

Local governments as innovation engines

Abridged version

This is an abridge version of the original Danish language report. For more details about the study please consult the Danish language version or contact Senior Consultant Jeppe Wohlert at jw@dea.nu

Summary and recommendations

Large and complex societal challenges, such as climate change and energy security, require solutions that draw on a range of public-private capabilities. This was the overriding conclusion of the Danish government's 2012 innovation strategy, which called for innovation to be driven by societal challenges to an even greater extent.

The Danish Innovation Strategy set out three pathways for how the public sector could contribute to innovation in the private sector: public funding for research and innovation programs; smarter public procurement that boosts demand for innovative solutions, and participation in newly established national partnerships for innovation.

However, what the national government's innovation strategy, as well as the subsequent 2013 strategy for smarter public procurement, did not consider was the considerable opportunities for innovation – including in public administration – to be found in local government that have established development projects with private businesses and knowledge institutions.

On paper, the innovation strategy's new model for collaboration on innovation – the societal partnerships on innovation – is primarily oriented toward the public sector's role as a regulatory authority. The Danish innovation programs tend to focus on supporting the transfer of knowledge from knowledge institutions such as universities to the private sector, by facilitating collaboration between the two. But local governments have more to offer in development projects.

Local governments have first-hand knowledge of societal challenges and the needs of citizens, which enables them to play a unique role in innovation collaboration between knowledge institutions and businesses – the so-called public-private innovation partnerships (PPIP). As frontline decision makers, local governments must respond to precisely the societal challenges, which the national government believes should play a larger role in driving innovation.

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The ambition behind this report is to highlight the contributions that local governments have made to the traditional innovation partnerships as well as the experiences local governments have accumulated from innovation collaboration schemes in recent years.

DEA's analysis showcases three case studies from the field of climate change and energy supply, where local governments have joined forces with businesses, universities, and hybrid organizations to work on forward-looking innovation projects. For the purposes of this report, hybrid organizations are defined as public-private partnership organizations that enjoy relative independence from the political and governmental sphere as well as from private business. The examples taken from hybrid organizations are noteworthy as examples of how long-term investments into innovation partnership projects have been used to tackle climate and energy supply challenges.

The focus of public-private partnerships has shifted in the last couple of years from large construction and engineering projects to partnerships in the welfare sector. Nevertheless, local governments are setting their ambitions ever higher and have taken on more responsibility for supporting innovative solutions in the field of climate change and in working toward the transition to a greener, more climate-friendly society.

The local governments' willingness to address the climate impact of urban and rural areas reflects the fact that climate change is a policy area where local politicians and civil servants have taken on a very active role, enlisting the help of residents and businesses in developing innovative solutions to the challenges that local governments face.

DEA's analysis is based on 23 interviews with informants with experience from public-private partnerships, as well as a series of conversations with key decision-makers in the area. The interviewees include local politicians, municipal workers and managers, managers of hybrid organizations, academics, and private sector employees. The interviewees represent a range of different perspectives on the role and prospect of local governments partnering with businesses and knowledge institutions on innovation development, and what role they might play.

This report also draws on desk research into the existing body of reports, evaluations and academic papers on public-private innovation partnerships in Denmark and other countries.

Innovation partnership – three cases of PPIPs

This report examines learnings from three case studies of partnerships between local governments, businesses, and knowledge institutions: Gate 21, that works on intermunicipal public-private partnerships; the hybrid organization ProjectZero A-S, which is helping the city of Sønderborg fulfil its ambition of becoming a CO2 neutral municipality by 2029; and *Energiakademiet* (The Energy Academy), a hybrid organization and NGO working with the local government to fulfil Samsø's vision of becoming a fossil fuel-free island.

Each of the three case studies is a context-specific example of how particular local circumstances have shaped the opportunity space and ambitions for a local government's collaboration with businesses and knowledge institutions. Furthermore, they are all cases, where local governments have joined forces with hybrid organizations to deliver on ambitions for transitioning to a greener society.

Gate 21

In 2009, the City of Albertslund decided to establish the organization *Gate 21* as a public-private partnership between local governments, local businesses, and knowledge institutions. Today, the organization has grown to include 62 partners and member organizations – including 26 local governments – and a team of 28 employees.

Gate 21 is tasked with developing and disseminating energy and natural resource-efficient solutions that both support local climate efforts and foster green growth. It operates as a PPIP, allowing businesses and universities to, among other things, field-test new research and solutions in local governments at scale. This mode of collaboration is classified by Gate 21 as *triple helix*.

Gate 21 provides both project management and facilitation for triple helix innovation programs. Specifically, Gate 21 builds professional networks and prepares grant applications to provide outside funding for its partner organizations as well as Gate21 itself. The organization also undertakes extensive communication activities to ensure that learnings from projects are shared among local governments across the country.

Gate 21's projects are built around local governments as the ultimate owners of specific challenges in the climate and energy area and focus on problems that are shared by several local governments. The organization's work includes collecting feedback from local governments through the annual Mayors' Conference, which brings together mayors from each local government partner.

Local governments from the Greater Copenhagen Area make up the majority of Gate 21's list of partners, but Gate 21 is open to every local government in the country. It is also involved in EU projects that have brought in a number of international partners.

As a way of increasing the possibilities for local governments to engage in innovation partnerships, Gate 21 has developed a model for PPIP, that allows local governments to exploit the development opportunities available through their university and business partners before going through a formal tender process.

ProjectZero

In 2007, the city of Sønderborg committed itself to Project Zero, a long-term strategic mission to turn Sønderborg into a CO2 neutral municipality by 2029. ProjectZero A/S was set up to manage the day-to-day development and execution of the project, in close collaboration with local stakeholders, including businesses and knowledge institutions. ProjectZero is partially funded by the city of Sønderborg.

The triple helix collaboration in Sønderborg has largely focused on finding innovative applications for existing technologies through a deeper understanding of citizens' climate and energy behaviour. As part of the effort to meet the challenge of disconnecting CO2 emissions and economic growth, ProjectZero has provided education for residents at the primary school through to post-secondary level and conducted research into how new technologies could be deployed in the area.

In 2012, Sønderborg's work toward its ProjectZero vision led to its admission as a member of the C40 Climate Positive Development Program, a collaboration between the world's largest cities and the Clinton Climate Initiative to coordinate urban climate change responses. Sønderborg's climate strategy was singled out by C40 as a world-leading example and an inspiration to the other cities in their work toward climate change transition.

Sønderborg has managed to create a sense of shared ownership among residents and local businesses for its climate program since it launched in 2007. This sense of ownership has made it considerably easier for the local government and the ProjectZero team to deliver on their goals. A few years into the project, the city even decided to close its own climate office and transfer its responsibilities to ProjectZero.

It has taken several years for the city and the ProjectZero team to align their thinking on the project. Actual collaboration projects, which gradually replaced the monthly status meetings that had been used in the beginning, were especially important in fostering this sense of shared ownership.

With just five members of the ProjectZero team and 5,500 full-time equivalent employees in the City of Sønderborg, achieving buy-in from the local authority staff was a crucial aspect of the project's development. As an example, the city plays an important role in setting an example for residents and local businesses.

The Samsø Energy Academy

The Samsø Energy Academy was set up in 2007 to develop local capabilities in sustainable development, advise on comprehensive collaborative processes, and foster collaboration between residents, local businesses, public authorities, and research and higher education institutions around the idea of Samsø as a sustainable local community. The local government is represented directly in the board of directors of the academy, and indirectly by a local councillor who besides being chair of the councils' technical and environmental committee also happens to be an employee.

The Energy Academy has played a large role in developing the masterplan for Samsø as an island independent of fossil fuels, which is a continuation of the island's first masterplan from 1997 for Samsø to become a 100 percent sustainable energy-based community. In addition to setting out a vision for Samsø's green transition through public-private partnerships, the masterplans have helped spark conversations about the island's future development. Over the years, Samsø has also entered international partnerships with businesses and knowledge institutions from around the world through around 15 EU-funded sustainable energy projects.

As with ProjectZero, the local government's commitment to the island's green transition emerged gradually. In 2002, it came into fruition as the local government co-founded Samsø Havvind A/S (Samsø Sea Wind) with an investment of 125 million DKK (approximately €16.8m) that helped fund five out of ten sea windmills off the coast of the island. The local authority has subsequently established a ferry company and kickstarted demand for bio-gas technology, which is intended to fuel the local bio-gas ferry – the first of its kind in the world – in the long-term.

The developments on Samsø have largely been driven by a group of local enthusiasts and grassroots, and the Energy Academy is largely to thank for mobilizing the local community. In the interviews, trust was identified as a decisive factor in engaging the local community.

The development of Samsø almost resembles a kind of energy democracy, where the community has been deeply involved in the green transition of the island. As an example, this is apparent in the placement of sea windmills according to residents' wishes rather than where wind conditions were most beneficial. Residents also enjoy co-ownership of the island's district heating plants as well as the windmills.

The local government opportunity space for innovation

Below follows a summary of the report's findings from the PPIP case studies. The findings include recommendations on when PPIP between local governments, businesses and universities are needed; how local governments can support innovation in partnerships, and how innovation collaboration can be embedded within local governments.

Why we need innovation partnerships

The analysis suggests that local governments today face new challenges, which prevent them from acting as independently as they did previously when working with the physical development of the city. Local governments are increasingly dependent on outside knowledge and skills – especially in their work on climate adaptation as well as climate change mitigation and in their efforts to plan for a more flexible, sustainable energy system.

At the same time, local governments' long-term strategic commitment to a green transition of society by means of innovation partnerships is also a matter of creating a positive brand – a strong local identity – as well as good conditions for a thriving local business environment. A growing green economy is an explicit ambition in all three case examples in this report.

Dynamics between hybrid organizations and local governments

Hybrid organizations are central players in innovation partnerships. Compared to local governments, the analysis has found hybrid organizations to be more flexible and well equipped to facilitate triple helix partnerships, to pursue long-term strategies, and to respond to the opportunities and priority shifts that arise during partnership programs. Hybrid organizations are not bound by public procurement regulations or municipal charters, which makes it easier for them to tailor their work to specific key stakeholders. Gate 21, ProjectZero and the Samsø Energy Academy also do not operate under the same political compromises as local governments, which provides hybrid organizations with more stability in long-term strategic planning. Finally, hybrid organizations can make decisions more quickly than local governments, whose decision-making tends to involve multiple levels of management as well as elected councillors.

On the other hand, hybrid organizations are deeply dependent on their local governments, which in their capacity as planning authorities determine the long-term direction of the local climate change response. As public authorities, local governments have wider networks with other players in the field, e.g. with utility companies, and a legal mandate to support innovation, which hybrid organizations lack.

Given this interdependence, the hybrid organizations provide a considerable part of the local governments' opportunity to support innovation partnership between businesses and knowledge institutions. Each of the three hybrid organizations has a formalized collaboration with the local authority, whose great involvement has enabled the hybrid organizations to be as impactful as they have been.

Maturing innovative partnerships

The analysis found that the municipal collaboration on innovation is maturing, with PPIPs becoming increasingly professional and the national government showing more interest, but still with room for improvement in the way local governments interact with universities and businesses. The challenge now

is for local governments to improve how they communicate with potential partners about their challenges, to achieve greater clarity on what capabilities they can bring to the table, to work toward larger partnerships rather than sticking to traditional bilateral forms of collaboration, and overall to gain more experience in innovation partnerships. Furthermore, several interviewees called for local governments to adopt a more considered and deliberate approach to innovation partnerships and where, when, and how they make sense.

Most local governments covered in DEA's analysis do not have a formal innovation strategy; it also is not given that formalizing strategies will lead to more innovation. The hybrid organizations featured in the analysis are more inclined to use triple helix partnerships in their innovation work, but for their work to be impactful and anchored in the community, they still need local governments to buy into their strategies for innovation partnership. Fundamentally, there needs to be a shared understanding across local government departments of the necessity of innovation before it can be expected to take hold in the local government as a whole.

Local governments driving partnerships

In addition to the funding of hybrid organizations from local governments, their legal mandate, and their network, the analysis identifies local government procurement as a potential driver of innovation. Local government procurement – which amounted to 85 billion DKK in 2012 – can serve this purpose in so far as funds that have been set aside (for renovating public housing, for instance) are used to invest in innovative solutions that require innovative methods and technologies.

Research suggests that the greatest opportunities for radical rethinking of public services arise when public institutions have a broad scope for dialogue with relevant outside parties. Yet the Danish government's Public Procurement Council has pointed out that the opportunities for dialogue will often be limited as soon as the tender process is initiated.

As independent entities, local governments have a number of other means at their disposal to contribute to innovation in triple helix partnerships – before a formal tender process is started.

The city as a unique laboratory

Urban spaces are unique life-size laboratories, where businesses and researchers can present their products and ideas in a real-world setting and improve their understanding of what it takes to implement them in society, how quickly it can be done, and how solutions affect and are affected by user behaviour.

Long-term strategies are crucial

Each case study in this report is an example of how local governments have set ambitious strategies for long-term delivery on a green transition to a more environmentally sustainable society. A long-term commitment is crucial in providing a reliable political framework, in which businesses and researchers have the possibility of devoting considerable amounts of time and money to developing ideas and products that can uncover innovative solutions to today's problems in the long term. However, local governments are under no legal obligation to become less resource-intensive and more sustainable, so there is a potential conflict in terms of how much time should be set aside for development as opposed to other local government services. Development work requires passionate leaders, city workers, and local politicians, who are willing to invest their time, resources, and personal connections in innovation projects.

Trust is the road to action

Visions need to be backed by action, if the local governments' long-term climate strategies are to contribute to innovation and green growth. Trust is paramount if businesses and knowledge institutions are expected to invest their time, money and knowhow into triple helix projects. Local governments can gain credibility as partners by maintaining a political consensus around the vision, on the one hand, and showing their commitment through actions that make a real difference to the local area, businesses, and knowledge institutions on the other. An important part of building credibility is also for local governments to serve as role models for residents and partners in areas such as energy conservation, where the local government's own behaviour can help change the behaviour of residents and local businesses.

Three challenges to anchoring innovation partnerships

Professionalization of municipal PPIPs has heightened the need to anchor public-private innovation collaboration within the operation of local governments. How can the loss of knowledge and experiences from innovation partnerships be avoided after the funding and collaboration ends? The question of anchoring was a growing concern for local governments and hybrid organizations in the analysis, and the interviews presented three main challenges: skills, learning, and resources.

Upskilling

The development work in PPIPs is a discipline that requires a different set of skills than what has traditionally been needed in core local government services. These innovation projects require passionate civil servants investing time and willpower in the projects, employees willing to supplement their tried-and-tested approaches with new, untested ones, and employees with the ability to integrate the results of innovation projects into daily routines as a city worker. In turn, Innovation partnerships will introduce new skills into the local government, which will make the local government a more attractive workplace that will help attract more qualified talent.

Resources for innovation

It goes without saying that local governments who wish to involve themselves in triple helix projects will need to allocate the necessary time and money – just like businesses and knowledge institutions do. External funding is needed if local governments are to venture into high-risk innovation projects, which most would not consider to be part of the core task of public service providers. This is particularly the case with the increasing need for resources to keep up with the professionalization of innovation partnerships.

Learning

The professionalization of their collaboration on innovation increasingly requires the local governments to be more efficient collaborators. A crucial part of this task lies in local governments' ability to learn from their own experiences and the experiences of others. Just as with every other kind of project-based work, there is a risk that knowledge gained in innovation partnerships will be lost once the project has ended. In the case studies in this analysis, organizational learning from triple helix projects was mostly a priority for hybrid organizations. They are better positioned to work with organizational learning from innovation partnerships, as their entire set-up is geared toward facilitating and driving innovation partnerships from conception to implementation and final anchoring.

Recommendations

Local governments have the potential to be engines of innovation driven by societal challenges. Engines that work with businesses and knowledge institutions to create new innovative business solutions that help field-test research findings and contribute to public sector innovations that promise more effective, higher quality public services.

PPIPs remain challenging to manage as platforms for collaboration between local governments, businesses, and knowledge institutions. But used optimally, they could be used to leverage the 300 billion DKK spent annually on public procurement as a means to a more innovative, competitive society.

This report suggests a number of measures that could improve gains from public-private innovation partnerships:

1 Opportunities for innovation are greatest prior to the public tender process

We need to ensure that the 85 billion DKK that local governments spend annually on procurement is used to increase demand for innovative solutions from businesses and knowledge institutions. But we also should not ignore the need for local governments, businesses, and knowledge institutions to enter pre-competitive development projects before the formal tender process, where the possibility for radical innovation is greatest. The two approaches play complementary roles in expanding local governments' ability to choose innovative solutions. While competitive procurement processes do raise the standard of proposed solutions, they are not necessarily conducive to an open dialogue about the solutions, which businesses and knowledge institutions cannot yet deliver. This dialogue will be constrained by the specifications set out in the request for proposals, which tend to favour proposals that build on existing solutions, rather than ones that are based on radical rethinking of approaches to challenges, such as transitioning to an emissions-free energy supply.

2 Professionalization of PPIP will require more outside funding for local government innovation work

As partnerships continue to professionalize, local governments will increasingly need to secure outside funding for their innovation projects with businesses and knowledge institutions. More resources, both in terms of time and money, are needed if local governments are to be able to prioritize and deliver on their ambitions for greater innovation in response to societal challenges, and a more innovative public sector. Not least in times where municipal budgets are under pressure, while the public expects the same level of basic services. If the intention is for Danish innovation policy to be more closely aligned to societal challenges, then local governments should increasingly be considered as potential candidates for funding from the Innovation Fund Denmark, the Market Development Fund, as well as the Energy Technology Development and Demonstration Program (EUDP), the Green Technology Development and Demonstration Program (GUDP), and the Environmental Technology and Demonstration Program (MUDP). This is already the case in Sweden, where the public innovation agency VINNOVA is driving public innovation through their FRÖN program, which provides funding for public bodies to develop innovative solutions – including local governments.

3 PPIPs must be tied to clearly defined, long-term visions

The case studies in this analysis have demonstrated the great depth and scope of local government PPIP ventures. It is challenging when players as diverse as local governments, businesses, and knowledge institutions come together in projects aimed at boosting the efficiency of public services, finding new and better solutions to the local government's problems, and creating a better business environment. Local governments will have to commit considerable will and resources to building a framework that allows these projects to succeed. Hence it is crucial that when PPIPs are established, the local governments have set out clearly what they wish to accomplish with the PPIP, where and when they will need the innovation collaboration, and with whom they wish to pursue long-term development goals. Working within an PPIP framework is a skill in its own right. Developing it requires local politicians and city workers who have the patience and the ability to focus on more than short-term goals. Long-term visions give the direction that businesses and knowledge institutions need before they can commit to the project. They also position local governments as potential buyers of innovative solutions, which provides an added incentive for businesses to join in development.

4 An innovation strategy is more than a long-term vision

A local innovation strategy is more than a long-term vision statement, e.g. an ambition around low-impact communities or energy efficiency. For one, the local government needs to decide how it plans to support innovation throughout its organization. Second, the local government needs to communicate clearly its challenges and its needs for innovation to potential partners. Innovation strategies are about organizational learning, too. How is the local government planning to act on learnings from the partnerships and implement them at scale throughout the organization? How are they planning to build on good and bad experiences from their own and other PPIP projects?

5 Hybrid organizations are an important platform for public service innovation within local governments

The hybrid organizations featured in this report have shown themselves to be important players in expanding the opportunity space for local governments' innovation partnerships, especially as a platform for organizational learning through local PPIPs. Local governments should make use of the opportunity to cooperate with hybrid organizations since they have other possibilities to support innovation in local government. Not least time, capabilities, and the initiative to set up platforms for innovation partnerships that local governments can join as they go about juggling the competing priorities of their everyday work, where innovation might not always come out on top.