Successful implementation of SDG 11:

Best Practices and Cases

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Abstract

Cities are the main source of global resource consumption and serve as social hotspots, being home to more than half of the human population. They can therefore be seen as crucial agents for sustainable development which is acknowledged in *Sustainable Development Goal 11 - Urban settlements and communities.* Cities are already adopting responsibility in this regard worldwide, but much remains to be learned from successful attempts to improve life in cities while maintaining planetary resource boundaries. This research set out to identify and assess *Best Practice* projects that contribute to a sustainable city. A focus was set on projects emerging from civil society as opposed to policy measures. Three projects in Hamburg, Vienna and Prague each were chosen for analysis. Data was gathered through open or semi-structured interviews with representatives and participants of each project as well as city officials and participant observations were conducted by the researchers. Through structured content analysis, 1) the contributions of each project to a sustainable city were assessed, 2) key elements of *best practice* were extracted and 3) recommendations for SDG 11 implementation were formulated. Key factors for success of the projects include cooperation among actors, thoughtful communication, passion for the ideas and flexibility in the face of setbacks and change. We hope to be able to inspire and guide city officials and interested individuals to develop and support projects in even more cities in order to contribute to sustainable city development.

Contents

1. Introduction

"Cities are the human equivalent of cattle feedlots", Rees (1997: 307) states with regard to the resource demand of urban settlements, most often locally shifted towards their surroundings. 55% of the global population already live in urban settlements today with up to 68% by 2050 (US News 2018). This puts acute pressure on environmental and thereby onto socio-economic systems. At the same time, cities hold the potential to be highly resource-efficient due to their high population density, enabling economies of scale and new solutions for decreasing resource intensity (see Rees 1997: 309). Cities are vital for the economic development of the respective countries. Much of the industrial production as well as the services sector are located in urban areas. Also, higher education facilities and research institutes accumulate, supporting innovation and new technologies. Social heterogeneity is higher in cities, potentially leading to conflicting social and cultural values but also to exchange and diversified knowledge, intensified through migration movements from other countries or rural areas. Cultural institutions are most often located in cities, as are banks, media outlets and political institutions. Given the current trajectories of global environmental degradation, climate change and social conflicts, cities are crucial agents for sustainability.

Research has been debating the role of cities for sustainable development for decades. Topics of interest include multi-level governance (Bulkeley & Bestill 2005), the necessary frameworks and international contexts for sustainable city development (Satterthwaite 1997) or the relations between cities and their surroundings (Haughton 1997). Green spaces and the availability of ecosystem services have been discussed (Andersson 2006; Chiesura 2004), as well as the nexus of transport, infrastructure and energy (Kenworthy 2006, Banister et al. 1997) and the role of co-creation for innovation (Nevens et al. 2013).

Various international policy initiatives exist to approach these aspects (see for example Habitat III New Urban Agenda (United Nations 2017), Leipzig Charter on Sustainable European Cities (EU 2007), Geneva UN Charter on Sustainable Housing (United Nations 2015) as well as national strategies of the respective countries). Further efforts for sustainable city development are highlighted by global initiatives such as the *Transition Town* network, the *European Sustainable Cities Platform*, *WHO Healthy Cities Network,* the *C40 Covenant of Mayors* and *R20 Regions of Climate Action* initiatives or the rise of the concept of a *smart city* (Transition Network 2019; Sustainable Cities Platform 2019a;

WHO 1998; R20 2019; C40 2019; Klima- und Energiefonds 2019). However, few cities are already on track, with preconditions differing between cities and structural as well as cultural hurdles impeding progress. Finding solutions that are context-sensitive but also remain applicable to various cities is a complex endeavor for both researchers and policy makers. The SDG framework provides a useful foundation to do so, with *sustainable cities and urban settlements* being a goal on their own (SDG 11). It can be differentiated between policy measures and applied projects that can, but need not, go hand in hand for a given urban context. While policy measures are usually implemented by local governance agents, local initiatives and projects can be pursued by a wide variety of actors.

This research empirically and qualitatively analyzes *best practice* projects and initiatives linked to SDG 11 and to the concept of a *sustainable city*. Two publications are planned: First, this scientific paper with a stronger focus on the *best practice* concept, assessing what characterizes such projects (see RQ2). Second, a practitioner leaflet that focuses more on the ideas, approaches and stories behind the chosen *best practices*, what they do for a *sustainable city* and what can be learned from each of them. This leaflet is intended to potentially motivate different actors to initiate their own projects (see RQ1). Both publications will present general learnings from the cases assessed (see RQ3) and concrete suggestions for implementation of SDG 11 in other (international) contexts. Through this "hands on" research, local actors (initiatives, political decision makers or interested individuals) shall be supported in order to contribute to a successful implementation of SDG 11 and the sustainable transformation process of cities. The research questions (RQ) are as follows:

1) How do the selected local *best practice projects* contribute to a *sustainable city*?
2) What characterizes *best practice* in the field of *sustainable cities*?
3) What can be learned from these *best practice projects* for the implementation of SDG 11?

The specific approach of this research with its diversity of project types and locations as well as perspectives on each project makes it unique and contributes to the body of knowledge on SDG implementation measures. This is especially relevant due to a) an identified lack of serviceable assessment criteria to apply to such local projects and b) an absence of systematic evaluation of existing projects that goes beyond simple acknowledgement of their existence (see 2.3). This project aims to add insights to the existing data based on empirical insights and through a structured data gathering and analysis procedure. Next, three essential concepts - *sustainability, sustainable cities* and *best practice* -, will be outlined to provide theoretical background. After illustrating and

reflecting on the methodological approach, the insights provided during the data analysis will then be presented for each research question.

2. Theory and conceptual framework

2.1 Sustainability

To begin with, the concept of *sustainability* is vague, its meaning depends heavily on the context. In 1987, the *Brundtland Commission* defined *sustainable development* - which can be seen as an adjacent concept - as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs." (WCED 1987: 41). This remains the most widespread and most commonly used definition of *sustainable development* to this day. *Sustainability science* itself is a rather young scientific field, stemming from several approaches in the late 1990s and early 2000s (see Kates et al. 2001). It has led to various, more nuanced characterizations of *sustainability* and *sustainable development* (Robert et al. 2005: 11). Still, there is no unified definition. A famous conceptualization - in diverse forms - are the three "pillars of sustainability", the social, economic and ecological spheres that need to be considered simultaneously, represented in the 1997 *Treaty of Amsterdam* (European Communities 1997; Lexikon der Nachhaltigkeit 2019). More recently, the *planetary boundaries* concept gained popularity, emphasizing the necessity of maintaining the integrity of natural systems as a prerequisite for human prosperity (Steffen et al. 2015).

In 2015, all 193 United Nations Member States agreed upon the "2030 Agenda for Sustainable Development" and committed themselves to work on national and international levels towards achieving the underlying 17 Sustainable Development Goals (SDGs) by 2030. The SDGs represent a networked understanding of *sustainable development* that includes various aspects, such as the reduction of poverty, environmental degradation or economic and gender inequality, as well as our focal topic, sustainable cities and communities (SDG 11). The SDG framework acknowledges the interconnectedness of these topics as well as the need for tackling these issues both on local and global scales (United Nations 2019b; Breuer et al. 2019).

On a more conceptual level, sustainability can be regarded not only in form of goals to accomplish or means to do so, but also as a principle that applies continually to all decisions. This principle is

based on scientific knowledge, but acknowledges cultural aspects (values, psychology, traditions etc.). The *precautionary principle* is relevant, highlighting the role of uncertainty and risks in decision-making. Also, considerations of intra- and intergenerational justice are of particular importance for sustainability as a highly normative concept, meaning that it necessitates deliberations on desirable futures that ought to be achieved (cf. Spindler 2013, United Nations 2019b). S*ustainability* can be addressed through different means, e.g. technology, new business models, behavioral and cultural changes or policy measures with diverse specific goals (compare WBGU 2011). Overall, the concept of *sustainability* requires context-sensitive approaches, whereas particular elements are shared between all individual understandings. The latter include the necessity of maintaining natural boundaries while aiming for socially equitable improvements that are still economically viable. *Agenda 2030* offers a practicable framework with specific targets and indicators to measure progress while respecting the interconnectedness of diverse topics. It therefore serves as the basic understanding of *sustainability* and *sustainable development* for this research. The question of "what is sustainability" is also referred to in the results to RQ1.
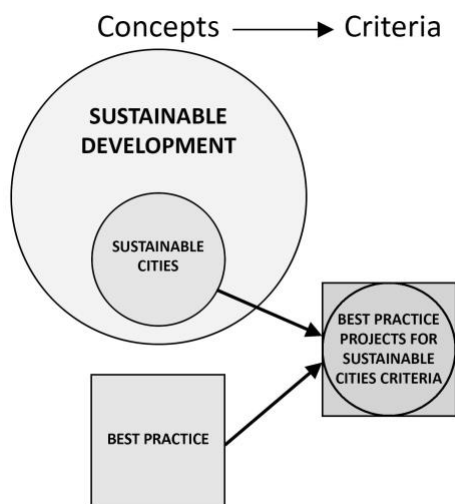
Diagram: Development of Best Practice Projects for Sustainable Cities Criteria

2.2 Sustainable Cities

The *sustainable city* is a complex concept. The definition of SDG 11 ("Make cities and human settlements inclusive, safe, resilient and sustainable") is reflected in its ten specific targets and 15 specific indicators (see United Nations 2019c). These include a broad variety of items, ranging from safe and affordable housing (target 11.1) to access to transport systems (target 11.2), protection of natural and cultural heritage (target 11.4) or social inclusiveness (target 11.3). This spectrum acknowledges diversity of human settlements and cultures. However, it also highlights that the SDG framework needs to be adapted and redefined for a city's specific local conditions. Not all aspects are necessarily equally relevant in a given context. Other frameworks exist (see below) that may be combined with the SDG framework to develop a city-specific approach. For example, the city of Vienna included the SDGs in their *Smart*

City Framework Strategy, recognizing local requirements and the given social-cultural setting. Research emphasizes that what defines a *sustainable city* depends immensely on the viewpoint and the ultimate target (cf. Chiesura 2004, 130). Consequently, s*ustainable cities have* been approached from different perspectives (see for example Simon 2016; Archer & Bezdecny 2016). Various concepts exist such as *smart cities, smart sustainable cities, or eco cities*, that are often used interchangeably but might differ in their specific conceptualizations (see for example Kenworthy 2006; Höjer & Wangel 2015)*.*

Several frameworks exist that explicitly relate to crucial elements of a *sustainable city*. The *Basque Declaration* of 2016 includes ten aspects including, among others, the needs for local employment opportunities and social inclusion as well as decarbonisation and natural spaces in the city area (Sustainable Cities Platform 2019c). The *Leipzig Charter* on *Sustainable European Cities* (EU 2007) refers to explicit measures that make a city *sustainable*, including support for innovation and economic development, improvement of the physical environment, efficiency gains, special attention to deprived neighbourhoods and educational components The *MERCER Quality of Living City Ranking* does not explicitly include aspects of sustainability, but considers factors such as the natural environment, public services and health considerations. Thus, connections can be seen to the concept of *sustainability* (see MERCER 2019). The *ARCADIS Sustainable Cities Index* rates cities in terms of the three pillars of sustainability in form of *people (social), planet (environmental)* and *profit (economic).* In this regard, the ARCADIS Index can be considered the most comparable approach to the definition of a *sustainable city* that is used for this research (see ARCADIS 2018; cf. appendix IV).

Overall, the complexity and ambiguity of the term *sustainable city* emphasize the necessity of a definition ahead of the empirical research process. Based on the aforementioned theoretical groundwork, the following definition was used: A city is both the physical system represented by streets, buildings, parks or rivers and the social system characterized by the communities that inhabit these physical systems (New Urban Agenda 2017). A *sustainable city* acknowledges both a city's enormous environmental impact through resource consumption and land-use and the important role of cities in ensuring needs and increasing quality of life of their inhabitants. As an answer to this, policies and projects for a sustainable city attempt to, ideally, minimize environmental impact while supporting a good life for all people in the city. Crucial topics for a sustainable city include, among

others, a) the social sphere (e.g. inclusiveness, participatory governance and democratic structures in the city) (Sustainable Cities Platform 2019c); b) regenerative, sufficient and efficient resource usage (see for example Sustainable Cities Platform 2019b) and c) city planning (application of local solutions through the use of local goods, local materials, and local labor (2017 New Urban Agenda)). The full table of sustainable city practices' fields that were identified for this research is listed in Appendix I.

As this list highlights, the topic of sustainable cities is complex, multi-faceted and directly connected to a range of further SDGs, such as sustainable production and consumption, clean energy, climate action and others (United Nations 2019b). Thus, this research touches many of the aforementioned aspects at the same time. The understanding of a *sustainable city* as defined above can be seen as directly adjacent to SDG 11, but adapted to the Central-European context of this research purpose.

2.3 Best Practice

The third fundamental concept for this research is *best practice*. The terms *best practice* as well as *good practice* are used on a regular basis in literature, on websites and in presentations in order to provide learnings from other contexts. However, there seems to be no distinct definition of these terms. For example, the European NGO *Confederation for Relief and Development (CONCORD)* lists *good practice* examples for SDG implementation, but only refers to this category as "examples (..) where (...) stakeholders are pursuing the SDGs' implementation in new and interesting ways" (CONCORD 2018). Other definitions frame it as solutions leading to "top performances" (Wirtschaftslexikon 2019) or, as defined by wikipedia, refer to "a method or technique that has been generally accepted as superior to any alternatives because it produces results that are superior to those achieved by other means" (wikipedia 2019). It remains unclear how this claim of "superiority" is to be justified for any given case, especially with regard to our research topic with varying local contexts and targets.

Research papers from other scientific fields, such as management studies, engineering or medicine, frequently use the term *best practice* and might even explain why certain examples and cases were chosen, but few, if any of these studies define what *best practice* exactly means (see Cooper et al. 2002; Greene et al. 2009; Grol, R. & Grimshaw, J. 2003; Richard et al. 2009; Stoller, M.D. & Ruoff, R.S. 2010).

There exists a variety of approaches to promote *best practices* in the field of *sustainability*. The Austrian *Funkensprung* magazine presents and promotes local initiatives in different countries, covering a broad range of SDGs (see Globale Verantwortung 2019). The IISD *SDG Knowledge Hub* similarly presents projects and initiatives from all over the world (IISD 2019). The yearly German *VENRO report* highlights international policies and projects under the headline of "This is how to do sustainability!" (VENRO 2018). Further examples are the RNE *Nachhaltigkeitsalmanach* (RNE 2019), focusing on German examples presented through reports and interviews, and the *RENN* network or the related *tatenfuermorgen* that list Austrian and German projects on sustainable development, respectively (tatenfuermorgen 2019, RENN 2019). While these documents still do not provide a comprehensive definition of the concept, some are comparable to this research. However, it adds a systematic analysis of the projects' viability which is not included in the aforementioned publications.

A sophisticated, city-related approach to *best practice* is offered by the City of Vienna and UN-Habitat who operate a *"best practices programme"*, including a network of selected renowned institutions. It includes projects (e.g. by small NGOs) that offer solutions and strategies to meet urban problems. They can be identified as a *best practice* when meeting five required criteria: partnership, innovation, impacts, social inclusion, and sustainability (Best Practices Hub Wien 2012). The article 'sustainable cities', by Monroe et al. (2017) claims that various perspectives on a city, citizen engagement and monitoring can generate creative and innovative approaches towards urban sustainability. The authors argue that cities around the world already implement small-scale sustainable innovations which could serve as role models for other urban areas. Monitoring the outcomes of those small-scale sustainable innovations, including the impacts on the people, could contribute to their success (Monroe et al. 2017, 2). These listed criteria of *Best Practices Hub Vienna* and the approach of Monroe et al. (2017) highly influenced the listed indicators (see below).

The various definitions of *best practices* and the lack of a commonly agreed-on definition of the concept can be seen as a weakness, but also as one of the concept's biggest strengths: As an open concept, it can be adapted to suit different sociocultural situations and purposes. Nevertheless, to call something *best practice* can be misleading, as "best" is a subjective term, whose meaning varies throughout sociocultural contexts. The selection of *best practices* for this research was therefore based on a set of criteria which were compiled by interlinking the aforementioned

conceptualizations of *sustainability*, *sustainable city* and *best practice*. Any project had to fulfill roughly two-thirds of the following criteria - based on an assessment of the information available before contacting the projects - to be *best practice for a sustainable city:*

Table: *Best Practice Projects* for Sustainable Cities Criteria

#	Criteria	explanation
1	top performance for a sustainable city	the project contributes to several (3-5) aspects of a sustainable city
2	community engagement	the local community is involved in the realisation of the project
3	partnerships	the project cooperates with other (political, private, economic, administrative) actors
4	social inclusion	socially deprived groups are of special interest to the project
5	positive public performance	the project has a positive public reputation
6	educational impact	the project raises awareness and educates for a sustainable transformation
7	innovation	the project has a novel approach to solving sustainability challenges
8	environmental compatibility	the project reduces its negative environmental impacts to the possible minimum
9	durability	the project has proven to sustain itself and can be expected to persist in the future
10	financial stability over time	the project is financially resilient and future-proof
11	monitoring of the project's activities	the project has set goals and monitors its progress towards them
12	transferability	the project is transferable into other local contexts
13	scalability	the project can be increased in scale

However, while these criteria result from summarizing the literature, they are preliminary and will be tested in their applicability to and relevance for the subsequent analysis of the selected cases. For the final criteria list, elements may be altered, added or deleted, as a result of the analysis process. Also, the list above does not yet include a ranking of the criteria which might emerge from the analysis.

3. Methods
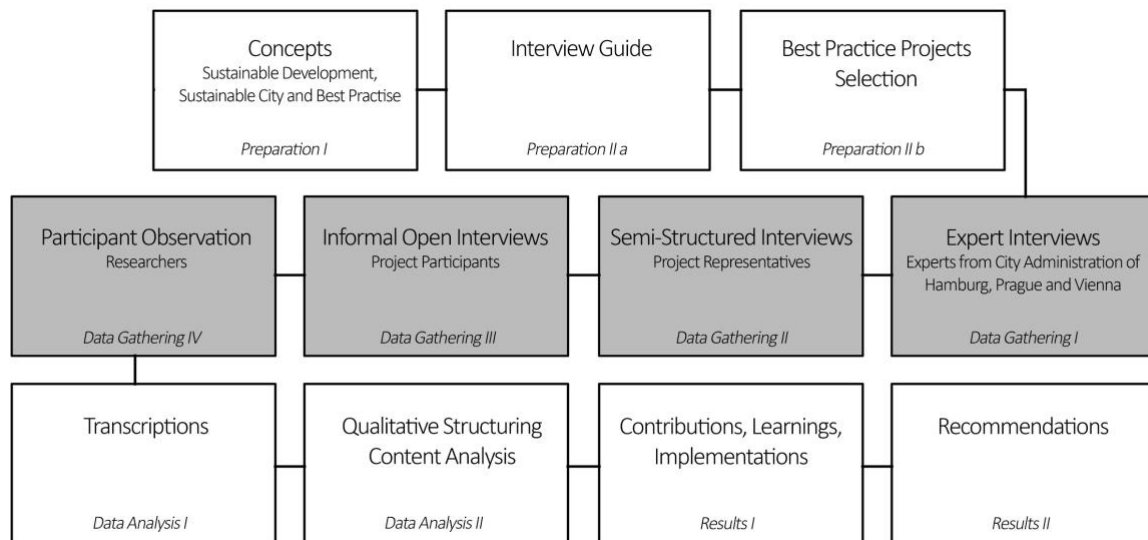
Diagram: Structure of the research project

3.1 Methodological approach

To generate a deeper understanding of the selected best practice projects, triangulation of different methods was applied. Triangulation of methods is useful when combining several methodological approaches to open diverse perspectives (Flick 2011, 73). Generally, our research process is circular, and problem and project centered, which is an oscillation between inductive reasoning, deduction and the empirical testing of the assumptions, which results then in a processual integration of data collection, analysis and theory building (Halbmayer 2010, 45f). For this research, this means that the theoretical knowledge on the concepts as described above and the projects as well as the methodological approach will be iteratively extended and adjusted based on contributions and new knowledge that emerge during the research process.

3.2 Data collection and analysis

To generate various perspectives on the projects, four approaches were applied to each of the selected best practice projects. These included expert interviews with experts on the topic of a *sustainable city*, semi-structured interviews with representatives of each project, informal interviews with participants of each project and insights from participant observation. All interviews

were conducted using an interview guide which was based on the *best practice* criteria but adjusted to fit the research questions. While the expert and semi-structured interviews were recorded and transcribed for later analysis, participant observation and informal interviews were documented by taking field notes. For all recorded data, anonymity of the respective individuals was respected and their permission for data recording was obtained through a data usage agreement form. Not all methodological approaches were applicable for each *best practice* due to the structure of each project. A comprehensive explanation of the methodology and the interview guideline are available in Appendices II - IV. The insights from all four approaches were combined to provide a profound understanding of the *best practice* projects. All data was structured and analyzed using qualitative structuring content analysis, coding data per selected *best practice* in a codebook. The codebook can be seen in Appendix V.

By assessing the information assigned to and coded within the categories, key elements for the success of the projects were extracted. This was done by an analysis per case as opposed to a quantitative or type-based assessment of the coded information which would not have suited the limitations in comparability and the general rationale between the *best practice* projects in this research (Rager et al. 1999). By assessing every project individually, shortcomings and commendable elements of each were highlighted. In addition, insights that were transferable to other projects were translated into broader policy recommendations. If throughout the coding procedure patterns or distinct types of best practice approaches became visible, an analytical approach based on the formulation of types was possible. However, this was not considered the primary approach for this research.

At the same time, the selection process of the *best practices* itself was verified, based on whether the projects exhibited procedures and structures that verify their denomination as *best practices*. If it became apparent that any of the selected projects could not further be called *best practice* - or likewise, that the criteria as established before could be validated or expanded - this would provide relevant insights for the conceptualization of *best practice* and thus be of interest for the paper. In this regard, the criteria as established before were tested for their usability.

3.3 Selection of best practices

After defining the concepts and developing the selection criteria, screenings of potentially interesting projects were conducted. These were done predominantly using internet research and social media but also through contacting responsible representatives of e.g. the city administration. The search was limited to the cities the research team is located in (Hamburg, Vienna and Prague). This is for two reasons: First, the research team was not able to travel to every interesting project within Europe due to limited resources. It was relevant though that the interview partners could be visited. Second, these cities represent different national contexts and socio-economic conditions and have distinct ratings in important rankings such as the *MERCER Quality of Living Ranking* (Vienna 1st, Hamburg 19th, Prague 69th) and the *ARCADIS Sustainable Cities Index* (Vienna 5th, Hamburg 17th, Prague 23rd) (see MERCER 2019, ARCADIS 2018). Hamburg started its "Hamburg learns sustainability" initiative in 2005 that is still active (Hamburg.de 2019), has developed a dedicated "master plan" for education for sustainable development (ESD) and is part of the UNESCO Global Network of Learning Cities (UNESCO Institute for Lifelong Learning 2019). The city of Vienna developed the so-called "Öko-Business-Plan Vienna" in 1998 and is still one of the pioneers in sustainable urban development. In August 2019, the new Vienna Framework Strategy was developed, which is closely linked to the SDGs (MA 22 2019). Prague, the second most sustainable post-communist city after Berlin (ARCADIS 2018), implements sustainable development through *Local Agenda 21* and *Healthy Cities of the Czech Republic* (HMP 2014). Even though the *Prague Strategic Plan* ultimately covers all goals of the city (IPR Praha 2019), the city of Prague misses an official body concerning the sustainable city agenda as a complex unit which is instead split between environmental issues, climate adaptations and smart city innovations. Because of this diversity of measures and rankings, these cities can be seen as adequate surroundings to further assess *best practices*.

Projects were selected in three steps: First, a broad collection of potentially relevant projects was compiled by one researcher per city which led for example to 25 examples in Prague. Second, the researcher then pre-selected the projects based on the previously established definitions of *sustainability* and *sustainable cities:* A project had to sufficiently contribute to these concepts based on the information available at that point. A selection of 18 projects resulted from this step. Third, the projects were then evaluated by each researcher in terms of their *best practice* characteristics.

Only projects and initiatives that fulfilled at least two thirds of the necessary criteria as defined above were further considered in our research. It was then jointly decided which projects to assess for this research. A project had to be agreed upon by each researcher; also, three projects were set to be evaluated per city, adding up to nine projects overall. Diversity of the projects was respected in terms of topics, approaches and scales to show how differently sustainable city development can be approached. Since sustainability is based on holistic thinking, a diverse set of examples was targeted to promote this spirit. The selected *best practices* (see Chapter 4) cover projects about resources, education, mobility and urban and community development, among others. After the selection process, the project representatives were contacted to set up dates for the visits and interviews between August and November 2019.

3.4 Methodological discussion

First, due to the applied selection process for the research, this paper does not claim representativeness for all *best practice* projects and approaches in the respective cities. The assessed projects are the results of the established *best practice* criteria which are unique to this research. Other conceptualizations of what constitutes *best practice* might lead to a different selection. The number of three projects per city was a result of limited resources and the will to provide breadth. While attention was paid to providing diversity in the chosen examples, there are many more actors in each city that contribute to sustainable city development. The presented projects are meant to provide exemplary approaches. It should be noted that not all criteria could thoroughly be verified based on the available data beforehand. Overall however, the selection proved to provide beneficial insights and must therefore not be withdrawn.

Several challenges arose during the research process. The methodology that was applied was in general very fruitful. Finding a sufficient number of people for every project and every perspective turned out to be troublesome but was successful eventually. Not all projects were analysed by all four approaches, but a sufficiently holistic picture of each project could be reached. The four perspectives were immensely beneficial to understand the complexity of the topic, but the evaluation process was complicated as we had to link nine different projects in three cities with several sources of data for each. The selected projects have different approaches which complicated extracting overarching insights. The variety of the socio-cultural and infrastructural settings of each

city strongly influenced the methodological approach and the outcomes of the research. All in all however, the idea of using four approaches can be seen as successfully accomplished.

The interview guide proved to be serviceable and intelligible for all three types of interviews. The interviewees could answer to all aspects raised during the conversations. Also, more general questions were naturally related to the individual projects in the answers. It should be noted that using self-assessment interviews as the primary source of data collection might lead to biases in the perception of each *best practice* project. Additional perspectives for each project that were applied where possible helped reduce this bias.

Since this interdisciplinary research was conducted in three different countries, there were language barriers for the analysis as the non-Czech and non-German researchers were unable to read some of the transcripts. Because of this, the codings for all transcriptions were done in English. Also, a content-focused transcription style was chosen instead of a language-focused approach. Both decisions possibly led to a disregarding of cues in the original choice of words. Still, this was the most appropriate choice in view of the structure and scale of the project. We are confident that few to none major results were disregarded due to the transcription and coding process.

4. Learnings to RQ1: Contributions to a sustainable city

The projects that were ultimately selected are presented below. For each project, their contributions to a *sustainable city* are summarized as well as the overall learnings for RQ1. All project representatives agreed to share their experiences and knowledge. Hyperlinks are provided for each project.

4.1.1 Hamburg - Futur 2 Festival - www.futur2festival.de

SDG targets 11.6, 11.4, 12.5, 12.8, 7.2 - *Best Practice* criteria fulfilled: 1, 3, 5, 6, 7, 8, 11, 12, 13

The *Futur 2 Festival* is a one-day, yearly music festival that was first arranged in 2018. It hosts 4000 - 5000 people in Entenwerder, Hamburg. The festival is realised energy- and resource-efficiently, e.g. in form of reusable dishware, renewable energy production on site, organic food or a ban on car transport to the festival site. It also aims to raise awareness for sustainability in visitors, other festival

organizers and other stakeholders through informational activities and by connecting sustainability with culture and leisure. It is financed through the City of Hamburg and various sponsors and offers free entry for visitors. The festival is aimed to be continued throughout the next years.

4.1.2 Hamburg - Klimasparbuch - https://klimasparbuch.net/home.html

SDG targets 11.3, 11.6, 12.8, 12.2 - *Best Practice* criteria fulfilled: 1, 2, 3, 6, 8, 9, 12, 13

The *Klimasparbuch* is a 120 page DIN A5 booklet that offers tips for a climate-friendly lifestyle, information on sustainable activities and vouchers for sustainable products and services in Hamburg. It aims to raise awareness on how to live climate-friendly as well as promote local solutions for sustainability. It is developed and published by oekom Verlag e.V. who has developed various Klimasparbücher for German cities throughout the last ten years. In Hamburg, a Klimasparbuch was developed by a merger of Hamburg universities for students from 2016-2018 as well as by the City of Hamburg itself for tourists and inhabitants of the city which was, for now, done once in this context.

4.1.3 Hamburg - Zukunftsrat Hamburg - https://www.zukunftsrat.de/

SDG targets 11.B, 11.3, 16.7, 17.14 - *Best Practice* criteria fulfilled: 1, 2, 3, 5, 9, 10, 11, 12

The Zukunftsrat Hamburg is a network of over 100 organisations, companies and civil society actors that was founded in 1996 with the goal of facilitating the implementation of Agenda 21 / Agenda 2030 in Hamburg. It is structurally independent from local administration and politics but advises public actors in Hamburg, e.g. by publishing HEINZ, an indicator on sustainable development in the city. Its goal is to connect actors and provide feedback for the city administration. Also, agenda-setting is targeted by hosting public sessions for exchange between council members and the public. An internal working group organizes its activities. The members work on a voluntary basis with a basic funding by the city administration. The Zukunftsrat is planned to continue working in the foreseeable future.

4.2.1 Vienna - Grätzloase - https://www.graetzloase.at

SDG targets 11.3, 11.7 – *Best Practice* criteria fulfilled: 1, 2, 3, 5, 6, 7, 9, 10, 11, 12, 13

The "*Grätzloase* - wir verwandeln den Freiraum (we transform the free space)!", is a project where public spaces are reorganised and transformed through the ideas and practices of the local community. The umbrella organisation "Lokale Agenda 21", which is supported by the City of Vienna, leads the project and selects the best submitted ideas from citizens on a yearly basis, and supports the realization of the projects with their knowledge and with up to 4.000 €. Everyone who is located in Vienna can submit their ideas for a "Grätzl" (Grätzl are parts of residential districts). Al lot of the supported projects are parklets. Each of them is individually designed and offers different usages and activities like table soccer, urban gardening or just a common place to meet and eat. Their number grew from 3 in 2015 to 58 in 2019. Another example is the project "Wanderbaumalle" (walking trees). The projects members placed trees in public places (e.g. parking slots) which should call attention to the importance of greening in the city. Trees not only increase the quality of life of the street in hot summers, they also create a more pleasant climate and improve the air quality through their cleansing effect. Another example is the "Sophiengarten" (Sophiengarden). It is a gardening project were people transformed a place into a neighborhood garden project. People meet and do gardening together, which created a place for social and cultural interaction and exchange.

4.2.2 Vienna - SchloR - https://schlor.org

SDG targets 11.1, 11.3 - *Best Practice* criteria fulfilled: 1, 2, 3, 6, 7, 8, 9, 10, 12

The aim of *SchloR* is to create permanently secure and affordable spaces for collaborative work and living. *SchloR* is a combination of an art, culture and living project. On the one hand, new ways of organizational structures are lived; on the other hand, sustainable construction methods are tested in cooperation with other institutes and interested individuals. The understanding is based on inclusion and solidarity. With the help of a solidarity-based economic model, independent from bank loans, *SchloR* bought a property in Vienna and the realization of the project is in process.

4.2.3 Vienna - 50 Grüne Häuser (50 green buildings) - https://50gh.at

SDG targets 11.3, 11.6, 13.1, 13.3 - *Best Practice* criteria fulfilled: 1, 2, 3, 4, 5, 6, 7, 8, 9, 11, 12, 13

50 green buildings is a transdisciplinary research project with the focus of greening facades. The aims of the project are to facilitate green facades for existing buildings, to reduce CO_2 emissions and

prevent urban heat islands. The research partners created an all-in-one package for greening facades - called the BeRTA module (www.berta-modul.at) which will be available by 2020 in Vienna. It is a simple, cost-effective, widely implementable green facade system. The first 50 prototypes have been installed in the fall of 2019 and are being monitored throughout the rest of the project. The project is carried out by a cooperation of tatwort – Nachhaltige Projekte GmbH (lead management), Municipal Department 22 for Environmental Protection, Die Wiener Volkshochschulen GmbH – DIE UMWELTBERATUNG, GrünStattGrau – Forschungs- und Innovations GmbH, University of natural resources and life sciences (BOKU) – department of civil engineering and natural hazards, institute of soil bioengineering and landscape construction (IBLB). Further, 50 green buildings is funded by - Stadt der Zukunft (City of Tomorrow) - , a research and technology program, funded by the Federal Ministry of Transport, Innovation and Technology in Austria.

4.3.1 Prague - Vnitrobloky ("Inner-blocks") - https://www.vnitrobloky.cz/

SDG targets 11.4, 11.6, 11.7, 11.B, 13.1, 13.3 - *Best Practice* criteria fulfilled: 1, 2, 3, 6, 7, 8, 9, 11, 12, 13

So-called inner-blocks are the main focus of all 3 members of the association Bieno that was founded in 2015. Before, its founders had worked in fields of sustainable city development and public participation. The goal of their work is to restore and revitalize courtyards in the city (so-called inner-blocks). Those shared spaces cover an enormous part of the historical city centers and are usually overlooked because of ownership difficulties. Through well-structured dialogues, Bieno helps stakeholders design, administrate and finance their new inner-block project. It should be noted that climate change, environmental as well as social issues are addressed in all 28 projects presented by *Bieno* (vnitrobloky.cz 2019).

4.3.2 Prague - Zažít město jinak (Different City Experience) - https://zazitmestojinak.cz/

SDG targets 11.2, 11.3, 11.4 and 17.17 - *Best Practice* criteria fulfilled: 1, 2, 3, 5, 6, 8, 9, 10, 11, 12, 13

"*The Different City Experience festival (DCE) is a celebration of neighbourly relations. The festival's content is created by the actual residents of the particular neighbourhoods. It is based on the principle of sharing the public space, mutual help and volunteering of local organizers and many*

other entities. The festival is open to all age and interest groups." (cited from zazitmestojinak.cz 2019) The festival shows a high value of public spaces, especially of streets which are often used only as a parking lot. Secondly, the festival plays a non-negligible role in community activation. Participating people exchange opinions on local issues, search for solutions, and they eventually establish locally active informal groups or organizations. In 2019 over 80 Prague organizers participated in DCE.

4.3.3 Prague - Pražské Matky (Prague Mothers) - https://www.prazskematky.cz/

SDG targets 11.2, 11.3, 11.6 and 16.7 - *Best Practice* criteria fulfilled: 1, 2, 3, 4, 6, 9, 10, 11, 12, 13

"*Pražské Matky (Prague Mothers) is a not-for-profit civic association striving to improve the conditions of our living environment and traffic safety, particularly for the most vulnerable citizens. We support sustainable mobility and try to increase interest and a more responsible approach of citizens and public administrations to these issues.*" (cited from prazskematky.cz 2019) The Prague Mothers beginning goes back to 1988 when they drew public attention to critical levels of air pollution in Prague. Currently, their team has 5 members. One of their projects, Safe Routes to Schools, deals with dangerous traffic spots around schools. Also, children are taught to take an active and responsible role within their environment creation process.

4.4 Summary: Contributions to a sustainable city

The detailed description above illustrates a variety of approaches and practices of the selected best practice projects. The listed numbers of indicators were assigned to demonstrate the multiple and numerous impacts of the projects on the city. In addition, all projects are not only linked to *SDG* 11 but also act on other *SDG* targets. It is observable that all projects act with a problem-centred approach, with the goal being to fill gaps and solve local issues. Projects often represent neglected groups and topics, like city pollution, and act for and with them.
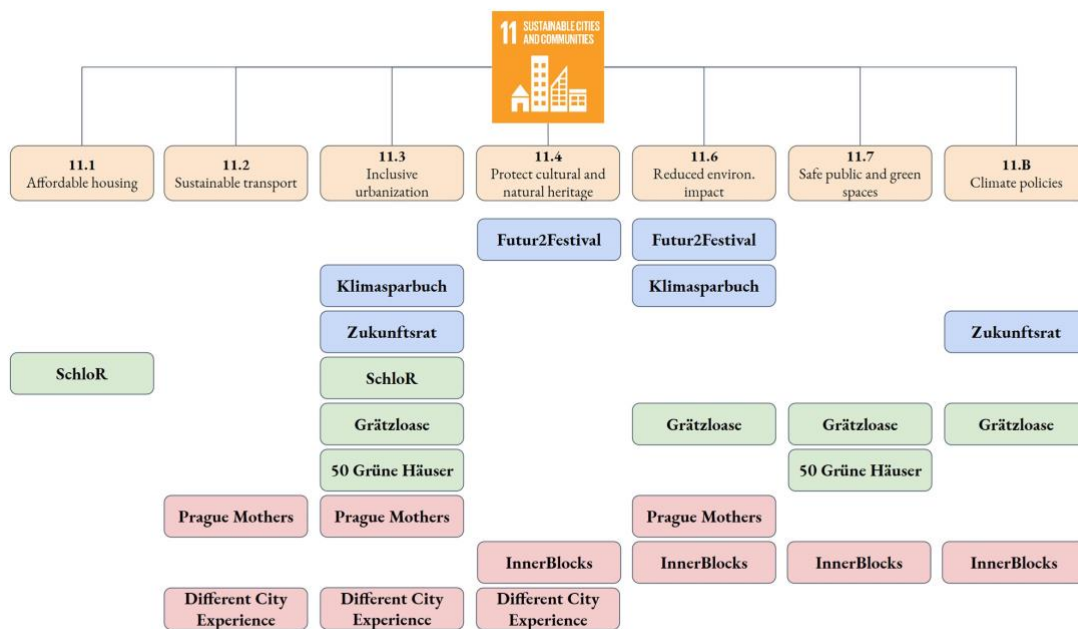
Diagram: Contributions to the selected *best practice projects* to SDG11   Source: own

The contributions of each project can be seen on two levels: social and physical. These levels were created to present the contributions in an intelligible form. They cannot be viewed as entirely separate from each other, as both practices are interlinked and most of the projects act and contribute on both levels at the same time.

The social level covers the approaches and practices on the side of social interaction. All projects contribute to raising awareness, educating and activating the local community in cities. The intention of the projects is to change and expand people's perspectives in a sustainable way. This should direct people to change their daily routines. As such, the projects present sustainability as something which creates advantages, as something practical and easy for everyone to access and act on, and as something enjoyable and fun. Further, the selected projects create a place where people can connect and cooperate. These places are crucial, as interactions and relations happen which includes the exchange of knowledge, creating new ideas together and the changing of perspectives through active participation. With those interactions and a rising sense of responsibility, people can relate more to a sustainable way of thinking. These generated places expand groups in size and build up cooperation and partnerships, which are fundamental for a *best*

practice project and help spread the ideas of sustainability. For more on that, see *5.1.1 - Cooperation and Partnerships*.

The second level on which these projects act is a physical one, transforming places like inner courts or parking lots into a more liveable, more environmentally compatible and sustainable place. The different foci are on reducing energy and resource consumption, greening the city, improving air quality and reducing heat islands in cities, limiting waste, as well as rebuilding and repurposing spaces and places. These physical transformations have a direct effect on the climate of the city and indirect effects on the social level. For example, *50 Green Buildings* wants to reduce heat islands in Vienna by way of green plant facades, which further raises awareness, educates and connects people. It forms alliances by bringing people together to build something new.

As mentioned above, both levels are connected and not opposing. The projects create awareness by changing the environment. This changes perspectives on what life in the city can look like. These projects change the face of the city by transforming it physically and socially. It is noticeable that both levels directly improve the sustainability of the respective cities.

Projects act between cities and individuals. They communicate and act laterally with both sides and connect individuals with city representatives. These projects make sustainability and the needs and wants of the city and the individuals more tangible and connect them. This special role creates a powerful mouthpiece. This in-between role can be used as a chance to implement and communicate the SDGs, not just on a policy level, but also on a practical and active level.

The different practices within the projects contribute to the required diversity of sustainability. It is important to remark that while most projects' representatives acknowledge a holistic understanding of sustainable city development, they have chosen confined, specific foci on sustainability to work on.

The specific contributions depend highly on these foci and the inherent understanding of *sustainability* and *sustainable cities*. These understandings include *sustainability* as a matter of justice, an educational task, a transformation, a participatory process, a technical task, a cultural challenge, a matter of the common good, raising the public's awareness and low cost. The same is true for the aspects of a *sustainable city.* It includes sustainable mobility, people participation, local

solutions, sustainable energy provisioning, the re-use of old assets, green spaces, public spaces, green and blue infrastructure and a shared economy. This prioritization can be seen as an advantage because of the broad, complex concept of sustainability that would be overwhelming to tackle all at once.

We cannot promise that all of these projects' contributions are always positive because there is always the possibility of feedback loops which cannot currently be recognized. Although the projects are all different in their approaches and practices, all of them have the common goal of contributing to and creating a sustainable city. For more specific information about a project, contact information is included and all project representatives would be glad to cooperate and share their knowledge.

5. Learnings to RQ2: What is *best practice*?

The literature-based indicators (community engagement, partnerships, social inclusion, positive public performance, educational impact, innovation, environmental compatibility, durability, financial stability over time, monitoring of the project's activities, transferability and scalability) could be verified in their applicability as *best practice* criteria in the field of the *sustainable city*. The role of each criteria is expanded upon below. Some names of the criteria were changed during the analysis process to better fit the respective insights. A weighting of individual criteria was done by assigning values between 0 and 2 (0 = low importance of the aspect for the project, 2 = high importance) to each criteria for each project, based on the remarks in the semi-structured interviews with project representatives. This order was based on and influenced by the researchers' perception of the interviewees' statements . As a result, the criteria ranking as presented below is not strict. It rather hints at the different roles of individual criteria for the selected projects. All criteria can be seen as important and all are interconnected to some extent. Also, additional criteria were developed based on the findings. They are presented below as well.

	H1	H2	H3	V1	V2	V3	P1	P2	P3	HE	VE	PE
cooperation and partnerships												
community involvement												
longevity												
educational impact												
positive public perception												
financial stability												
transferability												
evaluation and monitoring												
social inclusion												
environmental compatibility												
innovation												
scalability												

Diagram: *Best Practice criteria ranking based on the interviews (H - Hamburg projects, V - Vienna projects; P - Prague projects; HE - Hamburg expert; VE - Vienna expert; PE - Prague expert; black arrays = high importance, grey arrays = medium importance, white arrays = low importance)*

5.1 Existing criteria

5.1.1 Cooperation and Partnerships

Even though on different levels, cooperation and partnerships are crucial for all projects. The character of a project's partners determines a way of communication and PR. Furthermore, this can affect the project's goals. Cooperation on an international level usually focuses on an exchange of good examples and innovative ideas. Prague's and Vienna's informal cooperation was identified. Prague project leaders follow Umweltbüro, Grätzloase and many other city projects, and InnerBlocks actually visited Vienna to seek good examples of urban restoration. Besides, projects cooperate on a local level to reach stability and seek support. Such partnerships can cover economic loss or provide motivation and encouragement in hard times. Even though the participation process of numerous stakeholders in a project can be challenging, it enhances its performance and final effect. Also, an experience from collaboration of various professionals generates new specializations and specialists. Except for one, all projects have the respective municipality as a critical partner that

provides opportunities, financial support and proficiency. Therefore, local political preferences play an influential role for the success of sustainable city projects.

5.1.2 Community Involvement

Interviews revealed high value of community involvement for sustainable city projects. Bringing people together generates creative and productive environments. Also, people's participation in a project sometimes motivates them to start their own projects. Moreover, reduction of negative feedback and more workforce are non-negligible assets to every participatory project. Examined best practice projects often involve local stakeholder participation in all project processes such as planning, execution and monitoring. For example, young students inform specialists from Prague Mothers about dangerous spots around their schools, university students contribute to the Klimasparbuch and a local communities decide whether 50 Green Buildings should plant there or not. The key aspect for successful community involvement is face-to-face communication, which supports intellectual and especially emotional exchange. In addition, social inclusion and knowledge of a local community is of equal importance. The local community can also provide valuable feedback that reveals unknown issues, or on the other hand delivers innovative ideas. It was reported that the political environment heavily influences community involvement in city planning. Furthermore, public participation can sometimes be abused to generate positive publicity without any other utilization.

5.1.3 Longevity

Longevity includes past and future developments. First, it shows that if a project has existed for many years, people trust, respect and listen to the representatives' voices. This is hardly operational and not all projects have been around for years. Many are quite new - overall, the projects have existed for between 2 and 30 years. However, this notion can be seen as a positive outlook. Second, it can be stated that all representatives have ideas and/or plans how their projects might and shall develop in the future. There is good reason to look ahead - like one interviewee phrased it: "... *the times have never been better than now to keep up a sustainability-oriented organization"* (Zukunftsrat, 43:23, translated). Public awareness and the urgency of sustainable development are rising which allows for prospective outlooks. Also, the interviewees were overall certain that their ideas will continue to live even if the current project does not always exist, knowing that there would

always be motivated individuals who would carry on. It became apparent that many of the projects have already gone through changes in scope, focus and structure, highlighting their adaptivity that can be seen as a prerequisite to ensure longevity in the face of potential financial struggles and administrative, cultural and other hurdles. However, as mentioned before, the predominant dependence on external funding can be seen as a limiting factor albeit not being a "Dealbreaker". As a last remark on longevity, one interviewee stated that at some point, a project develops its own life so that the initiator can or should drop out and let the project life its life with the people on its own. This idea of a project becoming alive may be both a call for maintaining control and a metaphor for the spirit of the assessed projects and their visions.

5.1.4 Top Performance for a Sustainable City

See Chapter 4 for more insights on how the projects contribute to a sustainable city. It is important to acknowledge the diversity of potential impacts a project can have, both directly and indirectly. **Environmental compatibility** may be seen as the necessary bottomline while societal and structural changes surpass this level. A special aspect can be seen in **educational impacts.** Since sustainable development is a cultural task, which was mentioned several times, raising awareness and strengthening public support for this matter is a prerequisite for a successful transformation. Educational impacts can be diverse, from creating new ideas and initiating discussions in newly-activated local communities, to changing perspectives and broadening minds. Some of the projects attempted to make sustainability both fun - i.e. engaging and interesting - and practical or countable to facilitate lifestyle changes. While facts about prevalent issues are communicated, projects attempt to show solution that are not as difficult as expected by many. The educational effects are reinforced by elements of active participation in the projects. In addition, it could be said that the environment is given agency and a voice by many projects whereas the conflicts raised by them bring people together. Overall, this exchange supports constructive discussions and social coherence.

5.1.5 Positive Public Performance

Positive public perception and opinion about a project influences the overall success of the project. It affects it in a direct and indirect way. On the one hand, when people speak and perceive a project as something positive and useful, it can directly expand their audience. For that, the usage of any

kind of media is essential for promoting and advertising the project. It is important that as many people as possible are reached by the project because public opinion can also indirectly influence the finding of funding and support. For example, positive public perception towards sustainability projects can influence the actions taken by a city administration, encouraging them to financially support sustainable projects.

5.1.6 Financial Stability

For all but one project, the cities play a crucial financial role, especially in the early phases. While administrative funding can be seen as low-risk, it raises dependence. If there are no funds for sustainability, the future of a project might suffer. Long-time financial security is indispensable: having to raise funds again every year consumes time and energy that cannot be put into the project. Budget severely restricts a project's reach and work, e.g. how many employees can be paid. If none can be paid, a project is dependent on voluntary work. This is problematic since work should be valued, not just socially but also financially. No remuneration also excludes those who cannot "afford" voluntary work. Additionally, it was highlighted that sustainable approaches are in many cases still more expensive than conventional approaches. To remain inclusive and accepted, a project may also target to remain cost-free for its users which raises additional financial pressure. Also, some projects' services are nothing people would typically pay money for (*InnerBlocks, 50 Green Buildings*). Yet, as one interviewee explained, many people will continue to work towards a vision even without funding. People do not contribute to a sustainable city out of profit-orientation but out of conviction. This non-profit spirit was expressed to provide freedom. It could be argued, however, that financial stability provides even more freedom. The question remains how long-lasting funding can be secured even after administrative support runs out.

5.1.7 Transferability

Transferability can be seen as an important part of all projects' identity: all interviewees were willing, almost eager, to share their experiences and see their ideas replicated in other contexts. This is already happening - most of the projects are connected to each other and projects in other cities to exchange knowledge and find inspiration. Good reasons to do so include the fact that more action for sustainable city development can almost always be seen as valuable. Secondly, sharing knowledge allows actors in other cities not to start from zero, learning from other actors' failures

and successful measures. Third, actors can learn from the experiences of the "adapted" versions of their ideas. It was highlighted by most interviewees that their ideas can in theory easily be reproduced somewhere else. However, several restrictions have been mentioned: For one, there are limits to the open-source spirit. Intellectual property, for example the work of *Oekom Press* on the Klimasparbuch, should not simply be copy-pasted. Instead, here, the books should be done in cooperation with the originators or a license for adaptation should be set up contractually. However, even in cases where the initiators want to freely share their knowledge there are hurdles. First, a project might only be identified as interesting for another context if its viability can be proven. Second, language barriers complicate exchange. Third, abstracting knowledge from specific experiences is complicated. In addition, the transferability might be restricted by differing physical conditions - InnerBlocks, for example, depends on the existence of block structures of buildings. Also, some issues might not be as (culturally) relevant in other cities - the *Different City Experience* might just be a regular city experience in another city. Furthermore, political and infrastructural preconditions might be more or less supportive of an idea. All these restrictions show that maybe only adapting parts of a project or developing different approaches to their ideas is realistic in other contexts. Overall, however, transferability of all projects is provided to some extent.

5.1.8 Evaluation and Monitoring

Except for one, all projects evaluate their progress to some extent, albeit in different ways. Evaluation can be quantitative, e.g. counting users and visitors of a service or product (Climate booklet, Different City Experience), the number of locations that were influenced by it (InnerBlocks, Grätzloase) or the amount of resources that were used (Futur 2 Festival). It can be qualitative, e.g. in the form of structured or unstructured gathering of feedback from participants and partners, observations of how the activities were conducted or comparative assessments of changes in the project structure. Regardless, these two types are not opposing each other or better than one another. They are both valuable for different reasons and are combined in many cases. Ultimately, what kind of measuring unit or data type is applied depends on a project's definition of success and progress. Measuring quantitative changes may be more valuable if quantitative growth is targeted, qualitative monitorings may be preferable in case stable structures and processes are favored. It was also stated that success can simply be becoming established or making cooperations work. However, it was mentioned that systematic data gathering is a lot of effort and restricts from actually

acting. This raises the question of how much effort one should put into evaluation - what level of evaluation is bearable but also useful? At the same time, several benefits of thoughtful evaluation were expressed: having data about a project helps communicate what it is about and how (successfully) it is contributing to a sustainable city when targeting new audiences and potential supporters. Also, it helps improve the project, especially over time when trends and developments in the data become visible (compare Monroe et al. 2012).

5.1.9 Social Inclusion

The indicator of social inclusion is an interesting and complex one. All projects want to reach "everyone" and all "social groups" with no specific focus. This is in the spirit of Agenda 2030 that demands social inclusion with the slogan "*leave nobody behind"* . Additionally, most of the projects have mentioned that they want to include socially disadvantaged groups. It seems however, that inclusion work is often not able to be as far-reaching as intended. It was mentioned that it is very hard to reach disadvantaged groups or to include their voices and perspectives in projects. This is because these groups are not often included in the evolution of projects from the beginning. It is important to note that the variable cultural notions of who is a disadvantaged group and who is not, and also the need to involve them, varies from city to city. In Vienna, a multicultural city, all projects see social inclusion as an important factor to be a best practices project. Whereas in Prague, a city with a more homogenous population, social inclusion was not stated as a point for critical consideration. This distinction should not be seen as universal or fixed, because in both cities these socially-inclusive projects exist but in the analysis of the selected project, it seems that the cultural and demographic circumstances influence how social inclusiveness is seen and also acted on. Furthermore, it shows once more the problem-centred approaches of the projects. It is observable that most projects have not included disadvantaged groups as part of the project itself, although some have strategies for doing so. This may lead to disadvantaged groups failing to participate in the project during its implementation.

Social inclusion is also highly dependent on the financial situation of the project and on the disadvantaged group being considered. If the project is poorly funded, there is little to no provision for social inclusion.

5.1.10 Innovation - What makes the projects unique?

Although innovation is a quality that many selected projects possess, it has a minor influence on the level of performance and success. Sustainable city projects equally solve issues which are well-known, or which have never been addressed before. More recent topics such as community participation (*Different City Experience*) or shared spaces *(SchloR)* highlight innovative approaches. Additionally, projects such as *Prague Mothers* link topics together, which produces new perspectives on an issue. Lastly, projects such as the *Klimasparbuch* improve existing structures or cover issues in a progressive way. In the end, it remains a definitory question what innovation is anyway. However, this question does not play a major role for the projects - the visions are not based on being novel but adding value to their cities.

5.1.11 Scalability - Growth Potential

Growth potential and outlook are connected to questions of longevity. In this context, there are differences between the assessed projects: the Prague and Vienna projects are all growing quantitatively whereas the Hamburg projects are not as much. However, there is more than quantitative growth. Qualitative growth includes broadening visions, strengthening structures and creating more diversity in ideas and solutions. Qualitative growth can be useful to become more interesting for supporters and more appealing to audiences. Quantitative growth, meanwhile, can be useful to spread a message and raise awareness for an issue even if simply becoming bigger itself does not necessarily make the project better. In addition, a certain size might be necessary to come into question for funding, to be heard and taken seriously, to be able to connect to others and prove that the underlying idea is viable. In the end, it is also an active decision if a project is targeted to grow at all - in certain phases of the project, a specific type of growth or none at all might be more helpful than simply increasing in overall size. Even more so, a bigger size might even complicate processes and overstrain available resources. All in all, all assessed projects can be seen as having great growth potential - in one way or another. Ultimately though, how much a project can grow depends on many factors such as the strength of cooperation, its public perception, human and physical resources, the financial situation, political support and how much the public is aware of sustainability issues.

5.2.1 Adaptivity and Flexibility

Cities and their social and physical structures change over time. A project should be aware of the changing cultural, political, infrastructural, environmental and social conditions it is located in. Any issue, e.g. green places, mobility or integration, might be relevant in one city for some time and rather irrelevant in another. Also, the same approach to solving similar issues might work in one place and fail in another. These different changes over time require the ability to be adaptive and flexible. These changes can occur from inside the projects and also from external pressures. For that, projects must be always aware of changes, and cannot rest on the laurels of their success.

5.2.2 Project organization and development

It was mentioned several times that there are many motivated people who want to contribute to a sustainable city, but often fall short as a result of inefficient project organization. Apart from the criteria above, interviewees agreed that there is a need for strong and efficient project management. When a new idea is developed, basic things are often forgotten.

For example, sufficient time management was mentioned as an important characterization. If a project takes too long to get implemented, it may get stuck at the intention stage and never reach fruition. Also, as a project initiator one has to deal with the bureaucracy and the rules in the city. Bureaucratic processes are mostly very complex and can hinder progress, or even halt it entirely, which should be prevented from the beginning. Nevertheless, most of the projects mentioned that even if bureaucracy stopped or slowed down their projects, they acted persistently and with courage. With that attitude, what may previously have been called impossible was to some extent finally possible. This can be explained in that new ideas and new topics are also new for the administration of the city. They don't have established bureaucratic procedures for new approaches, so they too need time to develop them. In this sense a project can have an active role in contributing to new bureaucratic methods, help simplify them, and make it easier for future projects to process faster.

5.2.3 Communication

The interviews showed that thought-out communication is crucial for the success of a project. This concerns three areas: First, communication towards the public that is targeted to participate in the project, where the targeted audiences, their preferences and thus the communicated characteristics of the project should be reflected upon (for more, see Chapter 6). Second, communication towards other actors one wants to cooperate with who should be convinced of the benefits of doing so, e.g. by highlighting the mutual benefits of forging alliances and exchanging feedback and knowledge. Third, towards the city or other actors who shall support a project financially and structurally. Why is the idea worth funding? How does it fit into the political agenda? For this, communicating both the vision and the plan to reach it are helpful, as well as data from and examples of earlier successes proving a project's viability.

5.2.4 Motivation, Passion and Courage

The motivation and passion of individual people is one of the most crucial points for success. The motivated and passionate individual, who stands behind the project with full conviction, has a strong influence on the longevity and the success of the project. Projects compete for financial and structural resources from any kind of supporters, so promoting one's idea courageously and continuously is important to ensure success. Also, in the face of setbacks and hurdles, self-confidence and passion help overcome challenges.

6. Learnings to RQ3: *Recommendations for implementation of SDG 11*

In this chapter, recommendations for each criterion will be formulated on a project level and subsequently on a policy level for SDG 11 implementation. Where possible, a single recommendation is only allocated to one paragraph while some overlappings may occur.

6.1 The role of the SDGs for the projects

As was highlighted in Chapter 2 and Chapter 4, *sustainability* is a complex concept with diverse facets. This becomes apparent in the diversity of guiding documents for the projects. Most, especially the older projects, used the *Three Pillars*, *Agenda 21*, the Brundtland definition or the *Aalborg Charta* as their first guiding definitions and concepts. Over time, many have shifted to a

more ecology-based understanding, e.g. in accordance with the *Planetary Boundaries*, or a more narrow concept like *ESD*. Also, the term *transformation* came up multiple times as a guiding idea. Others prioritize a more complex, holistic conceptual view on socio-ecological issues as represented in the SDGs which serve as a guiding framework for many. Yet, even where this is the case, the SDGs are barely operationalized for the analyzed *best practice* projects. This is because the goals and indicators of the SDGs, especially SDG 11, are rarely applicable to the work the projects do. They orientate themselves in the SDG framework, but have very specific foci that do not necessarily fit into the SDG structure. This was highlighted by one interviewee stating that "*Sustainability is a cross-section task. We all go in the same direction, no matter if you do it derived from the SDGs or if you already existed before. We could surely locate our specific measures in the SDG context, but eventually, it will all be there." (*Morgenwelt, 00:26:39, translated)*. This can also be seen in Chapter 4 - projects are not strictly connected to SDG 11, but at times also cover parts of other SDGs. As a recommendation, it may be helpful to orientate oneself in a bigger framework, and *Agenda 2030* may be it. Eventually however, a project needs to set a specific focus because no single project can possibly cover all SDGs at once. While a holistic approach to one's goals and impacts should not be neglected in this process, the big picture is more likely to be completed by connecting with other actors than by diversifying oneself endlessly (see also *scalability*). If this focus can then be expressed as a single SDG target or goal or not may depend on one's vision. The SDGs have, above all, been developed as a policy framework. Still, they can provide a communicative frame and help projects cooperate, getting them on one page and helping find commonalities and differences.

6.2.1 Recommendations regarding Contributions to a Sustainable City

It shall be referenced to the remarks in Chapter 4 and Chapter 5 at this point. Relevant thoughts include that impacts can be diverse and range from reductions in resource consumption to changing the physical structure of the city or raising awareness and promoting change. A project should find its specific vision and targets early on but be flexible to adapt them to changing circumstances. While a holistic perspective on a project's approach should be upheld, it should not be attempted to transform the city on one's own but connect to other actors to complete the picture instead. Which issues shall be tackled should depend on one's vision and the necessities and opportunities of the city alike. Environmental compatibility of a project's actions is a relevant goal but can also be seen as the self-evident bottomline. Educational impacts are relevant; for this, thoughtful communication

and equitable representation of societal perspectives should be regarded. Communicated information should be based on facts but adapted to the audiences' levels of knowledge and not overwhelm them (for more, see *communication).*

On a policy level, consider the "transformation agenda" as one of the city's priorities. This covers the challenges and problems that cities will face in the future. Therefore, be open to innovations that can tackle those new difficulties. However, be critical, innovations by themself do not guarantee improvement or sustainable development.

6.2.2 Recommendations regarding Cooperation and Partnerships and Transferability

A combination of both bottom-up and top-down approaches are essential for a successful implementation. A city ought to respect the experience and actions from individual projects and projects need the city's infrastructural and bureaucratic support. Furthermore, several interviewees highlighted a trend towards more sustainability-centred, participatory processes in city administrations which supports the cooperation between actors. In particular, apart from financial and structural support, demonstration of administrative and political appreciation for small-scale projects provides indispensable motivation to pursue their goals. In contrast, informal partnerships provide honesty that keeps a project realistic. Networking provides knowledge exchange and new insights. For this, a proper culture of discussion and disagreement was highlighted in several interviews. To develop the best solutions for everyone involved, the development processes require some constructive disputes from various actors from different fields and levels. One should be flexible to make compromises with others and try to understand their perspectives (e.g. promote walking but understand why people need cars). Also, a project's public perception is influenced by its partners. For example, a connection with respected partners results in trustful perception. While cooperation on the city level is crucial, interviewees recommended the global exchange of knowledge regardless of the level of city development. Additionally, for an organizational purpose a database of contacts should be created and kept updated. Another suggested tool is a manual that covers processes and know-how of a project in order to share knowledge in a way that is implementable for other actors. While applying for funding does result in a competitive situation, fostering cooperation should be preferred. All parties involved can only benefit from it.

On a policy level, local authorities should establish frameworks assisting local projects in the various aspects described above (e.g. financial support). City development strategies and policies should be inclusive and choose a supra-political approach which is not driven by one political party or interest. Instead, there should be an entity that is trusted by and connects to as many partners as possible. For this purpose, diverse communication tools should be used to access stakeholders with diverse backgrounds. Additionally, a database of local, national and global partners should be built, maintained and used as a facilitator to connect various organisations, associations and other stakeholders. On a policy level, it can also be recommended that project ideas which have proven to be beneficial for the city development should be transferred to other locations in cooperation with national and subnational entities. This may include complete ideas or individual elements which then do not have to be development from scratch.

6.2.3 Recommendations regarding Community Involvement and Social Inclusion

Within the topic of sustainable cities, community involvement and social inclusion keeps a special place. To be successful, a project has to analyze its communities' needs and desires and recognize local issues and wishes. Local communities and target groups have to be actively involved in projects. For example, the voices and perspectives of them have to be included into the conceptualization and the organisation of the project. For that, face-to-face interactions are crucial. Yet, communication should be straightforward, honest and not overwhelming. Project should listen to people who want to contribute.

On a policy level, recommendations remain similar. Try to effectively utilize public participation in a city's decision-making process or in generating new policy regulations, by knowing and including local communities and their needs and desires. Then, through active discussions and practices with locals establish common goals for a sustainable city development and implementation processes of policy regulations. This dialectic process forms public opinions and narratives which can contribute to sustainable city development. Besides that, decision-makers should actively seek useful information in local communities because often valuable information is with the local individuals who live and interact within the city or feel and practices certain policy regulations. Simultaneously, inclusiveness highly affects results because, as one interviewee noted, outcome commonly depends on involved individuals' values and interests.

6.2.4 Recommendations regarding Positive Public Performance and Communication

Several interviewees stated difficulties in reaching new target groups that are not their typical academic, environmentally or socially conscious audiences. One cause of this could be that the SDGs and *sustainability* itself are highly abstract concepts which often rely on an academic understanding of the underlying problems. Also, advertising projects as sustainable projects often disengages new audiences who may not see the topic as relevant to their needs and wants. Furthermore, the use of *sustainable* as an advertisement may duplicate this disengagement as it serves to attract audiences already interested in sustainability. Their involvement may then further disengage new audiences who do not see the term as relevant and do not socially or culturally relate to previously involved audiences.

To reach new target groups, projects may instead provide offers that connect to the needs and wants of people. It should be tangible, fun and practical to engage with sustainability. Instead of talking about sustainability, projects should be sustainable and beneficial for the users at the same time. When selecting new audiences to engage with, one should be clear about what the project does, especially if it is a new idea, and who one wants to attract. Further, one should not necessarily focus on the abstract concept of *sustainability.* It can be alienating for those without prior knowledge. Instead, one should inform about the project's practice and focus on communicating the core values of the project. One should have a name that people can understand quickly without prior knowledge of the project. One should consider what the target audience finds interesting or relevant about the project and personalise it accordingly.

When people are participating, then, do not just talk about being sustainable and hope that people find the abstract topic interesting. Instead, demonstrate sustainability through your practice and create interest in that process. Make solutions to sustainability issues practical and useful. Ensure that the solutions are directly correlated to your target audiences' daily lives. Through interaction with the projects, individuals then become aware of the issues, emotionally engaged and persuaded of the advantages of sustainable actions. This process could be linked to the SDG framework which could be popularized in the process. As an example, the *Future 2 Festival* might first and foremost be an interesting festival and secondly a project for a sustainable city. Visitors come to the festival,

hoping for entertainment and are then exposed to the respective issues in a both educational and solution-oriented manner.

On a policy level, the same is true: support and develop ideas that focus on the needs and daily lives of the target groups you want to include. Communicate the benefits and usability of a policy or project in an emotional and solution-oriented way instead of focusing on the complex sustainability aspect. At the same time, for internal communication and policy and administrative support, being clear about how the project contributes to bigger city development plans is commendable. The SDG framework may be a helpful communicative frame to organize and structure activities in this regard, bringing actors from different levels within a city together. Additionally, higher transparency of a project can increase public involvement.

6.2.5 Recommendations regarding Financial Stability

A project should look for administrative funding where possible and provide persuasive arguments for financial and structural support. However, if this is not available, other ideas might be applicable to develop a diversified, independent funding structure. For example, some projects may be able to charge users for the services and products, e.g. for the admission to the festivals, which would also underline the value of these offers. To remain inclusive, however, this could be done in form of voluntary contributions with recommended amounts, giving users the possibility to give back if they liked the service. Other ideas for funding can include using crowdfunding, setting up a donors club or offering memberships as done in the Zukunftsrat. Here, citizens can become members for a small fee and get the right to participate in discussions and decisions. Small loans by individuals could be raised and paid back after some time. If possible, projects could connect to each other and set up cross-financing: if one project makes profits, it can support another that does not and vice-versa. While cost-efficiency is surely also recommendable, the challenge of securing long-term financial stability needs to be addressed so that the available resources can be focused on actually doing the projects. Ultimately, projects should not solely, but may very well hope that political and societal valuation for solutions to sustainability issues will increase in the next years.

On a policy level, the initial financial support for a sustainable project is necessary. Firstly, this covers a cost-free policy which ensures spreading projects that have a positive impact on SDG 11 within communities. Secondly, sustainable solutions with a long-term approach are often high-priced.

Therefore, create effective funding policies to support promising local projects, especially to ensure their future financial independence. Further, constantly revise and improve funding mechanism with the assistance of stakeholders' feedbacks and criticism.

6.2.6 Recommendations regarding Evaluation and Monitoring

Although gathering data is a work-intensive process, a project eventually profits from elaborate evaluation and monitoring. It can be seen as an investment into the future that pays off after a few years when the progress, regressions and impacts that were made over time become visible, especially if they seemed like minor results at first glance. Learning from one's own mistakes and successes - and also others' which underlines the importance of sharing experiences - can help improve one's processes and clarify one's own understandings of success and goals. In this regard, setting up a vision, goals and defining necessary steps from the beginning but being flexible about changing them is recommendable. Admittedly, if, for example, behavioral change is a target, it may be very difficult to assess. Also, it was highlighted that data alone should not solely guide one's evaluation and target setting. Instead, one should understand what the data means, look "behind it" and combine the project's vision with pragmatic changes deduced from the results of monitoring. Two more recommendations were voiced: First, since data about the projects is also valuable for its financial supporters, these actors may consider providing extra funds for evaluative measures. Second, evaluation should preferably be done by external observers who are not biased. In this regard, feedback from other project leaders can be seen as a first step, being a valuable contribution to evaluation and motivating to continue.

On a policy level, evaluative measures should be supported for projects to help them improve. Indicators for success and failure help evaluate past decisions and guide future developments. Also, when managing several sustainability projects and policy instruments at once, a clear distinction of the respective targets may be useful to better coordinate different fields of action.

6.2.7 Recommendations regarding Scalability, Growth Potential and Longevity

Growth can be understood in diverse facets and does not necessarily mean improvement. One should consider: which benefits would which kind of growth provide? Is size relevant, or is a niche-position sufficient? These considerations depend on a project's goals as well as the options the circumstances offer. Thus, a second recommendation would be to be realistic and aware of a

project's potential. It is improbable that one project can enable a city-wide transformation on its own and should not strife for this. Instead, focusing on specific topics may help to become operational. A third recommendation would therefore be to be aware that a project has its own life and can only be controlled to a certain extent. It should not become overwhelmingly big. How much one can handle also determines how big and diverse a project should grow.

On a policy level, it can be advised not to go big from the beginning. Local, small ideas should be supported and implemented and only increased in size if this is beneficial to their impacts. Growth can be qualitative. Ideas should be allowed to be planned with a longer time horizon and support should be provided as long as necessary. Sustainability-oriented ideas will only become more relevant in the future, so it is not necessary to get them implemented as quickly as possible.

6.2.8 Recommendations regarding Flexibility and Adaptivity

To ensure success, a project should consider: What are the local needs and wants? What role does sustainability play in local politics and administration and how is it understood in the local public sphere? A *best practice* project needs to consider changes in the local context and should always react openly to these changes and to the new perspectives they bring. Projects should listen and observe local changes and react adaptively to them because local conditions are critical and influential to the overall success of the project. Whilst many interviewees confirmed that sustainability as a topic has grown in public interest, they mention many obstacles that still stand in the way of sustainable development: cultural hurdles, opponents of structural change, misuse and overuse of the term *sustainability* and existing path dependencies. To overcome these obstacles, a project should consider that sustainable development is not an individual project but a location-dependent process. The success of a project depends on the political and societal environment it aims to be accomplished within. Projects are always built upon and are constantly interacting with existing resources and political, historical and societal structures. It is important to acknowledge these to ensure a successful implementation process.

Adaptivity and flexibility of policies are crucial for a successful implementation. For example, the 17 SDGs with their 169 targets do not fit in every socio-cultural, economic, political and environmental context. The SDGs needs to be adapted and redefined for a city's specific local conditions. For

example, the city of Vienna included the SDGs in their *Smart City Framework Strategy*, recognizing local requirements and the given social-cultural setting.

6.2.9 Recommendations regarding Project Organisation

To say it in a simple way: Don´t forget the basics, the context upon which your project is built! A sustainable city project is like any other project - it needs planning, management and efficient organisation. Basic questions like: How long the funding will last? How much time it will take? Is it doable in this scale? Where can it be successfully practiced? What can be changed to be more efficient in the organisation? are crucial questions to acknowledge. For example, if the implementation of a project takes too long and no tangible outcome is realized, the actors lose their interest in it. This can lead to the cancellation of the project. For that, every project needs a dynamic, sustainable and organised procedure.

On a policy level, the recommendations are similar. Efficient organisation of policy implementation is essential for its success and range. Nevertheless, a recommendation for policy makers or city officials is to make the bureaucratic process for civic projects easier, more understandable and faster. It was mentioned that the process of project submission is too complicated and time consuming which can be demotivating for projects and can even lead to cancellations. For that, for example an understandable and practical submission tool for sustainable city projects can be set up.

As it is mentioned above, these civic projects are powerful mouthpieces and mediate between the individual and the city or policy level. Cities or policy makers can use those projects to make their policies more understandable, visible and practicable and close the gap between those levels with their help. For that, policy makers should appreciate the active role of projects and their innovative ideas as they make significant changes and form the city physically, socially and narratives around it. Policy makers and city officials should reduce bureaucratic procedures and be open to new approaches and use these projects as a powerful mouthpiece to spread for example the SDG´s.

6.2.10 Recommendations regarding Motivation and Passion

A recommendation for potential project initiators is to not be scared. Instead, go ahead, fight for your ideas and be a role model initiator. Most often, a sustainable city community starts with one small project or event that gets positive feedback from the local individuals and is pursued

afterwards. A snowball effect develops with the original project serving as a role model for follow-up projects, eventually changing whole neighborhoods and communities towards sustainability. Further, co-operations and partnerships with other projects or individuals increase the project's longevity in challenging times. Behind all projects are people with a lot of motivation and passion for the topic of sustainability, as well as for their specific project. This passion can be contagious and serves as one of the main drivers for a project's success. All projects started with a first small step that slowly developed into bigger change. Keeping this in mind can help in the face of adverse starting conditions.

On a policy level, provide financial and structural assistance to enthusiastic individuals contributing to SDG11 to acknowledge the work they do. This could be done, for example, in form of an award for good projects. Further, use them and their activities as a good example for others. This will eventually lead to a "snowball effect" changing the behaviour of local communities.

7. Conclusion

This research set out to understand how SDG 11 - *Sustainable Cities and Communities* can be implemented as private projects on a local level. *Best Practice* criteria were developed based on the literature and three projects each were chosen for analysis in Hamburg, Vienna and Prague. Multiple perspectives were applied to each project, including informal, expert and semi-structured interviews as well as participant observation. Through qualitative content analysis, information about the projects and the topic were extracted. Three research questions were answered.

First, contributions of the projects to the *sustainable city* to the sustainable city were summarized which include creating environmental and social benefits, strengthening cooperation among actors and raising awareness for sustainability issues. How a project approaches the topic of sustainable city development depends on the underlying motivation, understanding of sustainability and the prevalent necessities and opportunities. The ideas and approaches behind the presented projects may serve as inspiration for local actors anywhere to implement their own *best practice* projects for a *sustainable city*. The presented projects may serve as examples how the SDG framework can be "brought to life". SDG 11, on the other hand, can help projects expand their perspectives and widen their impacts.
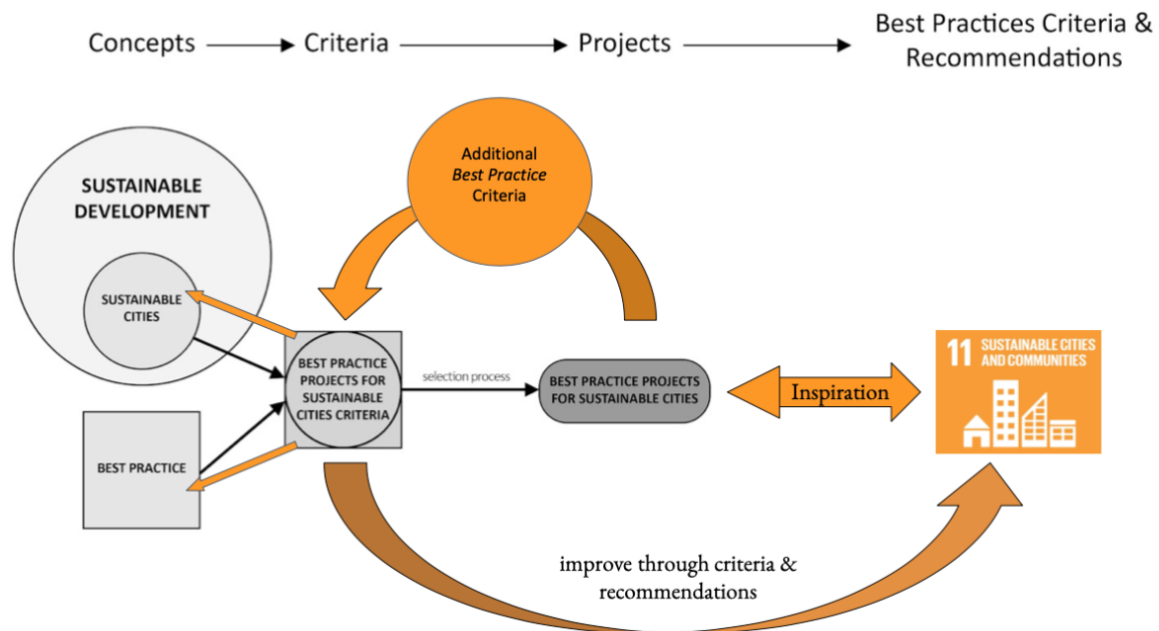
Diagram: Research outcome

Second, the previously established criteria of *best practice* were tested and found to be applicable. Their order was re-arranged based on their relevance to the projects. Additional four criteria were found, resulting in a final list of 15 criteria that describe what makes a project *best practice* for a sustainable city. This list can help to inform the theoretical body on *sustainable cities,* and, even more so, *best practice.* Also, the criteria may help to guide local implementation of SDG 11 - both on a project and a policy level.

Third, recommendations were formulated based on the aforementioned findings. Main criteria for *best practice* and recommendations include the willingness for cooperation, passion for the topic, thoughtful, benefit-oriented communication to diverse and new target groups, evaluation of a project's impacts, adaptivity to change and not least proper project management alongside safeguarding financial independence. These recommendations apply both to individual projects as well as to SDG implementation on a policy level. They can hopefully contribute to implementation of policies and projects on SDG 11.

Sustainable city development will become evermore relevant in the future, especially in the face of time-critical sustainability challenges. We hope to provide helpful insights and support the development of solutions in this regard. The consulted projects and individuals showed a major

interest in the outcomes of the research, highlighting the demand for learnings from *best practice* cases. After all, this research approach was what many people stated to be necessary - sharing experiences and knowledge in a way that is transferable and supports cooperation.

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Appendix

1. social aspects

   a) Affordable adequate, healthy & safe housing

   b) conservation for cultural heritage and regional traditions

   c) support for cultural diversity & prevention of social segregation

   d) inclusiveness, participatory governance, democratic structures in the city

   e) equitable access to infrastructure and basic utilities & services for everyone

   f) usage and support of innovation, technology, monitoring, science & education

2. resource usage

   g) sustainable, decentralized and efficient energy production and consumption

   h) support for nature-based solutions

   i) application of principles of circular economy (efficiency, re-use and recycling, sufficiency) for construction and consumer goods

   j) ethical consumption

   k) waste and pollution management

3. city planning

   l) green spaces, good air & water quality to provide a worthwhile living space

   m) resilience to disasters

   n) accessibility (walkable streets and human scale neighborhoods, high density of road network, limited block size, sustainable transportation systems)

   o) compactness (solving the urban sprawl issue and its sub-issues)

   p) local solutions and local community support (local practices, local materials, local food, local goods)

   q) Re-urbanization and land re-use (city centres, brownfields)

II. Interview methodology

a) Semi-structured interviews

Semi-structured interviews are a form of data collection in which the researcher asks the interviewees open-ended questions. This format is useful when not only subjective perspectives of the interviewees are of interest, but also facts need to be gathered (Rager et al. 1999). In preparation for the interview, a semi-structured interview guide was developed that then guided the researcher throughout the interview (see below). Such a guideline is constructed by first collecting questions that are of interest for the research that are derived predominantly from the theoretical body, in this case the pre-established criteria for best practice. The questions are re-structured and subsumed under overarching topics. During the interview, then, the researcher first confronts the interviewee with the overarching topics without asking direct questions. The interviewee is asked to talk about his general thoughts on these topics. He or she is free in terms of the information that is provided, and the researcher listens and examines whether all of the essential questions are answered. New questions may be added throughout the interview if they arise from the provided information. Questions, as well as topics, can also be re-arranged according to the answers given by the interviewee. Before proceeding to the next topic, the researcher directly poses any previously unanswered question so that eventually, all topics of interest have been covered. This procedure provides an openness that mitigates bias that might be imposed by a stricter interview guideline. Still, the definition of topics and questions of interest ensures comparability of different interviews. (all: Helfferich 2019).

The semi-structured interviews were conducted with representatives of the *best practice* projects. The semi-structured interviews were recorded digitally and further insights from the interviews were recorded in protocols.

b) Expert Interviews

Expert interviews are designed for "[...] specific and limited groups of potential interviewees. This can be experts in institutions, who have specific insights and knowledge because of their professional position and expertise" (Flick 2014, 227). It is a specific form of semi-structured interviews, where the interviewees are of less interest as an individual but more due to their capacities as experts for

a certain field of activity. Expert interviews were conducted with representatives from the initiatives of the respective city administrations (Prague Institute of Planning and Development, Smart City Vienna and Stabsstelle Nachhaltigkeit, Hamburg) who are responsible for the sustainable development of these cities. Open questions were asked that were based on the interview guide (see below), focusing on a few aspects that are of interest in these interviews. The expert interviews provided knowledge that influenced the eventual formulation of policy recommendations and offered context for the implementation of *best practice* projects for a sustainable city. Lastly, these interviews helped to find further projects, which were not discovered during the online research. The expert interviews were recorded digitally and further insights from the interviews were recorded in protocols.

c) Informal open interviews

Informal conversations are methodologically similar to a talk between colleagues. Nevertheless, the informal conversation as they were used in this research differ from the latter in two respects: firstly, the researcher wants to gather information about the observed "object", and secondly, the data is noted down (DeWalt & DeWalt 2000, 137). In this case, the "objects" were the *best practices*. Informal discussions were conducted with individuals that are connected to the projects in ways other than being part of the projects themselves, e.g. participants in the events or users of the services and products. Informal interviews are designed very openly to create trust. The interviewees were approached randomly and asked about their experiences with the projects, based on the overarching aspects established in the interview guide (see above). Based on the researchers' experience, this method has shown to create a more trustful and open interview situation than formal interviews. After the informal talks, the data was recorded in protocols. The gathered information and insights were eventually cross-checked with the answers obtained in the semi-structured interviews and helped derive best practice policy recommendations and advice for practitioners.

Interview guide "Implementation of SDG 11 - Best Practice"	
topic (** = for open interviews)	questions (* = questions for expert interviews, with a broader orientation: instead of asking about the specific project, questions are targeted at more general insights)
factual info	what are the key facts (e.g. the history and the aim) of your project?
impact for a sustainable city **	what means sustainability to you? * what means a sustainable city to you? * how is the project contributing to a sustainable city? how is the project connected to the SDG framework?
community engagement **	to what extent and in which ways do you include the local community?
networking	to what extent are you connected to other actors? do you know other projects that contribute to a sustainable city? *
success **	what sets the project apart from other approaches for the same goals? what do you consider success for the project? * (any) what do you consider the main factors for success for your project? which limitations restrict the success of the project? how do you measure the project's performance? * (any) what should a best practice project for a sustainable city pay most attention to? *
longevity	what is the future of the project? (sustainable city development) * how is the project financially resilient and future-proof? how do you ensure a positive long-term impact of the project? *
transferability **	how is the project financed? (how) could the project work somewhere else? do you see potential for the project to expand? do you have a recommendation for other projects/people? *
guidebook questions	would you be willing for other practitioners to get in touch with you? what is the essential core of the project? (give an example, story or a phrase)

III. Participant observation, field notes, and diary

Participatory observation is unique method mostly used in anthropological research. It is typically used in qualitative and inductive research. The basis of this method is to observe and participate in daily activities and any kind of interactions (DeWalt & DeWalt 2000, 260f). Participant observation may involve a variety of methods such as informal interviews, direct observation, collective discussions, analyses of documents, biographic interviews etc. Participant observation was a beneficial method for this research because it lended a deeper insight into the projects, for example by participating the practices of the projects or using the products as any other user would do. It allowed to gather data with a perspective on the projects by getting hands-on with the projects and sensing the surrounding emotion and atmosphere, where possible. This approach can potentially also lead representatives of the project to open up and reveal additional relevant information. The insights gathered during participant observations were noted in field notes, while a field diary was kept to allow for reflection of the researcher on the experiences made in the field. The function of field notes is to transform experiences and observations that you make as a researcher in the field into systematically useful data. It is necessary to be aware that field note texts, as representations, are inevitably selective. However, as Fischer (2003) puts it: field notes and field diaries are overall "one of the most important aids in field research" (Fischer 2003, 279).

IV. Transcription and Data Analysis

After collecting the data between August and October, they were evaluated using qualitative content analysis. First, the semi-structured interviews were transcribed based on the recordings. The transcriptions were done word for word according to Dresing & Pehl (2011), not by paraphrasing or phonetically. Partial sentences and words were left out, grammatical errors were not corrected while contractions (it's → it is) were corrected. Non-verbal cues were only transcribed if this supported the readability, pauses and distinct accentuations were noted. Punctuation was added in the process to improve readability (see Dresing & Pehl 2011). The language differences in the interviews were approached as follows: the interviews were conducted in the native languages of the interviewees, as was the transcription. The coded information was translated during the coding procedure to create comparable results between all *best practices*. The error in translation was minimized through this focus on content rather than on linguistics. The limitations of this process are discussed in the

discussion chapter. The field notes from the informal and expert interviews as well as the diaries from participant observation were also summarized and structured in terms of content.

The subsequent analysis of the gathered data was conducted by using qualitative structuring content analysis according to Mayring (Mayring & Fenzl 2014). In this process, all individual points raised in the gathered data were highlighted and assigned to categories ("coding"). Here, the different sources of information were indicated for each assigned item to ensure the consideration of project-specific insights during the analysis. Through the coding procedure, knowledge about the *best practices* was extracted systematically. The categories were predominantly based on the interview guide and thus by the categories for *best practice* as developed before (deductive building of categories) (see Meuser & Nagel 1991). Additional categories emerged from the data throughout the coding procedure, which is called subsumption: the gathered information was analyzed thoroughly - every bit of information needed to be assigned to an existing category. If no matching category existed, a new category was added to the codebook (see Rager et al. 1999). In addition, the codes based on the *best practice* criteria were revised in terms of wording and specific content to better fit the material, where necessary. This way, both the preconceived categories and those inductively generated from the given material were used to provide a comprehensive set of codes (Schmidt 2010, Schreier 2014). The categories of the codebook must work intersubjectively, meaning that every person that examines them needs to understand what they mean and why a given piece of information is assigned to these categories. Every category, therefore, consists of the category name, an explanation of what it entails and examples, indicating which kind of information belongs to this category (see Rager et al. 1999). Exclusion criteria were not indicated; due to the nature of the data and the research questions, some items could potentially have been allocated to more than one code. In these cases, the code that best matched the item was chosen. The codebook as used for the analysis can be seen below.

V. Codebook

	Codes	definition	Examples
1	understanding of sustainability	anything about their understanding of sustainability	--> Sustainability is about resource efficiency --> People have realized that sustainability is important --> the SDGs are a helpful concept for our work
2	understanding of a sustainable city	anything about their understanding of a sustainable city	--> a sustainable city needs green spaces --> in a sustainable city, people cooperate --> sustainable cities are crucial
3	contribution to a sustainable city	The project's contributions to the city to be more sustainable	--> we want to reduce resource consumption --> we want to raise awareness --> we want to be a place for people to meet
4	cooperation and partnerships	everything about how the project cooperates with other actors (except the local community)	--> the city supports us --> we are working with a university, a company --> other actors are asking us about our experiences
5	community involvement	contribution and participation from the local community in developing the project	--> the local neighborhood participates in developing the project --> ideas for the project were collected at a local university
6	target groups	the target groups of the project	--> we work with children and eldery people --> everyone is our target group
7	social inclusion	to what extent are socially deprived groups of special interest for the project ?	--> does they project consider minorities (Gay, immigrants) --> bridging social gaps is a goal of the project
8	public perception	this is about how the project is perceived or known publicly	--> we get good feedback from politicians --> the project is advertised on facebook --> we have many likes on Instagram
9	educational impact	educating people is part of the project	--> our goal is to change people's behaviour --> we are working on a showroom for visitors
10	uniqueness	how is the project different from other similar projects?	--> we have an approach that has never been there --> we do this thing better than others --> there is another thing similar to ours
11	environmental impacts	environmental impacts of the project	--> we save energy --> we plant trees --> we produce no trash
12	longevity	long-term development AS A PROJECT - history, structure, future development	--> this is where we come from - look at where we're now --> we plan to grow in the future --> we are quitting because the project does not work
13	finance	everything financial, e.g. where the money comes from, how much the project needs	--> We got financed by the government --> We got financed by privat sponsors --> we need a lot of money
14	monitoring & evaluation	monitoring & evaluating success in terms of reaching their goals	--> how to evaluate is very important --> we count how many people come to the festival --> success for us would be...
15	transferability	the potential of the project to be transferable into other local contexts	--> this could work in every European historical city --> we work with people from Sweden on this project --> in Prague, this wouldn't work
16	growth potential	the potential of the project to grow	--> our project grew in the last three years from 3 to 50 places --> there is a limit for it to grow - e.g. the needed money
17	what is important to be a good project?	not descriptive, but about experiences and tips for other actors	--> digitalisation is important to keep up with the times --> courage & emotions are crucial preconditions
18	other	anything that is important to answer the research questions but cannot go anywhere else	

In terms of quality criteria, a content analysis is reliable and objective, when the content gets coded similarly by several researchers. It is valid, when the conclusions that are being drawn are well-argued and logically based on the pre-established theories and methods (Rager et al. 1999). The fulfillment of these quality criteria was ensured by coding the information by all team members as well as through detailed explanations of the analysis processes. Also, transparency was ensured by providing the interview guide and the coding scheme. However, for data protection purposes, the interview transcriptions and field book notes cannot be provided for the publications.

VI. Data overview

The table below shows the final state of research. 7 expert-interviews, 9 semi-structured interviews, 13 informal-interviews and 11 participant observations have been conducted.

City	Initiative	Method	Date	Done
Hamburg	Klimasparbuch	semi-structured	26.08	yes
		participant observation	31.08	yes
		informal interview	18.09	yes
		informal interview	29.10	yes
	Futur2Festival	semi-structured	26.08	yes
		participant observation	-	-
		informal interview	11.09	yes
		informal interview	26.09	yes
	Zukunftsrat	semi-structured	27.08	yes
		participant observation	27.08	yes
		informal interview	16.09	yes
	Stabsstelle Nachhaltigkeit, Stadt Hamburg	expert interview	28.08	yes
Prague	InnerBlocks	semi-structured	13.9.	yes
		participant observation	16.10.	yes
		participant observation	22.10.	yes
		informal interview	16.10.	yes
	Prague Mothers	semi-structured	4.10.	yes
		participant observation	15.11.	yes
		informal interview	15.11.	yes
	Different City Experience	semi-structured	9.10.	yes
		participant observation	16.10.	yes
		informal interview	24.9.	yes
		informal interview	26.9.	yes
	Prague Institute of Planning and Development	expert interview	21.10.	yes
Vienna	SchloR	semi-structured	26.09.	Yes
		participant observation	26.09	Yes
		participant observation	12.10.	Yes
		informal interviews	23.10.	yes
		informal interviews	23.10.	yes
	Grätzloase	expert interview	03.09.	yes
		semi-structured	24.10	yes
		participant observation	24.10	yes
		informal interview	3.11	yes
	50 green houses	semi-structured	30.9	Yes
		participant observation	19.10	yes
		informal interviews	19.10	yes
	Lokale Agenda 21	expert interview	03.09	Yes
	UrbanInnovation/Smart City Wien	expert interview	02.09.	Yes
	MA 22 -Stadt Wien	expert interview	24.09	Yes
	Smart- City Vienna - Stadt Wien	expert interview	23.09	Yes