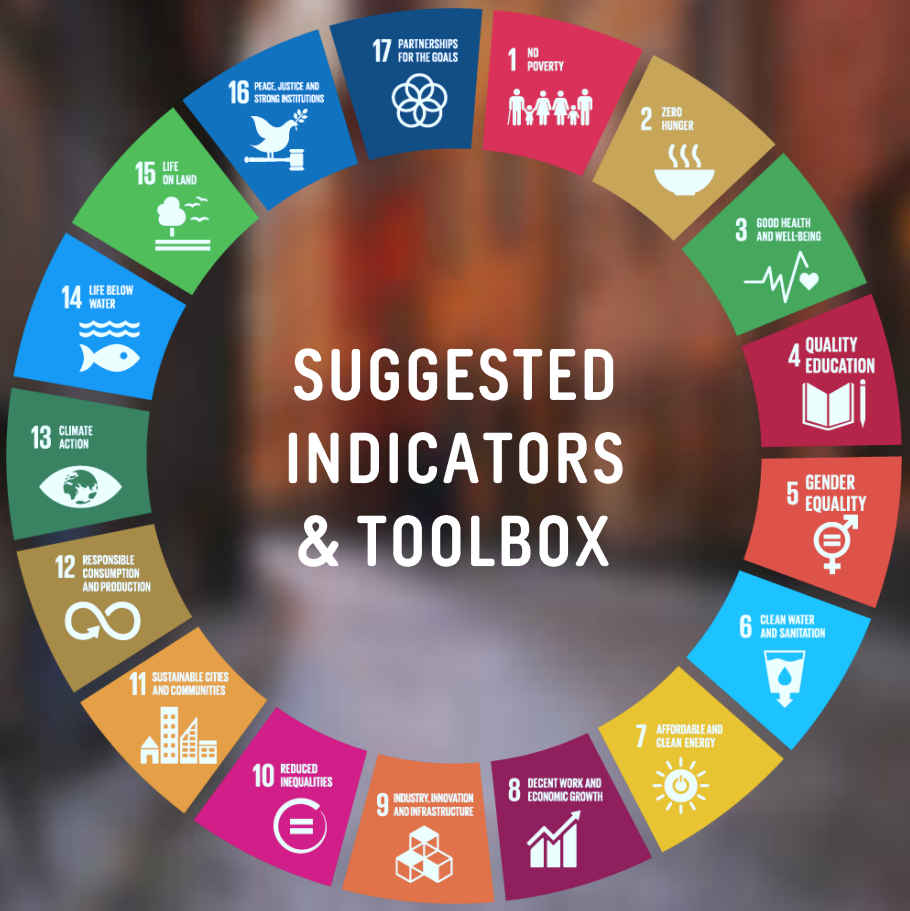
December 2018



SUGGESTED INDICATORS & TOOLBOX

ATTRACTIVE AND SUSTAINABLE NORDIC TOWNS AND REGIONS

SWECO

1. EXECUTIVE SUMMARY

Urbanization represents both a key challenge and opportunity the Nordic region faces in its transition to a green economy. This project on green transition and competitiveness in Nordic urban regions aims to help to make Nordic towns part of the solution to environmental and climate challenges. The project is designed to identify indicators and methods for attractiveness and determine how the quality of small and medium sized towns affects the environment, public health and the creation of attractive jobs.

18 SMALL AND MEDIUM SIZED NORDIC TOWNS – BOTTOM UP DEVELOPMENT

A network of 18 small and medium sized Nordic towns was established by an invitation to apply. The selected towns have defined their own focus areas within the scope of the project. The Norwegian Ministry of Climate and Environment, The Norwegian Ministry of Health and Care Service and The Norwegian Ministry of Local Government and Modernization leads the project. Sweco is hired to support the project by suggesting indicators and methods that support attractive and sustainable town development.

SUSTAINABLE DEVELOPMENT GOALS AS A COMMON FRAMEWORK

Sweco suggested that the UN sustainable development goals (SDGs) should be an executive framework for the project and should serve as a common ground for work on sustainability and attractiveness in the Nordic towns throughout this project. The SDG framework responds to what residents want, the world over, and works as a common denominator for working on both sustainability and attractiveness. Working on sustainable development together at different geographical scales, global, national, regional and local, has the potential to improve the quality of life for residents and promote new economic opportunities for green growth. As the world turns towards more sustainable modes of living and development, countries, regions, cities, towns and territories that invest in sustainability today will be ahead of the curve and acquire a competitive edge over other regions for development and investment.

30 SUGGESTED INDICATORS FOR ATTRACTIVE AND SUSTAINABLE NORDIC TOWNS

In this report we have suggested a selection of 30 different indicators. They focus on issues that are important for small and medium sized Nordic towns where common issues are; developing attractive and liveable town centres, ensuring sustainable mobility patterns, attracting and keeping young people, investigating new ways for citizen involvement and cocreation, enabling sustainable town growth and facilitating business development. The suggested indicators aim to illuminate the issues brought up by the towns, while not ignoring the issues and trends we know affects the Nordic region in general like urbanization, digitalization, climate change and integration. The selection of indicators also aims to meet the Sustainable development goals that are considered most relevant for small and medium sized towns in the Nordics.

A TOOLBOX OF 60 SUGGESTED MEASURES, METHODS AND ACTIONS FOR ATTRACTIVE AND SUSTAINABLE NORDIC TOWNS

The toolbox is a gathering of inspirations on how to work with concrete measures for attractive and sustainable town development. Indicators can provide direction, but they do not alone contribute to sustainable urban development or ensure urban qualities. The toolbox is therefore a more practical approach that compliments the suggested indicators. The toolbox should not be read as a A-Z cookbook for successful local development, but rather as an inspiration for further local adaptation of a towns practice based on their local conditions. Sweco have mapped existing tools, methods, guides and measures that can be used as an inspiration at a local level to further secure sustainable development and ensure urban qualities within small and medium sized Nordic towns.

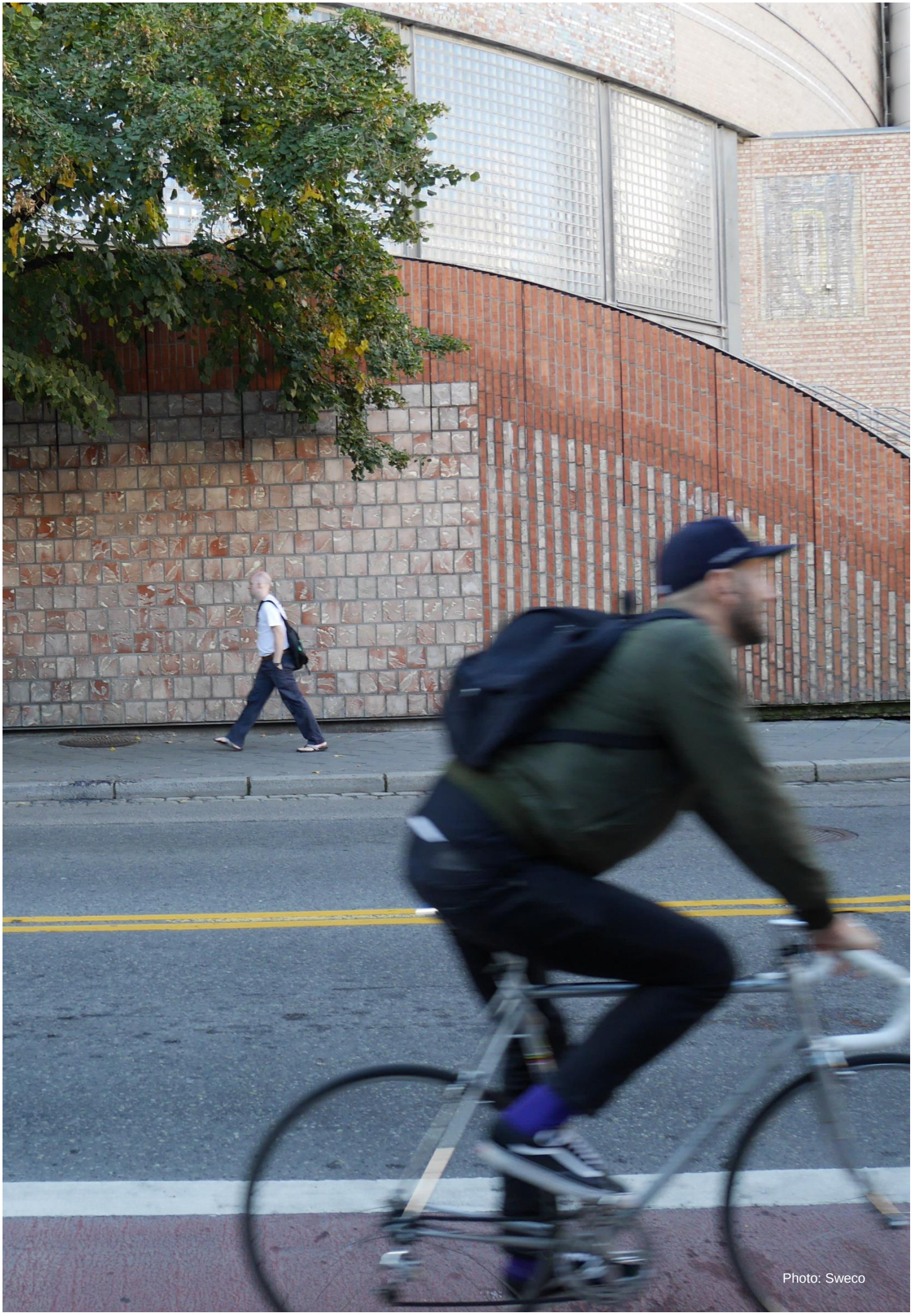


Photo: Sweco

REGISTRY

2. BACKGROUND

One of the main priorities for the Nordic Council of Ministers is "The Nordic Countries in Transition". Norway held the presidency of the Council in 2017 and then launched the presidency project "Attractive towns. Green redevelopment and competitiveness in Nordic urban regions. Towns that provide a good life for all", is one of several initiatives to promote Nordic competitiveness, green redevelopment, the transition to a low-emission society, integration and a good environment for public health.

The project is led by the Norwegian Ministry of Local Government and Modernization in cooperation with the Ministry of Health and Care Services and the Ministry of Climate and Environment.

PURPOSE

Urbanisation represents both a key challenge and an opportunity that the Nordic region faces in its transition to a green economy. This project on green transition and competitiveness in Nordic urban regions aims to assist Nordic towns to contribute with part of the solution to global environmental and climate challenges. The project is designed to identify indicators for attractiveness and determine how the quality of small and medium sized towns affects the environment, public health and the creation of attractive jobs.

The presidency project will prepare a joint Nordic strategy for how towns and their surrounding areas can become more attractive through the development of vibrant and inclusive urban environments that are economically, environmentally and socially sustainable. Environment- and climate-friendly solutions, social balance and equal opportunities for all, good social and public health services, cultural activities, vibrant town centres, historical-cultural objects and environments, good blue-green structures, urban spaces and architecture, coordinated land use and transport solutions and attractive job opportunities are important elements to achieve that goal.

The project consists of four subprojects:

1. Mapping, development and use of methods to measure urban qualities and sustainability
2. Share knowledge between Nordic decision makers, administration and academic communities
3. Contribution to handling complex decision-making challenges in urban regions
4. A common Nordic strategy for attractive and inclusive urban environments

A network of small and medium sized Nordic towns is established by an invitation to apply. The advertisement was announced on the web sites of the Nordic Council of Ministers, underlying Nordic thematic groups and through the Nordic networks of The Norwegian Ministry of Climate and Environment, The Norwegian Ministry of Health and Care Service and The Norwegian Ministry of Local Government and Modernization.

The networking towns are:

Denmark: Sønderborg, Middelfart, Viborg
Finland: Pori, Salo, Vasa
Iceland: Akranes, Hornafjørdur, Mosfellbær, Fljotsdalsherad
Sweden: Växjö, Lund, Ystad
Norway: Hamar, Narvik, Innherredbyen (Steinkjer, Levanger, Verdal)

3.PREFACE

This report corresponds to subproject 1 "***Mapping, development and use of methods to measure urban qualities and sustainability***", of the Attractive Nordic towns and regions -project. The report describes the work done by Sweco in testing and suggesting indicators, and mapping of methods that support sustainable and attractive town development.

Sweco started to work on this project in February 2018 and will follow the project until its end in December 2019. This report elaborates on the first phase of the project where indicators and a "toolbox" for attractive and sustainable Nordic towns are suggested. In the following, we describe some of the key concepts in use and our methodical approach, before presenting our suggested indicators and toolbox for attractive Nordic towns.

In this project the focus has been on the issues brought up by the small and medium sized Nordic towns. However, the issues and trends we know affects the Nordic region in general have also been a foundation for the work.

UN SUSTAINABLE DEVELOMENT GOALS – A COMMON FRAMEWORK FOR ATTRACTIVE NORDIC TOWNS

Sweco suggested that the UN sustainable development goals (SDG) should be a comprehensive framework for the project and should serve as a common ground for work on sustainability and attractiveness in the Nordic towns throughout this project. The SDG framework works as a common denominator for working on both sustainability and attractiveness. Working on sustainable development together at different geographical scales, global, national, regional and local, has the potential to improve the quality of life for residents and promote new economic opportunities for green growth. As the world turns towards more sustainable modes of living and development, countries, regions, cities, towns and territories that invest in sustainability today will be at the forefront of development and accrue a competitive edge over other regions for development and investment.[1]

A challenge when using the SDGs is to redefine them within the Nordic context and map the relevance for small and medium sized Nordic towns. Since only part of the goals and sub-goals are easily measurable at local levels Sweco has mapped different frameworks, approaches and indicator-sets to find effective and meaningful indicators for sustainable urban development for Nordic towns. Nearly all the SDGs have targets that will depend on local government action, including SDG 11. Localization is the process by which local authorities and local stakeholders adapt and implement these targets within cities, towns and human settlements. Most countries, including the Nordics, today have multi-level governance structures, meaning that urban and local governments are directly responsible for delivering a large part of the

Challenges for small and medium sized Nordic towns

While the Nordic countries are generally at the international forefront of sustainable urban development there are some challenges that are pressing.

For some small and medium-sized towns, high **unemployment** rates for certain groups of the population pose a real challenge, the ongoing **urbanisation** and the **transformation to a more service- and knowledge-oriented labour market** are other challenges

Although from an international perspective the local environment and ecosystems in the Nordic countries are relatively sound, some local challenges remain. These include sustainable tourism and urban sprawl. How to ensure sustainable consumption and production patterns, as well as acting to combat and adapt to climate change, are also common challenges in the Nordic countries. For many small and medium-sized towns, having access to the right competence (and enough of it) within the public sector is a real challenge. Within the 18 networking towns some other common issues are raised as pressing, including; developing attractive and liveable town centres, ensuring sustainable mobility patterns, attracting and keeping young people, better ways for citizen involvement, enabling sustainable town growth and facilitating business development.

1 UN SDSN, *SDG cities guide; Cities and a territorial approach to the SDGs,* 2018

national governments' commitment to the SDGs[2]. Given their critical role, local governments cannot be mere implementers of a global or national SDG agenda. They need to be partners in co-creating and defining policy and programmatic responses, and actively implement and monitor progress against the goals and targets.

DEVELOPING USEFUL TOOLS AND INDICATORS FOR SMALL AND MEDIUM SIZED NORDIC TOWNS

There are many different methods, frameworks, strategies and guides in use for measuring sustainable development, aimed at different scales of cities and audiences. Our work has oriented towards developing a manageable set of indicators which are meaningful, measurable and action-oriented as well as tailored for a Nordic urban context and can easily adapt to the individual needs of towns.

Indicators for the development of sustainable Nordic towns reflect all three areas of sustainability and include safety, segregation, land use and planning, well-being and health, attractiveness, business and industry and governance challenges.

Through their ongoing work on single projects, as further described in each of the four groups` action plans, the 18 networking towns all address issues regarding sustainability and attractiveness within small and medium sized Nordic towns in different ways. The networking towns and Sweco participated in a common plenary session in Viborg (DK) in April 2018, where action plans for attractive and sustainable towns were presented and revised. In Viborg Sweco performed an initial mapping-workshop together with the networking towns to get input on what the networking towns perceive as strengths, weaknesses, opportunities and threats regarding their towns' attractiveness. The towns also prioritized which three SDGs they felt were most important for their towns' attractiveness. Based on their input, Sweco suggested a set of 20 indicators that support the issues brought up in their ongoing work while also attending to the holistic scope of the SDG framework. This process is further described in the chapter *Methodical approach*.

Based on the input from 18 small and medium sized Nordic towns, Sweco suggested a set of indicators that support the issues brought up in their ongoing work while also attending to the holistic scope of the SDG framework

A challenge when using the SDGs is to redefine them within the Nordic context and map the relevance for small and medium sized Nordic towns

2 Cities Alliance. *Sustainable Development Goals and Habitat III: Opportunities for a Successful New Urban Agenda.* 2015. P.19.

4. KEY CONCEPTS

In the following chapter, Sweco's understanding of some of the key concepts in use in this project are elaborated and clarified.

SUSTAINABLE DEVELOPMENT GOALS (THE SDGS)

The Sustainable Development Goals are the "blueprint" to achieve a better and more sustainable future for all. The goals are a collection of 17 global goals set by the United Nations General Assembly in 2015. The SDGs are part of Resolution 70/1 of the United Nations General Assembly "Transforming our World: the 2030 Agenda for Sustainable Development", widely referred to as the "2030 Agenda." The goals are broad and interdependent, yet each goal has a separate list of targets to be achieved. Achieving all 169 targets would signal accomplishing all 17 goals. The SDGs cover social and economic development issues including poverty, hunger, health, education, global warming, gender equality, water, sanitation, energy, urbanisation, liveability, environment and social justice. The SDG agenda is universal and applies to all countries at all administrative levels.

The Sustainable Development Goals are the "blueprint" to achieve a better and more sustainable future for all. The goals are a collection of 17 global goals set by the United Nations General Assembly in 2015

ATTRACTIVENESS

Attractiveness can be defined in different ways. Attractiveness can be *the quality of being pleasing or appealing to the senses* or *the possession of qualities or features that arouse interest*[3]. Sweco's approach to the concept of attractiveness of small and medium sized Nordic towns is that attractiveness should include not only the aesthetic features of a town. It should be **defined by the interaction between two dimensions: the emotional and the functional environment**. The emotional environment involves "soft" issues such as identity, aesthetics, nature, culture and democracy. These areas will however often have "hard "implications like an increased willingness to walk for longer distances through aesthetically pleasing urban environments. The functional environment concerns the supply of public and private services, area planning, job opportunities and infrastructure.[4] Developing attractive Nordic towns implies that both the emotional and the functional environment need to be included.

Attractiveness can be defined by the interaction between two dimensions: the emotional and the functional environment. The emotional environment involves "soft" areas such as identity, aesthetics, nature, culture and democracy. The functional environment concerns the supply of public and private services, area planning, job opportunities and infrastructure

SMALL AND MEDIUM SIZED NORDIC TOWNS

There is no generally agreed European definition for small and medium-sized cities (or towns). Small and medium-sized towns can be defined in many ways. There is not (and cannot be) one single and universal definition, mainly because it is a relative concept with different meanings and implications in different contexts. A harmonised set of data for smaller cities and towns across Europe is not available. However, small and medium-sized towns present "a 'real' object because of their specific (common-sense) shared cultural meaning that evokes certain common images and an, often implicit, understanding of what the characteristic territorial features of such places are"[5].

The definition of a small and medium sized Nordic town is therefore in this project limited to all Nordic towns smaller than the four largest urban areas in the Nordics.

3 The Oxford Dictionary, 2018
4 Tilväxtverket, 2018, *Pilotkommuner för attraktionskraft*
5 Servillo et al., 2017, p. 2f.

Different national authorities have produced different city/town definitions [6] and thus also defined small and medium-sized cities/towns based on their own needs. Any breaking point between large, medium and small cities/towns are arbitrary and dependent on what rationale is used and the defined purpose of the classification. In this project all Nordic towns except the 4 largest urban areas in the Nordics were invited to apply. Regarding Iceland, all towns were invited to apply except Reykjavik. The definition of a small and medium sized Nordic town is therefore in this project limited to all Nordic towns smaller than the four largest urban areas in the Nordics.

INDICATORS

Sweco suggests a pragmatic, rather than a strict definition of what an indicator should be. This is to be able to accommodate both small towns with limited resources for monitoring a wide range of sustainability aspects, while also accommodating towns where monitoring by indicators are already integrated in their current practice. Sweco' s definition is that **an indicator is any group of instruments that together give an indication of the state of the social, economic and/or environmental aspects of a town.** Based on this, Sweco suggests indicators that can be measured both quantitative and qualitative and at different geographical scales.

An indicator is any group of instruments that together give an indication of the state of the social, economic and/or environmental aspects of a town.

TOOLBOX

Indicators alone do not contribute to sustainable urban development or ensure urban qualities. They simply show direction of the development in relation to the goal. In this project, Sweco has identified **methods, measures, actions and cases that compile a "toolbox" that can be used as an inspiration at local level to further secure sustainable development and ensure urban qualities.** While "one tool doesn't fit all", this toolbox will have different suitability depending on the local conditions in the networking towns. In the toolbox-chapter Sweco has done an evaluation of some of the various tools available and recommend in which conditions they are most suitable and what objectives they best respond to.

A toolbox is a compilation of methods, measures, actions and cases that compile what we call a "toolbox" that can be used as an inspiration at a local level to further secure sustainable development and ensure urban qualities in small and medium sized Nordic towns

6 Nordic Council of ministers, 2018, *State of the Nordic Region 2018*

5. METHODICAL APPROACH

In the following chapter the working process towards Sweco' s recommendation of indicators for this project is clarified.

There are a lot of existing indicators and indicator frameworks that aim to measure aspects of sustainability and urban qualities. Our scope of work has been to map existing indicators, collect relevant indicators for testing, testing indicators in Nordic towns and suggest indicators that provide small and medium sized Nordic towns with a basis to make informed decisions on important sustainability aspects in their towns.

We will first explain our methodical approach in suggesting, testing and reviewing indicators before elaborating on some of the common challenges in recommending indicators that should fit both small and medium sized Nordic towns as this form the backdrop of our process.

ESTABLISHING INDICATOR-CRITERIA

What is a good indicator for measuring attractiveness in small and mediums sized Nordic towns? When selecting indicators to test, Sweco proposed a set of criteria to meet the context of small and medium sized Nordic towns. In addition, the towns have given their input on what criteria they think the indicators should fulfil. It is apparent that finding the perfect indicator that fulfils these criteria is practically impossible. We have however used these criteria actively in the search for possible indicators. The suggested indicators, presented in this report do not all fulfil the entire criteria set, but we have aimed to include indicators with different qualities.

MAPPING EXISITING INDICATORS

There is a great deal of existing indicator sets, frameworks and approaches for measuring and monitoring progress in cities who want to address sustainability issues, however, most of these are designed for larger cities. Regardless, some of them can still provide inspiration for further development of indicator-work. It is therefore reasonable to build on established knowledge and frameworks when elaborating a framework for Nordic towns. Sweco found inspiration for indicators from these frameworks when indicators for testing in the context of small and medium sized Nordic towns were selected. In the toolbox chapter Sweco has listed some of the most relevant indicator-frameworks found during the mapping process.

SELECTION OF INDICATORS TO TEST

Sweco started the indicator selection by assessing the 232 global indicators (The UN Global Indicator Framework) directly linked to the SDGs. Many of them relate to assessments more suited for national and regional levels where statistics are up to date and based on populations that can provide statistical significant results. With the indicator-criteria list in mind Sweco understood that there would be a need for a

Criteria for selecting indicators

1 - It should be complete, to cover all the elements of sustainability that are relevant from a Nordic perspective for small and medium sized cities.

2- It should be scalable, to be functional for both small and medium sized Nordic towns.

3- The data material needed to measure indicators should be relatively easy accessible to ensure implementation and use of indicators.

4- It should be relatively cost and/or resource effective to collect data

5- It should be relatively easy to understand, use and communicate to the public.

6- It should feel relevant for municipal public policy decision making and should be linked to established local goals.

7- It should be relatively easy to set the system boundary for the data. This means that indicators that require data that are hard to break down to a municipal level or local level have generally been avoided..

pragmatic approach when suggesting a limited number of indicators for small and medium sized Nordic towns, meaning that both qualitative indicators and survey indicators should be included to provide flexibility and scalability to our suggested indicator set. Some of the Nordic towns in the project signalled that there was a desire to keep the number of suggested indicators to a manageable level, meaning that around 15-30 indicators where within range for a small and medium sized town. Sweco ultimately suggested 20 indicators for testing mainly derived from the listed frameworks in the toolbox chapter. The suggested indicators aimed to meet the challenges and opportunities small and medium sized Nordic towns face, as well as their requirements for understandable, scalable, flexible and easy to use indicators.

TESTING

Sweco executed an informal assessment using a "score card" where the towns assessed the 20 suggested indicators using five assessment criteria. The score cards were designed to provide the consultant with input on what issues that are most important for the towns when using indicators. The assessment criteria reflected Sweco's suggestion of what should be the five most important benchmarks for a useful indicator, meaning that the indicators should at least fulfil these five criteria to some extent to "pass the test".

The towns were asked to assess each indicator according to the five criteria with three possible answers, 1) fulfils these criteria 2) fulfils these criteria to a certain extent 3) does not fulfil these criteria. The purpose of the testing was mainly to better understand the needs of the networking towns in relation to monitoring progress through indicators and. The five assessment criteria were:

- Relevant for municipal policy decision making and linked to established local goals?
- Relatively cost and/or resource effective to collect data?
- Meaningful for your town in relation to geography, affluence, size or political structure?
- Understandable and not overly complex?
- Clear as to whether changes in the indicators are good or bad?

Each town then assessed the 20 indicators using colour coding. They were also asked to provide further comments or questions linked to the indicators.

REVIEWING

15 out of 18 networking towns completed the score-card assessment form. This provided a generous amount of information and feedback from all the Nordic countries and from towns of different size and geography. Sweco also got many comments on specific indicators, suggestions for new indicators and valuable input on the definitions of attractiveness and sustainability. It needs to be underlined that the

The networking towns Wishlist for the perfect indicator:

It should create the scene for a deeper discussion

It should have a clear link between cause and effect

It should build upon easy accessible data

It should be agreed upon and supported

It should provide direction

It should be reliable

It should be simple and easy to understand

It should be comparable

It should make people happier

It should be effective

score-card assessment was not a designed survey and the results from the networking towns assessments can only be read as subjective input from the participants in this project, meaning the results does not necessarily represent the municipal organizations views nor is it quantifiable. Therefore, the results from this informal assessment should methodically be handled the same way as for example data collected from interviews. To get at more nuanced view of the towns' assessments, Sweco followed up the written assessment with short phone interviews with each group leader after the assessment to better understand the results.

The overall feedback from the networking towns during the testing resulted in a revision of the initially suggested indicators to better meet the reported needs of the networking towns in relation to indicators.

RECOMMENDATIONS

Sustainable development requires a holistic approach. To provide flexibility for the networking towns, Sweco suggests that the town administrations should be able to implement a process of assessment by choosing and monitoring a set of qualitative and quantitative indicators step by step. Swecohas suggested a selection of indicators that aims to correspond both to the three dimensions of sustainability as well as to the concepts of attractiveness and urban qualities. These indicators can be used together to get an impression of the town's status with regards to attractiveness and sustainability, or individually to support and illuminate certain prioritized issues.

These indicators can be used together to get an impression of the towns status with regards to attractiveness and sustainability, or individually to support and illuminate certain prioritized issues.

The use of data, both input and output, should always be handled with caution, especially when it comes to the less measurable issues. The results of an indicator assessment could indeed be biased depending on the scope and formulation of an indicator, especially in the adaption to local contexts. Indicators and the quality demands for input and output should therefore be discussed, shared and communicated to develop a "collective intelligence" within the town administrations. Internationally renowned methods of assessment should be used when appropriate in the context (e.g. for CO2 emissions the International Protocol for Climate Change methodology or Life Cycle Analysis), without preventing creativity in finding alternative indicators to measure the broader context and secondary effects, such as broader than standard GDP. Keeping these precautions in mind, Sweco suggests that the towns use a combination of key indicators supplemented with survey data for a more holistic and robust assessment that safeguards the needs for flexible and easy to use indicators.

COMMON CHALLENGES WHEN PROPOSING INDICATORS

A range of obstacles have become apparent at this stage of the project. The following are problems that are an inevitable part of a new monitoring system construction process and they are perceived as obstacles that can be overcome.

TIME AND RESOURCES.

Some indicators require a large amount of time and resources to compile the data, for example, the cost of town-wide surveys and buying data sets for some data can be expensive. Lack of funds and/or lack of time are well known problems, especially in smaller towns.

METHODOLOGICAL CHALLENGES.

For some towns the required methodical skills in collecting and analysing data can seem to be ambitious. Some indicators require a high level of expertise for the collection of data, for instance those that require GIS and statistical analysis skills. For some towns, co-operation with external agencies can be beneficial, as this can provide an expert training not available within their municipality. The methodological complexity can make the availability of data for comparisons with other Nordic and European cities and/or towns difficult in some instances. Sweco' s approach is to apply greater flexibility in the way that municipalities can adopt and adapt the suggested indicators.

LACK OF DATA.

Some indicators are relatively new. The municipalities might lack data for some areas, such as Green Public Procurement or Gross Regional Product. However, several towns and municipalities throughout the Nordics and Europe are now addressing these issues and are in the process of collecting the relevant data.

SOFTWARE TOOLS.

One concern might be the lack of availability of software tools to calculate indicators like basic services proximity. However, there are several free to use online tools that allow simpler spatial analysis of accessibility which might be more manageable for an initial mapping.

INDICATORS ARE TOO BROAD

It was suggested by some towns that some indicators seemed too broad and too general and offer a fragmented picture. Suggesting indicators for different town sizes in the range from 3000 to 120 000 inhabitants will require that the networking towns adapt the suggested indicators to fit their geography, culture and economy. It is also difficult for some towns to see the links between the data and the process behind them, showing a specific situation but not giving operational information. The indicators should show causal links and effects between the data and an initiative (politicians need tools that are able to show causal relationships and the effectiveness of their policies). However, during Sweco' s review of the indicators an attempt has been made to adjust and make the links between the indicators and the operational information clearer.

SUGGESTED INDICATORS

Photo: Sweco

In the context of small and medium sized Nordic towns we suggest a pragmatic, rather than a strict definition of what an indicator should be. This is to be able to accommodate both small towns with limited resources for monitoring a wide range of sustainability aspects, while also accommodating the towns where monitoring by indicators are integrated in their current practice. Our definition is therefore that **an indicator is any group of instruments that together give an indication of the state of the social, economic and/or environmental aspects of a town.** We have therefore suggested indicators that can be measured both quantitative and qualitative and at different geographical scales.

SUGGESTED INDICATORS

6. SELECTION OF INDICATORS

In the following selection of indicators, Sweco has focused on issues that are important for small and medium sized Nordic towns where common issues are; developing attractive and liveable town centres, ensuring sustainable mobility patterns, attracting and keeping young people, investigating new ways for citizen involvement and cocreation, enabling sustainable town growth and facilitating business development. In this selection, Sweco has focused on indicators that can help illuminate the issues brought up by the small and medium sized Nordic towns, while not ignoring the issues and trends we know affects the Nordic region in general like urbanization, digitalization, climate change and integration. The selection of indicators also aims to meet the Sustainable development goals that are considered most relevant for the Nordic region.

In the Viborg workshop in April 2018 previously mentioned, the networking towns were also asked to prioritise the three most relevant SDGs for their own town's attractiveness. All the networking towns (except one who was not able to attend) identified SDG 11 "Sustainable cities and communities", to be one of their three most relevant SDGs for their town's attractiveness. About half of the towns identified SDG 3 "Good health and wellbeing", as the most relevant SDG. SDG 13 "Climate action" and SDG 8 "Decent work and economic growth" were mentioned as important by more than 1/5 of the networking towns. Even though this is an informal ranking, it indicates what issues that are perceived as most important for the networking towns. This has been considered when selecting indicators.

Figure 1: The 18 networking towns` priorities of the three most relevant SDGs for their towns attractiveness

Photo: Sweco

THREE RECOMMENDED INDICATOR CATEGORIES

KEY INDICATORS

Key indicators are suitable for quantitative assessments and should be manageable to use throughout the networking towns. The use of these indicators can provide decision makers with a status of their current situation. They provide key measurable aspects within the economic, social and environmental dimension of sustainability. However, Sweco strongly suggests that the towns also use qualitative methods to supplement these indicators for a more comprehensive understanding of their local conditions. A complementary survey, workshops or the use of Town Labs can be a good way to further investigate the results from a quantitative data assessment.

Key indicators are suitable for quantitative assessments.

Can provide decision makers with a status of their current situation.

They provide key measurable aspects within the economic, social and environmental dimension of sustainability.

SURVEY INDICATORS

Use of surveys as an indicator is beneficial due to the ability to target specific local issues. Surveys can cover many SDGs and targets depending on the design and they can be customized to each town's goals. The result is often, but not necessarily, qualitative data pointing out a status. Surveys are useful to monitor progress if they are done on a frequent basis. Online surveys tend to be the most cost-effective modes of survey research. However, they may not reach groups of respondents that can only respond using alternate modes. Results of online surveys and mobile surveys may suffer and differ greatly if important respondents are left out of the research. Hard-to-reach respondents may be easier to reach using more traditional methods such as paper surveys or face-to-face interviews. Several of the survey-indicators Sweco has suggested can be combined to address several issues through a more extensive town wide survey. For example, satisfaction with public services, satisfaction with the local community, public and local stakeholders' participation in local planning and standard of housing can be integrated. Furthermore, visits and duration in public spaces, diversity and participation of activities and city life/taking part of urban life can be relevant to address with survey questions.

Survey indicators *can target specific local issues.*

Can be customized to each town's goals.

The result is often, but not necessarily, qualitative data

GUIDING QUESTIONS

The guiding questions are not indicators per se, nor part of a survey, but they can help identify in which areas a town and/or municipality have made strategic and organizational efforts to support the work on sustainable development within important subjects which require attention. Sweco believes that these are important support-questions that can help the towns to identify their organizational prerequisites for working on attractiveness and sustainability in a holistic way.

Guiding questions *can help the towns to identify their organizational prerequisites for working on attractiveness and sustainability in a holistic way.*

HOW TO USE THE INDICATORS

These indicators can be used together to get an impression of a town's status with regards to attractiveness and sustainability, or individually to support and illuminate how a town performs regarding certain, prioritized issues.

The use of data, both input and output, should always be handled with caution. This is especially true when it comes to less measurable issues. The results of an indicator assessment could be biased depending on the scope and formulation of an indicator, especially in the adaption to local contexts. Indicators and the quality demands for input and output should therefore be discussed, shared and communicated to develop a collective knowledge base within the town administrations

KEY INDICATORS

1. GREEN ZONES AND RECREATIONAL AREAS PROXIMITY
2. BASIC SERVICES PROXIMITY
3. CULTURAL DIVERSITY
4. EVOLUTION OF TOURIST FREQUENCY.
5. LIFE EXPECTANCY – A KEY PUBLIC HEALTH INDICATORP
6. RENEWABLE ENERGY AND ENERGY EFFICIENCY
7. MUNICIPAL WASTE
8. ECOSYSTEM SERVICES
9. GENDER EQUALITY – THE GENDER PAY GAP.
10. SHARE OF NEETS
11. VOTER TURNOUT AT MUNICIPAL ELECTIONS
12. GROSS REGIONAL PRODUCT - GRP/CAPITA.
13. GREEN PUBLIC PROCUREMENT
14. EMPLOYMENT RATE
15. KNOWLEDGE INTENSIVE ACTIVITIES
16. CLIMATE CHANGE ADAPTION
17. NET MIGRATION RATE

SURVEY INDICATORS

18. SURVEY: QUALITY OF HOUSING
19. SURVEY: SELF-ASSESSED GENERAL STATE OF HEALTH
20. SURVEY: FEELING OF SAFETY
21. SURVEY: CITIZEN SATISFACTION WITH PUBLIC SERVICES
22. SURVEY: PUBLIC PARTICIPATION
23. SURVEY: SATISFACTION WITH CULTURAL ACTIVITIES
24. SURVEY: SATISFACTION WITH PUBLIC SPACES

GUIDING QUESTIONS

25. GUIDING QUESTION: LOCAL IMPLEMENTATION OF THE SDGS
26. GUIDING QUESTION: CULTURAL HERITAGE PLAN
27. GUIDING QUESTION: SUSTAINABLE TOURISM
28. GUIDING QUESTION: MUNICIPAL MOBILITY STRATEGY
29. GUIDING QUESTIONS: ENERGY EFFICIENCY
30. GUIDING QUESTION: CLIMATE CHANGE ADAPTION

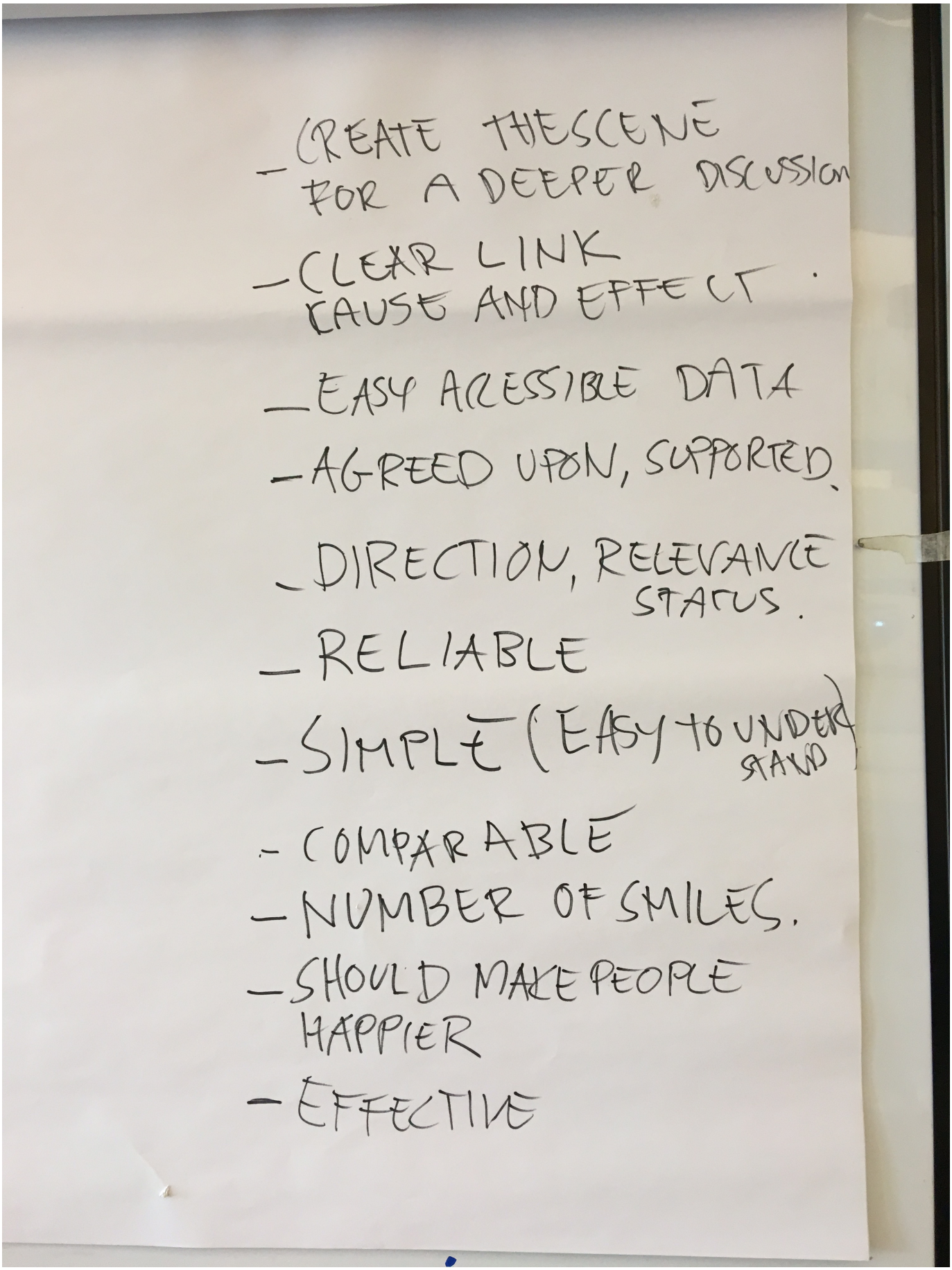


Figure: Input from the towns on what the perfect indicator should look like.

INDICATOR REGISTRY

1. GREEN ZONES AND RECREATIONAL AREAS PROXIMITY

JUSTIFICATION

The future attractive Nordic towns will have higher demands for urban and green qualities. Blue green structures are positive for natural life and environment and are often elements in successful urban spaces. (Natural areas, green parks, sports fields and play grounds are examples and should be accessible and facilitated for all, ex. elderly, children and handicapped.) The benefits yielded by green zones are less relevant if most of them are located on the outskirts of the town, or concentrated to only a part of a town, leading to spatial inequity. Green spaces should be integrated into the consolidated urban area, close to the population and public spaces, so that people can easily gain access to them and benefit from their multiple services: leisure, relaxation, climate regulation, air depollution. Proximity of green spaces have demonstrated positive benefits on health and well-being[7].

DEFINITION

This indicator measures the percentage of population that lives next to at least one green zone or recreation area. Green zones and recreational areas proximity: (Inhabitants that live next to a green zone / Total number of inhabitants) x 100
For the buffer definition, the following criteria is suggested:
1000 – 5000 square meters area: 300 meters distance.
5000 – 10000 square meters area: 500 meters distance.
More than 1-hectare area: 900 meters distance.

MEASUREMENT UNIT

% of population (pct. of population)

REQUIRED DATA:

Green zones and recreation areas polygons
Georeferenced population census (census of population and georeferenced municipal street guide)

LINKS TO SDG TARGETS

11.3: By 2030, enhance inclusive and sustainable urbanization and capacity for participatory, integrated and sustainable human settlement planning and management in all countries

11.7: By 2030, provide universal access to safe, inclusive and accessible, green and public spaces, in particular for women and children, older persons and persons with disabilities

13.1: Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries.

2. BASIC SERVICES PROXIMITY

JUSTIFICATION

Access and availability to basic services is a relevant indicator for several subjects within the environmental and social dimension of sustainability. People's proximity of services is influenced by the urban form, range and scale. Daily amenities should be easily accessible on foot, by bike or short-range public transport. Overall, the correlation between spatial proximity and sustainable travel patterns are high[8]. Connectivity of physical and social structures with mixed land use encourages the development of vibrant areas where people can meet all day. Preventing urban sprawl by facilitating for densification with mixed use buildings with, in strategic areas, open and active facades on the ground floor that provide an inviting and public atmosphere, are keywords in an attractive town. When planning and building towns, the structures created can make it easier or harder for people to live their lives and make sustainable choices[9].

DEFINITION

This indicator measures the percentage of population that lives next to all basic services, defined as followed: food and everyday products supply, education centres, health centres, sports centres and selective waste collection points. Other services that towns may also want to consider can be included, for example public transport or bank. The distance to a basic service defining proximity depends on the nature of the service. It is a calculated itinerary distance, meaning it is the real distance to be travelled to access the service centre.

Basic service proximity: (%) = number of inhabitants that live near basic service centre / Total number of inhabitants * 100

/Alternatively, /

Availability of Basic Services: Number of inhabitants living within 300 m from each single basic service / total number of inhabitants. The concept 'within 10 minutes' walk or bike' can be used to define accessibility. It may reasonably be assumed that this corresponds to around 500 m on foot for an elderly person, which in turn may be equivalent to 300 m "as the crow flies".

MEASUREMENT UNIT

% (pct.)

REQUIRED DATA

Basic services locations and georeferenced census of population (census of population and georeferenced municipal street guide)

LINKS TO SDG TARGETS

11.1: By 2030, ensure access for all to adequate, safe and affordable housing and basic services and upgrade slums

11.2: By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons

11.7: By 2030, provide universal access to safe, inclusive and accessible, green and public spaces, in particular for women and children, older persons and persons with disabilities

3. CULTURAL DIVERSITY

JUSTIFICATION

Culture and arts is an essential area for co-operation within the Nordic Region, where the inhabitants can participate and access cultural activities. In the Nordic strategy for cultural co-operation it is clearly stated that the Nordic Region should be a creative and intercultural region, where the inhabitants can participate and access cultural activities.

The three cultural areas addressed in this headline indicator are all undergoing significant change in terms of their traditional roles in society. In other words, the role of cinemas, libraries and museums are to some extent shifting in terms of what type of services they offer. Cinema theatres are starting to show concerts, theatre plays and opera performances in addition to cinema films. Libraries are no longer" only" lending books but are important as public spaces, while museums increasingly offer new arenas, not only in terms of the actual exhibition rooms. Museum exhibitions are also, more often, being displayed in digital forums thus changing our understanding of what a 'museum visit' can mean. The output from the cultural diversity indicator can be supplemented and compared with the satisfaction of cultural activities in a survey (indicator 23)[10].

DEFINITION

Cultural diversity can be measured by a subset of cultural indicators:

The measure of the indicator is: X / Y, Where:
X =
· Number of theatres and annual show attendance rate
· Number of seats in cinemas and annual show attendance rate
· Number of concert halls and spectators per year
· Museums and number of visitors per year

Y = total population (X 1.000 or X 1)

MEASUREMENT UNIT

Number/Per 1.000 or per resident

REQUIRED DATA

Attendance data from the towns cultural institutions.

LINK TO SDG TARGET

12.B: Develop and implement tools to monitor sustainable development impacts for sustainable tourism that creates jobs and promotes local culture and products

4. EVOLUTION OF TOURIST FREQUENCY

JUSTIFICATION

Measuring the progress of tourism can be related to a towns attractiveness where a strong cultural identity and/or attraction is present. Tourism is an important sector of the economy in many towns. Tourism can be a solution to avoid desertification, unemployment and to ensure economic development of territories. The results of this indicator has a strong link to the implementation of a cultural and natural heritage plan and a sustainable tourism strategy.

DEFINITION

This indicator measures the evolution of the tourist frequency, in relation to the number of tourists and overnight stays per year and tourism seasonality.

Evolution of the tourist frequency: Based on the towns tourist's registration data, which can be obtained from the municipal or regional tourism office, it is possible to know the number of tourists and overnight stays per year and its seasonality

Number of tourists and overnight stays per month and per year. Percentage of seasonality per month. (%)

MEASUREMENT UNIT

Percent. seasonality (tourists) = (Number of tourists in each month/Total number of tourists) x 100
Percent. seasonality (overnight stays) = (Number of overnight stays in each month/Total number of overnight stays) x 100

REQUIRED DATA

Based on the tourist's registration data, which can be obtained from the municipal or regional tourism office, it is possible to know the number of tourists and overnight stays per year and its seasonality.

LINK TO SDG TARGETS

12.B: Develop and implement tools to monitor sustainable development impacts for sustainable tourism that creates jobs and promotes local culture and products

11.4: Strengthen efforts to protect and safeguard the world's cultural and natural heritage

5. LIFE EXPECTANCY – A KEY PUBLIC HEALTH INDICATOR

JUSTIFICATION

Life expectancy is a widely accepted indicator on the level of development of a society and one of the key measures of a population's health. It is an indicator used widely by policymakers and researchers to complement economic measures of prosperity, such as GDP per capita[11]. The indicator also reflects challenges for the sustainability of public finances because of ageing populations. Increased life expectancy implies more demand for pensions, health and long-term care. This issue is particularly important in the future Nordic demographic context, since the very old population group (80+) is estimated to grow faster than any other age group over the following decades[12]. The most common cause of death in all Nordic countries is coronary heart disease, followed by strokes in Norway and Sweden, lung cancer in Denmark and Alzheimer's/Dementia in Finland and Iceland. Coronary heart disease deaths have been greatly reduced since then 1980s, due to earlier diagnostics and better treatment options. This is the single biggest explanation for the increase in life expectancy across the Nordic Region[13]. The people in the Nordic countries continue to live longer and healthier due to several factors, including improvements in health care technologies and early detection, increases in education levels and income, and decreases in smoking. Among the challenges to future health and welfare are: ensuring that increases in health and well-being are distributed evenly in the population; addressing the growing mental health problems that all countries are facing, especially among young people; preventing chronic diseases through the more successful promotion of lifestyle choices; and how to support the welfare of economically vulnerable groups, such as immigrants, single parents and old people on low pensions[14].

DEFINITION

Life expectancy at age 65 is defined as the average number of years still to be lived by a woman or a man who has reached the age 65, if subjected throughout the rest of his or her life to the current mortality conditions (age-specific probabilities of dying)

Note: The national statistical institutes have data on regional and in some cases municipal level.

MEASUREMENT UNIT

Number of year

REQUIRED DATA

Data are compiled from information on deaths and population by sex and single year of age supplied by the National Statistical Institutes. Life expectancy at different ages is calculated by Eurostat for all countries using a harmonised methodology.

LINK TO SDG TARGETS

3.4: By 2030, reduce by one third premature mortality from non-communicable diseases through prevention and treatment and promote mental health and well-being

3.5: Strengthen the prevention and treatment of substance abuse, including narcotic drug abuse and harmful use of alcohol

6. RENEWABLE ENERGY AND ENERGY EFFICIENCY

JUSTIFICATION

Energy consumption and greenhouse gas emission rates per capita are relatively high by global standards in the Nordic region, due to factors including the long, cold winters, long transportation distances in sparsely populated regions, high levels of material consumption, and the prevalence of energy-intensive industries. These factors have long made energy efficiency a crucial issue. Green Public Procurement (GPP) is "a process whereby public authority seek to procure goods, services and works with a reduced environmental impact throughout their life cycle when compared to goods, services and works with the same primary function that would otherwise be procured." Energy is identified by the Commission has one of the ten "priority" sectors for GPP.

DEFINITION

Municipal administration energy consumption

This indicator represents the energy consumed by the municipal administration.

\Alternatively, \

Share of renewable energy in total energy consumption (more extensive)

MEASUREMENT UNIT

(%) pct. /Kwh

REQUIRED DATA

Municipal energy data

LINK TO SDG TARGETS

7.1: By 2030, ensure universal access to affordable, reliable and modern energy services

7.2: By 2030, increase substantially the share of renewable energy in the global energy mix

11.6: By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management

7. MUNICIPAL WASTE

JUSTIFICATION

The sustainable management of natural resources and materials and waste prevention are not only major environmental considerations, but also key to the transition towards a green economy with the success of sustainable produced goods and services and the ensuing cost reductions.

EU has set the ambition that waste generation per person should be in absolute decline by 2020 as well as recycling targets (Directive 2008/98/EC Article 11(2)). Recycling has many benefits versus landfilling or incineration, including offsetting primary production of materials, reduced greenhouse gas emissions, lower priced secondary materials, production of compost and generation of energy (the latter through anaerobic digestion plants).

DEFINITION

Municipal waste is waste collected by or on behalf of municipal authorities and disposed of through the waste management system. It mainly comprises household waste but similar wastes from sources such as services, offices and public institutions are included in Eurostat data. Wastes from agriculture and industry are not included. *Municipal waste recycling rate and amount of generated waste.*

/Alternatively,/

Guiding questions for municipal waste management:

- Is the city working with implementing the European Commission's strategy on the prevention and recycling of waste?
- Does the city have waste avoidance action plans?
- Is the city working according to the waste hierarchy?
- How can waste policies most efficiently reduce the negative environmental impacts associated with the use of resources through preventing, recycling and recovering wastes?

MEASUREMENT UNIT

(%) pct.

REQUIRED DATA

Municipalities or other local authorities (provinces, regions, etc.), waste collectors at municipal/local level, waste treatment facilities can provide data.

LINK TO SDG TARGETS

11.6: By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management

12.4: By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment

12.5: By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse

12.8: By 2030, ensure that people everywhere have the relevant information and awareness for sustainable development and lifestyles in harmony with nature

8. ECOSYSTEM SERVICES

JUSTIFICATION

Green infrastructure, and the existence of green areas and their spatial connectivity, is increasingly considered an asset for regional and urban development. The multifunctional qualities and attractiveness of green and blue areas is an important growth factor, as it influences enterprises and people in determining e.g. issues of relocation. Likewise, environmental services have attracted increased political interest throughout the course of the past two to three decades. However, the place-based perspective in terms of understanding, monitoring, planning and policy-making should be managed and regulated[15].

There are four different categories of ecosystem services that ecosystems provide. *Provisioning Services* are ecosystem services that describe the material or energy outputs from ecosystems. They include food, water and other resources. *Regulating Services* are the services that ecosystems provide by acting as regulators e.g. regulating the quality of air and soil or by providing flood and disease control. *Supporting services* include habitats for species and maintenance of genetic biodiversity. *Cultural services* which include recreation and physical health, tourism, aesthetic appreciation and inspiration for culture, art and design as well as spiritual experiences of nature and a sense of place.

DEFINITION

Share of spatial plans where an ecosystem services perspective has been included in the process.

Sweco suggest that the indicator should include spatial plans from January 1st, 2016 when the Agenda 2030 came into force.

/Alternatively, Guiding questions/

- Are ecosystem services and biological values identified in the city?
- Is there an action plan to preserve, strengthen and add ecosystem services when developing a new area?
- To what extent is an ecosystem services perspective included in the planning process?

MEASUREMENT UNIT

Share of spatial plans where an ecosystem services perspective has been included/ all spatial plans, approved after January 1st, 2016.

REQUIRED DATA

Approved municipal spatial plans after January 1st, 2016.

LINK TO SDG TARGETS

15.9: By 2020, integrate ecosystem and biodiversity values into national and local planning, development processes, poverty reduction strategies and accounts

11. 4: Strengthen efforts to protect and safeguard the world's cultural and natural heritage

13.1: Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries

13.3: Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning

9. GENDER EQUALITY – THE GENDER PAY GAP

JUSTIFICATION

A new study of the gender dimension of income inequality finds that while the income gap between genders is slowly decreasing in the Nordic countries, women still earn less than men at all levels of the income distribution. Women also struggle reaching the top-income groups. Of the top one per cent of income earners in the five countries, 81 per cent or more are men, while the share of women in the top-ten group is between 22-31 per cent. Nordic countries are renowned for their high levels of gender equality and always perform well in international rankings such as the World Economic Forum's annual Global Gender Gap Index. Female labour force participation is high, more women than men attend tertiary education, and all Nordic welfare states provide generous parental leave schemes and subsidized high-quality childcare.[16]

DEFINITION

The 'gender pay gap in unadjusted form' is the difference between average gross hourly earnings of male and female paid employees as a percentage of average gross hourly earnings of male paid employees. All employees working in firms with 10 and more employees are considered for this indicator.

MEASUREMENT UNIT

(%) pct.

REQUIRED DATA

Municipal salary statistics is the easiest available data and can be a good place to start.

LINK TO SDG TARGETS

5.4: Recognize and value unpaid care and domestic work through the provision of public services, infrastructure and social protection policies and the promotion of shared responsibility within the household and the family as nationally appropriate

5.5: Ensure women's full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic and public life

10.2: By 2030, empower and promote the social, economic and political inclusion of all, irrespective of age, sex, disability, race, ethnicity, origin, religion or economic or other status

10.3: Ensure equal opportunity and reduce inequalities of outcome, including by eliminating discriminatory laws, policies and practices and promoting appropriate legislation, policies and action in this regard

10.4: Adopt policies, especially fiscal, wage and social protection policies, and progressively achieve greater equality

10. SHARE OF NEETS

JUSTIFICATION

This indicator can give an important indication on a range of youth specific issues like risk of exclusion and risk of health problems. The share of youth which are neither in employment nor in education or training in the youth population (the so-called “NEET rate”) is a relatively new indicator, but one that is given increasing importance by international organizations and the media. The popularity of the “NEET” concept is associated with its assumed potential to address a broad array of vulnerabilities among youth, touching on issues of unemployment, early school leaving and labour market discouragement. From a little-known indicator aimed at focusing attention on the issue of school drop-out among teenagers in the early 2000s, the indicator has gained enough weight to be proposed as the sole youth-specific target for the post-2015 Sustainable Development Goals (SDG 8)[17]

DEFINITION

The percentage of 16 to 25-year old’s who are not in education, employment or training (NEET).

MEASUREMENT UNIT

(%) pct.

REQUIRED DATA

Census data and social welfare data.

LINK TO SDG TARGETS

4.4: By 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship

8.5: By 2030, achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value

8.6: By 2020, substantially reduce the proportion of youth not in employment, education or training

11. VOTER TURNOUT AT MUNICIPAL ELECTIONS

JUSTIFICATION

There is a widely-held view that a democracy needs a certain degree of engagement and participation to safeguard its long-term survival. There is a concern that political decisions are not considered legitimate when politicians have only been elected by a small number of voters. Concern has also been expressed for the legitimacy of decisions where participation does not represent all sections of society. Young people in the Nordic countries participate less in elections than the overall population. The turnout is lowest among youth in their early twenties. Meanwhile, Nordic youth have high rates of participation when it comes to other forms of democratic participation. Certain groups of Nordic youth have low turnouts. Youth with non-western or Eastern European immigrant background, with low levels of education, low income, that have parents with low educational levels, and who are children of non-voters have strikingly lower turnouts. Several successful and partly successful measures to increase youth turnout have been carried out in the Nordic countries. It is essential that Nordic politicians and policymakers prioritize the work towards increasing the turnout of youth. If not, we may risk the permanent de facto exclusion from democracy of certain groups[18].

In the literature on voter turnout, political resources are cited as a major reason why some people vote, and some don't. The correlation is straightforward: the higher a person's social status and the more integrated they are in society, the more likely they are to vote[19]. This so-called integration perspective on political participation is linked to the degree of integration as a member of society. For example, the workplace is an important arena for political awareness and learning (Sigel 1989). When a person retires from working life, they no longer have the formal contacts they once had.

DEFINITION

Voter turnout at municipal elections. The percentage of eligible citizens registered and casting votes. Difference between registered eligible voters and actual votes

MEASUREMENT UNIT

(%) pct.

REQUIRED DATA

Census data

LINK TO SDG TARGETS

5.5: Ensure women's full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic and public life

10.2: By 2030, empower and promote the social, economic and political inclusion of all, irrespective of age, sex, disability, race, ethnicity, origin, religion or economic or other status

16.7: Ensure responsive, inclusive, participatory and representative decision-making at all levels

12. GROSS REGIONAL PRODUCT - GRP/CAPITA

JUSTIFICATION

Economic growth is considered one of the main drivers for higher living standards. However, being a town or a city does not automatically lead to prosperity – some do not develop into economic hotspots. To succeed, some geographically fixed resources such as human capital, institutions and technology must be used effectively. Increasing either productivity or the quantity of goods and services produced can spur economic growth and improve the standard of living, but it can also lead to increased emissions and use of natural resources. During the last years, measuring prosperity only in monetary terms has been questioned. New and widened measures have been elaborated. However, the performance of a town's economy and the prosperity of its residents are positively correlated with GDP and economic growth. For example, there is a very strong correlation between GDP per capita and national performance according to the UNDP's Human Development Index.[20]

DEFINITION

GRP is the sum of value added generated by different economic activities of the region. GRP per capita = sum of value added per capita

/Alternatively,/

Sums of salaries (sum of hourly salaries * worked hours) is a subset of GRP per capita and might be easier to measure on local level. It is also a good measure of the local productivity rate.

MEASUREMENT UNIT

GRP/capita

REQUIRED DATA

Regional and local GRP, number of inhabitants

LINKS TO SDG TARGETS

8.1: Sustain per capita economic growth in accordance with national circumstances and, in particular, at least 7 per cent gross domestic product growth per annum in the least developed countries

8.2: Achieve higher levels of economic productivity through diversification, technological upgrading and innovation, including through a focus on high-value added and labour-intensive sectors

13. GREEN PUBLIC PROCUREMENT

JUSTIFICATION

The Nordic public authorities are major purchasers. By using their purchasing power to choose environmentally friendly goods, services and works, they can make an important contribution to sustainable consumption and production – what is called Green Public Procurement, or GPP.
Although GPP is not mandatory, it has a key role to play in the EU and the Nordics efforts to become more resource-efficient economies. It can help stimulate a critical mass of demand for more sustainable goods and services which otherwise would be difficult to get onto the market. GPP is therefore a strong stimulus for eco-innovation[21].

The benefits associated with Green public procurement (GPP) are not limited to environmental impact and they can include everything from social and health to economic and political benefits. GPP allows public authorities to achieve environmental targets, sets an example to private consumers and can be a valuable lever for innovation

DEFINITION

*Share of Green Public Procurement = (annual procurement using environmental criteria/total annual procurement of the city administration) *100*

MEASUREMENT UNIT

(%) pct.

REQUIRED DATA

Municipal procurement data

LINK TO SDG TARGETS

12.7: Promote public procurement practices that are sustainable, in accordance with national policies and priorities

8.2: Achieve higher levels of economic productivity through diversification, technological upgrading and innovation, including through a focus on high-value added and labour-intensive sectors

14. EMPLOYMENT RATE

The employment rate shows the share of the population within a certain age group that is employed. This share is affected by the economic situation and the functionality of the labour market but it also by the age structure and people in education. It does not reflect the level of unemployment – for example Germany has a lower unemployment than Sweden but also a lower employment rate (2018). A high employment rate means that more people pay taxes. If broken down on age groups, gender and ethnicity, the indicator is a good measure to show if a certain group of working age people is excluded from the labour market

DEFINITION

Employment rate for (total, women, men) aged 16-64 = Persons employed, 16-64 (total, male, female) / Total of population of the same age group (total, male, female)

MEASUREMENT UNIT

% of total population at working age

REQUIRED DATA

Persons employed, 16-64, total population of the same age group

LINK TO SDG TARGETS:

8.3: Promote development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation, and encourage the formalization and growth of micro-, small- and medium-sized enterprises, including through access to financial services

8.5: By 2030, achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value

8.6: By 2020, substantially reduce the proportion of youth not in employment, education or training

15. KNOWLEDGE INTENSIVE ACTIVITIES

JUSTIFICATION

Knowledge-intensive sectors play an essential role in facilitating innovation and economic growth across various sectors as they contribute to renewal and growth of other businesses by creating fertile ground for innovations. [22] These sectors of the economy have continued to outperform most other sectors and have accordingly attracted a good deal of research and policy attention[23].

Knowledge Intensive Activities (often also referred to as KIBS for the business sector) is a good measure for the maturity of the local economy. KIA goes beyond the business sector and also involves the public sector. It is also a good way to show the development of the local businesses and involves the branches that are most likely to create the future jobs. From research and development to legal and marketing services, a wide range of knowledge-intensive activities enables firms and public-sector organizations to better innovate. KIAs are both sources and carriers of knowledge that influence and improve the performance of individual organizations, value chains and industry clusters across all sectors of the economy.

DEFINITION

Employment in Knowledge Intensive Activities (KIA) as % of total employment/ Employment in Knowledge Intensive Activities (KIA) - both manufacturing and services - as a share of total employment.

A knowledge intensive activity is classified as knowledge intensive if tertiary educated persons employed represent more than 33% of the total employment in that activity. The definition is built based on the average number of employed persons aged 15-64 at aggregated EU-27 using the EU Labour Force Survey data[1]

MEASUREMENT UNIT

(%) pct.

REQUIRED DATA

Data on share of tertiary educated persons employed in defined Knowledge Intensive Activities in the municipality.

LINK TO SDG TARGETS:

8.2: Achieve higher levels of economic productivity through diversification, technological upgrading and innovation, including through a focus on high-value added and labour-intensive sectors

8.3: Promote development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation, and encourage the formalization and growth of micro-, small- and medium-sized enterprises, including through access to financial services

16. CLIMATE CHANGE ADAPTION

JUSTIFICATION

Today's society is adapted and designed for today`s climate. But with the climate changes we see today, and with those that are to be expected, the conditions change. In the Nordic countries the variations in precipitation between years and decades are expected to be even greater than the variations in temperature. The precipitation will increase in most of the areas during the fall, winter and spring. In summer, we get a warmer and drier climate, especially in southern parts of the Nordic countries. Local governments play a key role in adapting to existing and emerging threats facing their cities. They need to better understand their degree of exposure and vulnerability to potential impacts, to be able to assess the risks associated to these impacts and develop cross-cutting adaptation plans with the involvement of key stakeholders, such as experts, service providers and the local community. Developing climate adaptation plans along climate change mitigation is a good way to pool relevant resources and solutions.

DEFINITION

Share of spatial plans where the climate change adaptation plan is used as a prerequisite in the planning work. /Alternatively. /Share of completed climate change adaption measures from the climate change adaption plan

The climate change adaptation plan shall include at least the following criteria:

- Being up- to- date or having been updated recently (last 3 years)
- A Risk and Vulnerability Assessment (analysis of the most prominent climate change risks and of vulnerable areas and social groups and systems)
- Short and long-term objectives
- An actual action plan
- Estimated timing and budgets (human and financial resources)
- Identification and inclusion of all the Stakeholders involved in the process
- Official approval/validation of the Municipal Council or other mandated political body.

Note: the local authority can also mainstream climate change adaptation measures in other relevant policy documents; if the criteria of above are respected, those can also be considered as a valid adaptation plans.

MEASUREMENT UNIT

Share of spatial plans

REQUIRED DATA

Municipal spatial plans

LINK TO SDG TARGETS

11.4: Strengthen efforts to protect and safeguard the world's cultural and natural heritage

11.5: By 2030, significantly reduce the number of deaths and the number of people affected and substantially decrease the direct economic losses relative to global gross domestic product caused by disasters, including water-related disasters, with a focus on protecting the poor and people in vulnerable situations

13.1: Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries

13.3: Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning

17. NET MIGRATION RATE

JUSTIFICATION

A positive net migration rate means that more people are moving into an area than are leaving it, which can be a measurement for an areas attractiveness. It also means that there is need for investment in roads, schools, housing etc. which can be an initial financial burden for the town. Conversely, a negative net migration rate means that more people are moving out of an area than are moving into it, which can be caused by high unemployment through structural changes in the local economy or that the local area is found less attractive. A negative net migration rate can mean that public infrastructure will be underused and that employers might face a lack of work force with the relevant competencies which might have severe consequences for the local economy.

DEFINITION

Net migration rate = 1000 x (number of people immigrating into the town - number of people emigrating out of the town) / the estimated mid-year population

Note: The formula above measures the rate per 1000 inhabitants, which is a common international measure.

MEASUREMENT UNIT

Number of people

REQUIRED DATA

Annual census data.

LINK TO SDG TARGETS

4.4: By 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship

8.5: By 2030, achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value

8.6: By 2020, substantially reduce the proportion of youth not in employment, education or training

10.7: Facilitate orderly, safe, regular and responsible migration and mobility of people, including through the implementation of planned and well-managed migration policies

11.1: By 2030, ensure access for all to adequate, safe and affordable housing and basic services and upgrade slums

11.2: By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons

18. SURVEY: QUALITY OF HOUSING

JUSTIFICATION

The quality of housing is highly important, however for the smaller towns this is not considered the most critical, thus measuring for example the progress of property prices may be an indicator on attractiveness but less on sustainability. The size of the house or apartment are often not the main challenges because densification is usually not a problem in these cases. The proximity to public services and spaces is more relevant. Another possibility is a survey, or part of a survey, like RFSCs indicator "Citizens' satisfaction with the local community / municipality regarding standard of housing and its availability and affordability" will if desired be useful since it can be customized for each town's main challenges.

DEFINITION

Example of question in a questionnaire:

E.g. How satisfied are you with the standard of your housing?

E.g. How satisfied are you with the availability and affordability of housing in the municipality?

MEASUREMENT UNIT

Very satisfied/satisfied/Neither satisfied nor dissatisfied/dissatisfied/ very dissatisfied

REQUIRED DATA

Survey

LINK TO SDG TARGETS

11.1: By 2030, ensure access for all to adequate, safe and affordable housing and basic services and upgrade slums

1.4: By 2030, ensure that all men and women, in particular the poor and the vulnerable, have equal rights to economic resources, as well as access to basic services, ownership and control over land and other forms of property, inheritance, natural resources, appropriate new technology and financial services, including microfinance

19. SURVEY: SELF-ASSESSED GENERAL STATE OF HEALTH

JUSTIFICATION

An individual's health is affected by genetic, social and economic factors, as well as factors such as individual living habits and behaviours. These factors are called determinants. Some determinants affect certain groups or sections of the population more than others.

Headache, impaired mental well-being, stress, sleep discomfort, fatigue and anxiety are all measures of mental health. Measurements show that it is significantly more common with these symptoms for women than among men, which makes this aspect of public health an equality problem. The proportion is also generally higher among people in the age group, 16-29 years, which also makes this a youth problem.

Self-assessed general state of health shows how people perceive their own health. Research has shown that self-assessed health seems to predict a person's future health, both physically and mentally (1). If you feel bad, you may be more likely to suffer from illnesses in the future. Self-reported general state of health has shown several studies to predict mortality (2).

HEALTH SURVEY/QUESTIONNAIRE

Some examples of questions in a questionnaire:

E.g. How satisfied are you with your own health?

(Very satisfied/satisfied/Neither satisfied nor dissatisfied/dissatisfied/ very dissatisfied)

MEASUREMENT UNIT

Average score on a scale from 1 to 10.

The respondent answers on a scale from 1 – 10 where 10 means “I fully agree” and 1 means “I do not agree”. This results in a scale where changes of the “satisfaction with own health” indicator can be monitored and compared between different areas of the town/municipality.

REQUIRED DATA

Survey

LINK TO SDG TARGETS

3.4: By 2030, reduce by one third premature mortality from non-communicable diseases through prevention and treatment and promote mental health and well-being

3.5: Strengthen the prevention and treatment of substance abuse, including narcotic drug abuse and harmful use of alcohol

11.3: By 2030, enhance inclusive and sustainable urbanization and capacity for participatory, integrated and sustainable human settlement planning and management in all countries

20. SURVEY: FEELING OF SAFETY

JUSTIFICATION

The physical environment can influence how people perceive how safe a place is. How safe people feel in their town is not necessarily connected to the factual prevalence of crime. The individual's perception of the risk of being victim to a crime and the resulting feeling of unsafety is mediated by several factors, such as the awareness of crime, the public debate, the media and personal experiences. Expressed as 'the fear of crime' perceived safety is an important indicator of freedom and public participation since feeling unsafe negatively influences a person's well-being.

Broken down on different areas of a town, this indicator is valuable to identify areas that have a high risk of exclusion and where efforts to increase perceived safety and well-being could be needed to promote social cohesion.

DEFINITION

Share of the population who agree with the survey statement: I feel safe walking alone in my local area/neighbourhood after dark.

MEASUREMENT UNIT

The survey statement" I feel safe walking alone in my area/neighbourhood"

Alternative answers: The respondent answers on a scale from 1 – 10 where 10 means "I fully agree" and 1 means "I do not agree". This results in a scale where changes of the "feeling safe" indicator can be monitored and compared between different areas of the town.

REQUIRED DATA

Survey

LINKS TO SDG TARGETS

10.2: By 2030, empower and promote the social, economic and political inclusion of all, irrespective of age, sex, disability, race, ethnicity, origin, religion or economic or other status

11.2: By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons

11.3: By 2030, enhance inclusive and sustainable urbanization and capacity for participatory, integrated and sustainable human settlement planning and management in all countries

11.7: By 2030, provide universal access to safe, inclusive and accessible, green and public spaces, in particular for women and children, older persons and persons with disabilities

11A: Support positive economic, social and environmental links between urban, per-urban and rural areas by strengthening national and regional development planning

21. SURVEY: CITIZEN SATISFACTION WITH PUBLIC SERVICES

JUSTIFICATION

This headline indicator is including satisfaction with levels of public transport services, with levels of social and health services and with standard of schools available in local community. For social and health services and public schools it is not only the availability - that is, the presence and accessibility - that helps to determine satisfaction, but that an important role is also played by the quality of the place or service in question or by other factors influencing the way in which it is perceived. Measuring users' satisfaction with public goods and services is at the heart of a citizen-centric approach to service delivery and an important component of organizational performance strategies for continual improvement. Perception data are commonly used to evaluate citizens' experiences with government organizations and obtain their views on the outputs received. Such information can help public managers identify which elements of service delivery drive satisfaction, as well as monitor the impact of reforms on end-users. Measuring citizen satisfaction is also a means of allowing policy makers and managers to better understand their customer base, helping to identify sub-groups of users and needs or gaps in accessibility. Moreover, citizen satisfaction can be an important outcome indicator of overall government performance[24].

DEFINITION

Citizen satisfaction with public services is a headline survey indicator which can be split in to more specific survey questions regarding different aspects of the town/municipalities' services. There is not a specific method. Each town can develop its own method. But the town must explain it. It is also necessary to identify municipal services from which the city would like to have citizens' feedbacks. E.g. Citizens' *satisfaction with level of public transport services:* How satisfied are citizens with the level of public transport services? E.g. Citizens' satisfaction with the local community / municipality regarding the standard of schools: How satisfied are citizens with the standard of schools? E.g. Citizens' satisfaction with the local community / municipality regarding the level of social and health services: How satisfied are citizens with the level of social and health services? E.g. E-government usage: Percentage of individuals who have used the Internet, in the last 3 months, for interaction with public authorities.

REQUIRED DATA

Percentage distribution (net value unit for reporting over a period) of different satisfaction levels, percentage score of satisfaction related to different features weighed with the importance attributed to them, percentage score attributed to different aspects of each of the feature considered.

MEASUREMENT UNIT:

Scale 1-10. 1= Very dissatisfied, 10 very satisfied

REQUIRED DATA

Survey

LINKS TO SDG TARGETS

16.7: Ensure responsive, inclusive, participatory and representative decision-making at all levels

11.3: By 2030, enhance inclusive and sustainable urbanization and capacity for participatory, integrated and sustainable human settlement planning and management in all countries

10.2: By 2030, empower and promote the social, economic and political inclusion of all, irrespective of age, sex, disability, race, ethnicity, origin, religion or economic or other status

22. SURVEY: PUBLIC PARTICIPATION

JUSTIFICATION

The aim is to build communities or territories where individuals are empowered to make a difference both to their own lives and to the area in which they live. A key indicator of community/ territory empowerment is the extent to which people feel able to influence decisions affecting their local area.

Citizen participation enables the various political, social, religious and ethnic groups to participate in the decision-making that will affect them. It is crucial that citizens take ownership of the urban policies and actions that are carried out by understanding the *Why* and *How* and by sharing a vision of the city's future with policy makers. A balance must be struck between participative democracy and representative democracy. To improve citizen participation, capacity building by city stakeholders can be encouraged to help them implement the appropriate means.

Citizen information and consultation may be compulsory at certain times for example for major development projects and new or revised planning document. This consultation is however very limited to information and communication and neither engage the citizen to understand the challenges and solutions and neither touch all parts of the population[25].

DEFINITION

People who feel they can influence decisions in their locality.

This is the proportion of the adult population who agree that they feel able to influence decisions affecting their local area.

This is based on the proportion of respondents who say they 'definitely agree' or 'tend to agree' when asked the question 'Do you agree or disagree that you can influence decisions affecting your local area?

Responses of 'don't know' are treated as missing values.

Using weighted data: (x /y) * 100 where x = total number of respondents who 'definitely agree'/'tend to agree' that they can influence decisions affecting their local area. Y =total number of respondents giving valid answer to the question. Responses of 'don't know' are treated as missing values.

REQUIRED DATA

Survey at the local level. Data can be provided by local authorities or local partners.

LINKS TO SDG TARGETS

16.7: Ensure responsive, inclusive, participatory and representative decision-making at all levels

11.3: By 2030, enhance inclusive and sustainable urbanization and capacity for participatory, integrated and sustainable human settlement planning and management in all countries

10.2: By 2030, empower and promote the social, economic and political inclusion of all, irrespective of age, sex, disability, race, ethnicity, origin, religion or economic or other status

23. SURVEY: SATISFACTION WITH CULTURAL ACTIVITIES

JUSTIFICATION

The indicator investigates in general terms: overall citizens' satisfaction with the municipality as a place to live and work regarding the level of cultural, recreational and leisure services.

DEFINITION

"Citizens" refer to the people living within the administrative borders of the municipality. If the local authorities so wish (and if additional resources are available), the survey could be extended to other subjects (e.g. commuters or tourists), but this data must be interpreted separately from the main results (i.e. those regarding the citizens).

"Local community" refers to the geographical area administered by the municipality. If the area considered for certain aspects (e.g. satisfaction with regard to the natural environment, employment ...) only refers to the immediate neighbourhood or, to an area larger than the municipality, this must be specified in the questionnaire and explained in the reporting.

- How satisfied are citizens with the level of cultural, recreational and leisure services?
- How citizens evaluate the level of cultural, recreational and leisure services in the municipality and is it considered as the most important for the quality of their life?

REQUIRED DATA

Survey

MEASUREMENT UNIT

Percentage distribution (net value unit for reporting over a period) of different satisfaction levels, percentage score of satisfaction related to different features weighed with the importance attributed to them, percentage score attributed to different aspects of each of the feature considered.

LINK TO SDGS

12.B: Develop and implement tools to monitor sustainable development impacts for sustainable tourism that creates jobs and promotes local culture and products

24. SURVEY: SATISFACTION WITH PUBLIC SPACES

JUSTIFICATION

Public spaces and the connectivity of the urban space network, are essential ingredients in citizens' quality of life and the appeal of a city for tourists, investors and businesses. Shared by all population groups, they foster a sense of belonging and give an identity to the city. They link up places and buildings for people and goods through a hierarchic organisation of streets, from the pathway dedicated to pedestrians to the wide avenue concentrating all flows: people walking or jogging, cars, buses and tramways, bicycles. A large part of the public space is however given over to parking places. They are also centres of social and economic activities, from discussing with one's neighbour to shopping at the market or participating in an open-air event. They are places of rest and leisure. Public spaces can be places for biodiversity in cities and for sustainable urban drainage and support culture by hosting music, dance, drama and art events.

DEFINITION:

Please tell me if you are very satisfied, rather satisfied, rather unsatisfied or not at all satisfied with each of the following issues in [TOWN NAME]? – Public spaces such as markets, squares, pedestrian areas

MEASUREMENT UNIT:

Percentage distribution (net value unit for reporting over a period) of different satisfaction levels, percentage score of satisfaction related to different features weighed with the importance attributed to them, percentage score attributed to different aspects of each of the feature considered.

NOTE: There is a challenge related to a have broad question and consequently not giving many specific information on each topic. Breakdowns can be used for each type of public space considered and specific questions can be added to each one.

REQUIRED DATA:

Survey

LINK TO SDGS

11.2: By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons

11.3: By 2030, enhance inclusive and sustainable urbanization and capacity for participatory, integrated and sustainable human settlement planning and management in all countries

11.7: By 2030, provide universal access to safe, inclusive and accessible, green and public spaces, in particular for women and children, older persons and persons with disabilities

25. GUIDING QUESTION: LOCAL IMPLEMENTATION OF THE SDGS

JUSTIFICATION

The establishment of a model of sustainable development calls for a joint effort from sides of all the social actors. One of the fundamental concepts is to shift the decision-making axis downwards, utilising a bottom-up structure that makes possible effective participation on the part of civil society, together with all those involved in the decision-making processes. Each town follows a procedure that differs in terms of both the progress made and, above all, the amount of time employed.

DEFINITION

It could be imagined a survey to identify procedures. The survey could be composed with the following questions:

- When the Agenda2030 Process was implemented (year)?
- Is there a consultative process? Yes; No; N/A
- Is there a target setting process? Yes; No; N/A. If Yes, can you describe it briefly
- Is there Local Action Plans linked to the implementation of the Agenda 2030? Yes; No; N/A. IF Yes, please give the year
- Do you monitor the implementation of the Agenda 2030? Yes; No; N/A.
- Is the town/municipality actively working with Agenda2030 so that sustainable development is integrated into the budget and overall planning work? Yes; No; N/A.
- Does the town/municipality have a strategy for implementing the Global goals / Agenda2030 into the organization and everyday planning work? Yes; No; N/A.
- Is sustainable development integrated into the town/municipal budget? Yes; No; N/A.
- Is the responsibility in the town/municipal organization for sustainable development pointed out? Yes; No; N/A.

LINKS TO SDGS

17.16 Enhance the global partnership for sustainable development, complemented by multi-stakeholder partnerships that mobilize and share knowledge, expertise, technology and financial resources, to support the achievement of the sustainable development goals in all countries, in particular developing countries

17.17: Encourage and promote effective public, public-private and civil society partnerships, building on the experience and resourcing strategies of partnerships

26. GUIDING QUESTION: CULTURAL AND NATURAL HERITAGE PLAN

JUSTIFICATION

Strong identity where unique qualities as cultural and natural heritage are enhanced may increase tourism and has benefits in a social economic perspective. Physical, cultural and social identities can together create a sense of place and belonging. Culture is unique and cultural objects in use can increase preservation and build a stronger identity. An indicator as “Do you have a cultural and natural heritage preservation policy/plan?” is not sufficient for measuring the achieved goals for values and may rather be used as a tool. Plans, policies or strategies for this theme are important for better understanding the great value of and prioritize and have strategies for and/or integrate into masterplans. Other topics can be unique natural and cultural values, protected nature area (ex. national parks), communicated and informative natural and cultural heritage (ex. information boards). Further important measurable values can be cultural elements or listed buildings in use and empty buildings/premises, particularly in town centres in general. RFSC-indicator “Share of listed building restored/protected in plans” may be relevant. The importance of cultural and natural heritage is significant but existing relevant indicators are lacking and recommended to develop further.

DEFINITION

Do you have a plan/strategy for preserving/ strengthen cultural and natural heritage?” (YES/NO/PLANNED)

The cultural and natural heritage plan shall include at least the following criteria:

- Being up- to- date or having been updated recently (last 3 years)
- Short and long-term objectives
- An actual action plan
- Estimated timing and budgets (human and financial resources)
- Identification and inclusion of all the Stakeholders involved in the process
- Official approval/validation of the Municipal Council or other mandated political body.

Note: the local authority can also mainstream cultural heritage measures in other relevant policy documents; if the criteria of above are respected, those can also be considered as a valid adaptation plans.

LINK TO SDG TARGETS

11.4: Strengthen efforts to protect and safeguard the world’s cultural and natural heritage

12.B: Develop and implement tools to monitor sustainable development impacts for sustainable tourism that creates jobs and promotes local culture and products

27. GUIDING QUESTION: SUSTAINABLE TOURISM

JUSTIFICATION

Tourism is one of the world's fastest growing industries and is a major source of income for many towns. Being a people-oriented industry, tourism also provides many jobs which have helped revitalise local economies. However, like other forms of development, tourism can also cause its share of problems, such as social dislocation, loss of cultural heritage, economic dependence and ecological degradation. Learning about the impacts of tourism has led many people to seek more responsible holidays. These include various forms of alternative or sustainable tourism such as: 'nature-based tourism', 'ecotourism' and 'cultural tourism'. Sustainable tourism is becoming so popular that some say that what we presently call 'alternative' will be the 'mainstream' in a decade.

All tourism activities of whatever motivation – holidays, business travel, conferences, adventure travel and ecotourism – need to be sustainable. Sustainable tourism is defined as "tourism that respects both local people and the traveller, cultural heritage and the environment". It seeks to provide people with an exciting and educational holiday that is also of benefit to the people of the host country[26].

DEFINITION

Do you have a sustainable tourism strategy or policies? (YES/NO/PLANNED)

The sustainable tourism strategy should include at least the following criteria:

- Being up- to- date or having been updated recently (last 3 years)
- Short and long-term objectives
- An actual action plan
- Estimated timing and budgets (human and financial resources)
- Identification and inclusion of all the Stakeholders involved in the process
- Official approval/validation of the Municipal Council or other mandated political body.

Note: the local authority can also mainstream sustainable tourism measures in other relevant policy documents; if the criteria of above are respected, those can also be considered as a valid adaptation plans.

/Alternatively, :/

To what extent (%) are the goals in the town's sustainable tourism strategy implemented?

LINK TO SDG TARGETS

11.4: Strengthen efforts to protect and safeguard the world's cultural and natural heritage

12.B: Develop and implement tools to monitor sustainable development impacts for sustainable tourism that creates jobs and promotes local culture and products

28. GUIDING QUESTION: MUNICIPAL MOBILITY STRATEGY

JUSTIFICATION

To create a well-functioning urban area that promotes sustainable mobility there is a need to work simultaneously on many scales – from the town structure to the detailed design of the spaces that people experience in their daily lives. Some of those spaces which are more important than others, such as urban nodes with a large flow of travellers, need special attention to make it easy for people to make a sustainable choice. It is equally important to pay close attention to the overall transport system structure and the urban links connecting the nodes. A sustainable urban mobility strategy/plan considers the functional urban area and foresees that plans are developed in cooperation across different policy areas and sectors, across different levels of government and administration and in cooperation with citizens and other stakeholders. Therefore, to achieve a systemic and holistic approach on accessibility, the presence of a mobility strategy/plan is very important, and it is regarded as a «hygiene factor» that a town has elaborated such a strategy/plan with clear and measurable goals.

DEFINITION

Do you have a municipal mobility strategy? (YES/NO/PLANNED)

/Alternatively, :/

To what extent (%) are the goals/measures in the town's mobility strategy implemented?

LINK TO SDG TARGETS

9.1: Develop quality, reliable, sustainable and resilient infrastructure, including regional and transborder infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all

11.2: By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons

11.6: By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management

11.A: Support positive economic, social and environmental links between urban, per-urban and rural areas by strengthening national and regional development planning

29. GUIDING QUESTION: ENERGY EFFICIENCY

JUSTIFICATION

The EU Heads of State and Government set a series of demanding climate and energy targets to be met by 2020, known as the "20-20-20" targets". One of these targets is "20% of EU energy consumption to come from renewable resources".

Energy consumption and greenhouse gas emission rates per capita are relatively high by global standards in the Nordic region, due to factors including the long, cold winters, long transportation distances in sparsely populated regions, high levels of material consumption, and the prevalence of energy-intensive industries. These factors have long made energy efficiency a crucial issue. When it comes to heating Nordic homes, innovations including low-energy construction and district heating systems have cut annual carbon dioxide emissions from household heating systems to just 0.2 tonnes of CO2 per capita, compared to an average of 0.8 tonnes for OECD Europe. Iceland has uniquely extensive and accessible reserves of geothermal energy in the form of underground reservoirs of hot water and steam, due to constant volcanic activity along the Mid-Atlantic Ridge, which runs across the country from the south-west to the north-east.

DEFINITION

- Does the city have an energy strategy that considers the use of energy systems with low impact on climate change?
- Does the city have a strategy for energy efficiency measures?
- Is the city working with increasing the use of fossil free fuels?

LINK TO SDG TARGETS

7.1: By 2030, ensure universal access to affordable, reliable and modern energy services

7.2: By 2030, increase substantially the share of renewable energy in the global energy mix

11.6: By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management

30. GUIDING QUESTION: CLIMATE CHANGE ADAPTION/STORM WATER

Changing climatic patterns as an effect of climate change should be considered in local areas planning.

The following effects of climate change are to be expected in the Nordic region:

- Increased precipitation throughout the Nordic region. Even the number of occasions with intense precipitation is expected to increase. In the mountains, precipitation can increase by up to 25 percent. This means a large supply of water in an already suburban area.
- Increased risk of flooding. Increased precipitation and more intense rainfall increase the risk of floods.
- Water shortage and drought in southern parts. Changes in precipitation as well as increased evaporation can lead to increased summer draught.
- Temperature zones move north. The length of the growing period is estimated to increase

Future climate change is likely to have pronounced effects on glaciers, glacial rivers and hydro-resources of Iceland. Icelandic glaciers store a total of 3600 km3 of ice and are retreating and thinning rapidly at present. Land rise due to melting of glaciers, unstable landscapes in glaciers and mountains due to increasing temperatures are to be expected.

The topography of the area and natural drainage paths needs to be analysed early in the planning process as well as the risk of confined areas (where water can be trapped), water levels in water ways and hydrogeological conditions. Areas that are of a special importance for storm water treatment and delay should be pointed out early and be a part of the climate change adaptation strategy. The creation of multifunctional areas in the city should be part of the strategy.

DEFINITION

- Is there a storm water strategy for the city with climate change adaptation measures?
- Are effects of rising sea levels and more frequent heavy rains considered in local area planning? (Risk and vulnerability analysis and measures in approved plans after January 1st 2016?)

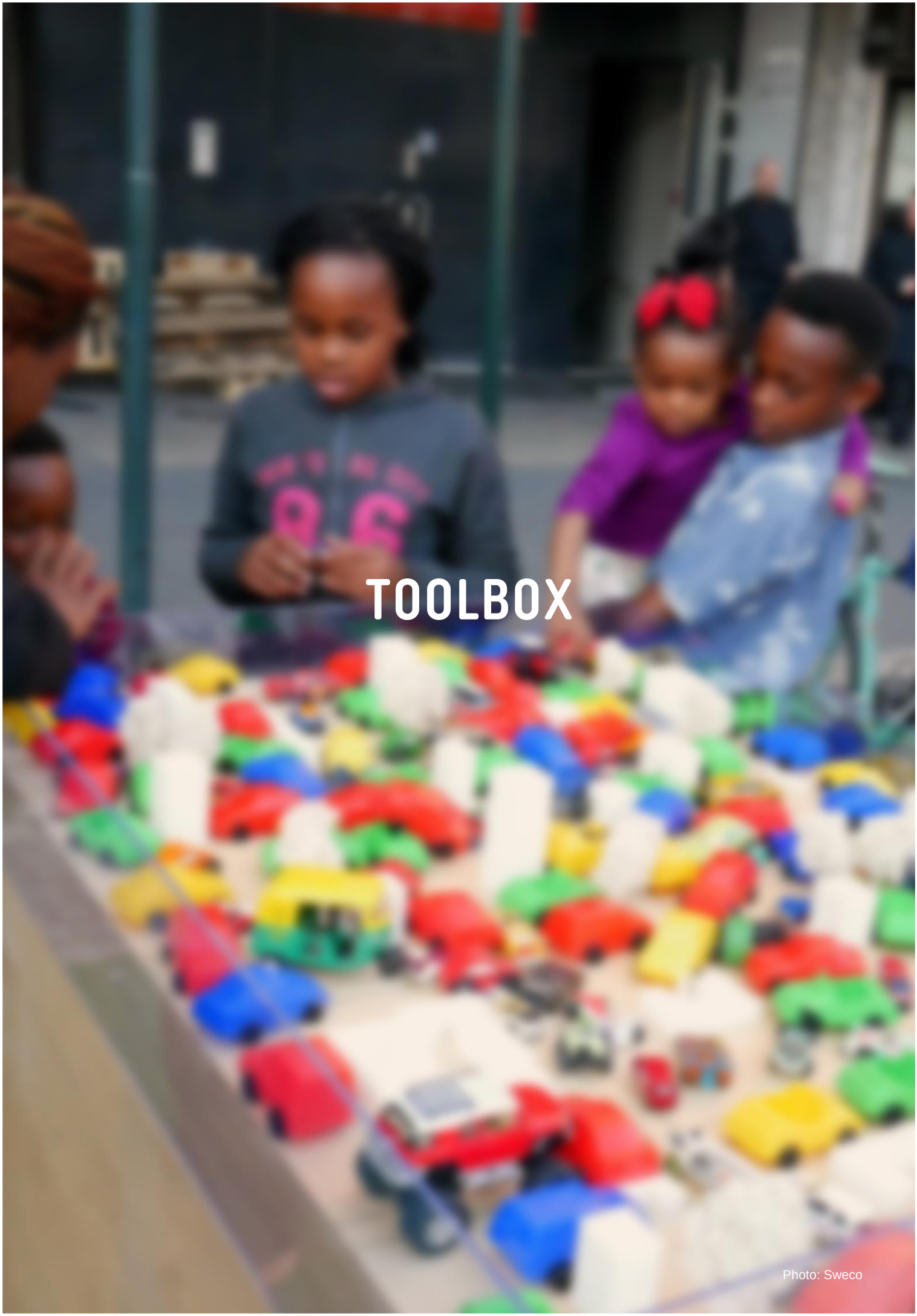
LINK TO SDG TARGETS

11.4: Strengthen efforts to protect and safeguard the world's cultural and natural heritage

11.5: By 2030, significantly reduce the number of deaths and the number of people affected and substantially decrease the direct economic losses relative to global gross domestic product caused by disasters, including water-related disasters, with a focus on protecting the poor and people in vulnerable situations

13.1: Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries

13.3: Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning


TOOLBOX
Photo: Sweco

Indicators alone do not contribute to sustainable urban development or ensure urban qualities, they simply indicate if one is approaching the goal or not. In this project we have identified **methods, measures, actions and cases that compile what we call a "toolbox" that can be used as an inspiration at a local level to further secure sustainable development and ensure urban qualities.** We do not believe that "One tool fits all" - this toolbox will have different suitability depending on the local conditions in the networking towns.

7. TOOLBOX FOR ATTRACTIVE AND SUSTAINABLE NORDIC TOWNS

This toolbox is a gathering of inspirations on how to work with concrete measures for attractive and sustainable town development. Indicators can provide direction, but they do not alone contribute to sustainable urban development or ensure urban qualities. This toolbox should therefore be read as a more practical approach that compliments the suggested indicators. If the Nordic countries are to achieve the sustainable development goals in time, we believe all solutions are viable, important and add on`s. In our experience different tools often only work in different environments or rather if certain criteria are met. The toolbox should therefore not be read as a A-Z cookbook for successful local development, but rather as an inspiration for further local adaptation of a towns practice based on their local conditions. In this chapter we have mapped existing tools, methods, guides and measures that can be used as an inspiration at a local level to further secure sustainable development and ensure urban qualities within small and medium sized Nordic towns. We call this compilation a toolbox.

These various tools / methods and measures will have different suitability depending on the sustainability goals you want to work with and under what local conditions that are available. We have collected a wide range of actions, cases and concrete tools for the towns to use as they see fit and we believe that this suggested toolbox has the potential to be extended to include even more concrete tools from Nordic towns.

METHODS

We have suggested some methods suitable for different subjects within the themes that we believe are applicable for the networking towns. They are presented with a short description and further in-depth elaboration can be found using the given source.

SUGGESTIONS FOR ACTIONS

Specific suggestions for plans, strategies and ideas that can be useful for the networking towns within various subjects.

CASES

There are numerous projects where comparable Nordic towns have addressed similar issues as the networking towns. Some of them are presented here- categorized under topics that can be looked further into.

TOOLBOX REGISTRY


TORGGATA KENNEL KLUBB
KJØKKEN
MARMARIS
PIZZA & GRILL
Take Away
22 36 49 10
MEHRAN
HERRE-
FRISØR
TORGGATAS
Beste Kebab
Fra 11° til 23°

Photo: Sweco

1. FRAMEWORKS FOR SUSTAINABLE URBAN DEVELOPMENT

1.1: THE REFERENCE FRAMEWORK FOR SUSTAINABLE CITIES

The Reference Framework for Sustainable Cities (RFSC) is an online toolkit for local European authorities that are involved in or are willing to start a process of integrated and sustainable urban development. The main objective of the toolkit is to enhance the dialogue within a city and with peer cities tackling the same issues across Europe.

The 265 RFSC indicators corresponds to key indicator frameworks for sustainable urban development like *The global indicator framework*, *The ISO 37120*, *The URBACT programme*, *ICLEI*, *The Green City Index* and the *City Prosperity Index*. All suggested indicators relate to one or more SDGs and targets. The RFSC -framework is developed specifically for small and medium sized cities in a European context and consists of 265 different indicators that all link to the 17 SDGs. The RFSC website also offer a free login where each city can choose which indicators they would like to assess and share their indicator monitoring online with other networking cites. The consultant considers the RFSC framework to be the best fit to the context and goals of the attractive Nordic towns project in terms of scalability, flexibility, user friendliness and a holistic approach to measuring attractiveness and sustainability in small and medium sized Nordic towns.

Based on a checklist of 25 questions and a large database of indicators, the toolkit offers practical support to: Develop an urban strategy or project which considers all fields of sustainable urban development; Check the ongoing strategies or projects in a given city and inform about the interactions (positive or negative) of the different policy sectors; Monitor the progress of a strategy over a certain period. Moreover, the toolkit offers access to different forms of exchange and support (training sessions, peer learning with other cities, showcase catalogue). The toolkit was designed by and for cities and can be used at various scales - from the neighbourhood level to the wider metropolitan level. It is free of charge and does not require any specific commitment from the cities. It is available in 17 languages. www.rfsc.eu

1.2 THE GLOBAL INDICATOR FRAMEWORK

The global indicator framework is perhaps the most obvious place to look when searching for indicators linked to the SDGs. The global indicator framework for the SDGs was adopted by the UN General Assembly in 2017 and the official indicator list includes 232 global indicators on which general agreement has been reached. https://unstats.un.org/sdgs/

1.3: ISO 37120

The ISO 37120 is an international standard that aims to provide a set of common quantitative indicators for city services and quality of life in cities for all cities in the world. Its Certification system with 5 certification levels, from aspirational to gold, awards the level of ISO 37120 indicators the city is reporting. https://www.iso.org/obp/ui/#iso:std:iso:37120:ed-2:v1:en

1.4: THE GREEN CITY INDEX

The Green City Index has been developed by the Economist Intelligence Unit with Siemens to allow cities and key stakeholder groups — such as city, experts, civil society — to compare their city's performance against others overall, and within each category. The Index scores cities across eight categories: CO2 emissions, energy, buildings, transport, water, waste and land use, air quality and environmental governance. 30 individual indicators are used.
https://www.siemens.com/entry/cc/features/greencityindex_international/all/en/pdf/report_en.pdf

1.5: THE CITY PROSPERITY INDEX

The City Prosperity Index (CPI) is a UN Habitat Initiative for the external assessment of cities sustainable urban development. It is based on the five dimensions of the Wheel of prosperity, as presented in the report" State of the World's Cities 2012/2013": productivity, infrastructures, quality of life, equity and environmental sustainability. The central dimension of the wheel has been added to the index since: "governance and legislation". The index provides an indication of how solid or weak are the prosperity factors available to any individual city. http://cpi.unhabitat.org/

1.6: THE CITY RESILIENCE INDEX

City resilience reflects the overall 'capacity of a city (individuals, communities, institutions, businesses and systems) to survive, adapt and thrive no matter what kinds of chronic stresses or acute shocks they experience'. The CRI was created over three years and in consultation with a range of cities globally. It is designed with rigor, and in a way that cities everywhere will benefit from using it as a planning and decision-making tool, that can help them realize a resilience dividend from investments in their growth and the well-being of their citizens. The City Resilience Index is based on three years of research contributions, case studies and pilot schemes conducted in diverse cities across the world. https://www.arup.com/perspectives/city-resilience-index

2. PROCESS TOOLS

2.1: SYMBIO CITY

The main objective of the programme is strengthened capacity of local governments to plan, develop and manage urban areas in a sustainable and inclusive way, using SymbioCity as an approach and methodology. The programme seeks to enhance the capacity of individuals as well as organizations. It aims to provide inspiration, approaches and tools which are effective and useful in the local context and which will ultimately lead to improved health, safety, comfort and quality of life for people living in urban areas.
https://www.symbiocity.org/en/

2.2: SUSTAINABLE DEVELOPMENT GOALS ACCELERATION TOOLKIT

The Sustainable Development Goals Acceleration Toolkit is an online compendium of system-level diagnostics, models, methodologies and guidance for analysing interconnections among the SDGs. One can assess how to contribute to the pledge by Member States to 'leave no one behind', and doing risk-informed planning—to help governments, UN country teams, and expert stakeholders at all levels understand synergies and trade-offs and identify and unlock bottlenecks for strategizing, prioritizing and accelerating progress.
https://undg.org/2030-agenda/sdg-acceleration-toolkit/

2.3: BREEAM COMMUNITIES

The BREEAM Communities International standard is applied during the early planning and design stages of a development. It offers a holistic framework with key target benchmarks that assists decision makers to better understand and improve upon the impact their decisions will have upon the longer term environmental, social and economic aspects of the development.

https://www.breeam.com/discover/technical-standards/communities/

2.4: CITYLAB ACTION

CityLab, originally called The Atlantic Cities, was launched in September 2011. CityLab rebranded in May 2014 with a new site and an expanded editorial mission. The current version of the site was launched in June 2017, highlighting a new focus on five areas of urban coverage—design, transportation, environment, equity, and life—as well as a new Solutions hub to collect the best ideas and stories for an urbanizing world.

https://www.citylab.com/

3. URBAN PLANNING TOOLS

3.1: CULTURAL AND NATURAL HERITAGE PLANS

Culture is unique and cultural objects in use can increase preservation and build a stronger identity. An indicator as “Do you have a (cultural) heritage preservation policy/plan?” is not sufficient for measuring the achieved goals for values and may rather be used as a tool. Plans, policies or strategies for this theme are important for better understanding the great value of and prioritize and have strategies for and/or integrate into masterplans. Other topics can be unique natural and cultural values, protected nature area (ex. national parks), communicated and informative natural and cultural heritage (ex. information boards). Further important measurable values can be cultural elements or listed buildings in use and empty buildings/premises, particularly in town centres in general. RFSC-indicator “Share of listed building restored” may be relevant. The importance of cultural heritage is significant but existing relevant indicators are lacking and recommended to develop further.

3.2: MOBILITY PLAN

To create a well-functioning urban area that promotes sustainable mobility there is a need to work simultaneously on many scales – from the town structure to the detailed design of the spaces that people experience in their daily lives. Some of those spaces which are more important than others, such as urban nodes with a large flow of travellers, need special attention to make it easy for people to make a sustainable choice. It is equally important to pay close attention to the overall transport system structure and the urban links connecting the nodes. A sustainable urban mobility strategy/plan considers the functional urban area and foresees that plans are developed in cooperation across different policy areas and sectors, across different levels of government and administration and in cooperation with citizens and other stakeholders. Therefore, to achieve a systemic and holistic approach on accessibility, the presence of a mobility strategy/plan is very important, and it is regarded as a «hygiene factor» that a town has elaborated such a strategy/plan with clear and measurable goals.

3.4: BLUE AND GREEN SPACE FACTOR

Blue and green area/space factor – A method where scores of elements of blue and green qualities are used to address and enhance qualities in urban development. A tool that shall contribute to give green spaces and outdoor spaces a higher status in planning processes.

3.5: KEY PERFORMANCE INDICATORS FOR SMART SUSTAINABLE CITIES

Collection Methodology for Key Performance Indicators for Smart Sustainable Cities and check list for sustainable urban plans. https://www.itu.int/en/publications/Documents/tsb/2017-U4SSC-Collection-Methodology/index.html

4. MAPPING TOOLS

4.1: MAPPING OF HEALTH AMONG YOUTH.

Ungdata is a cross-national data collection scheme, designed to conduct youth surveys at the municipal level in Norway. Ungdata is regarded as the most comprehensive source of information on adolescent health and well-being at the municipal and national levels. It is among other things used in municipal planning and developmental work related to public health and preventive measures aimed at young people. Ungdata cover various aspects of young people's lives, e.g. relationship with parents and friends, leisure activities, health issues, local environment, well-being, and school issues. The surveys also include questions about tobacco and drug use, and participation in various forms of antisocial behavior such as violence and bullying.
http://www.ungdata.no/English

4.2: KIDS' TRACKS

Kids' Tracks is a digital tool and educational program that allows children to tell planners, local authorities and local politicians how they use the place where they live and what they want to change.
https://www.barnetrakk.no/en/

5. PUBLIC PROCUREMENT TOOLS

5.1: INNOVATIVE PROCUREMENTS

In Norway, public agencies procure goods and services for close to 58 billion Euros every year. Innovative Procurements is a new method for public procurements. In Innovative Procurements requesting pre-defined solutions from the market is discouraged. Instead, needs and functions are communicated to the market, which in turn responds on how to best solve this. Through Innovative Procurements, mapping and defining needs are emphasized, the market is invited for dialogue, and challenged to come up with smart solutions.
http://innovativeanskaffelser.no/about/

5.2: BUYING GREEN – A HANDBOOK ON GREEN PUBLIC PROCUREMENT

This handbook is designed to help public authorities successfully plan and implement GPP. It explains the possibilities offered by European Union law in a practical way and looks at simple and effective approaches to greening contracts. The handbook follows the logic and structure of a procurement procedure. It also gives many real examples of green purchasing by public authorities across the EU. It has been produced for public authorities, but many of the ideas and approaches are equally relevant for corporate purchasers. It should also help suppliers and service providers – particularly smaller companies (SMEs) – to better understand the environmental requirements increasingly encountered in public tenders.
http://ec.europa.eu/environment/gpp/pdf/Buying-Green-Handbook-3rd-Edition.pdf

5.3: SUSTAINABILITY CRITERIA FOR PROCUREMENT

Procurement is a financial instrument that local governments hold which can be used to achieve environmental and other public policy goals. In The Swedish National Agency for Public Procurements criteria library you can find proposals for environmental and social requirements to be used when purchasing goods, services and work contracts. There are three levels of environmental criteria; basic, advanced and spearhead.
https://www.upphandlingsmyndigheten.se/en/sustainable-public-procurement/sustainable-procurement-criteria/

5.4: EU GREEN PUBLIC PROCUREMENT CRITERIA

The EU GPP criteria are developed to facilitate the inclusion of green requirements in public tender documents. While the adopted EU GPP criteria aim to reach a good balance between environmental performance, cost considerations, market availability and ease of verification, procuring authorities may choose, according to their needs and ambition level, to include all or only certain requirements in their tender documents.
http://ec.europa.eu/environment/gpp/eu_gpp_criteria_en.htm

6. NUDGING TOOLS

6.1: GREENUDGE

A wide range of approaches that are based on scientific research about what makes the most significant trigger in terms of people deciding to improve their food choices and improve their lifestyle in general. Greenugde works with knowledge dissemination, strategic implementation and practical tools that promote healthier and more sustainable food choices. http://greenudge.org/en/all-projects/

6.2: THE BEHAVIOURAL INSIGHTS OF HEALTH CHOICES

In Sweden, Denmark, Finland, Norway and Iceland, the four risk factors, namely unhealthy diets, tobacco smoking, excessive alcohol consumption, and physical inactivity - are the main causes of the disease burden. Unhealthy diets are the main risk factor (ranked #1-2), followed by tobacco smoking (ranked #1-4) and alcohol consumption (ranked #3-7). Physical inactivity is ranked relatively low (ranked #8-9). The objective of this report is to analyse how behavioural and contextual interventions can serve as solution strategies to improve dietary choices, tobacco and alcohol consumption, and physical activity. We provide an overview of the empirical evidence suggesting that people's health choices can be swayed in a healthier direction by applying behavioural economics and contextual interventions. The report outlines suggestions on how Nordic policy authorities and cooperation with commercial business organizations can implement solutions that promote healthier choice. http://greenudge.org/wp-content/uploads/2017/11/GreeNudge-Behavioral-Insights-of-Health-Choices-2017.pdf

6.3: NUDGING IN URBAN ENVIRONMENTS

Copenhagen city is repeatedly hailed as one of the most liveable cities of the world. Planned nudges have contributed to make this possible by veering collective behaviour in the right direction. For example, to deal with the problem of increased littering, the city set up litter-prevention programs where garbage bins were placed at strategic places, especially where people were expected to litter. But the real nudge was placing green footprints that led up to the bins. The footprints pushed people to take those extra steps to dispose their waste. The nudge proved to be very effective, resulting in cleanliness and pride among the people for their environment. https://urbandesigncollective.wordpress.com/2018/01/01/nudging-for-change/

6.4: USING A LOTTERY TO INCREASE ELECTORAL PARTICIPATION RATES

The Behavioural Insights Team (BIT), also known unofficially as the "Nudge Unit", is an organisation that was set up to apply nudge theory ran a randomised controlled trial with a local authority to test the efficacy of using lotteries to increase electoral registration rates. There was a 3.3% increase in registration rates when the prize was £1,000, and a 4.2% increase when the prize was £5,000. http://www.behaviouralinsights.co.uk/wp-content/uploads/2015/07/BIT-Publication-EAST_FA_WEB.pdf

7. COCREATION TOOLS

7.1: SMART CITY WORKSHOP. HOW DO WE MAKE SMART CITIES CIVIC?

A recipe for creating a smart city workshop. This workshop offers a set of activities for exploring and shaping smart city discourse in your place. Sensors, algorithms, and new data flows and practices are rapidly changing governance in cities and giving publics influence over the decisions that integrate new technologies and processes is imperative. https://civicsmart.city/workshop

7.2: TOWN LABS

Involvement of citizens and presence in the public space:

Public participation and strengthening and sharing of knowledge, engage the society in open arenas, both digital and physical.

Public/private collaborations and public participation in the planning process can be resources and success factor.

8. KNOWLEDGE SHARING TOOLS

8.1: URBACT

The URBACT program is the European Territorial Cooperation program aiming to foster sustainable integrated urban development in cities across Europe. It is an instrument of the Cohesion Policy, co-financed by the European Regional Development Fund, the 28 Member States, Norway & Switzerland. URBACT's mission is to enable cities to work together and develop integrated solutions to common urban challenges, by networking, learning from one another's experiences, drawing lessons and identifying good practices to improve urban policies.

8.2: ICLEI

ICLEI is the leading global network of more than 1,500 cities, towns and regions committed to building a sustainable future. Through their collective efforts, they impact more than 25 percent of the global urban population.

9. GOOD TOWN LIFE TOOLS

9.1: TEMPORALITY – USE OF TESTBEDS

Temporality can increase city life, testing solutions and give places attention and identity.
Use and reuse of empty buildings, especially in historical areas and city centres, and can contribute to preservation with use of cultural objects. Arranging events and temporary activities in public spaces may also be used as tools.

The book "Urban Catalyst" by Philipp Oswalt, Klaus Overmeyer and Philipp Misselwitz, is the result of more than ten year of research and praxis in the field of temporary uses as catalysts of urban development. The books contextualize international examples in urban discourse and presents strategic tools and models of actions.

9.2: URBAN SPACES – MANUAL

The report "Byrom – en idéhåndbok" by The Norwegian Ministry of Local Government and Modernisation (2016) contains tool boxes for strategies.

9.3: ADDITIONAL USES FOR URBAN INFRASTRUCTURE

Reprogramming the City is a global overview of ways in which existing urban structures, surfaces and systems are being re-imagined, re-purposed and re-invented to do more in the city. Created by urban strategist Scott Burnham FRSA, the initiative is a catalyst of ideas showing how cities can do more with the infrastructure, assets, and systems they already have. The latest version of Reprogramming the City is being developed for the DOGA: Design and Architecture Norway, in Oslo. Previous versions of Reprogramming the City have been created for Arkdes, Swedish Centre for Architecture and Design in Stockholm, Sweden, the Danish Architecture Centre, Copenhagen, Denmark, the Branch Museum of Architecture and Design in Richmond, and the Boston Society of Architects' BSA Space Gallery. https://reprogrammingthecity.com/about/

In the Sweco *Urban Insight* report "Redefining bridges and tunnels" you can read more about concrete examples of repurposing existing infrastructure elements. https://www.swecourbaninsight.com/urban-move/redefining-bridges-and-tunnels/

9.4: PROJECT FOR PUBLIC SPACES

Placemaking – an approach to urban planning that seeks to strengthen the connections between people and places, with community-based participation and stakeholder ownership of the process and outcomes at its core[1]. Power of 10+ is a tool by Project for public spaces (PPS). The Place Diagram is one of the tools PPS has developed to help communities.

https://www.pps.org/

10. CULTURAL HERITAGE TOOLS

10.1: DIVE- REGISTERING HISTORICAL QUALITIES

The Directorate for Cultural Heritage in Norway (Riksantikvaren), have developed methods for registering and development of the historical qualities as resources in urban development named DIVE.
https://www.riksantikvaren.no/Tema/Byer-og-tettsteder/DIVE-kulturhistorisk-stedsanalyse

10.2: UNESCO CULTURE FOR DEVELOPMENT INDICATORS – METHODOLOGY MANUAL

The present Methodology Manual is a step-by-step guide, not only to the construction of the twenty-two indicators covering these seven dimensions, but also to their use for maximum policy impact. It provides detailed and easy-to-follow instructions for collecting and processing data, constructing indicators and interpreting them according to the national context.
https://en.unesco.org/creativity/sites/creativity/files/digital-library/CDIS%20Methodology%20Manual_0.pdf

11. ACCESSIBILITY TOOLS

11.1: CIVITAS URBAN MOBILITY TOOL INVENTORY

The CIVITAS Tool Inventory is an online database of over 100 tools and methods that helps local authorities make better informed decisions about which planning tools to apply in their given local context. It features a broad range of tools and methods – including guidelines, software, manuals, mobile apps, games, and planning approaches – that are useful for all steps of the urban mobility planning process, from scenario building and measure selection to implementation and evaluation. To find the tool most relevant to your needs, you can filter the selection in several ways:

If you select filters from different categories, such as “German” from Language and Software from "Tool Type", then only tools matching both those filters are displayed. You can also use the general search bar to look for tools by name. http://civitas.eu/tool-inventory

11.2: BIKE SHARE PLANNING GUIDE

The Bikeshare Planning Guide provides in-depth guidance to city officials, practitioners and other stakeholders about planning and implementing a successful bikeshare system. The Guide encourages cities to position bikeshare as a critical piece of their transportation network, and plan- and expand- systems that prioritize transit integration, equity, and a high-quality user experience. http://civitas.eu/tool-inventory/bikeshare-planning-guide

11.3: CITIZEN ENGAGEMENT SHELF

The Citizen Engagement Shelf is a list of 42 publications/websites which provide a wealth of information about citizen participation in the field of mobility. The Shelf provides the title, a brief description and source of each of these publications. http://civitas.eu/tool-inventory/citizen-engagement-shelf

11.4: BRANDING AND AWARENESS – THE EUROPEAN MOBILITY WEEK

Since 2002, European Mobility Week has sought to improve public health and quality of life through promoting clean mobility and sustainable urban transport. The campaign gives people the chance to explore the role of city streets and to experiment with practical solutions to tackle urban challenges, such as air pollution. http://www.mobilityweek.eu/the-campaign/

12. ECONOMIC TOOLS

12.1: BRP+

BRP+ is the result of a development project run by public and private sector stake holders in Sweden through the national cooperation platform Reglab. BRP+ is a system for measuring quality of life on regional level and it aims to show the long-term development for regional resources such as economic, social and human capital as well as natural resources. BRP+ is currently being tested in different parts of Sweden and can be an inspirational source for Nordic towns that want to go beyond BRP. http://www.brpplus.se/

12.2: CIRCULAR ECONOMY

A circular economy is a regenerative system in which resource input and waste, emission, and energy leakage are minimized by slowing, closing, and narrowing energy and material loops; this can be achieved through long-lasting design, maintenance, repair, reuse, remanufacturing, refurbishing, recycling, and upcycling. This contrasts with a linear economy which is a 'take, make, dispose' model of production. To achieve models that are economically and environmentally sustainable, the circular economy focuses on areas such as design thinking, systems thinking, product life extension, and recycling. https://www.government.nl/topics/circular-economy/from-a-linear-to-a-circular-economy

Circle lab: Circle Lab is an online platform for cities, businesses, and citizens to explore, brainstorm, and implement circular business models and strategies to tackle universal and local challenges. By digitising knowledge, opening up access, and encouraging co-creation, we aim to break down information silos and fuel cross-industry collaboration and innovation. https://circle-lab.com/

Vinnova circular and bio-based economy: Vinnova has three programs with a special focus in this area: The Strategic innovation program for Bio-innovation (only in Swedish). The Strategic innovation program RE:Source. Challenge-driven Innovation. https://www.vinnova.se/en/m/circular-and-bio-based-economy/

12.3: ANALYSING THE IMPACT OF E-COMMERCE ON URBAN AREAS

From electronics to groceries – today, nearly everything we need can be ordered online and delivered to our doorsteps. For the consumer, e-commerce can be a time and cost saver. For urban planners, retailers and logistics companies, on the other hand, the great flow of products from manufacturer to consumer presents completely new challenges. What are the effects of increasing e-commerce in our European cities? And what can be done to facilitate this transformation of our shopping habits? The report “Signed, Sealed, delivered – Analysing the Impact of E-commerce on Urban Areas” explores European e-commerce and the development of supply chains from a citizen perspective. https://www.swecourbaninsight.com/urban-move/signed_sealed_delivered/

13. ENERGY- STRATEGIC TOOLS

13.1: ZERO ENERGY PROJECT

Increasing energy efficiency on the building stock and more generally in the public realm. https://zeroenergyproject.org/

13.2: ICT

Energy poverty could be specifically targeted through dedicated programs. Smart grid and more generally ICT applications help to have real-time detailed information of when and how energy is consumed and on the renewable energy produced. This helps identify areas of progress, giving control over energy consuming devices and helping to balance supply, demand and energy storage.

13.3: ENERGY POLICY TOOLKIT

Energy policy toolkits relating to the Danish energy model are available from the Danish Energy Agency's Energy Partnership Program. https://stateofgreen.com/en/partners/danish-energy-agency/solutions/energy-policy-toolkit/

14. PUBLIC HEALTH TOOLS

14.1: HEAT - ASSESSING HEALTH BENEFITS OF WALKING AND CYCLING

The Health Economic Assessment Tool, or HEAT, can be used when planning new infrastructure for cyclists or pedestrians, and provides valuable information for related economic and health impact assessments. The tool can also help make the case for more investment in cycling and walking facilities by estimating the benefits of achieving national targets or illustrating potential consequences of declines in current levels of cycling or walking. HEAT can also assess a city's current situation or past investment related to cycling and walking.

HEAT is aimed at professionals at both national and local levels: transport planners, traffic engineers and special interest groups working on transport, walking, cycling or the environment, as well as health economists, physical activity experts and health promotion experts. An updated version of the tool for 2018 has been released, incorporating the latest scientific evidence and additional features.

The HEAT tool is a web-based tool. To access the tool, visit the HEAT website https://www.heatwalkingcycling.org/#homepage

15. ECO SYSTEM SERVICE TOOLS

15.1: THE ECONOMICS OF ECOSYSTEMS AND BIODIVERSITY (TEEB)

The Economics of Ecosystems and Biodiversity (TEEB) is a global initiative focused on “making nature’s values visible”. Its principal objective is to mainstream the values of biodiversity and ecosystem services into decision-making at all levels. It aims to achieve this goal by following a structured approach to valuation that helps decision-makers *recognize* the wide range of benefits provided by ecosystems and biodiversity, *demonstrate* their values in economic terms and, where appropriate, suggest how to *capture* those values in decision-making http://www.teebweb.org/resources/ecosystem-services/

15.2: NINE TOOLS FOR CONDUCTING ECOSYSTEM SERVICES

The International Union for the Conservation of Nature´s World Commission on Protected Areas has produced a report that reviews and compares nine tools for conducting ecosystem services assessments https://portals.iucn.org/library/node/47778

15.3: INTEGRATING ECOSYSTEM SERVICES IN SPATIAL PLANNING

The Boverket website presents a proposal for a method for integrating ecosystem services in spatial planning. There is described how the method can be applied in summary planning and detailed planning.https://www.boverket.se/sv/PBL-kunskapsbanken/Allmant-om-PBL/teman/ekosystemtjanster/metod/

15.4: GREEN SPACE FACTOR FOR PUBLIC PLACEMARK

Within the Swedish project C / O City, a completely new tool has been developed to facilitate the planning of ecosystem services in the city. The tool is called green space factor for public placemark, and is shortened to GYF AP. The tool can, for example, be used to create synergies and increase knowledge about ecosystem services, evaluate various ecosystems, create robust urban ecosystems that can handle disturbances and changes, follow up work on ecosystem services in urban planning and help create attractive living and living environments. https://hallbarstad.se/cocity/verktyg-bidrar-till-gronare-stadsmiljoer/

16. CLIMATE CHANGE ADAPTION TOOLS

16.1: WEADAPT

Climate Change Adaptation Toolkit and User Guide is a comprehensive guide to planning for climate change adaptation in three steps. The Toolkit consists of three tools, stepping the user through key considerations of climate change risks, and potential adaptation actions. https://www.weadapt.org/knowledge-base/adaptation-decision-making/climate-change-adaptation-toolkit

16.2: COVENANT OF MAYORS FOR CLIMATE AND ENERGY

How to prepare for floods, heatwaves and other climate change impacts: Get inspired by Covenant cities and region. http://mayors-adapt.eu/

16.3: EUROPEAN CLIMATE ADAPTION PLATFORM

The aim of the Adaptation Support Tool is to assist users in developing climate change adaptation strategies and plans by providing guidance, links to relevant sources and dedicated tools. https://climate-adapt.eea.europa.eu/knowledge/tools/adaptation-support-tool

16.4: CLIMATE CHANGE HANDBOOK FOR REGIONAL WATER PLANNING

The handbook offers an innovative analytical framework for incorporating climate change impacts into a regional and watershed planning process. https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/Integrated-Regional-Water-Management/Files/Climate_Change_Handbook_Regional_Water_Planning.pdf

17. TOOLS FOR REDUCING GREENHOUSE GASES

17.1 MUNICIPAL CLIMATE BUDGET

The City Government of Oslo has launched climate budgets for 2017-2020 as a part of the Financial Budget. "We'll count carbon dioxide the same way we count money". The climate budget consists of 42 measures. The measures are distributed across tree sectors; Energy/buildings, Resources and Transport. The transport sector will need to reduce greenhouse gas emissions by 353,000 tons and the energy/building sector 284,000 tons over the next four years. 200,000 tons of CO2-equivalents will be reduced from landfills, waste incineration and waste water treatment. https://www.oslo.kommune.no/english/politics-and-administration/green-oslo/best-practices/climate-budget/

17.2: CLIMATE PARTNERS – PRIVATE-PUBLIC PARTNERSHIP

Climate Partners are Norway's largest Private-Public Partnership network focusing on how regions can reduce Green House Gas (GHG) emissions and develop a green economy.

https://www.klimapartnere.no/english/

17.3: FOSSIL FREE PUBLIC TRANSPORT STRATEGY

All public transport in Oslo and Akershus will run on renewable energy in the future. This means an ambitious transformation of the bus and boat fleets in the region. Ruter's (the municipal transport company) ambition is to quickly implement the solutions that are the best in a long-term perspective. https://ruter.no/en/about-ruter/reports-projects-plans/fossilfree2020/

17.4: HINKU, CARBON NEUTRAL MUNICIPALITIES PROJECT

Hinku Forum is network of forerunners established in 2013, which brings together Hinku municipalities, a large group of cleantech companies and experts involved as partners to reduce greenhouse gas emissions at municipal level. Hinku Forum shares information about best practices, supports the local works of different actors in the municipalities and creates demand for climate-friendly products and services. http://www.hinku-foorumi.fi/en-US

18. SUSTAINABLE TOURISM TOOLS

18.1: PARTNERSHIP: SUSTAINABLE TOURISM COMMITMENT

The New Zealand Tourism Sustainability Commitment is designed to have very wide uptake across every sector of the industry. The NZ Tourism Sustainability Commitment complements other sustainability programmes. The tourism industry benefits from a number of initiatives related to sustainability, including some that require certification or accreditation. http://www.sustainabletourism.nz/

18.2: THE GOLDEN ROAD – CO-CREATING A DESTINATION

The route The Golden Road passes through beautiful scenery in Inderøy municipality in North-Trøndelag, with food, art and cultural experiences along the way. The Golden Road offer several exciting farm shops selling both local food and great gifts. The proximity to the fjord provides opportunities for swimming, fishing, boating and outdoor activities. 22 member businesses join forces to provide a new high end tourist attraction. https://dgo.no/about-the-golden-road/?lang=en

19. WASTE MANAGEMENT TOOLS

19.1: MOBILE WASTE COLLECTION SYSTEMS

Accessibility to waste collection systems for source separation, for example mobile waste collection systems, pop-up reuse, second hand.

REFERENCES

Aardal, B. (2002). Valgdeltagelse og demokrati - en innføring og en oversikt. I B. Aardal, *Valgdeltagelse og demokrati* (ss. 11-43). Oslo: Kommuneforlaget.

Asplan Viak. (2018). *Bærekraftsrapport for Buskerudsamfunnet.* Buskerud fylkeskommune.

Bakke, T. (2018). Sosial overflatefaktor- metodikk for å oppnå sosialt bærekraftig stedsutvikling. *Plan Tidsskrift for samfunnsplanlegging, regional- og byutvikling*.

Barnetråkk. (2018). Hentet fra www.barnetrakk.no/en/

Barton, H. a. (2006). *A health map for the local human habitat.* he Journal for the Royal Society for the Promotion of Health.

Boussauw, I. w. (2017). teacher in the MSc in Urban Design and Spatial Planning (STeR*) at the Vrije Universiteit Brussel. (U. Johannson, Intervjuer)

Circle Lab. (2018). Hentet fra Circle Assessment: https://circle-lab.com/

Cities Alliance. (2015). *Cities Alliance.* Hentet fra Sustainable Development Goals and Habitat III: Opportunities for a Successful New Urban Agenda: http://www.citiesalliance.org/sites/citiesalliance.org/files/Opportunities%20for%20the%20New%20Urban%20Agenda.pdf

City of Copenhagen,. (2015). *Urban development CPH.* Hentet fra Urban Life Account: https://urbandevelopmentcph.kk.dk/artikel/urban-life-account

Covenant of Mayors for Climate and Energy. (u.d.). *How to prepare for floods, heatwaves and other climate change impacts* . Hentet fra Get inspired by Covenant cities and region: http://mayors-adapt.eu/

European Climate Adaption Platform. (u.d.). Hentet fra https://climate-adapt.eea.europa.eu/knowledge/tools/adaptation-support-tool

Finnsson, P. (2018). *Nordregio.* Hentet fra Women consistently earn less than men-glass ceiling prevents them from reaching top income levels: http://www.nordregio.org/nordregio-magazine/issues/income-inequality-on-the-rise-in-the-nordic-countries/women-consistently-earn-less-than-men-glass-ceiling-prevents-them-from-reaching-top-income-levels/

Global Taskforce of Local and Regional Governments. . (2015). Hentet fra All SDGs are Local: Towards an Action Agenda in Habitat III. : http://www.commed-cglu.org/wp-content/uploads/2015/09/All-Goals-are-Local-towards-and-Action-Agenda-in-Habitat-III.pdf

ICLEI (Local Governments for Sustainability). (2018). *Our Pathways, Our approach*. Hentet fra http://www.undp.org/content/undp/en/home/democratic-governance-and-peacebuilding/empowering-youth.html

ISO 37101. (2018). *Sustainable development in communities*.

Kommunal og moderniseringsdepartementet. (2015). *Nasjonale forventninger til regional og kommunal planlegging.* Oslo: Kommunal og moderniseringsdepartementet.

Kommunal og moderniseringsdepartementet. (2016). *Byrom – en idéhåndbok.* Oslo.

Krugman, P. (1991). *Geography and Trade.* MIT Press.

London Waste and Recycling Board (LWARB). (u.d.). *London's Circular Economy Route Map.* Hentet fra https://www.lwarb.gov.uk/wp-content/uploads/2015/04/LWARB-London%E2%80%99s-CE-route-map_16.6.17a_singlepages_sml.pd

Lucci, P. (2015). Hentet fra Localising the post-2015 agenda: what does it mean in practice? : http://www.delog.org/cms/upload/teaser/ODI_Localising_Post-2015_What_does_it_mean_in_practice.pd

McKinsey & Company. (2011). *McKinsey Global Institute.* . Hentet fra Urban World: Mapping the economic power of cities : http://www.mckinsey.com/global-themes/urbanization/urban-world-mapping-the-economic-power-of-cities

Menon Economics. (2017). *Verdien av kulturarv, en samfunnsøkonomisk analyse med utgangspunkt I kulturminner og kulturmiljøer/ The value of cultural heritage.* . Hentet fra https://www.riksantikvaren.no/en/Topics/International-activities/International-Project-News/The-value-of-cultural-heritage

Miljøverndepartementet. (2007). Hentet fra Pilotarbeid for miljøvennlige byer – Byomforming, sentrumsutvikling, miljøvennlige arbeidsreiser, miljøsoner: https://www.regjeringen.no/globalassets/upload/md/vedlegg/rapporter/t-1461_5mb.pdf

Muller, J. Z. (2017). *The Tyranny of the metrics.* Princeton University Press .

Nordforsk. (2018). *Nordic Centre of Excellence on Resilience and Societal Security (NORDRESS).* Hentet fra https://www.nordforsk.org/en/programmes-and-projects/projects/nordic-centre-of-excellence-on-resilience-and-societal-security-nordress

Nordic Council of ministers. (2017). *Nordic Action on Climate change.* Hentet fra https://norden.diva-portal.org/smash/get/diva2:1148260/FULLTEXT01.pdf.

Nordic Council of Ministers. (2017). *Youth, democracy, and democratic exclusion in the Nordic countries.* Hentet fra https://www.norden.org/en/publication/youth-democracy-and-democratic-exclusion-nordic-countries

Nordic Council of Ministers. (2018). *State of the Nordic Region 2018.* Nordregio.

Nordregio. (2016). *Sharing a sustainable urban future- a nordic cities perspective.* Hentet fra http://www.nordregio.org/wp-content/uploads/2016/10/Sharing-a-Sustainable-Urban-Future-A-Nordic-Cities-Perspective.pdf

Nählinder, J. (2005). *Innovation and Employment in Services: The case of Knowledge Intensive Business Services in Sweden.* Hentet fra http://liu.diva-portal.org/smash/record.jsf?pid=diva2%3A20573&dswid=-6638

OECD. (2006). *Innovation and Knowledge-Intensive Service Activities*. Hentet fra http://www.oecd.org/sti/inno/innovationandknowledge-intensiveserviceactivities.htm

OECD. (2013). Citizen satisfaction with public services. I *Government at a Glance 2013.* Paris: OECD Publishing.

Our World in Data. (2018). *Economic growth*. Hentet fra https://ourworldindata.org/economic-growth

Placemaking. (u.d.). Hentet fra Project for public spaces: https://www.pps.org/

Planverktøy for bedre stedsutvikling. (2018). Hentet fra SMS-prosjektet: http://smsprosjektet.no/

Redman.et.al. (2013). Quality Attributes of public transport that attract car users: A research review. *World Transit Research*.

Regjeringen/The Norwegian Government. (2002). *Nasjonal strategi for bærekraftig utvikling.* Hentet fra https://www.regjeringen.no/no/dokumenter/nasjonal-strategi-for-barekraftig-utvikl-2/id448574/

RFSC. (u.d.). *Refrence Framework for Sustainable Cities*. Hentet fra www.rfsc.eu

Riksantikvaren. (2017). *Riksantikvarens bystrategi 2017-2020.* Hentet fra .https://www.riksantikvaren.no/Tema/Byer-og-tettsteder/Riksantikvarens-bystrategi

Riksantikvaren. (2018). *Kulturhistorisk stedsanalyse- en veileder i bruk av DIVE, .* Hentet fra https://www.riksantikvaren.no/Tema/Byer-og-tettsteder/DIVE-kulturhistorisk-stedsanalyse

S., E. (2015). *International Labour Force (ILO).* Hentet fra What does NEETs mean and why is the concept so easily misinterpreted? : http://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/documents/publication/wcms_343153.pdf

Scruggs, G. (2015, December 17). *Habitat III — the first post-Paris implementation opportunity?* Hentet fra http://citiscope.org/habitatIII/news/2015/12/habitat-iii-first-post-paris-implementation-opportunity

SDSN. (2013). *Why the World Needs an Urban Sustainable Development Goal.* Hentet fra https://sustainabledevelopment.un.org/content/documents/2569130918-SDSN-Why-the-World-Needs-an-Urban-SDG.pdf

SMHI. (u.d.). *Lathund för klimatanpassning,*. Hentet fra https://www.smhi.se/lathund-for-klimatanpassning/om-lathund-for-klimatanpassning/om-lathund-for-klimatanpassning-1.129213

Statistics Norway/SSB. (2016). *Lower voter turnout than Sweden and Denmark.* Hentet fra https://www.ssb.no/en/valg/artikler-og-publikasjoner/lower-voter-turnout-than-sweden-and-denmark

Stockholm Resilience Centre. (2018). Hentet fra https://www.stockholmresilience.org/

Sustainable Society Foundation. (2012). Hentet fra Beyond GDP: http://ec.europa.eu/environment/beyond_gdp/download/factsheets/bgdp-ve-ssi.pdf

Sweco. (2018). *Urban Insight: Urban space for people on the move – the living city.*

Swope, C. (2014, August 14). *The 'urban SDG': an explainer.* Hentet fra http://citiscope.org/story/2014/urban-sdg-explainer

Sælensminde.et.al. (2012). *Barrierer for tverrsektorielle lokale klimatiltak – sammendragsrapport, rapport nr 8/2012.* . Vestlandsforskning.

The Economics of Ecosystems and Biodiversity. (u.d.). *Ecosystem services.* Hentet fra http://www.teebweb.org/resources/ecosystem-services/

The International Union for the Conservation of Nature´s World Commission on Protected Areas,. (2018,). *Tools for measuring, modelling, and valuing ecosystem services : guidance for Key Biodiversity Areas, natural World Heritage sites, and protected areas, .* Hentet fra https://portals.iucn.org/library/node/47778

Tilvaxtverket. (2018). *Pilotkommuner för attraktionskraft*. Hentet fra https://tillvaxtverket.se/amnesomraden/regional-kapacitet/tillvaxtskapande-samhallsplanering/pilotkommuner-for-attraktionskraft.html

Trondheim kommune. (u.d.). *En blå tråd*. Hentet fra www.enblåtråd.no

UN SDSN. (2018). *SDG cities guide 2018.* Hentet fra https://sdgcities.guide/chapter-1-cities-and-a-territorial-approach-to-the-sdgs-22c2660644e3

UN-DESA. (u.d.). *United Nations, 2015. .* Hentet fra World Urbanization Prospects- The 2014 Revision. New York: https://esa.un.org/unpd/wup/Publications/Files/WUP2014-Report.pdf

UNDP. (2018). *Democratic governance and peacebuilding .* Hentet fra http://www.undp.org/content/undp/en/home/democratic-governance-and-peacebuilding/empowering-youth.html

UNDP. (2018). *Human Development Data (1990-2017) .* Hentet fra http://hdr.undp.org/en/data

UNESCO. (2014). *Culture for development indicators- methodology manual.* Hentet fra https://en.unesco.org/creativity/sites/creativity/files/digital-library/CDIS%20Methodology%20Manual_0.pdf

UN-Habitat. (2011). *Cities and Climate Change: Global Report on Human Settlements.* Hentet fra http://mirror.unhabitat.org/downloads/docs/E_Hot_Cities.pdf

UN-Habitat, UNDP & GTF of Local and Regional Governments. (2015). *United Nations.* Hentet fra Localizing the post-2015 development agenda- dialogues on implementation: https://www.uclg.org/sites/default/files/dialogues_on_localizing_the_post-2015_development_agenda.pdf

United for Smart Sustainable Cities(U4SSC). (2017). *Collection Methodology for Key Performance Indicators for Smart Sustainable Cities.* Hentet fra United for Smart Sustainable Cities(U4SSC), 2017, Collection Methodology for Key Performance Indicators for Smart Sustainable Cities

United Nations. (2015). *Transforming our World: The 2030 Agenda for Sustainable Development.* Hentet fra http://www.un.org/ga/search/view_doc.asp?symbol=A/RES/70/1&Lang=E

United Nations Resolution A/RES/70/1 of 25 . (2015, September).

US Environmental Protection Agency Region 9 and California Department of Water Resources. (2011, November). *Climate change handbook for Regional Water planning.* Hentet fra https://mostcenter.org/sites/default/files/climate_change_handbook_regional_water_planning.pdf

Vestby, G. (2018). *Fra sentrumsdød til sentrumsglød- følgeforskning av pilotprosjektet "Levende lokaler" NIBR rapport 2018:6.* NIBR.

Vinnova. (u.d.). *Circular and bio-based economy*. Hentet fra https://www.vinnova.se/en/m/circular-and-bio-based-economy/goda-exempel/

Walkscore. (u.d.). *Walkscore*. Hentet fra www.walkscore.com

WeAdapt. (u.d.). Hentet fra Climate Change Adaptation Toolkit and User Guide: https://www.weadapt.org/knowledge-base/adaptation-decision-making/climate-change-adaptation-toolkit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