

# GreenEcoNet Policy Brief

## Networking for SME innovation in a green economy

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### Abstract

With an increasing importance placed on innovation and SMEs – and specifically on innovation within SMEs – networking among these small businesses is crucial. Business networking forms the basis of 21st century innovation processes, and for SMEs networking may be even more important due to limited internal resources for innovation. Networking allows the combination of innovation resources and ideas from several SMEs (and other organisations) in order to increase their collective innovative capacity, allowing each individual SMEs to benefit.

### Main policy messages

- Networking amongst businesses, and especially amongst SMEs, increases competitiveness as well as innovation. Networking is therefore an important tool in the transition towards a green economy.
- A wide variety of business networks exists, ranging from local business clubs to large business federations as well as online networking platforms. These types of networks must be seen as complementary, as all types have their specific strengths.
- Policies at all levels of government should aim to encourage networking amongst businesses, and especially amongst SMEs, in order to increase both (regional) competitiveness and innovative capacity, and therewith support the transition to a green economy.

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## 1. The importance of networking for SME innovation

Amongst European Union (EU) policymakers it is widely recognised that “innovation is vital to European competitiveness in the global economy” (EC, 2016a) and that “small and medium-sized enterprises (SMEs) are the backbone of Europe's economy” (EC, 2016b). These two key assumptions underlie the EU's entire economic policy framework, and therefore imply that it is of high priority that European policymakers encourage both continuous innovation processes and also the establishment and growth of SMEs.

With an increasing importance placed on innovation and SMEs – and specifically on innovation within SMEs – networking among these small businesses is crucial. The OECD (2010) argues that business networking forms the basis of 21<sup>st</sup> century innovation processes, but for SMEs networking may be even more important due to limited internal resources for innovation. Networking allows the combination of innovation resources and ideas from several SMEs (and other organisations) in order to increase their collective innovative capacity, allowing each individual SMEs to benefit.

### 1.1 SMEs and innovation

Innovation – as a value-adding activity – is at the basis of modern economic activity, and economic policy-makers increasingly look for ways to encourage innovation at all levels of the economy. An increased importance in this regard has been placed on SMEs, as “growth-oriented small firms exert a growing influence on national economies around the world” (Clifton, et al., 2010, p. 338). The European Commission (EC) in particular recognises the significance of SMEs as the engine of the economy, as they are “(...) an essential source of jobs, create entrepreneurial spirit and innovation in the EU and are thus crucial for fostering competitiveness and employment” (EC, 2005, p. 3).

### 1.2 Networking

Networks are ubiquitous, as they include all situations whereby two or more organisations are involved in relationships, and “the entire economy may be viewed as a network of organisations with a vast hierarchy of subordinate, criss-crossing networks” (Thorelli, 1986, p. 38). The type of network focused on in this policy brief is the ‘intermediate’ type – larger than a single firm and smaller than the entire market.

The evidence shows that firms belonging to networks are more innovative than isolated firms. This is because networks result in “(...) higher flexibility, a greater ability to change, more fluid knowledge flows and the presence of a large variety of relationships among members” (Ceci & Iubatti, 2012, p. 565). For SMEs this is even more important than for larger firms, as “SMEs are typically not endowed with significant internal resources for innovation” and networks can provide “external guidance and assistance (...) and aid their competitive edge” (Tantau & Coras, 2013, p. 6) in order to expose the SMEs to “novel sources of ideas” (Tomlinson & Fai, 2013, p. 318). As Behncke (2015, p. 1) indicates, “engaging in external collaboration thus provides chances for them [SMEs] to overcome the limits of their smallness”.

The success of small business networks in promoting innovation have been described by Rese and Baier (2011). Key factors include the intensity and quality of communication and coordination among the SMEs, the balance of the contributions among the network members, and mutual support and cohesion.

## 2. SME networks in practice

While the literature shows that networking among SMEs increases innovative capacity, the definition of SME networks is not clear-cut, as they come in a wide variety of shapes and sizes. This section provides a categorisation of SME networks, and some examples.

### 2.1 Categorisation of SME networks

Based on a range of typologies of business and SME networks (Valkokari & Helander, 2007; Möller, et al., 2005; Johnston, et al., 2006), five criteria have been identified for the classification of SME networks:

1. **'Direction' of networks:** According to Tomlinson and Fai (2013, p. 318), *vertical supply chain networks* are the "closest (and friendliest) set of networks SMEs are engaged in." SME networks can also be formed horizontally among SMEs. Such networks, dubbed by e.g. Gnyawali and Park (2009) and Kossyva et al. (2014) '*co-opetition*', are the arrangement whereby competing firms collaborate.
2. **Type of participants:** Networks may *include only businesses*, but there are also other models which *include third parties* such as research institutes and governmental agencies. A key model in this regard is the Triple Helix model, which advocates knowledge-based economic development through synergies between three poles: business, government, and academics (Herliana, 2015).
3. **Territory:** *Local, regional, national or international* networks.
4. **Product or services offered, and clientele served:** Thorelli (1986) states that, for a network to exist, there needs to be at least a partial overlap in the '*domains*' of the *participating organisations*. The '*domain*' of an organisation consists of the product/service offered, the clientele served, the functions performed, the territory, and time. If there is a total overlap of domain among organisations, there is a case of direct competition, and a network may be a trade association. In case of partial overlaps, other network types are conceivable.
5. **Functions performed:** The aim of the network. Möller et al. (2005) have classified networks along a continuum based on value systems. In this classification, networks range from *clearly specified and relatively stable value systems* on the one hand (where the aim of the network may be e.g. demand forecasting, cross-firm management systems, and incremental process changes), to *future-oriented value systems* (aiming at e.g. radical innovation and visioning).

### 2.2 Practical examples of SME networks

As part of the GreenEcoNet EU-funded project, several case studies of SME networks have been analysed, and interviews with both network managers and SMEs have been held. This demonstrates in practice that networking among SMEs takes place in many different ways. Some of the diverse types of networks include local 'Circles of Trust', supply chain partnerships, and online networking platforms. This section provides an overview of the characteristics of such networks.

Duurzom is an organisation in the Netherlands that aims to connect SMEs that have genuine 'sustainable intentions'. Duurzom helps these businesses to turn these intentions into an

agenda for sustainability, with concrete actions. Duurzom's main vehicle for that are a range of local networks ('Circles of Trust') in which small groups of SMEs share their sustainability agendas and help each other to realise them. Although SMEs can 'green' their business on their own, according to Duurzom co-founder Marten Imelman, networking will make this "easier, quicker, and cheaper". Such networking becomes more effective when the members are geographically near each other, which is why Duurzom has adopted the approach of 'Circles' at local level. Members can be from vastly different sectors (and thus even from different value chains), which actually makes networking and information exchange easier as no or fewer competitors are involved in one 'Circle'.

WRAP is a British organisation that works with businesses, individuals and communities to achieve a circular economy. One of WRAP's intervention methods is through the setting up supply chain partnerships which help share best practice and improve resource efficiency amongst members. WRAP creates a partnership with a large organisation to improve their resource efficiency, and pair this with free practical advice for that organisation's supply chain. Through this approach, working relationships were improved, and SME participants were not put at a competitive disadvantage by participating in best practice sharing, as might be the case with sectoral peer based schemes involving competitors (see section 3.1).

The GreenEcoNet networking platform itself connects SMEs that are in the process of the transition towards a green economy. The key function of GreenEcoNet is to provide access to information about 'best in class' green solutions. An important aspect of the case studies is that they show which barriers the SMEs have experienced when implementing the green solutions, and how these were overcome. Other SMEs can use these lessons and in that way learn from the examples set by the GreenEcoNet solutions. The key advantage of an online network is that it is publicly and universally available, facilitating easy access by all potential target groups. On the other hand, an online network does not create a 'sense of community' among its SME members as much as an offline physical network, and potentially diminishing incentives for taking action.

The diversity of network types, that all aim to help SMEs' transition to a green economy model, shows that policy should not be aimed at the creation or support of a particular type of network. Policy should rather focus at increasing mutual interaction and networking among SMEs, through whichever type of network, in order to increase their innovative capacities.

### **3. Policy for SME networking and innovation**

#### **3.1 SME innovation policies**

There are inherent difficulties in cultivating relationships between firms. Joint commitments can be vulnerable to opportunism. Many SMEs are hesitant to network and collaborate in co-opetition arrangements because of a lack of trust, or the fear to be intimidated by a more dominant partner firm (Tomlinson & Fai, 2013, p. 323). It has therefore been suggested that government intervention is necessary in order to create a collaborative rather than a competitive market environment (Huggins, et al., 2012). Others also mention the important role of trade organisations as the appropriate institution to build inter-firm relationships (Zeng, et al., 2010). The examples of SME networks above show that government intervention is not a prerequisite for successful networking. Nevertheless networking for innovation could be supported by governments.

Despite the importance of innovation in SMEs for the overall economy, support for SMEs is in many cases not yet fully embedded in innovation policies. In classical ‘managed economy’ frameworks, innovation policy could merely be focused on the encouragement of basic research in universities and R&D spending in large businesses (OECD, 2010). However, in the new and current ‘entrepreneurial economy’ (Thurik, 2009), policy should be not only aimed at R&D, but on a wider set of aspects, including policy aimed at SMEs. Specific policies should be drafted aimed at SMEs in order to encourage innovation, and – as indicated in section 1 – inter-firm networking is crucial for this. For governments at all decision-making levels it is therefore important to facilitate and/or support the creation of networks, including e.g. business-to-business networks or technology parks.

### 3.2 SME networking policies

Considering that networking is a crucial enabler of innovativeness and competitiveness, policy-makers aim to support and encourage formal and informal networking among and between SMEs as well as universities and R&D labs. In ‘ordinary uncompetitive’ regions, there is usually a lack of knowledge-based infrastructure and accompanying interactive learning amongst SMEs (Huggins & Johnston, 2009, p. 228).

As a result, there needs to be an “emphasis on cooperation and networking and on increasing the interactive capacity of SMEs.” This includes both regional networks, and networks beyond the region or ‘global networks’. Governments should therefore increase the involvement of SMEs in enduring knowledge networks, and enable SMEs to source the most relevant knowledge “by ensuring that their networks contain the requisite level of dynamism” (Huggins & Johnston, 2009, p. 251). The necessary research and development, which in other cases might be implemented by large firms, can then be realised by the tri-lateral networks consisting of public, private and academic stakeholders. In such a system, there are benefits such as “rapid knowledge diffusion and quick adaptation to changing market circumstances” (Chen, et al., 2013, p. 413).

## 4. Policy recommendations

Networking is of key importance for accelerating the transition of SMEs towards a green economy. While SMEs can innovate and implement green solutions individually, the literature and practical examples show that networking is a key means of overcoming the ‘smallness’ of SMEs, and the inherently limited resources that small and medium-sized businesses have at their disposal compared with large corporations.

Even though there are many different types of SME networks, ranging from local business clubs to international federations, the common element is the establishment of ties across businesses. Such ties are a direct source of innovative activity, since firms find it easier to access new ideas, and they can use the inflow of knowledge from others to strengthen their internal innovation. It is therefore important to encourage the development and strengthening of networks, independent of which types of networks these are. Innovation and ‘greening’ of SMEs can be strengthened through their involvement in multiple networks, and it is not necessary to select a specific network type as ideal. However, all types of networks have their specific strengths and weaknesses, which makes that policy-makers should pay close attention to their specific objectives when selecting a specific type of network to support.

In general, policy instruments for innovation can be either oriented on individual firms, or on the wider (regional) system; and instruments can be either based on the input of resources, or

on learning and changing of behavioural aspects. This results in four categories of policy instruments, as shown in Table 1 below. While traditionally most policy instruments are of type 'A', successful SME networking and innovation can be encouraged by policy instruments of type 'D'.

Table 1. Classification of SME innovation policy instruments, with some examples, based on Nauwelaers and Wintjes (2003, p. 209)

Form, focus Target	Input of resources	Behavioural value added
<b>Firm-oriented</b>	<b>A</b> <ul style="list-style-type: none"> <li>• Traditional R&amp;D subsidies, loans</li> <li>• Risk capital</li> <li>• Training subsidies</li> <li>• Research centres</li> </ul>	<b>B</b> <ul style="list-style-type: none"> <li>• Subsidy for hiring innovation managers in SMEs</li> <li>• Management advice</li> <li>• Incubators with 'soft' support</li> <li>• Innovation coach</li> </ul>
<b>System-oriented</b>	<b>C</b> <ul style="list-style-type: none"> <li>• Co-operative R&amp;D projects</li> <li>• Collective innovation centres</li> </ul>	<b>D</b> <ul style="list-style-type: none"> <li>• Proactive brokers, match-makers</li> <li>• Cluster policies</li> <li>• Support for networking</li> <li>• Local strategic plans</li> </ul>

This policy brief shows that networking can increase both (regional) competitiveness and innovative capacity, and can therewith support the transition to a green economy. Specific policy instruments aimed at support for networking, of type 'D', are therefore advisable. Examples of such policies could be support, financial or otherwise, for networking organisations, the setup of small-scale networks (such as Duurzom's 'Circles of Trust'), and the involvement in online networking platforms such as GreenEcoNet.

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## About GreenEcoNet

GreenEcoNet is a project financed by the 7<sup>th</sup> EU Framework Programme for Research, which brings businesses and academia together on an EU-wide platform to support small and medium enterprises (SMEs) in the transition to a green economy. This platform (<http://www.greeneconet.eu/>) allows SMEs in Europe to connect to each other and to share their experiences, innovations and best practices. It thus aims to assist SMEs in optimally reaping the business opportunities of a green economy. Partners in GreenEcoNet are: the University of York - Stockholm Environment Institute, the Centre for European Policy Studies (CEPS), the University of Piraeus Research Center (UPRC), the Ecologic Institute, JIN Climate and Sustainability and the Green Economy Coalition.

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