UN!TE 2020 – digitally!

SDG-Partnership Conference Report

Supported by ENGAGEMENT GLOBAL Service für Entwicklungsinitiativen
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STADT OLDENBURG i.O.

UN!TE flags in front of the town hall in Oldenburg. Photo: City of Oldenburg

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1. Foreword by Mayor Jürgen Krogmann

Jürgen Krogmann. Photo: Markus Hibbeler

I would have liked to personally welcome the representatives from our partner municipalities to the UN!TE conference in Oldenburg in June 2020. Unfortunately, this was not possible due to the Corona pandemic and the travel restrictions.

Nevertheless, we managed to maintain contact during this difficult time. For the first time, our conference with the partner municipalities took place virtually. The focus was on the United Nations Sustainable Development Goals (SDGs). Given the global importance of this issue, I am particularly pleased with the good results: Many partner municipalities participated and the discussions were very promising. The digital format sets standards for the future, so I think it is an important complement to our personal meetings.

I would like to thank all partner municipalities for their active participation and fruitful exchange. At this point, I would also like to mention the funding provided by Engagement Global with its Service Agency Communities in One World with funds from the Federal Ministry for Economic Cooperation and Development.

Without these partners, we would not have been able to carry out UN!TE digitally 2020 so successfully.

2. Introduction

The City of Oldenburg had invited its international partner municipalities to the second UN!TE conference in Oldenburg in June 2020 to discuss the local implementation of the Sustainable Development Goals (SDGs). Due to the COVID-19 pandemic, the event took place online.

Around 80 representatives from Oldenburg, Groningen (Netherlands), Høje-Taastrup (Denmark), Vorpommern-Rügen (Germany), Kingston upon Thames (UK), Cholet (France), Xi'an and Qingdao (China) and Buffalo City Metropolitan Municipality (South Africa) shared their experiences with implementing SDG 4 (Quality education), SDG 11 (Sustainable cities and communities), SDG 13 (Climate action) and SDG 17 (Partnerships for the Goals). The SDGs are part of the 2030 Agenda adopted by the United Nations in 2015 with the aim of achieving a more sustainable future by 2030. Oldenburg chose to focus on SDGs 4, 11, 13 and 17 for the conference because they apply equally to all municipal partners.

The idea behind the conference was to hear about examples of good practice from partner municipalities, discuss similarities and differences and explore potential synergies and ideas for future cooperation.

This aspect is crucial for Oldenburg and its partners, who are keen for their collaboration to go beyond bilateral cooperation. They are determined to jointly find solutions to shared challenges, benefiting from each other's experiences and lessons learned.

The conference was supported by Engagement Global's Service Agency Communities in One World with funding from the German Federal Ministry for Economic Cooperation and Development (BMZ).

This report summarises the presentations and discussions during the conference.

"Especially in these difficult times, it is important that we stay in touch and exchange ideas. Together we are stronger and more effective. This applies not only to the fight against the Coronavirus pandemic, but also to other pressing challenges. In Oldenburg, we have recognised early that sustainability is the foundation of our future. In many areas, it has already been firmly established as a principle of action. For us, sustainability does not end at our own city limits: We think globally and see it as an ongoing process, which needs broad social support.

Sustainability already plays an important role in our partnerships with other cities. For example, we have implemented projects on climate protection and renewable energies with Buffalo City Metropolitan Municipality in South Africa and on education with our Chinese sister cities. We want to build on these positive experiences."

Excerpts from the welcome address by Frank Hinrichs (Head of the Mayor's Office of Oldenburg) on behalf of Mayor Jürgen Krogmann

3. Promoting sustainable development at the local level

SDG wheel. Source: Engagement Global

3.1 Localising the 2030 Agenda in municipal partnerships

Jessica Baier, Service Agency Communities in One World/Engagement Global (SKEW)

The 2030 Agenda, adopted by the United Nations in 2015, is a very suitable framework for collaboration in municipal partnerships. It is a global agenda which applies to all parts of the world, directly affects every single municipality and addresses all three dimensions of sustainable development – the economy, the environment and society.

Cities and municipalities, which are the governmental entities closest to the people, have a key role to play in achieving the SDGs. This role is reflected in SDG 13 on sustainable cities and communities. More than half the world's population lives in cities today. Although cities occupy only 2 per cent of the Earth's surface area, they account for 60-80 per cent of global energy consumption and 75 per cent of global carbon emissions. Two thirds of the 17 SDGs can only be achieved in cities. The local level is therefore key for implementing the SDGs and municipalities are recognised as key players.

Equally, the 2030 Agenda is extremely relevant to cities and municipalities. It refers to their current and future challenges and offers a framework for sustainable and integrated urban development planning and monitoring. Localising the 2030 Agenda includes raising awareness of the SDGs, analysing current and future challenges, setting goals and developing strategies for implementation. This is best pursued with a multi-stakeholder approach that includes municipalities, civil society, local businesses and young people. Many municipalities have already adopted the 2030 Agenda and have integrated it in their planning systems.

A promising multi-stakeholder approach is linking the SDGs to municipal partnerships. Municipalities all over the world face similar challenges and can benefit from sharing their local solutions to global challenges. With its SDG 17 (Partnerships for the Goals), the 2030 Agenda promotes this kind of comprehensive, transversal approach. In addition, collaboration on the SDGs creates visibility and thus strengthens the partnerships themselves. There are numerous potential topics for work in SDG partnerships, ranging from climate action and advocacy for sustainable development to waste management and peer-to-peer learning in areas such as sustainability education.

3.2 Keynote: Sustainable development – municipalities – Oldenburg

Jannika Mumme, Coordinator for Local Development Engagement, City of Oldenburg

Sustainable development is a very complex issue that means different things in different places. While driving a car in remote areas of Sweden is a necessity for mobility, it is not a suitable mode of transport in major cities affected by gridlock and high levels of air pollution. Sustainable development is therefore not a question of black or white. A solution may be appropriate for one context but not for another.

Making the world more sustainable requires us to think outside the box. To answer the question "what future do we want?", creativity, imagination, communication and collaboration are needed. It is a joint global effort and societies have to ensure that no one is left behind on this journey. That is one of the 2030 Agenda's core principles.

Municipalities play a crucial role in promoting sustainable development. People live in cities, work in cities and have their social networks in cities, making them the ideal place to connect with the public and raise awareness of the potential for a more sustainable future.

> *"You only love what you know and you only protect what you love. "*
>
> Konrad Lorenz

Communication is key for promoting the SDGs. Positive language is needed to show people how they can directly benefit from sustainable development. A focus should be on local examples that are relevant to the audience's reality. A message about climate change, for instance, is much more powerful when it uses the image of a severe local flood instead of the image of a polar bear on an ice floe in the Arctic Ocean.

People have to be offered convenient opportunities to contribute to a more sustainable future. Good public transport is one such opportunity as it enables people to leave their cars at home with no inconvenience to themselves. In addition, stories of good practice always inspire people and are ideally suited to sustainability communication.

The City of Oldenburg has already started to implement the SDGs in a transversal approach. Localising the 2030 Agenda is part of the City's strategic planning. It created a post for a Coordinator of Local Development Engagement, whose task is to foster cooperation and communication across departments and encourage civil society to support the City's efforts to share knowledge and involve local citizens.

Discussion

Cities are at the forefront of action on challenges such as mobility, climate change adaptation and social equity. It is important for them to work with other stakeholders – young people, educational institutions and civil society. The Fridays for Future movement is an impressive example of how young people can be motivated to campaign for urgent climate action.

For all SDG-related activities, communication is key. People need to understand why they should change their behaviour and the threshold for them to take action has to be kept very low. However, it remains a challenge for some municipalities to draft and implement a communication strategy that addresses these issues. It is also clear that work on the SDGs cannot be successful as long as it is pursued in silos. It has to be inte-

grated into broader municipal planning strategies and monitoring.

Kingston upon Thames: The municipality has a fairly limited scope for action. Many issues relating to sustainable development are subject to central government decisions. The level of decentralisation in each country largely determines municipalities' scope to localise the 2030 Agenda.

Høje-Taastrup: In Denmark, climate change was a major topic in the country's general election in 2019. This political focus extended down to the local level. Climate action receives a great deal of attention in Høje-Taastrup, where a Youth Climate Council was recently established and development plans on the basis of C40 are likely to be adopted in the near future.

Oldenburg: German municipalities can benefit from an indicator system to monitor their current SDG implementation status. These indicators, which are individually assessed, are available for all German municipalities with more than 5,000 inhabitants.

The City invited members of the Fridays for Future movement to a workshop where participants put forward various climate action proposals, such as expanding the network of cycle lanes. Most of these ideas have been adopted by the City Council.

Vorpommern-Rügen: The City of Stralsund in the district of Vorpommern-Rügen is proud to have received the "Municipalities Move the World" award from Engagement Global. It recognises the holistic structures of local development cooperation and partnerships with migrant organisations in this field.

4. Quality education (SDG 4)

SDG 4 Quality Education. Source: United Nations

Technical and vocational education and training (TVET) plays a key role in implementing SDG 4. Which role can local governments and their partners play in promoting vocational training? Digitalisation, innovative approaches to education and a close link between TVET institutions and industry are key entry points for quality TVET.

4.1 SDG 4, TVET and digitalisation

Margarita Langthaler, Austrian Foundation for Development Research, Vienna, Austria

TVET was overlooked for a long time in international agendas such as the Millennium Development Goals and Education for All, but has gained more attention since 2010. This is also reflected in the SDG 4 targets, particularly 4.3. and 4.4. While SDG 4 improves the visibility of TVET and recognises the importance of lifelong learning and non-formal settings, it neglects training in informal sectors. It also "locks" TVET in "growth orthodoxy" and has only weak links to socio-ecological transformation.

Digital technologies can be important learning tools, as has become increasingly obvious since the start of the COVID-19 pandemic. However, digitalisation in TVET faces many challenges, such as a lack of funding, hardware, internet access and trainers' digital skills. Many countries, particularly in the Global South, are not prepared to offer home schooling or remote learning. This increases educational and social inequality between those who have access to digital technologies and those who don't.

It is impossible or very costly to move work-based TVET components into digital learning environments. In addition to digital skills, learners in TVET still need traditional skills. They include foundational skills such as reading, writing and arithmetic, transversal skills such as communication and creativity, and skills which enable learners to re-skill or adapt to new circumstances.

To be prepared for a future that will be increasingly dominated by digitalisation, TVET must take into account frequent technological transitions, which can make skills obsolete quite quickly. TVET must therefore become more flexible and foster closer links with the world of work to ensure that it responds to industry needs. At the same time, TVET institutions must maintain the quality of education, support vulnerable groups and give learners equal access and opportunities.

4.2 Schools of the future

Stine West Dyhr, Project and Development Manager, Institution and School Centre, Høje-Taastrup Municipality, Denmark

Education has to adapt to the rapidly changing world of work because the world belongs to those who can learn to learn, develop and transform. According to the World Economic Forum, an estimated 65 per cent of today's children will work in jobs which do not yet exist. It is therefore necessary to rethink the skills to be taught in schools, not only in terms of traditional subjects, but rather with a vision of sustainable education. In the 21st century, skills such as critical and creative thinking, communication and collaboration are needed more than ever before.

Teaching and learning such skills requires schools to leave traditional classroom thinking behind and to establish innovative learning environments that motivate, engage and inspire students and teachers alike. In project-based schools, learners can choose for themselves which subjects and topics they want to explore. They become creative and learn while they play, build, solve problems and develop ideas in real-life projects. Such an approach calls for a new role for teachers, who have to become mentors, experts, guides and facilitators.

The municipality of Høje-Taastrup plans to establish two project-based schools in partnership with other educational institutions, the private sector, public authorities and the local community. This type of school would provide young people with the opportunity to gain initial insights into vocational education and to move from memorising and consuming information to producing and transforming knowledge, based on motivation, curiosity and the desire to learn.

4.3 The municipal administrations role in the introduction of the dual vocational training system in Xi'an

Jianhong Pan, Vocational Training Specialist, Department of Education, Xi'an, China

In order to promote the construction of a modern economic system, create high-quality employment, follow the technology trends and meet market needs, the vocational education system in China is to be improved, according to the Chinese State Council published an implementation plan for national vocational training reform in 2019.

In line with the Chinese own conditions and peculiarities, the reform of vocational training in Xi'an is based on the German training system for the purpose of developing a dual vocational training system.

In this process, the city of Xi'an will, among other things, intensify international cooperation and professional exchange, further promote cooperation between universities and vocational schools, between industry and education and between business and education, and train highly qualified teachers and administrative staff for the vocational schools.

4.4 Training of industrial internet talents in the dual system

Donghai Liu, Deputy General Manager, Shandong Rhein Koester Intelligent Technology Co. Ltd., Qingdao, China

On behalf of the Chinese government, which is committed to innovative vocational training, the German company Rhein Köster develops and implements high-quality application-oriented training systems for Industry 4.0 and promotes industrial Internet talents in China.

Participants in the workshop on SDG 4. Photo: City of Oldenburg

Rhein Köster pursues an approach that is based on the dual training system in Germany, which combines theory and practice, and builds on partnerships with companies such as Siemens, SAP and CASICloud for practical learning. Study visits and international exchange programs have already improved the quality of vocational training and increased the number of training courses.

The industrial internet requires a strong and well-trained workforce in jobs like edge computing engineering and industrial big data analysis. These professions require skills that go beyond traditional skills and enable learners to convert experiences in the very complex system of the industrial internet into valuable knowledge. To enable employees to work in such a complex system, Rhein Köster built a practical training base including a production line and an intelligent warehouse.

4.5 The district of Vorpommern-Rügen as a training company and recruiter of skilled employees

Carolin Kagels and Carolin Lüllwitz, Department for Low-Value Assets and Vocational Training Support, District of Vorpommern-Rügen, Germany

The German district of Vorpommern-Rügen provides in-house vocational training in order to train its future workforce. It has developed innovative solutions to skills shortage and recruitment challenges. As a training provider, it applies modern teaching and recruiting methods, including involving its apprentices in planning training content. This has proven to be very successful as it increases the learners' motivation.

As it is not easy to find suitable candidates for employment, the district has adapted its recruitment strategy to meet potential employees' expectations and offers them flexible working hours, modern office amenities and other benefits to support a healthy work/life balance, which employees are increasingly demanding.

The district also uses young people's preferred communication channels such as social media for recruitment purposes. It participates in job fairs and organises open days to showcase itself as a quality employer.

New bachelor degree programmes in subjects such as Social Work and Public Law and Administration involve both theoretical and practical training, complement existing TVET programmes and provide new opportunities for training and recruitment.

4.6 Training in the field of industry 4.0/internet of things

Gert Mora Motta, Principal, Education Centre for Technology and Design Oldenburg (BZTG Vocational School), Oldenburg, Germany

The Education Centre for Technology and Design offers 83 vocational training programmes in subjects such as bricklaying, mechatronics and media design. To address the challenges of digitalisation in the workplace, it developed the Keks 4.0 project (Keks = German for "biscuit") in partnership with four other vocational schools. It provides students in automation or IT courses with practical experience in subjects such as the smart factory, data processing, marketing and sales. The TVET school uses the specific example of producing and packaging biscuits and has introduced modern production technologies such as 3D printers. This practical approach to learning enables students to acquire key skills for the future, including disruptive, innovative and critical thinking and the ability to cooperate, communicate and take responsibility.

This learning approach focuses on cooperation and gives learners a great deal of freedom and autonomy, increasing their motivation and learning outcomes. They also have the opportunity to gain future-oriented experience instead of simply acquiring knowledge, which today is easily accessible online.

The project receives the equivalent of USD 1.46 million in funding from Lower Saxony's Department of Commerce, while 10 per cent of the costs are covered by the local school authority. The State Ministry of Education funds the necessary training for teachers to enable them to align their teaching methods to the new training approach.

Discussion

It is a great challenge to change the role of teachers in future-oriented education from instructor to facilitator. Their task is to enable learners to acquire the new skills needed to tackle challenges such as climate change and growing social inequality. In the long run, teaching must be increasingly targeted towards building these new skills rather than simply preparing students for a specific occupation. Teachers need to be up to date with technological developments. By attending regular practical training in companies, they can align their lessons to industry needs.

Digitalisation offers teachers and learners many opportunities for innovative learning. However, remote learning is no substitute for practical training in laboratories or training centres. Digital learning is often underfunded and should become more flexible to meet learners' needs.

Many employers face the challenge of brain drain and question the relevance of the dual training system. They often see students, in whose training they have invested, leave the company after completing the training programme. Countries such as South Africa are also affected with large numbers of skilled workers migrating to work abroad.

5. Sustainable cities and communities (SDG 11)

SDG11: Sustainable cities and communities. Source: United Nations

SDG 11 (Sustainable cities and communities) is the SDG of greatest relevance to cities. It aims to make cities more inclusive, resilient, safe and sustainable. In discussing SDG 11, the conference focused on urban planning, sustainability and extreme weather events such as heavy rainfall and heatwaves.

5.1 Sustainable cities (from a town planner's point of view)

Ulrich Fortmann, City Planning Office, City of Oldenburg, Germany

Oldenburg has been affected by heavy rainfall, summer droughts and heatwaves induced by climate change. The city lacks an adequate level of flood preparedness at present but is planning to improve its flood defence systems in the future. A first step in this direction was the development of a heavy rain hazard map.

The Fliegerhorst on the outskirts of Oldenburg is a former airbase and is currently being developed into a new sustainable neighbourhood. The City of Oldenburg uses many strategies here to support adaptation to the increasing risk of floods, heatwaves and drought. Green roofs, green spaces, ponds and rainwater storage are used to retain as much water as possible, in line with the "Sponge City" concept. These measures also help to cool down the city in hot summers in addition to establishing fresh air corridors.

Mobility, renewable energies and energy efficiency are also important components of a sustainable district. In order to implement this idea, the city sovereignly uses the possibilities of the land-use planning with stipulations in the development plan. However, this has its limits. For this reason, before the fiscal sale of building plots, the city has already determined sustainability measures such as energy efficiency, the provision of charging stations for e-mobility or rainwater storage through an individual catalog of criteria decided by the council. With a stored point system, particularly sustainable projects can be awarded the contract.

5.2 City planning and sustainability: dealing with extreme weather events

Ondela Mahlangu, Communication and Development Cooperation, Buffalo City Metropolitan Municipality (BCMM), South Africa

BCMM breaks down South Africa's 2012 National Development Plan, the 2030 Agenda and the African Union's Agenda 2063: The Africa We Want to the local level with its Metro Growth and Development Strategy. It is embedded in existing legislation, such as the spatial development and disaster management frameworks. The BCMM's vision is to become well-governed, connected, green and innova-

Participants in the workshop on SDG 11. Photo: City of Oldenburg

tive by 2030. To pursue this goal, it involves various local government departments, the private sector and civil society.

BCMM faces various extreme weather challenges, including informal fires, stormwater, severe storms and drought, all requiring a broad range of mitigation measures. The BCMM has established disaster management forums and has started de-densification of informal settlements which are particularly vulnerable. It is also involved in environmental education, including climate change and disaster management programmes in schools and communities which address issues such as water scarcity. Together with the City of Oldenburg and its water management company, the BCMM is working on a hydro-modelling project, which was set up following recent severe droughts.

In the future, BCMM is keen to use GIS to develop risk maps, use the South African Green Book (see 5.3) to inform planning and to develop indicators to enhance early warning systems.

5.3 Green Book: an online planning support tool for adapting South African settlements to the impacts of climate change

Willemien van Niekerk, Council for Scientific and Industrial Research (CSIR) Smart Places, Pretoria, South Africa

A growing number of people in South African cities and towns are likely to be exposed to the devastating impacts of weather-induced natural hazards such as heatwaves, droughts, coastal and inland flooding, wildfires and storms. They threaten livelihoods, increase vulnerability and undermine hard-won development progress.

The Green Book is a freely accessible online planning support tool that provides quantitative scientific evidence on the likely impacts of climate change and urbanisation on South Africa's cities and towns. It includes many maps and risk profiles which visualise different levels of risk relating to issues such as heat stress and hydro-meteorological hazards. Projections are presented with a high resolution of 8 x 8 square kilometres and profiles have been developed

for 213 municipalities and more than 1,600 settlements. The tool helps local governments to identify factors that increase risks and improves their understanding of local vulnerabilities.

In addition, the Green Book presents 81 adaptation actions which the local government can implement to respond to these challenges and to support climate-resilient development, especially in the areas of spatial planning, land use management, infrastructure development, municipal service provision, growth management, environmental planning and urban design.

The Green Book seeks to facilitate the integration of climate change adaptation into local government planning instruments and processes and thus supports the development of climate-resilient cities and settlements. It also includes 11 stories on issues related to climate change such as wildfires, floods, agriculture, drought and settlement vulnerability.

5.4 Nature-based solutions to promote urban sustainability in Xi'an

Prof. Jinfeng Du, Xi'an Jiaotong University, Xi'an, China

Xi'an, which historically has always been one of China's most important cities, has experienced a dramatic population increase, which has resulted in the construction of many high-rise buildings. The city with its population of around 10 million people faces major environmental challenges, including air pollution and smog, urban floods, water pollution and urban heat islands. They are all closely connected to climate change.

The city's urban planning responds to these challenges with nature-based solutions as its key strategy, which is also embedded in the urban master plan. These solutions include ventilation corridors with wind cooling the city, "Sponge City" to retain water, reopening a former lake and greening buildings.

These solutions take place at different spatial scales from neighbourhoods to the entire region and involve various natural elements including water, greenery, wind, sand and cobblestones. The natural processes that the solutions make use of include water infiltration, rainwater retention and detention, water storage and purification.

Discussion

Oldenburg and its partner municipalities face similar weather-related challenges, including heatwaves and floods, but at very different scales. They all have to respond to these challenges and adapt their urban planning accordingly. The first step is to identify risks and then develop and implement suitable solutions. This usually means balancing economic, environmental and social interests and involving stakeholders from various sectors – from researchers, water engineers and disaster specialists to civil society organisations and businesses.

BCMM: The municipality develops its sustainable development strategies with broad internal and external consultations. If people see their own ideas implemented, their buy-in is almost guaranteed.

Groningen: Some areas of the city are used for dual purposes. The wadis (Arabic for a riverbed which occasionally carries water) are usually used as playgrounds or parking spaces, but are turned into water buffers during heavy rainfall.

Cholet: As part of the Gold Flower environmental competition, citizens put forward inspiring and very practical ideas such as establishing more cycle lanes.

6. Climate action (SDG 13)

SDG 13: Climate action. Source: United Nations

Climate change does not stop at national borders. It is a global challenge which affects municipalities in different ways. Oldenburg and its partner municipalities are at different stages of climate change mitigation and adaptation and can thus benefit from each other's experience and lessons learned. A key area of climate action is reducing CO2 emissions by using renewable energies. They include wind and solar, but also innovative solutions such as hydrogen.

6.1 An overview of SDG 13: take urgent action to combat climate change and its impacts

Marie Mévellec, Service Agency Communities in One World, Bonn, Germany

The entire world faces climate change challenges to varying extents, from rising sea levels to droughts and heavy rains. Poor and developing countries, particularly least developed countries, will be among those most adversely affected and least able to cope with the anticipated shocks to their social, economic and natural systems.

The 2030 Agenda puts a strong focus on climate change, stating that it is "one of the greatest challenges of our time" and that "its adverse impacts undermine the ability of all countries to achieve sustainable development". The targets for SDG 13 focus on integrating climate change measures into national policies, improving climate education and awareness-raising and enhancing institutions' mitigation, adaptation, impact reduction and early warning capacities.

All this is of direct relevance to cities, which are therefore required to initiate appropriate and specific mitigation and adaptation actions. This is in line with the 2030 Agenda, which calls for implementation of the 17 SDGs via a multi-stakeholder approach that particularly involves local government and civil society.

6.2 Planning and modelling of an "Energetic Neighbourhood"

Dr Peter Klement, Dr Patrik Schönfeld (DLR) and Steffen Schwalfenberg, City of Oldenburg, Germany

The Fliegerhorst, a former airbase in Oldenburg, is currently being developed into a new neighbourhood. One part of the area serves as a living lab where a research project simulates future energy operations. The goal is to use as much locally produced energy as possible and to plan a highly efficient energy system.

In this area of the Fliegerhorst, fewer restrictions apply and there is scope for innovative solutions. There is a requirement, however, for

Participants in the workshop on SDG 13. Photo: City of Oldenburg

50 per cent of all roofs to be used for energy production or storage, and design guidelines specifically allow for energy production on facades. Traffic will be reduced and green roofs are mandatory.

In an innovative approach, a computer model simulation is used to optimise the area's energy systems, always taking into account commercial and legal requirements. The simulation considers combined heat and power (CHP), electric heating and heat pumps. It reveals that while there is no one-size-fits-all solution, optimal solutions integrate heat and power for flexibility in the electricity sector. It is best to produce energy when it is available and store hot water.

Simulating energy production and consumption before constructing a new neighbourhood has so far proved to be the right approach if municipalities are serious about establishing an energy-friendly neighbourhood. However, they also have to consider that a living lab requires a great deal of input. In Oldenburg, it involves 21 partners from research, local businesses and the municipality and encompasses 130 living units.

6.3 Green transition in Høje-Taastrup Municipality

Marie-Louise Lemgart, Chief Energy and Climate Advisor, Høje-Taastrup, Denmark

Høje-Taastrup municipality has set itself the target of becoming carbon-neutral by 2050 and making electricity and heating fossil fuel-free by 2030. In order to achieve these goals, it aims to improve energy efficiency and reduce CO2 emissions by 3 per cent per year in the electricity generation, transport and land use sectors. The municipality provides energy- saving advice to citizens, particularly home owners, installs solar cells on public and multi-occupancy buildings, promotes e-mobility and develops district heating as a climate-friendly technology.

It helps the municipality in these endeavours to have the backing of Denmark's very ambitious climate policies, as climate change mitigation and adaptation are key political issues here. In addition, the commitment of partners, including neighbouring municipalities, is vital. As a relatively small suburb of Copenhagen, Høje-Taastrup has to cooperate with its neigh-

bours, especially with regard to the heavy traffic passing through the region to Sweden. Local businesses are also important partners. Many of them operate in the transport sector and produce much of the pollution and CO2 emissions in the municipality. Finally, the citizens themselves are key partners in taking climate action by reducing energy consumption and using climate-friendly modes of transport.

6.4 Buffalo City Metropolitan Municipality: state of energy

Rob Ferrier, Acting General Manager, Electricity and Energy Services, Buffalo City Metropolitan Municipality (BCMM)

The supply of electricity in South Africa is centralised and is heavily dependent on fossil fuels. However, like many other local authorities, BCMM is committed to exploring alternative local, climate-friendly solutions for energy generation. Decentralised energy generation involves great efforts and requires changes to processes, by-laws and tariffs. At present, there are no feed-in tariffs available, which means that locally generated energy from roof-mounted systems is for household use only and cannot be fed into the grid.

BCMM obtains its electricity from ESKOM, South Africa's public utility and largest producer of electricity in Africa. However, the municipality is keen to reduce its reliance on ESKOM and utilise its vast sustainable energy potential. Potential sources of renewable energy are wind and solar farms, natural gas harvested at waste sites, sewage plants and hydroelectric generation from Buffalo River.

BCMM plans to carry out a renewable energy audit and develop a renewable energy strategy. It has already established a load control system and has equipped all main roads with LED lighting. Another idea is a smart power grid, which enables electricity to be stored and regulates consumption. Small-scale renewable technology such as roof-mounted solar panels, which produce energy close to the end user, also have major potential. Because South Africa has a high solar irradiance, solar energy has potential to be competitive compared to fossil fuels.

6.5 Renewable energy and the urban environmental challenges in Chinese cities

Prof. Yupeng Wang, Assistant Dean, School of Human Settlements and Civil Engineering & Vice Director, Built Environment & Sustainability Technology Research Center, Xi'an Jiaotong University, Xi'an, China

It is a distinct feature of Chinese cities to have many high-rise buildings, not only in the city centres, but also in residential areas. However, in areas with many high-rise buildings, two environmental problems have become particularly serious: heat and air pollution. While sealing of soils results in heat storage and release, poor urban ventilation contributes to heat concentration and air pollution, exacerbated by heavy traffic in areas with a high population density.

At Xi'an Jiaotong University, several urban environmental solutions have been developed. Hard surfaces have to be reduced and urban vegetation and ventilation increased. In addition, it is necessary to reduce the number of private cars in the city and promote public transport.

Renewable energies provide promising solutions to reduce CO2 emissions in Xi'an. One of them is geothermal energy, which is planned to cover more than 10 per cent of heating energy consumption in new buildings across the province of Shaanxi, where Xi'an is located. Another source is biomass, 74 per cent of which is generated from energy crops and 26 per cent from waste. Solar heating has great potential for many small towns not covered by the centralised heating system. Wind energy use has grown by 20 per cent in 2017 and by 12.5

per cent in Shaanxi province in 2018. It is vital to identify risks and challenges associated with each of these energy sources to inform planning.

Discussion

It makes a big difference if a small city as Høje-Taastrup or a 10-million city like Xi'an aims to reduce greenhouse gas emissions and adapt to climate change. The scope of potential local climate action also depends to a large extent on financial support (subsidies) and on the status of climate policies at the national level, which can push the local level to become equally climate-friendly. It is important for municipalities to inspire other stakeholders to identify the benefits of climate action and to secure their buy-in. Providing examples of good practice is a promising strategy here.

There are many technical solutions available, which all have their specific strengths and weaknesses depending on the location. Research can play an important role in developing suitable solutions. Climate action requires a multi-stakeholder approach that involves citizens, civil society, research and the private sector.

Groningen: The municipality assists businesses to make their operations more climate-friendly and advises citizens on greening their energy consumption.

BCMM: A stable energy supply is a challenge, particularly when using renewable energies which require good storage capacities.

Høje-Taastrup: Small cities can't develop innovative tools and strategies themselves. They should therefore work together to commission studies, develop innovative solutions and inspire each other.

7. Partnerships for the Goals (SDG 17)

SDG 17: Partnerships for the goals. Source: United Nations

SDG 17 describes what the UNI!TE partnership conference was all about: cross-border cooperation, which is crucial for solving global problems. During the five conference sessions, municipal representatives shared their experiences and lessons learned, offered insights into local solutions and presented innovative ideas and local visions about how they want to live in their municipalities in the future.

The conference showed that municipal partnerships are an ideal framework for this kind of exchange and knowledge sharing. Participants were invited to continue their peer-to-peer learning; to that end, Engagement Global has established a digital platform, to which all participants of "UN! TE 2020 - digitally!" were invited.. They were also encouraged to make use of various funding programmes and advisory services on localising the 2030 Agenda provided by national organisations such as VNG International in the Netherlands, Cités Unies in France and Engagement Global in Germany.

7.1 Ideas for further exchange

SDG 4 (Quality education)

Oldenburg and its municipal partners see a need to further explore the skills needed in the 21st century workplace. In a pilot project, several TVET schools could work together on defining the skills that teachers need in their new role as facilitators and proposing new content and formats for teacher training to take account of lifelong learning and cooperation between education institutions in TVET. Participants were also interested in exchanging ideas on how to adapt learning environments and how to ensure that all learners are provided with equal opportunities. A first step could be international exchanges between students and teachers from partner cities and districts.

SDG 11 (Sustainable cities and communities)

The multi-usage of areas is a very appealing idea in relation to municipalities' climate change adaptation potential. Conference participants were interested in exploring these opportunities and learning from each other's experiences, particularly from the wadi approach in Groningen.

The partner municipalities are keen to improve their water efficiency and are interested in exploring strategies together; options include changing habits, adapting regulations and implementing innovative water harvesting technologies.

Mayor Jürgen Krogmann at the closing event. Photo: City of Oldenburg

SDG 13 (Climate action)

Groningen has not used the 2030 Agenda as a framework yet, but aims to explore its potential as a tool to communicate and promote the sustainable development measures that the city is already implementing. In addition, Kingston upon Thames is very interested in learning about other municipalities' approaches to local energy generation with technologies such as wind farms or hydrogen. Kingston could benefit from the experience gained in Oldenburg and Groningen, which use locally produced energy from wind and hydrogen in climate-friendly neighbourhoods.

"Our network of sister cities is built on a solid foundation. This UN!TE meeting has once again strengthened my conviction that together we have a lot of valuable potential. The exchange during this conference was not only pleasant, but also cooperative and profitable. And this is exactly what we need to face the challenges of our time. Even if the national and local goals coincide, local strategies are often individual and have to be found under local conditions. This is where a network of different partners can help in learning from each other."

Excerpts from the closing remarks by Jürgen Krogmann, Mayor of the City of Oldenburg

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