.
Likes: 1

add a tag

Emma Macdonald  MODERATOR  Cranfield School of Management  3:31am
The discussion will stay open for the rest of the day if you want to look back at them. It was a busy session and lots of great ideas were proposed. Let’s see if we can make some of them a reality soon!

add a tag

Rachel Collinson  GUEST CONTRIBUTOR  The Green Party  3:33am
Thanks Emma! What a great discussion this has been.

add a tag

Gemma Adams  GUEST CONTRIBUTOR  Forum for the Future  3:30am
Does anyone else think we need to shift from single interventions to ‘systems of interventions’? Might not be the right language - but I don’t think there are any silver bullets. I think we need to come up with a network of interventions that enables a shift to happen.
Likes: 2

add a tag

Rachel Collinson  GUEST CONTRIBUTOR  The Green Party  3:31am
Also, systems thinking can help us figure out the interventions most likely to succeed...
Likes: 1

add a tag

Gemma Adams  GUEST CONTRIBUTOR  Forum for the Future  3:33am
What would be an effective combo of shifts for the more radical changes we’re talking about? Let’s apply system thinking to our policy recommendations

add a tag

Rachel Collinson  GUEST CONTRIBUTOR  The Green Party  3:30am
Here’s a policy suggestion for encouraging sustainability innovation.

Universal Basic Income is being talked about more and more as a policy idea that solves many problems including reducing admin burdens on government welfare programs,
boosting local economies, as well as recognising the value of caring and childrearing.

However, I also see it as People's Venture Capital for sustainable entrepreneurs. It is a radical idea that could transform our world, espoused by many economists on both the right and the left.

Rachel Collinson  GUEST CONTRIBUTOR  The Green Party  3:31am
It would also remove the barriers to lifelong learning - taking time off work to educate yourself would otherwise be too costly and risky for most.

Emma Macdonald  MODERATOR  Cranfield School of Management  3:34am
Really interesting idea Rachel! Wow what require some substantial changes to the way we live now.

Emma Macdonald  MODERATOR  Cranfield School of Management  3:30am - Delete
It's time to wrap up this session on education. Thank you to our guests and many participants. It has been an invigorating discussion!

Please vote on the poles and then join us again at 2pm UK time, 3pm Central European time. Themes after lunch are Scaling Up, Impact & Open Policy Making. Likes: 1

Simon Pickard  GUEST CONTRIBUTOR  ABIS - The Academy of Business ...  3:29am
www.unprme.org

Elizabeth Dove  Dove Consulting  3:30am
Thanks Simon!

Simon Pickard  GUEST CONTRIBUTOR  ABIS - The Academy of Business ...  3:29am
Elizabeth - PRME is a voluntary initiative run by the UN Global Compact, promoting principles of responsible management education to accelerate change in business schools Likes: 1

Susan Wright  Earth Island Publishing  3:28am
Would be interesting to see what the other ideas contributors have stated on the 'policy' poll. Is there a way to find out?
Add a tag

**Rachel Collinson**  GUEST CONTRIBUTOR   The Green Party

I think Higher Education funding more dependent on compliance with programmes like PRME is most feasible. Requiring schools to run innovation programmes for children will have most impact.

Likes: 1

Add a tag

**Alexander Lewis**  GlobeScan

Hi all, and please remember to click 'Next Poll' to be sure of moving through them and answering each

Add a tag

**Gemma Adams**  GUEST CONTRIBUTOR   Forum for the Future

What are the best 'Labs' we know of that are setting about innovating our education system?

Add a tag

**Emma Macdonald**  MODERATOR   Cranfield School of Management

Please vote in the poll questions to the right of the page:

Which of the 3 policy suggestions we have put forward in this session do you think would be the MOST FEASIBLE (pick one)? And which of the 3 policy suggestions do you think would have the MOST IMPACT?

If you want to comment on why you have chosen these or the 'other' you have in mind, then please do so!

Likes: 1

Add a tag

**Elizabeth Dove**  Dove Consulting

Can someone help the Canadian - what's PRME? :)

Add a tag

**Abbie Curtis**  GlobeScan

Hi everyone, thanks for all your ideas! Please help to work out which policy ideas would be most effective and feasible by voting in the poll questions to the right hand side

Add a tag

**Elizabeth Dove**  Dove Consulting

Abbie - what’s PRME?

Add a tag

**Lisa Ruetgers**  Utonomy Ltd

Why is sustainability not a class in school? What needs to change to include it in the curriculum? (Sorry to go back to this point.)
Gemma Adams  GUEST CONTRIBUTOR  Forum for the Future  3:23am
Is it separate?

Elizabeth Dove  Dove Consulting  3:23am
That would be a start Lisa. I hope to move to sustainability then as a cross-cutting theme across classes. A single class has the same risk as the annexed CSR department in a company - it becomes an annexed issue, apart and not applied to everything.
Likes: 1

Simon Pickard  GUEST CONTRIBUTOR  ABIS - The Academy of Business  3:28am
My personal belief is that we lack context most in education: a multi-dimensional set of perspectives on what is happening in the world tailored to local settings and issues. Sustainability is simply a part of this complex mix - so to isolate it, as mentioned above, risks excluding a lot of the factors that frame both societal problems and potential solutions (e.g. role of governments, cultural norms, etc)
Likes: 1

Darren Abrahams  GUEST CONTRIBUTOR  Feet First Coaching and Consult...  3:33am
Currently in education we pay more attention to systems than context. Education in the UK is politically driven and therefore ideology dictates the system in which people are educated. Context is not taken into consideration when assessing schools, teachers or the students they are supposed to serve.

Rachel Collinson  GUEST CONTRIBUTOR  The Green Party  3:19am
One of the problems I see in creating sustainable innovation via education is that academics often create amazing solutions to world problems, but their mindset and skills don't lend themselves to taking those solutions to market.

A policy idea I have to solve this problem, (again not Green Party policy) is that we should open up the IP of universities and researchers for entrepreneurs to freely commercialise. I'd love some comments and feedback on this idea.
Likes: 3

Abbie Curtis  GlobeScan  3:22am
Great idea Rachel, this points to the need for partnerships and collaboration between academia and business (and other stakeholders!)
Emma Macdonald  MODERATOR  Cranfield School of Management  
3:22am
Sounds like a radical idea Rachel.
Likes: 1

Sara Sanchez Lopez  Cranfield University  
3:19am
I think the standardized education should be complemented by an individual assessment that promotes each individual strength. This way, if a kid is good writing (drawing, or organizing activities) and the teacher gives him the opportunity of digging deeper on that, the kid will not only get better in this specific task but also will feel more confident arising other activities.
Likes: 2

Eric Anderson  GUEST CONTRIBUTOR  BT  
3:19am
At my children's school, I see excellent teaching that seeks to help the students challenge, explore and innovate all the time across all subjects, and all ages groups. What seems to hold them back is the restrictive testing and curriculum expectations the government have. That's where the policies need to be changed IMO.
Likes: 6

Gemma Adams  GUEST CONTRIBUTOR  Forum for the Future  
3:22am
Agree about parents' role in their children's education and the need for schools and homes to interconnect much more. This circles us back round to lifelong learning. We see higher education and learning in later years as being separate from teaching the next generation. If we connect the two together, that could be a powerful route to change?
Likes: 1

Rachel Collinson  GUEST CONTRIBUTOR  The Green Party  
3:24am
Agree!
Likes: 1

Rachel Collinson  GUEST CONTRIBUTOR  The Green Party  
3:25am
We need to end the commercialisation of higher education which gears all learning towards profit, whether the teacher or learner.

This is going to stifle our ability to innovate. The Higher Education and Research bill is particularly worrying - allowing corporations to set up their own universities, for example.
Likes: 1
We are seeing more and more that this economic model makes higher education less value for money. Employers are looking for life experience over qualifications. Anyone can get a degree, but that doesn't mean you have the skills required to make it in the modern workforce. Part of this is the fact that educators are divorced from the world of work and have no idea how it really functions.

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Absolutely! We can advocate for policies in support of innovation teaching as much as we like, but how do we develop the capabilities of teachers to deliver? And what role will there be for parents in supporting the institutions/schools trying to make this shift?

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Good point that teachers and parents have an important role to play here.

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Its all about the teachers and parents. For new cultures to embed we have to empower the practitioners to be creative in delivery.

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As you know, one of our aims is to test policy ideas in this discussion. How about this idea for policy? Governments should require schools to run innovation programmes for children (across age groups).
What do you think?
Likes: 4

Maarten Van der Kamp  Cranfield University  3:16am  ·  Delete
I particularly like the idea of innovation across age groups!

Gemma Adams  GUEST CONTRIBUTOR  Forum for the Future  3:17am  ·  Delete
I think policy has a role in enabling the transition to these new forms of being and learning. At the moment, the education system is geared to foster economic growth. What would it mean for the system to recognise the current growth imperative, and also to start building the capabilities we need to move beyond that. That second piece is ignored at the moment?
Likes: 4

Rachel Collinson  GUEST CONTRIBUTOR  The Green Party  3:17am  ·  Delete
I like that a lot.
Likes: 1

Darren Abrahams  GUEST CONTRIBUTOR  Feet First Coaching and Consult...  3:18am  ·  Delete
Again, I'm nervous of these kinds of policies because they can too easily become subject to rigid assessment principals which are stifling to innovation. When you make it a policy it is too easy for such programmes to become tick box exercises, rather than something that is embedded in the culture of the school. We should be encouraging innovation as a culture running through all educational activities, not a one off programme that can be ticked off the list to satisfy OFSTED
Likes: 2

Hannah Thorne  Paragon Interserve  3:18am  ·  Delete
I think it would have to be very clear in what it means and how it will work so as not to be another add on for teachers to have to deal with and be assessed on.
Likes: 3

Ann Finlayson  GUEST CONTRIBUTOR  SEEd  3:19am  ·  Delete
They will not use the word sustainability at all. But they like innovation - but again you could box yourself into a corner. Design and Tech had sustainability in it but it was taken out under Gove. This is not easy stuff to do and I would suggest a better forum to draw out what will currently work in education policy. these ideas are all great but no-one currently is listening in DfE.
Likes: 3
Elizabeth Dove  Dove Consulting  3:19am - Delete

We would need to intentionally reward companies and individual performance for long term growth. Currently the system is set up to reward growth in the next quarter.
Likes: 1

Maarten Van der Kamp  Cranfield University  3:19am - Delete

Darren: it would depend on how such a policy would be implemented - if it requires working together with local charities, artists and/or entrepreneurs it would be very difficult to OFSTEDise this...
Likes: 1

Gemma Adams  GUEST CONTRIBUTOR  Forum for the Future  3:20am - Delete

I think 'innovation' should be intrinsic to the curriculum. A new style of learning. The more red tape teachers have, the less they are empowered in the classroom. How can policy support strong standards without clamping down on teachers' own ingenuity to teach?
Likes: 3

Darren Abrahams  GUEST CONTRIBUTOR  Feet First Coaching and Consult...  3:20am - Delete

Policy is also political. How do we embed sustainability so that it doesn't drop off the radar every time we change Education Secretary or government?
Likes: 5

Elizabeth Dove  Dove Consulting  3:20am - Delete

Darren - I'd like to hear more about your ideas on solutions. How would you encourage innovation as a culture, without the use of policy?

Gemma Adams  GUEST CONTRIBUTOR  Forum for the Future  3:22am - Delete

@Maarten that is exactly what I am currently building in Brighton. It doesn't stop OFSTED wanting to assess everything, they just dismiss what we are doing because they don't understand the parameters of assessment
Likes: 2

Rachel Collinson  GUEST CONTRIBUTOR  The Green Party  3:22am - Delete

I think we need to abolish OFSTED and move towards an education model that's closer to the Finnish system. Allowing local communities to evaluate the effectiveness of teaching based on their own criteria. There should be a set of learning entitlements, for example effective problem solving.
Likes: 2
innovation tends to happen more naturally when different perspectives and cultures are brought together around a shared problem. So policies which encourage educational institutions from different countries to collaborate on an issue would likely be beneficial.

Likes: 3

We need new ways of evaluating learning.

Likes: 2

Agree, Eric. Perhaps more could be made of the EU twin towns scheme in this regard?

Likes: 0

Rachel, any links to the Finnish model. Sounds fascinating

Likes: 0

@Elizabeth we need to make schools more porous so they become part of the community, rather than separate silos that no one can enter. Culture has to be developed by people. Bringing in new ideas from outside the school environment can help to change attitudes towards education.

Likes: 3

Interesting that the poll is most in favour of this policy idea!

Likes: 0

@Gemma the Finnish model is called Timaketemia (Team Academy). We have been building our project in Brighton around Team Academy principles

Likes: 0

@Darren: sounds fascinating, but also a frustrating struggle...
At that young age, there's an opportunity to demonstrate our interconnectedness with nature. If these deep associations are developed then we completely reframe the question of whether our lives follow a sustainable path or not. That question becomes irrelevant. I wish I'd gone to a Forest School as a kid.

Simon Pickard  GUEST CONTRIBUTOR  ABIS - The Academy of Business ...

To borrow from an earlier comment (from Rachel or Ann?)... this needs to be a continuum throughout a child's education, and not limited to a given / limited / narrow window in their development and learning.

Hugh Wilson  Cranfield School of Management

Isn't the framing of business studies in school, and university, all about single bottom line? Sustainability becomes an optional add-on at university perhaps. But can't policy suggest that bus studies curricula start with outlining triple bottom line concepts, and the concept of sustainable entrepreneurs? At present, the average schoolchild or undergraduate associates business with making money full stop.

Maarten Van der Kamp  Cranfield University

Exactly!

Hannah Thorne  Paragon Interserve

There is a disconnect between the topic of business and the topic of sustainability in education.

Emma Macdonald  MODERATOR  Cranfield School of Management

What kinds of activities help prepare young people to contribute to society?

Maarten Van der Kamp  Cranfield University

Volunteering, engagement with local charities, seeing how the local environment is changing and how this is linked with global changes etc etc.
I think we've seen from examples below how mandated volunteering can backfire. Certainly, educating young people about how the world is changing is necessary, but then giving them the tools to solve problems and then evaluate the effectiveness of their solutions. Learner-centred education, essentially.

Likes: 1

At the end what could help is to reward and acknowledge voluntary work and engagement in charitable projects. It's difficult to dedicate time to good causes if only internships and work experience will count at the end of the day. I think we can achieve a lot if businesses, policies, universities,... would value the contribution of young people to society.

Likes: 1

Let them learn and discover through play and experimentation. In the tech world, kids are excited by technology and coding because it's increasingly presented to them in a way they can play and interact with. Gamification has a strong role to play here (pardon the pun). For example, the app that www.internetmatters.org provide to facilitate a conversation between parents and their children has them compete against each other in a game which exploring the issues. They make it fun to learn what is a pretty serious topic at times.

Likes: 2

Good idea, but I assume most of these sustainability entrepreneurs do need funding more than mentoring, even though mentoring would probably be helpful too. So maybe a tax relief scheme could include both.

Prince's Youth Business Trust in UK has supported hundreds of thousands of young entrepreneurs since early 1980s. All get a volunteer business mentor as well as financial help (grants/loans). Been replicated around world through Youth Business International http://www.youthbusiness.org/ so can learn from them around mentoring sustainability entrepreneurs.
Julia Binder  Technical University Munich  
As a start: how about moving away from this purely text-based approach in a classroom? It's about creating creative environments, but I have the feeling with all these standardizations in schools and accreditations in universities we are moving in the opposite direction...
Likes: 3

Frederike Falke  TUM  
I think policy should allow for more flexibility in school settings and forms of teaching, allowing for out-of-the-box thinking, community learning, mandatory classes in sustainability and project work to learn practical skills.
Likes: 4

DAVID GRAYSON  Cranfield University  
As moderator for plenary sessions, it has been fascinating to "dip in and out" of the three break-out rooms - just like if I was chairing plenary sessions at a physical conference, I would be popping in and out of each of the break-out rooms to get a feel for the discussions and what topics are energising people. We will be capturing all the insights from the day and sharing afterwards.
Likes: 3

Darren Abrahams  GUEST CONTRIBUTOR  Feet First Coaching and Consult...  
This is Katie in Brighton, she is communicating with Barbara in Uganda about a business they are building together. Projects need to be real or there is no real engagement.
Likes: 3

Giovanna Lastrucci  Cranfield School of Management  
I really like this!!! I think there is nothing more effective that a real and "touchable" approach.

DAVID GRAYSON  Cranfield University  
I strongly recommend http://www.jonathonporritt.com/world-we-made - very readable book by Jonathon on world in 2050 "written" by Alex McKay a secondary school teacher in 2050 and his students!
Likes: 1

Ann Finlayson  GUEST CONTRIBUTOR  SEEd  
I think you need a range of skills to be a mentor for sustainability. The NUS and student Unions are attempting this and my feeling is they needed more mentoring on ESD, change models, behaviour change and evidence of impact. You get a lot of busyness otherwise and little impact. Unlimited is another case study I think of when and why this often does not work.
Taking more of an action research/learning approach and metoring that encourages
reflexivity and understanding your needs and learning
Likes: 2

Elizabeth Dove Dove Consulting
that was supposed to be “behind” piloting classroom ideas.

Simon Pickard GUEST CONTRIBUTOR ABIS - The Academy of Business ...
Again, my sense is that problem-solving will be fundamental to harnessing and maintaining creativity throughout education systems. Analytics, scientific, computing and quantitative skills will retain their value in this era of digitalization and technology-driven change – but not all human problems can be addressed through smart phone apps! As has been noted by various people in the forum already, experiential & action learning should grow in importance, so that students “live” the process of trying to solve wider challenges which affect other people. We should recognize, however, that this poses important questions about curriculum design – and especially how teachers are trained – going forward, not to mention how we can design and resource systemic approaches to give children relevant experience.
Likes: 4

Maarten Van der Kamp Cranfield University
And this might not even require additional resources, just giving time to students/pupils to see how they can build their own resource base to see some ideas through (combining with Elizabeth's point)

Darren Abrahams GUEST CONTRIBUTOR Feet First Coaching and Consult...
By removing the constraints of exam based assessment and switching to self assessment models of self generated projects.
Likes: 4

Emma Macdonald MODERATOR Cranfield School of Management
Darren could you share an example of the grass roots programmes that you've been running in the South?
Likes: 1

Emma Macdonald MODERATOR Cranfield School of Management
Thank you for that great discussion. It’s time for our last question now so let’s move on. Our third and final question of the session:

How can education policy encourage (and not discourage) the natural creativity of children in addressing sustainability challenges?
Likes: 2
Help children take their ideas to scale. Not just do the day's activity but put some resources beyond piloting classroom ideas.

Elizabeth Dove  Dove Consulting

From my experience most educators want to do this and most educational research promotes this but the current education system does not allow this to happen. In my opinion a lot of change would be necessary.

Hannah Thorne  Paragon Interserve

rewarding creativity, innovation and diversity. Give children the possibility to nourish their ideas.

Giovanna Lastrucci  Cranfield School of Management

We could start by taking the policy and teaching focus off 'succeeding in exams and going to University so you get a good career'.

Rachel Collinson  GUEST CONTRIBUTOR  The Green Party

Long term thinking which doesn't end when the bell rings or at the end of term. Challenges can only be fully addressed if the thinking is allowed to continue beyond the artificial full stops created every 80 minutes in the school day.

Darren Abrahams  GUEST CONTRIBUTOR  Feet First Coaching and Consult...

Let them learn and discover through play and experimentation. In the tech world, kids are excited by technology and coding because it's increasingly presented to them in a way they can play and interact with. Gamification has a strong role to play here (pardon the pun). For example, the app that www.internetmatters.org provide to facilitate a conversation between parents and their children has them compete against each other in a game which exploring the issues. They make it fun to learn what is a pretty serious topic at times.

Eric Anderson  GUEST CONTRIBUTOR  BT

Rather than using tax incentives (or effectively tax receipts that could be better spent on other key public services particularly in these austerity times) to incentivise businesses, lets
take a different view that private sector businesses should be responsible corporate citizens and invest in sustainability education. Perhaps it could be linked with their public environmental record (reports) to aid with demonstrating responsibility and organisations that contribute more should be recognised and awarded accordingly.

Rachel Collinson  GUEST CONTRIBUTOR  The Green Party  3:14am
Austerity is an economic fallacy. Private sector businesses won't risk their profits at a time like this, so Governments must. Government should be investing in things that help sustainable businesses grow.

Desiree Fraser  Cranfield University  3:15am
Keeping in mind that these same private sector businesses are also the largest supporters of the public service budget. So to increase there expenses will ultimately increase the public sector budget deficiency.

Gemma Adams  GUEST CONTRIBUTOR  Forum for the Future  3:04am
Looking at the stream of debate, I think what we're saying is that innovation of the education system is, itself required? We're not talking small tweaks here. How could these changes be fostered?

Likes: 4

Emma Macdonald  MODERATOR  Cranfield School of Management  3:06am
That's a great point Gemma. I think this points to our next question.

Stephanie Müller  University Bayreuth  3:10am
I'm thinking about a movement that comes from building new schools that are funded by communities, parents, local governments, and maybe school permaculture gardens or other small actions that could raise money for those schools right at the schools themselves - it seems to me that showing how it CAN be done and then arguing on that base to change policies might work better and faster than discussing and trying to get the perfect policies implemented right away.

Eric Anderson  GUEST CONTRIBUTOR  BT  3:04am
No, I don't see that being effective. Private sectors already engage with entrepreneurs through open innovation schemes. I think the incentives are more around making it attractive and easy for entrepreneurs to engage in these schemes. For example, we run https://www.btplc.com/btinfinitylab/

Likes: 2
What's the difference between mentoring and coaching?

Emma Macdonald
MODERATOR  Cranfield School of Management

What's the difference between mentoring and coaching?

Likes: 1

Alexander Lewis
GlobeScan

Hi Emma, at GlobeScan we had a discussion on this and agreed that these terms (plus training) could be used interchangeable, but that coaching was likely to be short term and on specific terms (with a defined end point), whereas mentoring was longer term and more holistic (with no obvious end point)

Likes: 0

Rachel Collinson
GUEST CONTRIBUTOR  The Green Party

As my coach explained it to me, a coach is trained to enable you to find the answers within yourself and thus build up your confidence, eliminating the internal barriers to innovation and business growth.

A mentor, on the other hand, can only advise based on their own experience. And they are far more difficult to find!

Likes: 0

Rachel Collinson
GUEST CONTRIBUTOR  The Green Party

Coaches are paid by the hour and driven by results and client satisfaction, as it is their source of income. With mentors, you're at the mercy of their time resources which are often lacking.

Likes: 0

Mariale Moreno
Cranfield University

In regards to policy and incentives, I think support to open source education activities/materials that can foster innovation is key.

Likes: 0

Emmanuel Perakis
STREAM

Why should everything be linked with financial incentives? Isn't this giving out the wrong message out that doing the right thing should result a financial result?

Likes: 0
Hongyi Wang  Cranfield University

i think because we could not expect all companies don’t care about financial benefits

Ann Finlayson  GUEST CONTRIBUTOR  SEEed

Why private sector? Where are the skills?
Likes: 3

Emma Macdonald  MODERATOR  Cranfield School of Management

Good point Ann!
Likes: 1

Desiree Fraser  Cranfield University

I support the involvement of the private sector because that’s where innovation will be driven from to a large extent. The public sector and the education institutions are by and large supporters.

Ann Finlayson  GUEST CONTRIBUTOR  SEEed

OK - here is an example. Pearson, one of the largest multinational education companies would like to create Pearson Academies. Why? Because then all the text books and exams will be theirs. The total agenda would be theirs. Where then has the balance, unbiased education of young people gone if we allow this? How different is this from education in a fascist state? What we need is less interference by those with an agenda - politicians, business. It is not about replicating themselves. This is about facilitating the space for new thinking and creativity.

Elizabeth Dove  Dove Consulting

Yikees Ann. Thanks for sharing the Pearson example. So what would a policy look like - or do you have favour existing examples - to create space for new thinking and creativity?

Ann Finlayson  GUEST CONTRIBUTOR  SEEed

We also need to look for scale and scaled up approaches. Remember we all went to school, we probably were all good at it. But what we need now is different from the logical rational approach, Jesuit approach ( give me a child at 7 etc). SEEed has been collecting the evidence of what works as we are trying to raise it above the anecdotal or hype or marketing. Sorry if I have offended anyone but often your programme works because of your passion. It is not
necessarily replicable. We need replicable programmes, methods that do not rely on one person's idea or passion.

Likes: 3

Darren Abrahams  GUEST CONTRIBUTOR  Feet First Coaching and Consult...  3:01am
To replicate programmes resources need to be spent on training facilitators.
Too often a great programme takes off in one place, and then dies because no one is willing to put time or money into training people to take the idea to new locations.
Likes: 1

Emma Macdonald  MODERATOR  Cranfield School of Management  3:08am
Darren, that theme of scaling up a great programme or idea is something we've heard from a number of entrepreneurs.

Emma Macdonald  MODERATOR  Cranfield School of Management  3:08am
There will be a discussion at 2pm UK time (3pm European time) on scaling up if people want to join in.

Emma Macdonald  MODERATOR  Cranfield School of Management  3:09am
What policy suggestions do you have to make it easier to keep the momentum on programmes and help with the transfer of learnings?

Rachel Collinson  GUEST CONTRIBUTOR  The Green Party  3:01am - Delete
Unfortunately no. I was part of a knowledge transfer scheme that offered mentorship as part of the program. Finding the right person to mentor me was really hard and I made the wrong choice. The person concerned took the financial incentive and then disappeared.
Likes: 1
Hannah Thorne | Paragon Interserve
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I think it's an interesting idea but would be worried that the private sector would overlook certain sustainability entrepreneurs. We could have entrepreneurs with great ideas that many private sector businesses would not be interested in.
Likes: 1

Elizabeth Dove | Dove Consulting
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Hmmm... A certain skill set is required to mentor sustainability entrepreneurs. Not all business can pull this off. It might create a cash grab and not very sustainable solutions. Who would decide if the work was sustainable or entrepreneurial?
Likes: 6

Elizabeth Dove | Dove Consulting
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Too bad Rachel - sorry to hear that.
Likes: 1

Emma Macdonald | MODERATOR | Cranfield School of Management
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Rachel that’s a sad story! how CAN we get entrepreneurs the mentors they need then?

Maarten Van der Kamp | Cranfield University
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I would suggest perhaps the other way round - sustainability entrepreneurs and businesses get a benefit if they mentor people from the private and public sectors so as to create more sustainability leaders/thinkers?
Likes: 4

Rachel Collinson | GUEST CONTRIBUTOR | The Green Party
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Again, not Green Party policy, but my own experience... coaching is far more effective than mentoring. Mentors will advise you based on their own experience, but that could lead you to the wrong conclusions for your own situation. Coaches ask the right questions to help you build confidence that you can find your own solution, and give you a safe space to test your own theories about what will work. That is far more empowering.

Elizabeth Dove | Dove Consulting
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The mentors themselves need training. People who are talented or good role models are not all naturally mentors or trainers.
Likes: 3

Simon Pickard | GUEST CONTRIBUTOR | ABIS - The Academy of Business...
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I would prefer to see a more enlightened approach to HEI funding that rewards universities, etc which actively mobilise resources (faculty, IP, seed capital) to...
support innovation clusters / small business development (e.g. Manchester in the UK, Leuven in Belgium)
Likes: 1

Elizabeth Dove  Dove Consulting
Ha! Love it Maarten!

Darren Abrahams  GUEST CONTRIBUTOR  Feet First Coaching and Consult...
Rather than pinning mentorship to financial incentives it is more effective to encourage mentorship for personal developmental reasons. When I work with mentors they are also part of the learning process. Career progression can be enhanced through learning the skills of mentorship within a real world environment
Likes: 2

Rachel Collinson  GUEST CONTRIBUTOR  The Green Party
I agree Simon - that has been foundational to my success in business.

Arnold Smit  University of Stellenbosch Busi...
Through and action research project that have been engaged in we discovered how different the sustainability orientation between private sector institutions and small business entrepreneurs can be. This ideas is therefore easier said than done.
Likes: 1

Maarten Van der Kamp  Cranfield University
I agree Arnold, but maybe this is exactly the challenge that we need to address to build different forms of education that also work on people who are still very much tied to what they were taught in more classical systems?

Sara Sanchez Lopez  Cranfield University
From my experience, when the money appears in the equation, very often people reacts as Rachel's mentor. I am sorry to hear that, not surprise though... The best mentors I had were not motivated by money but by ideas and experience. I am sorry if it sounds too idealistic, but that is my experience so far.
Likes: 1

Darren Abrahams  GUEST CONTRIBUTOR  Feet First Coaching and Consult...
@rachel mentoring has to be a combination of coaching and sharing experience. We think of three different roles within our Learning Community - the teacher,
the student and the mentor. You can inhabit any of those roles depending on the type of questioning you are using and the context in which you are interacting.

Gemma Adams  GUEST CONTRIBUTOR  Forum for the Future  3:11am - Delete
Johnson and Johnson has a brilliant scheme where retired executives coach start-ups and NGOs that the foundation works with. It’s a way for skilled, experienced people from the corporate world to devote considered time to issues that they feel passionate about, at a point in their lives where they have the head space and time to do it. In amongst the question of how we innovate our education system, is how we enable intergenerational knowledge and experience sharing.

Maarten Van der Kamp  Cranfield University  2:57am
With all the focus on fostering innovation, I think there is also a need to focus on building resilience when innovations fail so the sense of empowerment is retained even if a social experiment fails.
Likes: 3

Alexander Lewis  GlobeScan  2:55am
Is there anybody who hasn't had a chance to speak? The conversation is moving very briskly here (which is great!)
Likes: 1

Ann Finlayson  GUEST CONTRIBUTOR  SEEd  2:54am
Anything that mandates a sustainability approach in any educational institution is good. However it can lead to blind alleys and often has - with little change.

If we are looking at encouraging innovation and creativity and engagement in sustainability as a set of competencies then you need a whole institution approach (see the Global Action Programme for UNESCO). SEEd is the only educational Key Global Partner in the UK on UNESCO GAP programme, working on whole institutional approaches. I.e. campus, curriculum and community. Evidence has shown this leads to sustained transformational learning across all aspects of an institutions life.
Likes: 4

Emma Macdonald  MODERATOR  Cranfield School of Management  2:55am
What does this mean in practice, Ann? Can you give us some examples?
So interesting Ann. Will look up more about your org. What are the approaches that you have found have created the most buy-in and participation in the ways your organization would like to see sustainability education? And was the role of policy?

At ABIS we are also trying to understand how HEIs have succeeded in taking sustainability to the institutional level and overcome conventional barriers. As Ann suggests, mandating content inclusion can simply lead to box-ticking and a ton of elective options offered to students, but little is done to innovate in the core curriculum and supporting learning models.

Help me out Simon - what are the HEIs?

HEI= higher education institutions (universities)

Thanks Emma

Simon, I know at ABIS you've reviewed programmes across the globe. What stands out about the programmes that work well?

We've only looked at these superficially, but early indicators are that these programmes take a very interdisciplinary approach, regardless of level. Understanding sustainability – and related business opportunities – means understanding far more than managerial processes around new product and service development, and running a business. It requires a blended grounding in both social and natural sciences, plus aspects of political science, governance, sociology, law and more. New programmes which seek to cover some or all of this field are arguably far better suited to the 21st century than the more conventional MBAs or similar which dominate business education today!
Simon, from what you say we understand that the sustainability challenge is already changing education, or at the direction in which it should go. Sustainability demands collaborative and transdisciplinary approaches to learning.

---

Emma Macdonald  
MODERATOR  
Cranfield School of Management  
2:55am

Sounds good Mariale. And is this a good way to get entrepreneurs involved in education?

---

Mariale Moreno  
Cranfield University  
2:59am

Yes of course, you can learn so much from entrepreneurs. I just also went to the Young Global Entrepreneurs Prize by Unilever last week and the stories of these young people were so inspiring! Worth to say, that some of them quite university to pursue their dream. So we can learn so much from entrepreneurs that is definitely worth getting them involve in education by sharing their stories, but also by involving them in activities with young entrepreneurs to share their experiences and learnings through this process.

Likes: 2

---

Rachel Collinson  
GUEST CONTRIBUTOR  
The Green Party  
3:00am

I really like this!

Likes: 1

---

Frederike Falke  
TUM  
3:02am

I agree, it is not only about educating those in formal programs, but also in informal settings, showing inspiring examples, but also teach the tools to integrate sustainability into our work and life.

Likes: 1
Thomas Osburg  
Fresenius Business School  
3:05am

I agree to the inspiring part - however, this might not be enough. I have seen many entrepreneurs who are stuck in the “invention” phase but have little clue how to scale and bring those inventions to market. Because this is how a true impact is generated and this needs to be linked to school. The inspiration is one side, the knowledge how to build a business is another one.

Andreas Klaey  
University of Bern  
3:07am  ·  Translate

Theory calls for strategic niches for innovation, where are the niches for innovation in the education dominated by the aim to make people fit for economic competition.

Mariale Moreno  
Cranfield University  
3:13am

I am aware many entrepreneurs are stuck in the invention phase and cannot move beyond that phase, but sometimes is because the lack of knowledge and support. We need to foster those skills as well by having clear programme to train entrepreneurs. Here is where policy and resources could help.

Simon Pickard  
GUEST CONTRIBUTOR  ·  ABIS - The Academy of Business ...  
2:53am

We need to do a far better job of educating students to understand, and reflect critically on, macro trends and systemic issues which will increasingly affect their future lives and careers. These may be complex and daunting - but if framed properly, they offer exciting opportunities for personal and professional development. Today’s students will be the champions and leaders of tomorrow’s transitions, and must be encouraged to embrace this role! If mainstream education started to integrate such topics as scenarios & futures, complexity management, innovation systems, circular economy, community & urban development through innovation, people may be better equipped to thrive in their adult lives.
Likes: 3

Palie Smart  
Cranfield SoM  
2:56am

Hi Simon I agree ... but also .. can we leave it all up to state ... what about other social institutions ... family?, religion?
Likes: 2

Hannah Thorne  
Paragon Interserve  
2:53am

I think at a basic level, focusing on problem solving and finding answers instead of being given them in education would drive more innovation.
Likes: 3
Palie Smart Cranfield SoM 2:54am

yes .. more experiential and learning through failure ...
Likes: 1

Andreas Klaey University of Bern 3:24am - Translate

More innovation is not leading to SD

Palie Smart Cranfield SoM 2:52am

Educational programmes that privilege social impact and community engagement as part of the curricula could be beneficial?
Likes: 4

Elizabeth Dove Dove Consulting 2:52am

How can education empower people to feel they can lead anything? Proof! Hands on.
Likes: 1

Emma Macdonald MODERATOR Cranfield School of Management 3:01am

I agree with you Elizabeth because i learn best that way too! But we also need to encompass a range of 'learning styles'.

Arnold Smit University of Stellenbosch Busi... 2:51am

PRME is a good starting point. However, at the moment it is more confined to the domain of business schools. To this you can also add the new direction in which the business school accreditation frameworks such as AACSB and EQUIS are going. I think the point is that programme innovation needs to be embedded in cultural integrity. We have to find ways in which we do deep institutional transformation on a values-based framework so that programmes become the public expression of deep belief systems. Policies might help us find direction, but they are not particularly good at driving sustainable transformation.
Likes: 4

Emma Macdonald MODERATOR Cranfield School of Management 2:50am - Delete

Thank you for that discussion. I'm conscious of time passing, so let's move on to Question 2.

How can education empower people to feel that they can lead sustainable innovation?
Likes: 1

Rachel Collinson GUEST CONTRIBUTOR The Green Party 2:59am - Delete

This is not Green Party policy (yet!), but I think teaching entrepreneurial skills - like the Prince's Trust Young Entrepreneurs scheme and similar initiatives that get young people starting and actually running their own micro-business in school can be tremendously empowering. But this sort of thing is not marked, so students are taught that it is of no value.
**Eric Anderson  GUEST CONTRIBUTOR  BT**

Educating on a social/environmental problem or a topic - in a short and pithy way like a ted talk - can be a great kickstarter to people being more innovative and engaging in problem solving. People like to try and solve problems. We find that challenging our employees around big issues which effect society, and asking for their ideas which we can then run through a Dragon Den type exercise is quite engaging. the dragons award funding and sponsorship to implement the best ideas.

**Alastair MacKenzie  Oxford Innovation**

I also think that time outdoors in nature, with experiential fun learning and sensing of all the myriad ways life sustains itself, provides the ‘soil’ that will allow people to feel motivated and empowered to tackle these issues. Otherwise I fear more talks on the ‘challenges’ can cause people to switch off / experience stress / depression.

**Andreas Klaey  University of Bern**

A starting point would be the awareness to be interrelated and therefor co-shaping the world.

**Emmanuel Perakis  STREAM**

With the risk of getting into a philosochical discussion: people do things because of 2 reasons: (a) logic of consequence-I do something because a certain good will result for me (b) logic or approprietness: I do something because of who I am. The modern education system (and the modern world in generall) focuses on logic (a). Things would be different is it would focus on logic (b).

Likes: 2

**Ann Finlayson  GUEST CONTRIBUTOR  SEEed**

Please see the Common Cause work on motivations!

**Gemma Adams  GUEST CONTRIBUTOR  Forum for the Future**

Where would you make a start with this?
Arnold Smit University of Stellenbosch Business School

I like what you say. Sustainability education has to touch the human mind and the human spirit. We need to find ways to do whole person learning and development.

Emmanuel Perakis STREAM

It's more than education, it's the cultural thinking of who is 'successful' in the modern world. And even though education can support this shift it cannot do it by itself.
Likes: 1

Giovanna Lastrucci Cranfield School of Management

As students we are taught to aim at profit and short term results, we are taught to be competitive and the system itself is still too old and linked to traditions.

No one teaches us to be socially responsible and to think as a community rather than individuals. Additionally, we grow up in a hierarchical system, that strongly affects our perceived effectiveness as individuals.

Education should be more focused on social and environmental responsibility, promoting volunteering activities for instance to introduce students to the issues and to make them aware that their actions are meaningful and helpful.
Likes: 4

Silvia Rossi Tafuri GUEST CONTRIBUTOR Cranfield School of Management

I agree Giovanna - I think at times we think millennials are not interested enough in alternatives to profit and short term results. Maybe we are not that good at making them interested!
Likes: 3

David Grayson Cranfield University

yet increasingly successful businesses like Unilever are looking for leaders with collaboration skills
Likes: 2

Rachel Collinson GUEST CONTRIBUTOR The Green Party

I don't think education should be so prescriptive. We should teach problem-solving and evaluation skills instead, and let students come to their own conclusions about how we can solve the world's problems.
Likes: 2
Darren Abrahams  Guest Contributor  Feet First Coaching and Consult...  2:55am

We use a set of Entrepreneurial Attributes to embed these qualities within students and allow them to demonstrate them in ways that are meaningful to them.

Gemma Adams  Guest Contributor  Forum for the Future  2:57am

One of the questions we’re exploring through Forum’s leadership programme is how we can enable this in ways that also help people to feel connected. People driving change can get burned out and can feel alone and over-whelmed. The more we encourage personal agency, the more we need to innovate the right support systems. Driving change is both inspiring and knackering!
Likes: 2

Gemma Adams  Guest Contributor  Forum for the Future  3:01am

Giovanna, like your point about millennial generation. Can’t help but think there’s a link between that and current job market. Have you seen Collectively: initiative funded by big brand comms budgets that wants to engage this community to collaborate around ‘passion points’ where personal and planetary issues intersect e.g. one area of interest is cooperative models for living in response to the challenge of getting on the housing ladder.

https://collectively.org/
Likes: 1

Mariale Moreno  Cranfield University  2:50am

Hi everyone. I just participated yesterday in a workshop with the Ellen MacArthur foundation in where we are helping them to develop 10 exemplars to inspire educators to integrate circular principles in their teaching/development programmes. The lessons that I learned from the workshop yesterday were that we need to provide learning tools that are engaging and disruptive. What we know, or we consider that works in all types of education for decades is not enough to inspire people in the circular/sustainable agenda. Providing a learning experience is what could foster a radical change in education. But how we could provide that learning experience? By making it real to what matters to the different audiences that you want to educate. Talk to them in their language, and use creative tools, activities, games, etc. to foster a conversation. Feedback is also important, without feedback the learning cycle is not complete.
Likes: 5

Elizabeth Dove  Dove Consulting  2:49am

So here is part of the challenge with mandatory volunteering: the province of Ontario students need 40 hours of “volunteering” to complete secondary school. External research to date on this 10 year + education policy shows that for students who would not have otherwise volunteered, many are jaded about volunteering. Many cheat (e.g. got uncle to...
sign the form). Part of the problem is pedagogically obvious: there is no context. Students are on their own to figure out their opportunity with no teacher support apart from the guidance counsellor giving a list of charities and it has to be outside of class hours when most charities are closing up. The "education" here is almost anti-education.

Likes: 2

Rachel Collinson  GUEST CONTRIBUTOR  The Green Party  2:52am
Oh dear, how dreadful! Sounds like national service... something the UK is trying to bring back... it will have terrible unintended consequences like this.

Alexander Lewis  GlobeScan  2:54am
Hi Elizabeth, here in the UK the Prime Minister suggested (in his party's election manifesto in fact) that everyone should be entitled to three days a year. Interesting, and relevant, concept

Darren Abrahams  GUEST CONTRIBUTOR  Feet First Coaching and Consult...  2:54am
I don't have a problem with the idea of national volunteering service, but it needs to come out of a long term context of social action throughout school life, rather than something tacked on at the end

DAVID GRAYSON  Cranfield University  2:59am
One institution which seems to have successfully introduced mandatory service element before you can get your degree is La Rochelle business school - very well integrated into its community http://www.esc-larochelle.fr/eng/The-School

DAVID GRAYSON  Cranfield University  3:01am
http://www.esc-larochelle.fr/eng/Areas-of-expertise/Sustainable-Development-and-CSR/Institute-for-Sustainability-through-Innovation

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Likes: 2

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Add a tag

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Add a tag

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DAVID GRAYSON  Cranfield University  3:01am
http://www.esc-larochelle.fr/eng/Areas-of-expertise/Sustainable-Development-and-CSR/Institute-for-Sustainability-through-Innovation

Add a tag

Julia Binder  Technical University Munich  2:49am
I think education goes beyond a school or university setting. If we want to foster sustainable innovations and in the long run transitions to sustainable societies, we need to take a broader look at society, including those who have left school/university some time ago. I agree that this is an educational challenge, but I think we have the possibilities, if we think about digital technologies for example...

Likes: 5

Add a tag
Desiree Fraser  Cranfield University  2:51am
I fully support this. I am extremely concerned about reaching the informal sector

Rachel Collinson  GUEST CONTRIBUTOR  The Green Party  2:52am
We need to value life-long education and make it more accessible to people especially financially.
Likes: 1

Emma Macdonald  MODERATOR  Cranfield School of Management  2:53am
Yes Julia i agree. What can be done to empower an ordinary person with great ideas?

Stephanie Müller  University Bayreuth  2:47am
Just a short organisational question: Will I be able to re-read this discussion in the days coming up? Since I need to leave now. Thank you :)

Alexander Lewis  GlobeScan  2:51am
Hi Stephanie, the forum will be open for comments for another 2 hours after the moderated discussion ends and you can return to read the discussion indefinitely.

Alexander Lewis  GlobeScan  2:46am
Here’s a handy graphic to display PRME! Enjoy!
Likes: 4

Emma Macdonald  MODERATOR  Cranfield School of Management  2:48am
Thanks Alex. The mission of PRME is to transform management education, research and thought leadership globally, based on the Principles for Responsible Management Education and the United Nations’ Sustainable Development Goals
Likes: 1
Hongyi Wang  Cranfield University  
the point is how to measure them

Hongyi Wang  Cranfield University  
will this policy bad for normal innovation?

Simon Pickard  GUEST CONTRIBUTOR  ABIS - The Academy of Business ...  
2:46am
With regard to Alex’s chart - it’s all good and well that we focus on student skills, but this is relatively meaningless if we overlook the new skills that teachers throughout education systems / institutions will need to be able to deliver them...
Likes: 5

Lisa Ruetgers  Utonomy Ltd  
Well, there could be an obligatory course all teachers have to do, inline for example

Eric Anderson  GUEST CONTRIBUTOR  BT  
Agree - its not just the students who need support, but the teachers and in the case of children, the parents too.
Likes: 1

Darren Abrahams  GUEST CONTRIBUTOR  Feet First Coaching and Consult...  
2:52am
We do very little support practitioner growth in this country. On average teachers get about 6 days of CPD, most of it dictated by the needs of the school

Emma Macdonald  MODERATOR  Cranfield School of Management  
2:45am
Thanks for this discussion. How can we generate a policy suggestion out of this? What about this one:

Policy idea #1: Funding for higher education institutions should be more dependent on compliance with programmes like PRME (Principles for Responsible Management Education).

Do you think this would be an effective policy?
Likes: 3
Rachel Collinson  GUEST CONTRIBUTOR  The Green Party
I think it would. It's far more effective, certainly, than current UK proposals in the Higher Education and Research Bill which prioritise funding for those Universities whose students find jobs. This will utterly stifle innovation and risk-taking when it comes to sustainability, unless we have a business culture that values sustainability over short-term profit.
Likes: 1

Darren Abrahams  GUEST CONTRIBUTOR  Feet First Coaching and Consult...
It makes me nervous to impose more policies on schools. I think half the problem with education at the moment is the proliferation of centralised policies, leaving little room for locally sourced, context driven innovations.
Likes: 3

Lisa Ruetgers  Utonomy Ltd
There is this TED talk of 2 girls, who are going to an eco-school in Bali, a normal school that also teaches sustainability issues. These girls came up with an innovation in sustainability: they wanted to ban plastic bags and committed to this project over years, did not give up their fight. They had the idea to this project, because of their eco-education: https://www.ted.com/talks/melati_and_isabel_wijsen_our_campaign_to_ban_plastic_bags_in_bali?language=en
Likes: 1

Rachel Collinson  GUEST CONTRIBUTOR  The Green Party
Eco-education is so important. I still remember a class I had when I was 7 where we looked at energy efficiency in school, and monitored when lights were left on. This was so foundational to my life as you can see from my bio!
Likes: 3

Eric Anderson  GUEST CONTRIBUTOR  BT
Taking ownership as a student is important yes, but when it comes to children’s learning we find that teachers and parents obviously have a very important role too.
For example, improving understanding of how to stay safe online is a triangle of learning between teachers, children and parents. All of these audiences need to lean in on the issue for understanding to be raised up. Focussing on one audience above another will not be so effective.
Likes: 4

Lisa Ruetgers  Utonomy Ltd
And kids will influence their parents. So if kids learn sustainable behaviour and why it is important, they will automatically teach / confront their parents with their learnings and thus influence the behaviour / thinking of their environment
Likes: 2
Darren Abrahams  GUEST CONTRIBUTOR  Feet First Coaching and Consult...  2:47am

Teachers and parents need to be part of the educational process - ie learners themselves

add a tag

Alexander Lewis  GlobeScan  2:43am

Hi all, what are our thoughts on the attached education flow chart? Are we falling short on points 6 and 16 in particular?

add a tag

Rachel Collinson  GUEST CONTRIBUTOR  The Green Party  2:46am

The English system is falling behind on everything except points 1-3... it is very worrying.

add a tag

Eric Anderson  GUEST CONTRIBUTOR  BT  2:46am

We're deffinitely falling short on 4: tech literacy. BT has a big focus on this, with an aim to build the tech literacy of 5million young people in the Uk by 2020. see 
http://home.bt.com/tech-gadgets/computing/tech-literacy-01364001134021? s_cid=con_FURL_BTcom_techliteracy

add a tag

Gemma Adams  GUEST CONTRIBUTOR  Forum for the Future  2:47am

Absolutely. How about 'leadership'? Nilofer Merchant gave a brilliant presentation at Oui Share last week about the need to move away from the 'lone hero' leadership myth to recognise the power and value of collaboration.

Does our notion of leadership need to evolve?

add a tag

Susan Wright  Earth Island Publishing  2:47am

Unfortunately, I don't think it is just 6 and 16 that we fall short on!

add a tag

Gemma Adams  GUEST CONTRIBUTOR  Forum for the Future  2:51am

Where would you place the emphasis based on your own experience? Or is it the whole lot!

add a tag

Emmanuel Perakis  STREAM  2:53am

Both 6 and 16 are so fluffy they would fall short anyway...
Gemma Adams  GUEST CONTRIBUTOR  Forum for the Future  2:42am
That's interesting. I've been reflecting on what we really mean by ‘empowerment’ and that's definitely one dimensions. One of my colleagues at Forum has recently embarked on a self-curated, work-based (non-accredited) course called enrolyourself - which is exactly what you’re suggesting.

http://www.enrolyourself.com/
Likes: 2

Emma Macdonald  MODERATOR  Cranfield School of Management  2:43am
Gemma is this a form of non-formal education?

Emma Macdonald  MODERATOR  Cranfield School of Management  2:43am
That's interesting. I've been reflecting on what we really mean by 'empowerment' and that's definitely one dimensions. One of my colleagues at Forum has recently embarked on a self-curated, work-based (non-accredited) course called enrolyourself - which is exactly what you’re suggesting.

http://www.enrolyourself.com/
Likes: 2

Darren Abrahams  GUEST CONTRIBUTOR  Feet First Coaching and Consult...  2:46am
I run a programme in schools which looks at different outcomes for education. For me "empowerment" is around the ability to self manage. The outcome of school should be the Self Managed Learner, someone who is both independent and interdependent and can regulate themselves physically, mentally and emotionally

Likes: 2

Gemma Adams  GUEST CONTRIBUTOR  Forum for the Future  2:50am
Yes, it is a form of non-formal education. It wouldn't need to be. in fact, Zahra (my colleague) would like her initiative to be recognised. At present, the facility for that doesn't exist. I think 'self-management' is important too - really like that framing. I guess if you go down that route, then a person's values become increasingly important i.e. the fundamental goals that orientate you as an individual become vitally important? Keen for your thoughts on this.

Desiree Fraser  Cranfield University  2:41am
I believe education should be considered in a formal and informal context to include persons in formal areas of learning and those who are already in business

Likes: 1
Silvia Rossi Tafuri  |  GUEST CONTRIBUTOR | Cranfield School of Management  |  2:41am
I think as an educator I had extremely positive experience in a. getting practitioners in the class b. getting students outside the class.
I lead a module on Humanitarian Logistics and Supply Chain resilience. I regularly invite Mr Chris Weeks from DHL Humanitarian Affairs to train my students on managing a warehouse in an emergency situation (after a flood, an earthquake etc.). It is the same training DHL people get before being deployed after a disaster. Extremely positive outcome from the experience.
This year I brought my student (on a voluntary basis) to help a charity in the UK sorting second hand donation to be shipped to refugees in EU and beyond.
All in all, I think as educators we should be braver in communicating students there is a different way, there is always a different way! It might be more challenging than just sticking to the know, but way more rewarding.

Likes: 7

David Grayson  |  Cranfield University  |  2:42am
Great example of combining robust academic analysis with engaging real-world, topical examples!

Rosina Watson  |  Cranfield University  |  2:42am
It would be great if schools has access to information on volunteering opportunities for children and made volunteering trips as common as geography field trips!
Likes: 1

Darren Abrahams  |  GUEST CONTRIBUTOR | Feet First Coaching and Consult...  |  2:42am
Real world experience is key. To understand sustainability you need to experience it in a context where your actions make a difference
Likes: 3

Rachel Collinson  |  GUEST CONTRIBUTOR | The Green Party  |  2:44am
We are hampered in this by a policy culture that is anti-risk... health and safety risk assessments of taking children to a charity shop for example. Teachers need more time and freedom to deviate from lesson plans and rigid curricula and broaden their students’ minds. Not having to teach to the test.
Likes: 1

Silvia Rossi Tafuri  |  GUEST CONTRIBUTOR | Cranfield School of Management  |  2:45am
It is indeed Darren - and I could see how their thoughts evolve and are more critical. One thing they also always love is when I tell them my own experience in developing countries with pictures I took and the emotions they get from it.

Silvia Rossi Tafuri  |  GUEST CONTRIBUTOR | Cranfield School of Management  |  2:46am
Rachel, that s so true!!! I wanted to propose a trip to Calais to see first hand what I had seen there and the bureaucracy related to it made me change my mind, I must be honest.
Emmanuel Perakis STREAM 2:40am
Theory is important (why one should think more long term, behave responsibly etc.), but I think what makes the difference is to show examples of how making the right choice in ethical dilemmas faced in the corporate world does make a difference, so practical examples of people who did this is critical
Likes: 4

Rosina Watson Cranfield University 2:41am
Good idea - I think children need to be exposed to real world examples / role models
Likes: 2

Emmanuel Perakis STREAM 2:44am
And not only success stories, but also realistic failures

Rosina Watson Cranfield University 2:40am
Making children believe that they can make a difference in meaningful (not just by being famous) ways and are not just a cog in a big wheel. I think we need more role models - sustainability entrepreneurs with YouTube channels and Twitter followings?
Likes: 4

Susan Wright Earth Island Publishing 2:41am
Good idea

Maarten Van der Kamp Cranfield University 2:42am
But that also means being able to help students/pupils to see through their vision rather than cutting it down at the stage of assessment.

Elizabeth Dove Dove Consulting 2:40am
Where is Freire when we need him Hannah
Ann Finalyson, your SEEd charity is focused on sustainable education. What do you think is required of a programme that empowers individuals to take action?

Likes: 1

Eric Anderson  GUEST CONTRIBUTOR  BT  2:39am
Morning everyone. Our experience of running various different education oriented programmes leads us to take an approach which recognises the wider context of the audience, and to try and understand the challenges from their perspective first and foremost before designing an intervention.

What kinds of programmes are those Eric?

Emma Macdonald  MODERATOR  Cranfield School of Management  2:41am

What kinds of programmes are those Eric?

Emma Macdonald  MODERATOR  Cranfield School of Management  2:53am
We've done a number of them over the years. For example around helping people get online and overcome the digital divide. Many of the learnings are captured in downloadable guides and factsheets at http://www.btplc.com/Purposefulbusiness/Connectivity/Helppeoplegetonline/index.htm

But current programmes we have that spring to mind are around tech literacy of primary school children, internet safety, and helping young people be prepared for the world of work. See http://www.btplc.com/Purposefulbusiness/Education/index.htm

Ann Finlayson  GUEST CONTRIBUTOR  SEEd  2:39am
Good morning everyone - looking forward to answering your questions and sharing good news

This has been researched and practiced over 25 years and globally. The UN Decade for ESD found some common good practice.

The key methods are:
- action learning/research for all learners and educators
- socially critical thinking
- social learning (ie across ages and interest groups)
- understanding change
- systems thinking

This is a constructivist approach, ie encouraging learners to construct their own understandings and solutions. This is a major shift in the way we currently practice education.

Likes: 6
Emma Macdonald  MODERATOR  Cranfield School of Management  2:40am
Thanks Ann, you must have read my mind!

Darren Abrahams  GUEST CONTRIBUTOR  Feet First Coaching and Consult...  2:41am
It also needs to be long term and consistent. Too many sustainability projects last for a day or a week and then disappear into "normal" school
Likes: 2

Emma Macdonald  MODERATOR  Cranfield School of Management  2:44am
Darren could you elaborate on this?

David Grayson  Cranfield University  2:39am
so sustainability education needs heavy doses of practical change-management tips and techniques? Robust Theories of Change models!
Likes: 2

Rachel Collinson  GUEST CONTRIBUTOR  The Green Party  2:42am
That's a good idea. We need a change towards soft skills - working successfully in a team, achieving organisational change, getting things done when people are against you, motivating people, psychology etc... none of this is prioritised in curriculums where it's all about individual achievement.
Likes: 1

Emmanuel Perakis  STREAM  2:43am
If I recall well a Harvard study conducted indicated that obly about 1/3 of change programs succeed on time, on budget etc. (not restricte dto sustainability) and thats because we dont apply a robust change methodology. In the case of sustainability that % is probbaly higher because certain aspects required to manage change are not elaborated

Darren Abrahams  GUEST CONTRIBUTOR  Feet First Coaching and Consult...  2:39am
Instilling a sense of agency in students is paramount to encouraging any long term action. Currently school leaches agency from students in the rush to conform to government statistics. Today's education system is a dictatorship of grades expectations which hampers students and teachers alike
Likes: 2
Rachel Collinson  GUEST CONTRIBUTOR  The Green Party
Yes! Agree so much it hurts.

Simon Pickard  GUEST CONTRIBUTOR  ABIS - The Academy of Business ...
Rachel is spot on in terms of the obsession with quantitative performance in the UK - something which also can be seen in many other EU countries, sadly
Likes: 1

Rachel Collinson  GUEST CONTRIBUTOR  The Green Party
Thank you.

Lisa Rueters  Utonomy Ltd
Sustainability should be a class like maths, taught from the first grade to the A-levels, including different focus during the years, with the development of innovations, innovative ideas being "exams"
Likes: 3

Rachel Collinson  GUEST CONTRIBUTOR  The Green Party
Doesn't this prevent joined-up thinking? But I like innovative ideas being exams - that's great.

Hongyi Wang  Cranfield University
sometimes student might don't like everything in the exams... like i don't like math....

Rachel Collinson  GUEST CONTRIBUTOR  The Green Party
Here is a nice quote...
Likes: 1

Susan Wright  Earth Island Publishing
And it has to start from the very beginning of the learning experience. Catch 'em young and they have the right ideals for life! Hopefully!
They already have the right ideas - they are all concerned about global problems from an early age and their sense of disempowerment.

Simon Pickard  
GUEST CONTRIBUTOR  ABIS - The Academy of Business ...

Pyramid in terms of increasing specialisation as you move through the education system (national exams, degree qualifications, etc). Ken Robinson articulates this wonderfully well in his famous TED talk from 2006 @ education and creativity: https://www.ted.com/talks/ken_robinson_says_schools_kill_creativity?language=nl

Rachel Collinson  
GUEST CONTRIBUTOR  The Green Party

The Scottish education system is far better at this than the English.

Ann Finlayson  
GUEST CONTRIBUTOR  SEEd

Ken Robinson - does outline an education system and pedagogy that fits with education for sustainability

Rachel Collinson  
GUEST CONTRIBUTOR  The Green Party

This is ironic - the UK provides us with the best counter-example possible.

There has been a change in policy towards testing, fact-based learning and recall. These are the exact opposite skills from those needed to innovate!

We need to be teaching whole-life skills, critical thinking, understanding, ability to evaluate and de-compartmentalise. We need to break out of this mindset that teaches to the test. Students should be rewarded for original thought.

Likes: 5

Elizabeth Dove  
Dove Consulting

Start with context. Help students understand the integration of systems. Don't just dive into the benefits of doing a play for Earth Day. And show them examples of how young people can and do make a difference.

Likes: 5

DAVID GRAYSON Cranfield University

so we need profiles of young entrepreneurs and social entrepreneurs who are successfully improving social and environmental conditions

Likes: 1

Rosina Watson  
Cranfield University

How about something like the Young Enterprise Scheme in the UK but focused on sustainability?
Hi all, as has been mentioned by Emma, please do remember to vote in the poll in the top right.

Sometimes I prefer to see sustainability artwork than simple slogans.. they are really boring in my country China... is that possible to setting up some art & sustainability related program to support that?

I think our guest Darren Abrahams might have some suggestions here...

Sorry - I jumped the gun! Comments below still apply, however :)

I don’t think education programmes do as much as they could to empower people generally, let alone when it comes to sustainability. I suggest people being educated need to feel more ownership of their education.

Ok everyone, here’s our first question for discussion:

How can education programmes encourage a sense of empowered positive action when it comes to sustainability?

With sustainable development we have embarked on leading and managing a transition across the whole of our society. There is therefore aspects of education that will still reflect where we are coming from whilst we at the same time will have to work vigorously on developing transformative alternatives for the future. This will require from educators to believe in sustainability as future imperative, from educational institutions to be embedded in sustainable practices, and from educational policy-makers to bring curriculum development and educational infrastructure in line with such an orientation.
Gemma Adams  GUEST CONTRIBUTOR  Forum for the Future  2:44am - Delete
What would you say 'sustainable practices' are? Are you talking about embedding/ integrating environmental considerations or is there something more?

Emma Macdonald  MODERATOR  Cranfield School of Management  2:34am - Delete
Ok everyone, here's our first question for discussion:

Hannah Thorne  Paragon Interserve  2:39am - Delete
I don't think education programmes do as much as they could to empower people generally, let along when it comes to sustainability. I suggest people being educated need to feel more ownership of their education.
Likes: 3

Arnold Smit  University of Stellenbosch Busi...  2:42am - Delete
With sustainable development we have embarked on leading and managing a transition across the whole of our society. There is therefore aspects of education that will still reflect where we are coming from whilst we at the same time will have to work vigorously on developing transformative alternatives for the future. This will require from educators to believe in sustainability as future imperative, from educational institutions to be embedded in sustainable practices, and from educational policy-makers to bring curriculum development and educational infrastructure in line with such an orientation.

Gemma Adams  GUEST CONTRIBUTOR  Forum for the Future  2:44am - Delete
What would you say 'sustainable practices' are? Are you talking about embedding/ integrating environmental considerations or is there something more?

Simon Pickard  GUEST CONTRIBUTOR  ABIS - The Academy of Business ...  2:34am
A few initial thoughts to kick off with: I believe that we need a more holistic, philosophical view of the purpose that education systems will serve in the 21st century. Our traditional pyramid models based on narrow specialization may well be outdated. Finding solutions to sustainability challenges will require new sets of collective, creative problem-solving skills,
for sure, as well as increasing students' ability to think reflectively and critically about deep changes happening in the world around them (globally or locally). But education should also strive to deepen students' understanding of their responsibilities as citizens and community members, and try to develop key shared values such as empathy, compassion and purpose. Not necessarily qualities that emerge through conventional education approaches today! But if successful, these will hopefully define the human side of innovation in the years to come.

Likes: 6

Rachel Collinson  GUEST CONTRIBUTOR  The Green Party

YES!

Emma Macdonald  MODERATOR  Cranfield School of Management

Hi Simon, what do you mean by a pyramid?

DAVID GRAYSON  Cranfield University

BSR defined a set of leadership competencies for sustainability in 2012
Would be good if biz schools embedded them in how they teach leadership

Maarten Van der Kamp  Cranfield University

Hi Simon, I think you're right in building a broader skill set and competence base, but I think it also should include a much more critical look at current systems and institutions, i.e. questioning what goes on in society. This of course poses a real challenge for educators in that conventional systems of teaching and feedback are inadequate for this...

Gemma Adams  GUEST CONTRIBUTOR  Forum for the Future

Agree. That narrow specialisation you talk about isn't just a way of organising things, it also shapes how we think. We think in boxes, in terms of direct cause and effect and in a linear fashion. I think we need a shift towards system thinking and recognising and embracing complexity. We've developed a skills matrix for the Forum Leadership Programme that starts to articulate the capabilities for doing this.

Akinola Soname  Cranfield University

Whatever we come up with, developing countries must not be left out because they constitute an overwhelming 161 countries out of 196 the world over. I think education is key. Infrastructure to educate effectively is key to all of these. So, the curriculum must factor in 3rd world and developing country
idiosyncrasies.

Emma Macdonald  MODERATOR  Cranfield School of Management  2:34am
Please vote in the poll on the right hand side of your screen to let us know your views.

Rachel Collinson  GUEST CONTRIBUTOR  The Green Party  2:34am
It's not looking good for innovation right now. eek
Likes: 1

Rachel Collinson  GUEST CONTRIBUTOR  The Green Party  2:34am
I wish we could tell which country votes are from!

Darren Abrahams  GUEST CONTRIBUTOR  Feet First Coaching and Consult...  2:34am
Good morning everyone

Emma Macdonald  MODERATOR  Cranfield School of Management  2:33am
Hi Simon and everyone else!
I will prompt you a couple of times along the way to vote on some policy ideas which our research team has identified. As well as voting on these please add any comments and upload any pictures you have that you think might be helpful to the discussion. If you have any links or documents to post perhaps add these towards the end of the hour so that people can go away and look at these afterwards.

Rachel Collinson  GUEST CONTRIBUTOR  The Green Party  2:33am
Morning! Looking forward to this discussion.

Silvia Rossi Tafuri  GUEST CONTRIBUTOR  Cranfield School of Management  2:33am
Good morning everyone
Likes: 1
Emma Macdonald  MODERATOR  Cranfield School of Management  2:32am
Thank you very much for joining the discussion and of course thank you to all of our participants! Our guests and participants come from a range of sectors and roles, including commercial, government, not-for-profit and entrepreneurial. Between us we represent a diversity of perspectives on the topic of education and sustainability innovation.

The way this hour will work is as follows: I have three broad questions to put to everyone that has joined our virtual discussion today. All please do jump in and contribute your views, ideas, experiences, examples and questions as we go along.
Likes: 3

Simon Pickard  GUEST CONTRIBUTOR  ABIS - The Academy of Business  2:32am
Good morning, Emma, and good morning to all...

Emma Macdonald  MODERATOR  Cranfield School of Management  2:31am
Welcome everyone. First of all, I'd like to welcome our guest contributors:

Ann Finlayson, Executive Chair, SEEed, a charity focused on sustainability and environmental education;

Darren Abrahams, artist, entrepreneur and Director of the Starr Trust charity;

Eric Anderson, Group Strategy at British Telecom, tasked with stakeholder engagement for responsible and sustainable business;

Gemma Adams, Senior Sustainability Advisor, Forum for the Future;

Rachel Collinson, Spokesperson for Business, Innovation and Skills, The Green Party, UK;

Silvia Rossi, Lecturer in Humanitarian Logistics, Cranfield School of Management;

Simon Pickard, Director of International Programmes, The Academy of Business in Society, Brussels.
Likes: 3

Emma Macdonald  MODERATOR  Cranfield School of Management  2:29am
Hello everyone and welcome to the Sustainability Innovation Exchange. Thanks for joining us.

Education is of vital importance for encouraging individuals to trust that their actions and their creativity can lead to a sustainable future. How can education programmes develop the sustainable innovators of the future? What needs to be done at all levels of education?
Likes: 3

Susan Wright  Earth Island Publishing  2:32am
I think half the problem is that sustainability is seen as a cost, certainly in business, rather than a valuable benefit. This needs to be redressed and the only way to do that is through education. I think there is a lot of misunderstanding!
Hello everyone and welcome to the Sustainability Innovation Exchange. Thanks for joining us.

Education is of vital importance for encouraging individuals to trust that their actions and their creativity can lead to a sustainable future. How can education programmes develop the sustainable innovators of the future? What needs to be done at all levels of education?

Hi everyone, thanks for joining the event. This session will start at 10.30am UK/11am Central Europe time (right after the Plenary at 10am UK /11am Europe).

In the meantime, please do watch the introductory video: https://www.youtube.com/watch?v=njpBHn9YbRI

And take Cranfield's pre-event survey here, if you haven't already: https://cranfelduniversity.eu.qualtrics.com/jfe/form/SV_0HTyFN62ql2STGt

Folks, this pre-survey is not the same as the 1-page registration form you filled in! It's only 3 minutes long & is really extremely important to us! Would you mind filling it in if you haven't already, before proceeding with the conversation? Thanks! Hugh

The education system in my country is developing the sustainability innovators of the future

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The Green Party
United Kingdom

Director International Programmes
Brussels, Belgium

Senior Consultant, Group Strategy
London, United Kingdom

SEEd
United Kingdom
Session Moderator

Emma Macdonald
Associate Professor, Cranfield School of Management
Cranfield, United Kingdom

29 Members in Session

- Brett Stewart
- Christine De Groot
- Rosina Watson
- Alexander Lewis
- Veronica Heaven
- Mariale Moreno

Most-Liked Comments

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<th>Comment</th>
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<tr>
<td>Silvia Rossi Tafuri: I think as an educator I had extremely positive experience ...</td>
<td>7</td>
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<td>Eric Anderson: At my children's school, I see excellent teaching that seek ...</td>
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<td>Hugh Wilson: Isn't the framing of business studies and univer ...</td>
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Appendix 3 - Policy principles and recommendations: Summary of WP inputs and participants feedback
Policy principles and recommendations
Summary of WP Inputs and participant feedback

Rosina Watson, Kristian Roed Nielsen, Louise Armstrong

General Assembly 8th January 2016
General comments

- Do all of us use the same definition of “sustainable” and “user innovation?”
- Policy recommendations should acknowledge the notion of pathways to sustainability, as we don’t know future technologies yet. Therefore they need to remain flexible and to be adjusted frequently.
- Do all recommendations need to be addressed to policy-makers. Can we address them to business associations?
WP1 Policy principle: Foster entrepreneurship

Manifesto statement

• Foster Entrepreneurship in a comprehensive way (political, institutional, cultural, etc.) taking into consideration the multifaceted Status-quo of the innovator and start-up-scene across the different European countries.

Explanation

In our perspective, user driven Entrepreneurship is not a generic term but follows the logic of Entrepreneurship in general. The critical process of turning the invention into an innovation proves to be a more general entrepreneurial challenge. Consequently, the most prominent group of sustainability innovators are obviously Entrepreneurs (most of them small and medium).
WP1 Policy principle: Foster entrepreneurship - Post-it notes

- What if the most impactful innovators for sustainability don’t further economic growth or competitive advantage? How can public authorities stimulate innovation that challenges the paradigm?
- How to change the way the world sees entrepreneurs? Make social entrepreneurs the “heros” for our children and for our governments so that social/sustainability entrepreneurship is seen as a viable career options. Needs a communication campaign to change attitudes.
- How can we foster norms, cultures, institutions in which the conventional entrepreneur is pushed towards sustainable action?
- Education: Encourage sustainable DIY – it would teach innovative attitude (you do not need to be entrepreneur in order to develop sustainable innovation)
- Money does not grow on trees; supporting too many failures to find the last useful innovation vs limiting loss but possibly missing the new big potential is a delicate balance.
- Image recommendations tie nicely into the need for representation from WP4.
- Sustainability is not (yet) as cool as a new Ferrari; how to make sustainable success “sexy” for young people to establish as possible life goal.
- Important to take the cultural diversity into account. Lots of work needed in specifying what this means / how it’s implemented.
PR1: Regional and national governance structures should empower entrepreneurial individuals

Regional and national governance structures should empower Entrepreneurial individuals to pursue their innovative approaches. This includes strategy and implementation consulting, access to (local) financial means, removal of administrative burdens etc.

Workshop participants as well as interview partners frequently point at (sometimes unintended) burdens of national regulations on (especially small and medium) entrepreneurs. This also seriously impacts their ability of Sustainability innovation.

More about this recommendation:

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<tr>
<th>Type of recommendation: A</th>
<th>A) An improvement to existing policy</th>
<th>B) A novel policy instrument or tool</th>
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<td>Interview partners, national workshops</td>
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Type of policy: Stick, carrot, sermon, other
PR1: Regional and national governance structures should empower entrepreneurial individuals - Post-it notes

5 GREEN ticks

• “Ethical acting entrepreneur”
• Is it more important to educate young people @ issues and values / responsibilities as citizens within communities?
• What about sustainable lifestyles as the framing context?
• Are we only focusing on young people?
• Picture of entrepreneurs is positive! Do you have different empirical results?
• Find a legal framework as best practice (e.g. in which country does it work)
• To empower citizens to participate in dialogue on sustainability
• Create rules for partnerships (PP partnerships) local government – local sustainable entrepreneurs
• Yes – improve governance (by liberating….)
• That should be strongly aligned with existing organizations
PR1: Regional and national governance structures should empower entrepreneurial individuals - As presented

Regional / national structures (a long term policy recommendation)
• Careful analysis of the situation of sustainability entrepreneurs in different European regions and the corresponding social need
  • Subsidiary-isation
• Benchmarking across European regions
  • Learn from best practices what structures support entrepreneurship
• Training programme for policy advisors for implementing sustainability goals
  • Policy that can learn and adapt
• Challenge: making sustainability cool
• Challenge: integrate “conventional” entrepreneurs into sust. Agenda

• Don’t forget Schumpeter’s rule of ‘creative destruction; killing ideas is a good thing
• We need a generation of people who can translate results of scientific research into policy language, e.g. training programmes to facilitate this.
PR2: Remove cultural barriers to user-entrepreneurship

Cultural barriers to (user-) Entrepreneurships starting at early stages of education continuing in academia, media reports etc. should be removed. Sustainability orientated persons may be hindered from pursuing an Entrepreneurial career if this seems to imply that they have a lower degree of dedication to general ethical goals. Therefore, integration of (user-) Entrepreneurship into teaching materials on all educational levels plays an important role.

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<td>Stick, carrot, sermon, other</td>
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PR2: Remove cultural barriers to user-entrepreneurship - Post-it notes

5 GREEN ticks; 3 RED ticks

- EDUCATION: The question for me is: How do we stop our brightest students from going into finance and direct them to sustainable entrepreneurship (incentives?)
- There is a systemic problem in our educational systems that do not intend to raise people with an entrepreneurial mindset. Not just missing as a subject
- What would Europe-wide education for sustainability look like? Is there value in committing to this across Europe across schools and higher education – to influence ‘digital native’ generation?
- Certain institutions more hinder than encourage creative thinking – “freshen up” these institutions
- Move beyond ‘hero entrepreneur’ image – who are the ‘collective entrepreneurs’ that should be the new role models
- Maybe we need to be careful with the label of ‘entrepreneur’ in academia. Maybe having such a label puts off those who don’t see themselves as “entrepreneurs.” Link to WP5 and rec 2 and 3
- Do we necessarily need equally good conditions for user-driver entrepreneurship across all EU regions? Can it not simply be something that some regions are better that than others (e.g. a “user valley”)
- MOOCs. Challenge to change or add to the formal education (school) syllabus! Education does not appear to radically change consumer behaviour – will it change this?
- Education is important to make the population able and open for doing / trying to innovate
- Good – need to use existing channels
- Very good – will there be a re-bound effect where sust entrepreneur thinks it is NOT for profit
Focus on education (a short term policy recommendation)

- Invite local sustainable entrepreneurs into schools as role models / heroes.
- Teach entrepreneurial history of Europe in a more balanced way. See www.InventingEurope.eu
- We need barriers in order to fight them!
PR3: Reframe concept of user-driven entrepreneurship

The (still rather intellectual) concept of user driven Entrepreneurship should be reframed by adding practical examples and elaborating on the implications and practical value of sustainability innovation in the General public.

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<th>Interview partners, national workshop</th>
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PR3: Reframe concept of user-driven entrepreneurship - Post-it notes

3 GREEN ticks

- I’m not sure recommendation 3 is a policy issue
- Create narrative of change aligned with WP2 to make sustainable entrepreneur concept understandable and desirable
- Yes – transparent accounting
WP1: Further research suggestions

What else do you need to know in order to develop / underpin your recommendations? Can you provide some ideas of how upcoming project activities could provide answers?

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<thead>
<tr>
<th>Project activity</th>
<th>What to be researched and how?</th>
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<tr>
<td>Policy Innovation Workshop (Feb)</td>
<td>More interviews with Entrepreneurs, Business Scientists, Institutions like Chambers etc.</td>
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<td>Lab experiments (c. May)</td>
<td>Framing experiments</td>
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<td>Social media enabled conference (May-June)</td>
<td>Discussing the issues in different national and cultural contexts</td>
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<td>Modelling: what would be the measurable impact of these recommendations (ongoing)</td>
<td>Willingness of putting Entrepreneurial plans into practice, success rate and growth rates of existing start-ups</td>
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<tr>
<td>Other activity</td>
<td>Interviews with user Entrepreneurs, who did and/or did not realized their plans</td>
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WP2 Policy principle: Policy interventions must take a systemic and ever evolving perspective

**Manifesto statement**

Policy interventions must take a systemic and ever evolving perspective

**Explanation**

Sustainability and Sustainable lifestyles are inherently complex and deal with a set of interconnected issues. Policy interventions looking to support sustainable lifestyles must therefore consider this and recognise that change and innovation can happen at many levels e.g. Not only institutions, business but through other stakeholders, communities and individuals too – an expanded view of where change can come from.

There needs to be a way that policies don’t undermine each other – or undermine other aspects of sustainability and sustainable lifestyles elsewhere.

Managing sustainability – and reduced resource usage is a continuous process that requires management and balance across domains. This process won’t be solved, or stop, at one policy intervention, it is a continuous process that is ever evolving.

Tools and approaches need to be develop that help people expand their understanding and explore the connections – but also allow them to make sense of the potential trade offs and unintended consequences that may emerge.
WP Policy principle: Policy interventions must take a systemic and ever evolving perspective - Post-it notes

• How can citizens participate in sustainability transition? Open – citizen – innovation
• Provide connective / supportive infrastructure to ensure good ideas replicate
• Specific measures to support community innovation
• These propositions are all troublingly vague!
  • What’s “more” than triple bottom line?
  • If it can’t be specified, is it important?
  • What’s the power of a “narrative?”
  • Why an EU department rather than support for experimentation?
• What do you mean by “post capitalistic?”
• What actions can we propose for non-EU action e.g. cities, local, regional, state govt?
• How to create reflexive institutions able to cultivate a flexible / diverse repertoire of responses towards failure? We need problem-focused policy approach (not siloed structures of departments). Pre-commercial public procurement.
• Agreed the idea that sustainability must be constantly evolving and innovating. Can an EU institution ensure this? How?
• Really like the idea of creating an innovation culture, but I’m wondering whether this can be achieved top down or needs to come bottom up? What would be measures to achieve this aim?
• Don’t forget existing EU impact assessment of new policies (Better Regulation) - can it be adapted?
• Love the Lab…but who benefits? Ultimately funded by Member States – will they pay for the “greater good”
• How can the EU capture more innovative ideas from H2020?
• What importance does bankruptcy law play in deterring would-be user entrepreneurs within the single market?
• Evaluation is a measurement issue. Politics (in the western world) is unfortunately often short term, other “less developed” are sometimes more long term oriented. Return on investment in money often short term. “Generation contracts” like the retirement money systems are needed as schemes to support innovation values in the population
WP Policy principle: Policy interventions must take a systemic and ever evolving perspective - As presented

“Innovation systems / systems of experimentation and learning as a frame for our analysis”

Europe funds a space programme, but there is no immediate profit from this, and it is funded on the basis of potential future benefits and knowledge to an unknown set of beneficences. We should encourage the EU to take the same stance on sustainability. Set up a lab of some form that addresses the question of “how to create a culture of empathy?” This lab would not be geographically bound but would be distributed. It would share stories of how empathy is cultivated.
Support the right type of innovations/acknowledging the systemic impacts of current innovations

Currently innovations are evaluated on pure commercial and economic potential/gains/benefits. Inevitably innovations will be developing other benefits in parallel to these, so it’s suggested that we find a way of evaluating and capturing these social and environmental benefits of innovations the EU is currently funding. Taking a more systemic picture of the additional value of these innovations could help to support future transitions and support innovations that will enable sustainable lifestyles.

More about this recommendation:

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PR1: Support the right type of innovations/acknowledging the systemic impacts of current innovations - Post-it notes

2 GREEN ticks; 3 RED ticks

- How can you evaluate what are the “right” innovations?
- What are “right” innovations? Definition?
- Evaluation of innovations should happen from multiple perspectives: Local, city, national (i.e. should include representation from all these groups)
- Needs experimentation and a society that accepts risk of failure. Could work at different scales but how is ‘right’ type evaluated (need for PLURALISM)
- Decouple knowledge development and education from economic growth
- I doubt true “impact” will be measurable upfront. Do we need to limit to “outcome?”
- To include ESG (environmental, social and governance) framework into innovation policy. Sustainability matrix measurement – need to work on it further
PR2: Increase the propensity for people/citizens to innovate – cultivate a narrative and culture

Increase the propensity for people/citizens to innovate – cultivate a narrative and culture that encourages agency and ability/expectation to innovate.

Exploring what role narrative can play in creating favorable policy environment/enabling context. What might the accepted/preferred narrative been that encourages/is the catalyst for increased sustainable entrepreneurship and user-integration/user innovation. What language will resonate and how might this be cultivate e.g. Learn from the example of the recent EU narrative/statement and promotion of Circular Economy approaches

More about this recommendation:

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Type of policy: Stick, carrot, sermon, other

Contextual
PR2: Increase the propensity for people/citizens to innovate – cultivate a narrative and culture - Post-it notes

2 GREEN ticks; 2 RED ticks

- Great idea! But is “innovation” the right term though? Innovation tends to imply new/different but this then downgrades replication which is also very valuable. Perhaps what is needed is CULTURE OF CARING / “GIVING A DAMN” or innovation should be carefully defined so that it does not through out impactful activities on the grounds that they are not ‘new to the world’
- I think Europe is not an island. So when you imagine a post capitalist something this is social romance (?). My innovation goes to the US or my patent goes private. Good things need privacy protection…
- Generate a culture where failure in innovation is not penalized by same or sorry, but only though the economic risks taken
- How would do Rec 2?
- I didn’t really get PR2 – in particular I didn’t understand how you would operate it
- What measures need to be taken to create “culture of innovation?”
- Create a culture of innovation – can we visualize this? Who is responsible?
- Increase propensity of people to innovate. What does that mean? Is this just a certain target group?
- Unclear what the policy recommendations are:
  - Diversity of culture
  - Culture change
  - Change from current policy is a given
PR3: ‘EU Department for Experimentation’

Creation of the ‘EU Department for Experimentation’/ ‘EU Post-Capitalism Lab’

A department/program that is created to support Pan-EU collaboration and develop of innovations not driven by economic growth – but growth social capital and promotion of post-capitalist values and principles (e.g. social capital, empathy, skills etc) Support and developing ideas around commonly acknowledge European challenges that don’t currently fit into existing funding structures. Providing support, funding and a platform for radical innovators to join together and turbocharge radical new ideas that are systemic in nature and delivery.

e.g. [http://www.poc21.cc/](http://www.poc21.cc/)

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<td><strong>Workshop idea</strong></td>
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PR3: ‘EU Department for Experimentation’ - Post-it notes

4 GREEN ticks; 5 RED ticks

- Great idea in theory…but how could something like that look in practice? VERY interesting thought
- I think PR3 is a good idea but probably very expensive to implement
- Danger of department: may only reflect the ideas / interests of EU bureaucrats and politicians / most influential country
- A centralization of sources for “ground-breaking innovations” is challenging. Innovation can happen everywhere and are difficult to administer
- A synthesis of already existing national, local labs, incubators…. would be useful and development of labs on local level (communities)
- Post-capitalism lab rename. Overarching change narrative towards sustainability – cultural shift
- We cannot evaluate policies that aim for systemic change with exiting, traditional indicators. The measuring of system change likely involves a paradigm shift in policy evaluation too (i.e. there should also be protected spaces in which policymakers can experiment with radical new tools)
- DEATH OF INNOVATION IF PR3 DONE
# WP2 Further research suggestions

What else do you need to know in order to develop / underpin your recommendations? Can you provide some ideas of how upcoming project activities could provide answers?

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<tr>
<th>Project activity</th>
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<td>Policy Innovation Workshop (Feb)</td>
<td>Experiment with the language/framing that resonates with policy makers and innovators. Understand what benefits policy makers currently see &amp; acknowledge and identify where the gaps are (what might the hooks be).</td>
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<tr>
<td>Lab experiments (c. May)</td>
<td>Create a mini ‘department for experimentation’ or ‘post capitalism lab’ – that is timebounded</td>
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<tr>
<td>Social media enabled conference (May-June)</td>
<td>Experiment with different ways of communicating these concepts – what are the stories/hooks that attract people to this topic? Is there appetite for a ‘post-capitalism lab’. What would people want it to do?</td>
</tr>
<tr>
<td>Modelling: what would be the measurable impact of these recommendations (ongoing)</td>
<td>How do you model/illustrate potential non financial benefits and implications? OR what is this discussion framework for opening out this conversation – is there potential for a tool that sits alongside the model How do you illustrate ‘post-capitalist’ background context?</td>
</tr>
<tr>
<td>Other activity</td>
<td>Identifying the language and framing that will resonate with policy makers. Create the case/evidence base for them to engage with this concept. Identify their role in this</td>
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WP3 Policy principle: Facilitate participation of end-users / other stakeholders

**Manifesto statement**
- We will promote and facilitate the participation and integration of end users and other stakeholders both when issuing calls for proposals/ideas/funding for sustainability-oriented innovation solutions and in our subsequent involvement in these innovation processes.

**Explanation**
- End user integration in sustainability-oriented innovation processes is shown to often be reflective of a more open innovation process involving other stakeholders. Our research particularly highlights the involvement of stakeholders with a sustainability mission and expertise, and secondary stakeholders such as NGOs, public authorities and academic institutions which play a variety of roles throughout the innovation process. Public authorities were particularly prevalent in the roles of stimulating innovations and enabling the context of the innovation through facilitating regulatory change and assistance.
WP3 Policy principle: Facilitate participation of end-users / other stakeholders - Post-it notes

- Encouraging participatory process ("sustainability minded" stakeholders) in the development of products and services created for the public use (bought/ordered by public bodies)
- I agree that the context/legal framework plays a key role for enabling innovation. From my perspective, many of the suggestions should be initiated organizationally internally rather than externally
- The three proposals basically build on what already exists. I think we should elaborate more all possible new ways of doing.
- Set time frames for unsustainable practices to end. This would provide a better planning horizon for sustainable innovations
- Define the target group
- What can be a good policy that simultaneously fosters user-innovations AND entrepreneurship?
- How to ensure that secondary stakeholders are relevant for pushing co’s to create systemic sustainability innovation and not only greenwashing?
- Many regulations are in place due to business/money interests; as such changing these or gaining exceptions might be challenging
- What is the benefit of involving users as innovators compared with other internal stakeholders
- When does a new enterprise become an incumbent? What does that mean for supporting continuous innovation?
- There is already a strong incentive for entrepreneurs to come up with new products and use every chance to innovate. How to make sure that the administrator chooses better
- Can we formalise enable provision of "secondary stakeholders" – create "innovation enabler agency" to play this role
- (+WP5) Ease access to specific funding – create a specific Action for Transition. End-users is the sub action. Creation of a European Database for Transition – collecting names and contact of 50 Innovation Stakeholders
- These people are a key audience for our project recommendations – how best do we communicate to them? Make visible/map who is doing this well already. Do they know they are playing this role? What more can they do to enable this?
PR1: Public authorities should continue to stimulate sustainability-oriented innovation processes which involve end-user and other stakeholder integration

Public authorities should continue to **stimulate** sustainability-oriented innovation processes which involve end-user and other stakeholder integration. Stimulation can be in the form of calls for proposals, or development funding, to provide solutions to a particular sustainability challenge.

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PR1: Public authorities should continue to stimulate sustainability-oriented innovation processes which involve end-user and other stakeholder integration - Post-it notes

2 GREEN ticks

- Calls should run at repeated intervals, e.g. twice per year. Innovators might need support in finding the calls and completing the applications
- Calls for proposals. How are these communicated? How can this be better / more widely communicated?
- Good to establish the link to existing policy / baseline
- What are the current incentives, including fiscal, for companies to invest capital in user innovation in a non-proprietary way? And how can those be enhanced or strengthened?
- Is any of this new(s) for medium and large companies? Why would companies pay any attention to public authorities “encouraging” the involvement of sustainability-oriented stakeholders? The EU already mandates stakeholder involvement in publics calls….
- Take the cost of organizing a network / association…? of potential user innovators and entrepreneurs with a specific profile on low-tech, low resources engagement
- It will be difficult to “limit” to sustainability. All can be declared to be sustainable
- In several EU nations the state is the single largest stakeholder in the current unsustainable fossil-fuel based economy. This clear conflict of interest should make us wary of relying too much on public authorities when it comes to stimulating the sustainability transition. Secondly there’s research that shows that user-integration is more likely to create incremental innovation and this preserves the status quo
- Public authorities also have to communicate why they’re getting active, otherwise people tend to feel being pushed
PR2: Public authorities should enable the context for the development and commercialisation of the sustainability-oriented innovation

Public authorities should play an active role throughout the innovation process to **enable the context** for the development and commercialisation of the sustainability-oriented innovation. Examples from the research data include: assisting with transport and infrastructure policies, building regulations, permits and licensing. Public authorities also acted to educate end users and help legitimise innovations.

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PR2: Public authorities should enable the context for the development and commercialisation of the sustainability-oriented innovation - Post-it notes

5 RED ticks

- Some public sector authorities are not supportive. What can be done to create the culture in the public sector to support innovators? What lessons can be learnt from the case studies?
- What do you mean by context? Are there any differences between countries / city / region that have an impact on your policy suggestions?
- Stakeholder engagement through the whole life cycle solutions. Recommendation for the regulation in company law: to integrate stakeholder panel in the corporate structure.
- No clear definition / idea of a “culture supporting the innovations.” We cannot only focus on non-financial aspects, only sustainable projects needs to be financed.
- How can public authorities stimulate innovation and contextual changes to enable sustainable innovation to scale, with shrinking budgets?
- Public authorities and others have a role to play in creating ‘systems’ that enable radical ideas to take place and replicate. What barriers exist to this? Could users have a role in this also?
- Bring together WP2 (Lab) and WP3 recommendation. Develop a communication/information/knowledge platform EU wide that recommends labs, incubators, events, workshops and brings together sustainability innovators.
- Political issues around state involvement – likely to vary according to elected bodies?
- Is it necessary to recommend to the EU to support the local authorities rather than end users?
PR2: Public authorities should enable the context for the development and commercialisation of the sustainability-oriented innovation - As presented

- Insights: broadening the context
- Who? Companies, innovators, external stakeholders (sustainability-oriented)
- Channel for communications
- Platforms: Regional; sectoral
- Access to stakeholders (incl public policy)

- Link to WP4: Start-ups / entrepreneurs eco-system
PR3: Public policy actors should promote the inclusion of other sustainability minded stakeholders in the sustainability-oriented innovation processes in companies

In order to support more novel sustainability innovation, public policy actors should promote the **inclusion of other sustainability minded stakeholders** in the sustainability-oriented innovation processes in companies. Examples from the research data show other stakeholders, particularly secondary stakeholders, played key roles in the innovation process. Public authorities also mediated workshops with end users and stakeholders.

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PR3: Public policy actors should promote the inclusion of other sustainability minded stakeholders in the sustainability-oriented innovation processes in companies - Post-it notes

1 RED tick

- Public authorities as “convenor”
- How to involve the sustainable stakeholders? More details are needed
- How could public authorities learn better from each other on how to successfully fulfil these roles?
- Important to education users about possibility/means to participate in sustainable innovation
- Provide collaboration platforms (online or offline) for users and stakeholders to interact with innovators
- Need to provide examples of who the other sustainability-minded stakeholders are
- I would suggest to further explain how to stimulate the inclusion of other stakeholders. Now it seems a little too generic
- Be more specific: Focus on cities and workshops with FRINGE STAKEHOLDERS (i.e. apparently unrelated stakeholders who could bring new, fresh perspectives)
- How will regulation encourage non-beneficiaries to contribute?
**WP3 Further research suggestions**

What else do you need to know in order to develop / underpin your recommendations? Can you provide some ideas of how upcoming project activities could provide answers?

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<td>Policy Innovation Workshop (Feb)</td>
<td>What forms of collaborative, open, multi-stakeholder participation in SOI exist and contribute to successful innovation?</td>
</tr>
<tr>
<td>Lab experiments (c. May)</td>
<td>Which types of calls for proposals or ideas resonate most with end users and other stakeholders?</td>
</tr>
<tr>
<td>Social media enabled conference (May-June)</td>
<td>What can be the roles and functions of social media in stakeholder integration in sustainability innovation processes of enterprises? What are limits of SoMe? How to combine social media tools and other forms of stakeholder integration in SOI?</td>
</tr>
<tr>
<td>Modelling: what would be the measurable impact of these recommendations (ongoing)</td>
<td>To what extent are different stakeholders and specifically end users included in calls for proposals/ideas/funding for SOI?</td>
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WP4 Policy principle: Simplify the journey

Manifesto statement

- We aim to simplify the sustainable entrepreneurial journey in order to encourage more user entrepreneurs to realize their sustainable ideas.

Explanation

When analyzing the sustainable entrepreneurship process, we found several obstacles user entrepreneurs face when trying to realize their sustainable ideas. Several of our cases point to the challenges of overcoming policy hurdles and the lack of help in starting a new sustainable venture (lack of governmental support, lack of an ecosystem and network, lack of administrative procedures,…).

Furthermore, many entrepreneurs struggled with existing legal frameworks (e.g. restrictive legal forms, bureaucratic burdens etc.) and encountered a mismatch between their sustainable ventures and current legislation.

Lastly, lobbying by incumbents has been found as a particular strong market entry barrier sustainable entrepreneurs are facing.
WP4 Policy principle: Simplify the journey - Post-it notes

- Good manifesto statement!
- Who is the sustainable entrepreneur? (age, gender, education)
- Find out potential UNEP (United Nations Environment Programme) synergies see: switchmed.eu
- What could be possible power levers of SE-associations?
- How much simplifications is possible (for such a complex phenomenon)
- Explain value–added of sustainable ideas in a non-romanticised way. Current lobby vs environmental NGO face-off very rigid, both sides gave fixed public images. Legal definition of sustainability might be needed, might be restrictive to innovation
PR1: Start-up ecosystems

Start-up ecosystems for sustainable entrepreneurs

Access to resources, networks and legal support have shown to be an important enabling factor for the successful starting and running of a new venture. An ecosystem for sustainable entrepreneurs should focus on the needs and particularities of sustainable entrepreneurs and should provide support on all stages of the sustainable entrepreneurship process: from the recognition of an idea, to the alignment of socio-environmental goals with economic means, the access to funding and the choice of a legal form.

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11 GREEN ticks; 2 RED ticks

- Eco-system: Supporting incubators / accelerators with sustainable focus
- Yes! Ecosystems of entrepreneurs and facilitating their collaborations between NGOs, public, academic; more networks, cross-fertilisations
- Doesn’t that exist already?
- Startup ecosystems connected to the bigger business ecosystems, not separate
- Importance of funding at local level to enhance eco-startup systems and allow more entrepreneurs to join
- Examples of this already e.g. Milton Keynes. Need government to invest more
- What are the ingredients of this eco-system? What is the recipe to bring them together. Share best practice examples to bring it to life
- A part of the start-up ecosystem should be consultancy for sustainable entrepreneurs (future and ongoing) [Do all recommendations need to be addressed to policy-makers. Can we address them to business associations?]
- Lessons on how to build a business model – good concrete example
- Who funds these? Where located (and how is location chosen?)
- Definition of eco-system? Is it bad to have a focus on some cities (like Berlin, not Munch) – bundling resources?
- Ecosystems e.g. geographic zones work really well
- Funding bodies coordinate to encourage multiple innovations that can work together / add up to having systemic impact
- Lots of experiments of start-up eco-systems in different countries – map experience and best practices. Distinguish between what is general for start-ups vs specific for sustainable start-ups
- Why should the EU intervene at city / local level to build ecosystems? The EU should invest in research that analyses high growth SMEs post start-up phase!
- How can the EU and Member states better promote/develop a culture of opportunity identification?
PR1: Start-up ecosystems - As presented

11 GREEN ticks; 2 RED ticks

Team summary of post-it questions:
- Types of ecosystem
- Examples available
- How to fund it?

Team comments / questions
- What would this look like?
- What hurdles did you face?
- What would have facilitated?
- Details: Contact info: who/how? Per topic (legal/finance/business advice)
- Physical / virtual form
PR2: New legal frameworks

New legal frameworks

Sustainable transitions likely include changes in the institutional environment, however, existing legal frameworks often hinder radical sustainable innovations. Many of the cases in WP4 show the difficulties of realizing sustainable businesses with means of traditional legal forms, as sustainable entrepreneurs are neither purely for-profit driven (e.g. ltd.), nor purely non-profit driven (e.g. association) in nature. Thus, there is a need for new legal forms, which reflect the hybrid nature of sustainable enterprises. Furthermore, bureaucratic burdens should be reduced and administrative procedures, which take into account the needs of sustainable enterprises have to be established.

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1 GREEN tick; 8 RED ticks

- We need to know the “state of the art” in terms of legal forms in different EU countries for hybrid organizations, before we can come up with a proposal – very interesting!
- Are B-Corps any way towards helping this. What role did governments play in setting up B-Corps?
- B-Corp legislation from Italy – new lesson
- Such as?
- Good. Small change, but important
- Give more examples on legal restrictions hindering entrepreneurs
- Legal audience very for this. Where does legal innovation happen? Legal model innovation workshops?
- Map options available across Europe. Show new models identify gaps and needs
PR2: New legal frameworks - As presented

1 GREEN tick; 8 RED ticks

Team summary of post-it questions:
- How could new legal forms look like
- B-corps
- Legitimacy
- EU-wide / Nation-wide?
- Does the change make sense / testing
PR3: Representation of interests

Representation of interests

While incumbents can rely on powerful lobbyists, there is no such representation of interests for sustainable start-ups. This results in unequal conditions of competition, where those who have an interest in keeping the unsustainable status-quo have a much stronger influence on the social and political discourse than those trying to bring about the much needed changes towards sustainability. To support sustainable entrepreneurs in their endeavor, we see the need for a sustainable entrepreneurship interest group.

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2 RED ticks

- Great idea!
- Great idea to support lobby groups for collectives of sustainable entrepreneurs. I assume this would be some kind of ‘movement?’ But at which levels? EU / national / regional?
- Interesting approach. Not sure if it is working but worth a try
- What is government’s role in creating these?
- What would create or excite lobbyists to be part of representation of interests?
- US example to explore: Freelancers Union (understand their model and structure. Must be parts to replicate)
- Concrete example to test at SMC? Business association for entrepreneurs. At what level would these work?
- Create networks of sustain entrepreneurs that can form a ‘value network’ with greater collective impact
- Construction of an intermediary organization that represents sustainable entrepreneurs is an excellent idea. For inspiration you might look at “Strategic niche management” literature (an MLP spin-off) that articulates what such a platform should look like (broad and deep network, shared and specific expectations, 1<sup>st</sup> and 2<sup>nd</sup> order learning processes: the emergence of a global niche)
- What is the equivalent of lobbies to keep the status quo and maintain interests for sustainability? Lobby groups are fractured. Based on negotiation. This is not a route to significant change. Could it be used differently?
- How do we create interest (lobby) groups for sustainability? How to keep together in these groups both NGOs and hybrid / social business?
- I think good innovation overcome barriers – bad does not. So we do not need more lobby groups
PR3: Representation of interests - As presented

1 GREEN tick; 8 RED ticks

Team summary of questions / comments

- Blocking change in the long term
- Old system
- How could collective interests be organized
- “Lobbying” as a process
- How to ensure transparency in the decision-making

- A way to support sustainability entrepreneurs in lobbying (gave an example of BMW getting a parking license in one week after the entrepreneurs has tried and failed for two years).
- Simon Pickard commented: Don’t worry so much about corporate lobby groups. The biggest lobby groups in the EU are countries not companies. And be careful of replicating what already exists. 11 million SMES already have a lobby group at the EU.
WP4 Further research suggestions

What else do you need to know in order to develop / underpin your recommendations? Can you provide some ideas of how upcoming project activities could provide answers?

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<td>Policy Innovation Workshop (Feb)</td>
<td>What are the specific resources, networks etc needed? How could new legal forms look like?</td>
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<td>More sustainable new ventures</td>
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WP5 Policy principle: Sustainable impact

**Manifesto statement**
- Sustainable innovation policy should focus on having sustainable impact, recognizing that impact is dependent on local contexts, the potential size of the market for scaling up and diffusing the innovation, and the capacity of adopters to sustain innovation.

**Explanation**
- The greening of mobility through the use of electric vehicles may appear to offer a sustainable innovation pathway. However, if the local context is that the source of electricity is carbon fuels then the use of electric vehicles will make little difference to emissions; the potential to scale up will also be limited by the capacity of the grid to supply additional electricity (although this could be mitigated somewhat by the use of local renewables) and the community to provide charging infrastructure; sustaining is likely to be high given that cars are the second biggest asset purchased by households.
- The use of local food sources will depend on what can be grown locally and related implications for electricity, water, pesticides, etc. for local agriculture and with negative environmental impacts; food is frequent purchase and if food shopping has become a weekly activity using personal transport, then additional local journeys for part shops may not be sustained, especially if the economics are unfavourable for the purchaser despite any potential nutritional benefits to the consumer.
- For housing, there is a sharply declining benefit from additional insulation mitigated only by rising energy prices. Selected homes with low resource efficiency have potential but the challenge is finding sufficient scale of these where the owner/landlord is prepared to innovate. As insulation is infrequently changed, the capacity to sustain is good.
WP5 Policy principle: Sustainable impact - Post-it notes

• Important to emphasize impact
• Positive and negative impact measures/proxies are needed, and policy support (tax benefits) for negative practices need to stop. This would be having a positive impact for sustainable innovation too
• Remember that impact isn’t linear
• Can we develop a contingent grading scheme for impact assessment which could be used by public authorities
• I think it is important to encourage entrepreneurship/innovation to demonstrate the sustainable impact. However nowadays there are a lots of critiques to social impact measures. In particular the complexity of the process and the qualitative nature of information and impact
• Like the idea of incentivizing sustainable innovation
• Will anybody say that they work on “non-sustainable” innovations
• How about a seal or prize for “sustainable city”
• Do the recommendations flow directly from the modelling? I’m afraid all of us (not just WP5) are being too optimistic about the members state’s commitment to systemic change (and thus about the impact of policy)
PR1: National governments encourage user innovation with sustainable impact

National governments should encourage user innovation that has demonstrable sustainable impact across the economy, environment and society

- Policymakers could play a key role in supporting user innovation which takes account of local context, scalability, and behavioural persistence. This could be through direct investment in user innovators where the government could benefit, e.g. via shared ownership, or through subsidies for sustainable venture capital, or taxation kick-backs for sustainable spin-outs of corporations. The idea is to stimulate this type of innovation behaviour, improve market competition, and recognize wider systemic implications.

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PR1: National governments encourage user innovation with sustainable impact – Post its

1 GREEN tick; 1 RED tick

- This will be very difficult to judge and decide….
- Sounds so important! But how do you ensure that the decision makers are using the right models to evaluate whether an innovation makes sense in the context and that it is going to have a sustainable impact? Also citizens should know and understand the models too!
- Making sustainable entrepreneurs “visible and popular” in order to encourage imitation
- If sustainable entrepreneur companies need subsidies to be competitive in the marketplace, they will not survive in the long term and subsidies are not sustainable
- Is sustainability a governmental task? Health and the environment are public goods, shouldn’t there be a ministry for sustainability with overall control / a mission for sustainable lifestyle?
Public funds should be contributed into sustainable user innovation education and practical learning and support

- Public money should fund a new wave of courses developing the capacity of citizens to understand the nature of sustainable user innovation, to have access to technological know-how, and to experiment with ideas via projects, both individual and group, and to work with existing entrepreneurs and businesses in their chosen fields. This would create short-term capacity in existing businesses and importantly it would bring in new ideas and ways of thinking, for example, the use of bio-mimicry in which processes in the natural world are implemented to solve engineering problems. It has the added benefit of creating visibility of the role of the user, empowering them, but also supporting them to realise their own goals as well as access those of others which they can adopt.

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PR2: User innovation education - Post-its

6 GREEN ticks; 2 RED ticks

• Is sustainability education and learning perhaps more important than “sustainable user innovation” education and learning?
• I’d agree that education is key to educate the next generation of more sustainable users
• Agree on education!
• At a time when public sector is withdrawing funding – is this likely? How will different countries implement consistently?
• Organize student competitions about innovations for sustainable lifestyles (different ages / different scope: EU-level/national/regional)
• How about sustainable education within school kindergarten etc
• Where does this need to happen? Is it a new thing or should it form part of existing education / training. Encouraging a culture of innovation for sustainability
• How can we change the way we think? From linear to systemic. This is an important capability for users and innovators and policy makers alike
• Educating about terminology is interesting so that all citizens feel they can be an entrepreneur – removing psychological barriers
Short term proposal (Green ticks): Sustainable user innovation education and learning

User innovators to tell the stories and how to picture “good” sustainable impact. Academia led measure, public consultation

- Avoid non-sustainable practices
- Fit to age, locations
- Overcome barriers
- Rationalize for public funds
PR3: Public accounting for sustainability

Public accounting for sustainability should be more visible, refined, granular (bottom up) and localized, and it should demonstrate the role of user innovation in sustainability

- Effort to implement measures of sustainable innovation impact should be funded bringing together other city and regional measures, such as livability index, poverty index, regeneration, etc. The measures should be much more dynamic, daily if possible, constantly re-evaluating the sustainability of a place, helping to attract investment, improve housing markets, and the lives of residents.

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PR3: Public accounting for sustainability - Post-its

1 GREEN tick; 9 RED ticks

- Don’t really understand
- What does “public accounting” mean in practice? Govt audits on a yearly basis? Or is this @ changing national / international accounting standards?
- Accounting of any form is seldom understandable to non-experts / the general population, independent of it’s transparency. This increases dangers of misunderstandings through simplification and might backfire as a populist shaming (sharing?) exercise
- To implement measures and the role of innovation in existing ESG accounting frameworks like GRI G (6)4 (?). Accounting on innovation on the national level – new forms
- Accounting could also include storytelling. Citizens need to learn more about what is possible
- Carbon footprints of individuals / towns / cities?
- More visible accounting – put barriers to greenwashing – make “true” sustainability more visible
- Could we visualized what this public accounting would look like?
- Public accounting is an excellent idea which should be further [ ]
PR3: Public accounting for sustainability - As presented

Longer term proposal (9 red ticks): Public accounting of sustainability practice leading to IMPACT

How to avoid unsustainable practices (could be subconscious). How to learn sustainable practices?

- Visualization
- Narrative
- Quantitative
- Measurement

- Transparent measures: How do we visualise measures? The power of the narrative (stories) and qualitative in bringing measures to life.
- Short term: Can we get user innovators to tell us stories about what good systems look like.
- Long term: The model can help us to work out what conditions help us to avoid unsustainable practices today? What can we learn about sustainable practices?
WP5 Further research suggestions

What else do you need to know in order to develop / underpin your recommendations? Can you provide some ideas of how upcoming project activities could provide answers?

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<td>Modelling: what would be the measurable impact of these recommendations (ongoing)</td>
<td>Relative measures of sustainability between places; relative measures of sustainable user innovators (e.g. 5% of city actively pursuing it)</td>
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<tr>
<td>Other activity</td>
<td>Circular Economy, Sharing Economy, etc. and the role of the citizen as a sustainable user innovator in these new economies</td>
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WP6 Policy principle: Simplify access to funding

**Manifesto statement**
- We will radically simplify access to funding for sustainability innovation whether from public or private sources

**Explanation**
- For example, crowdfunding is growing almost exponentially year-on-year with the World Bank suggesting that it could, with supportive regulation, reach US$90-96 billion per year by 2025. The potential for mobilizing these resources to support and co-finance sustainability-oriented projects and ventures is truly exciting! Not only can you draw upon the power of the crowd, but you can truly engage citizens in the innovation process. They can become active participants from intensive engagement in the form of initiating a campaign to less intensive engagements in the form active campaigning for a specific project or “passive” contributions.
WP6 Policy principle: Simplify access to funding – Post-its

- Capacity building and guidance / mentoring for people in securing funding?
- Other ways of funding besides crowdfunding?
- Why are sustainable innovations less economic / profitable?
- Extend recommendations – different tools possible e.g. EU seal, tax reductions
- Offer cheap office space to start-ups (through subsidies etc)
- Creating structures supporting SE and SI with knowledge and advice would also be important (complementary). Mentors and consultancy for SE and SI and public procurement
- Simplification coupled with education initiatives to inform users of these options
WP6 Policy principle: Simplify access to funding – As presented

• Clear target group:
  • Do people even know what crowdfunding is?
  • What is sustainability innovation (also replication can be more impactful) “If we are selling sustainable innovation we need to know what it is”
  • Not just innovation but ‘activities,’ ‘projects,’ ‘lifestyles’
  • Who is the target group policy (EU – Nation – Region – City – End-user)

• Simplification:
  • Could be talking about multiple TYPES of funding
  • VC
  • CF (SEAL, TEST vs Co-finance)
  • Bank
  • Grant
  • Angels (state-funded; EU seal of approval)
Address the barriers faced at each of the multiple stages involved in setting up a sustainable innovation (see diagram below).
PR1: National governments sponsor development of crowdfunding platforms

National governments should sponsor the development of crowdfunding platforms in order to kick start the crowdfunding habit in the private sector.

- Policymakers could play key role in supporting crowdfunding for sustainability by facilitating the creation of designated platforms. The example of the German crowdfunding platform EcoCrowd illustrates how public finances can be utilized to create platforms to tackle environmental challenges. The added benefit of these types of platforms is that they, if successful, become self-sustaining resource centers for sustainable ideas and ventures.

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Crowdfunding is not new, what is the benefit of separating “eco” crowdfunding from “normal” platforms. Co-sponsoring might be seen as publicity stunt, government trying to “steal” form citizen efforts

The democratization of startup capital is not necessarily unproblematic. Issue of accountability, questions about the “sustainability wisdom” of the crowd. How to deal with these?

Why limit crowdfunding to national context?

Is there a mapping of all crowdfunding platforms in Europe? Could that help spot the gaps/needs? Is there a workshop for providers to share learning and develop

How can you imitate or learn from existing platforms connecting sustainable entrepreneurs across borders e.g. Social4Social?

How does this type of investment factor into national tax frameworks?

Crowdfunding has been proven very risky and so not recommended for small investors

Funding growth is more important than initial seed funding: where to find 500k for low tech sustainable innovation?

No need to reinvent, I believe. Public authorities should copy instruments already on the market

How to approach different target groups? Age?

Crowdfunding should be made more planable for the entrepreneur in order to give greater impact

Crowdfunding can’t scale….? Only appropriate for some ventures (less commercial ones…?)

How do people find out / can be sure that an idea is sustainable and will be (with a certain chance) a success

What other finance options are there? Micro loans, community payback. Are there options beyond crowdfunding (which is the current zeitgeist)?

Crowdfunding is one example of an ‘alternative economy’ to support sustainable innovators and innovations. How could this idea be extended?

Funding is important and its great to provide guidance in this regard. My key comment would be: Have you also thought about what policy could go beyond funding. How can they assist in sustaining sustainable innovation & entrepreneurship?

What other ways of financing are there and how can they be supported (mixture of financing methods)? Different relevance per industry
PR2: Contribute public funds to crowdfunding campaigns

Public funds should be contributed into crowdfunding campaigns to test new ideas, add legitimacy and support for these ideas and stimulate private funding

- Public co-financing of crowdfunded campaigns, if they hit a certain level of financing, provides a way for policymakers to enhance the potential of crowdfunding. Mayor of London, Boris Johnson, for example recently used city funds to co-finance community projects seeking crowdfunding via civic crowdfunding websites e.g SpaceHive. An added benefit of civic crowdfunding is that these community projects typically enjoy, at least initially, a high degree of democratic legitimacy and can thereby also draw upon the goodwill of multiple sources of volunteers. This method could prove both an effective mechanism to ensure co-financing of projects creating more value for public money, but also act as means for mobilizing and litmus testing potential ideas.

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PR2: Contribute public funds to crowdfunding campaigns – Post-its

• 3 GREEN ticks; 1 RED tick

• How can we convince states, city etc that they should support the ideas?
• Co-financing. Local community. How will this work in practice? Will it be divisive? Will local councils manage voting system (with additional admin?)
• What about legal requirements. Is it possible and desirable to adjust regulations on an EU level?
• Is shortage of funding not also caused by high failure rate? How to make sure that investors are aware of their risks?
• What will encourage private investors to participate? (tax incentives?). Currently friends and family are main funders
• There are many other platforms: Indiegogo, startnext – why eco-crowd? Better to deliver an eco-system of local support
• What about engaging large firms as funders of some of these entrepreneurs (a specified platform for them)
PR3: Simplify application and improve visibility of public funds for sustainability innovations

The process for applying for public funds to support sustainability innovation should be simplified, and visibility of the range of funds available improved.

- For example in the UK, the funding options available for micro, small and medium sized businesses in the UK to kick-start innovation projects in the water and environment sectors include Innovation vouchers, Smart Awards, SBRI Awards, Innovate UK and Research Council competitions, Knowledge Transfer Partnerships, Horizon 2020 funding as well as private sector and crowd source funding.

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- Simplification of access = very important. So is removing risk from access – not “arbitrary decision by minister after I’ve worked for years” (a UK wind farm thing!)
- Great ideas! Simplifying application process: Needs 1) collectives to give moral support in applying (might be other innovators who have been through the process or dedicated admin resource) 2) as well as thought given to the “architecture” of application forms / info
- Simplifying funding is a good suggestion but also focus on national funding
- Government intervention on the regulation level – from simple instrument like supporting crowdfunding – to more advanced equity crowdfunding – it will create co-ownership
- Attention: sustainable innovation is only then sustainable when it produces stable returns (have always have to clarify this)
- Which funds need to be simplified? What would make the difference for people? Example KTN in UK supports people applying to Innovate UK
- What could be the implications of simplifying the application process? – resources must be in place to deal with, judge and select which projects are successful
- How will paperwork be simplified while still ensuring accountability of funds?
- What are the barriers to simplification? Why has complexity emerged? Diagnose - solve
- A key function in innovation processes is he killing off of bad ideas before they cost too much. A simplification may mean funding too many bad ideas
Appendix 4 - WP1 Insights: User Roles and Corresponding political Frameworks
User Roles and Corresponding political Frameworks

Conceptual papers authored in the context of WP 1 focus on the multiple roles of users for sustainability transition. Further elaborating the seminal paper of Schot/ Kangar (2016), Verhees (2016) developed the concept of ‘sustainable citizenship’, which echoes in multiple ways with empirical evidence resulting from the WP 1 events, particularly from the European user-innovation workshops organized at Copenhagen, London, Warsaw, Milan and Ingolstadt. ‘Citizen’ is perceived as an umbrella concept, here, to signify members of the public that shape sustainable innovation in a variety of ways – as consumers, as users, as innovators, as activists, as voters, etc. The chapter inductively fashions a typology of roles based on three dichotomies: passive versus active, constraining versus enabling, and individual versus collective. Taken together, these form a three-dimensional space (see: Figure 1), wherein specific roles of citizens in sustainable innovation can be parsed.

In the WP 1 European database on sustainability Innovation, which has been presented, discussed and verified within the European workshops, we were indeed able to identify a whole array of (very heterogeneous) hot-spots and sustainability innovation activities across European countries. Participants learned that user participation represents a more comprehensive activity, which exceeds the activity of lead users or user entrepreneurs but also includes ‘cultural’, ‘legitimizing’, ‘connecting’ or ‘research’ activities. All across Europe (albeit in very different forms) civil society initiatives, social enterprises, political movements (local, regional or national), or scientific projects serve as trajectories of user – citizen’s engagement. The proportionate strength and resulting social impact of the respective activities varies substantially, however, according to the social and cultural characteristics of the region. For example, where political participation on a national level is constrained by limited responsiveness of the respective political system - as in Italy and many Southern European countries - regional/ urban activities as well as alternative consumer networks in food or transportation play an important role for the establishment of a sustainability innovation culture. On the other hand in many Scandinavian countries, advanced academic institutions play a crucial role in organizing the public dialogue on sustainable lifestyles – serving as a transmitter of user preferences to political parties but also influencing strategies of regional and national companies. In the Netherlands and parts of Germany and Austria, traditional family firms or specialized service providers play a role for sustainability innovation – many of them closely corresponding with groups of dedicated lead users.

Diversity of Heterogenous Situations in Europe
A crucial finding of WP 1 is therefore the enormous heterogeneity and diversity of user-innovation cultures across European regions. Different social and economic goals may become important factors of Sustainability Innovation here – as the fight of Polish parents for healthy lunch food for their all-day school pupils or the strive for international competitiveness of the crisis-ridden small scale food industry in Spain and Portugal. Moreover, the general strength and importance of a national industry also influences its maturity in terms of sustainability innovation. In that sense, it seems more than natural that housing is more innovative for sustainability in Northern Europe meanwhile food industry dominates the respective discussions in the South of the continent (for more examples see Workshop reports in WP 1).

**Political consequences: The challenge of Subsidiarity**

Taking into consideration this often rather neglected heterogeneity of European sustainability innovation cultures (as well as the resulting diversity of dominating consumer roles), the principle of Sustainability becomes especially crucial, here. It has been the Treaty of Maastricht (February 1992) to firmly integrate Subsidiarity (i. e. the priority of the smaller geographical unit for regulative behavior) in the European policy landscape. Reflecting corresponding socio-economic or institutional conditions, user innovation has multiple faces across European countries and regions. Therefore, instead of inacting centralistic 'one-fits-all' policies, European institutions should carefully analyze local mentalities and priorities and cultivate existing initiatives and topics accordingly. In many cases this would mean to empower local initiatives or civil society groups: for example by searching complementary business partners or supporting the marketability of innovative sustainable products of services.

Complementarily, interregional benchmarking and mutual learning activities should be promoted by European policy makers for example by organizing sector specific sustainability innovation fairs or IT platforms. Strengthening the academic cooperation and exchange among universities or research institutes across Europe may also play an important role.

Finally, based on the results of WP 1, we recommend the drawing of a European Sustainability landscape, which would register regionally important topics, institutions, product or process innovations, civic initiatives or Government policies. The WP 1 database may serve as a first step in that directions but has to be extended and continuously actualized.