The CRESSI project explores the economic underpinnings of social innovation with a particular focus on how policy and practice can enhance the lives of the most marginalized and disempowered citizens in society.
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1. Introduction

Recent studies on social innovation have investigated their origin and impact. Questions such as what drives social innovations, how can they be influenced, what is a typical lifecycle of social innovations have been guiding the research of several grand EU projects under FP7 and Horizon 2020. Yet another central aspect is the question of how social innovation and social change are linked and how both relate to social transformation.

This paper is devoted to the latter aspect in particular: the link between social innovation, social change and social transformation. Our assumption is that there is a variety of change agents behind social innovations drive social change or even social transformation. These change agents can be the government (the state or also a city government) or a particular social group or interest group as well. The development and outcome of a social innovation as well as its link to change and transformation will differ depending on the degree of influence that the change agent has. Another important assumption that we have to make at this point—one that results from our previous CRESSI cases and the intense study of Beckert’s social grid—is that successful change agents never act alone. They are embedded in a social grid that consists of institutions, networks and cognitive frames. Even though one type of change agent might be dominant at a certain point in time, they are only able to act as part of a supportive social structure.

In this article, we set out to compare two long-term case studies and how the social innovations described in them evolved toward social change and social transformation. The cases considered are

- social housing and the role of the government as a change agent and
- fresh-water supply and the role of the middle class as a change agent.

We want to illustrate diverging paths of social innovation, how they lead to social change and social transformation.

Before we look at the actual empirical evidence and how the cases evolved, let us first consider the more theoretical discussion of social innovation, social change and social transformation.
2. Approaches to linking social innovation with social change

“Social change in the broadest sense is any change in social relations. Thus it is an omnipresent phenomenon in any society. A distinction is sometimes made between processes of change within the social structure, which serve in part to maintain the structure, and processes that modify the structure (societal change). [...] The specific meaning of social change depends first on the social entity considered, [and secondly] on the time span studied” (Encyclopaedia Britannica Online).

Although most theories of social change assume that social change is not arbitrary but follows patterns, maybe even regular patterns, only two basic patterns of change can be empirically observed in scientific and non-normative terms: first, a cyclical change pattern (daily, weekly, annually; business cycles; consumption patterns; recurrence of long waves; the birth, growth, flourishing and decline of civilizations) and, secondly, a one-directional change pattern (cumulative, implies growth or decrease; population density; size of organisations; linearity is the simplest type; S-curve another type). Often the time span studied decides which pattern of change—cyclical or one-directional—is observed, as they often occur simultaneously (Wilterdink 2014).

A variety of theories of social change exist: some try to explain the development of mankind since the discovery of fire; others focus on explaining revolutions and class struggles. However, such theories are difficult to operationalise for research and apply in analysing the relations between social innovation and social change.

Apart from such theories, there is also the empirical study of social change, which is largely based on qualitative research and frequently includes normative evaluations and value judgements. Rich and detailed case studies in a long-term perspective seek to analyse social change and social transformation. These are of course informed and influenced by previous research on social change.

An overview of a variety of theories and empirical studies of social change yields a set of mechanisms of change. They are not so much causal explanations of social change, which would be difficult to establish, but rather models of recurring mechanisms that are incorporated into different theoretical models of social change (Wilterdink 2014).

One possible approach to analysing the relation between social innovation and social change is based on the assumption that the relationship between social innovation and social change occurs via a change in social practices. Social practices are repeated and newly-created regularities that are public and thus observable (Howaldt 2015). Social innovations and their actors depart from existing trajectories based on mental maps, rules, routines, pathways, and mental models of politics, business and society. Social innovation may hence be a starting point for further social dynamics that lead to alternative social practices and lifestyles and thus drive transformative social change (Krohn 2005; Tarde 2009; Howaldt 2015: 17).

For our purposes we consider social practices as collective regularities that diffuse in some form of social entity (whether a small group or larger society) in the longer run. However, it would be difficult to strictly argue that the connection from social innovation to social change occurs via a change in social practices since the lines are very blurred.
Another approach might be to assume that social change takes place through mechanisms of change. Although some social-innovation initiatives are more advanced in their development (social practices) while others are more a prototype (single social-innovation project), both incorporate mechanisms of social change and hence contribute to social change.

Box 1: Mechanisms of social change

1. Learning: Evolutionary theories (Nelson and Winter, Dosi etc.) in the social sciences stress the cumulative nature of human knowledge. Actors realise mistakes, apply new ideas and engage in processes of learning, which results in tacit and codified new knowledge (e.g., Cowan, David and Foray).

2. Variation: Variation can range from 1) new (collective) ideas to 2) single innovation projects that introduce novelty and hence variation. Ad 1) Collective ideas are the cause and consequence of social change. This can involve the spread of beliefs, values, value systems, fashions, religions, cultural symbols or rules of behaviour. Ad 2) Single innovation projects are either incremental innovation projects that innovate along a given trajectory or radical innovations that deviate from the trajectory and potentially lay the groundwork for a new trajectory.

3. Selection: This incorporates processes of adoption, diffusion and imitation but also leads to processes of decline and the death of initiatives. Here social practices may be considered as social innovations that have already experienced adoption and diffusion to some extent; they have established a new the trajectory, produced slight variations of the original social innovation, led to a bundle of similar projects – and hence to alternative fashions, life styles etc. – and have spread in some social entity.

4. Conflict: Group conflict has often been viewed as a basic mechanism for social change. This includes revolutions but also minor conflicts. Social change, in this view, is the result of a struggle between a dominant class and a dominated class that strives for (radical) change (conflict model of society by Ralf Dahrendorf).

5. Competition: Competition is seen as a powerful mechanism of change, as it encourages innovation to gain competitive advantages.

6. Cooperation: Although competition as a driver dominates theories that put individualism and individual utility at the fore and in which social change results from individuals pursuing their self-interest, other strands of literature have shown that cooperation (e.g., literature on innovation systems, game theory) or altruism (e.g., E. Fehr) provide an alternative basis for human action.

7. Tension and adaptation: In structural functionalism, social change is seen as adaption to some tension in the social system. For instance, a gap between fast-changing technology and necessary institutional change of some type (see W. Fielding Ogburn). Relevant in this context is the increasing interdependence within society (H. Spencer), which also causes tensions: societies grow in size, become more complex, their parts differentiate into specialized functions and consequently become more interdependent. A collateral effect of this is an adverse impact on some parts of the population; in economic terms, this may be poverty; in health terms, it may be chronic disability and social exclusion.

8. Diffusion of (technological) innovations: Some social changes result from innovations adopted in society. These innovations can be technological inventions (see Kondratieff’s long waves) or new scientific knowledge as well as new beliefs, ideas, values, religions and the like. Such innova-
tions involve high uncertainty; most of them disappear without further impact, and those that survive follow an S-curve of adoption (cf. Geroski).

9. Planning and institutionalisation of change: Social change may result from goal-directed large-scale planning, by governments, bureaucracies and other large-scale organisations. The wider the scope, the more skills and knowledge are needed, the more difficult it is to reach goals and the more likely are unforeseen events to interfere. Planning implies institutionalisation of change, but institutionalisation does not imply planning (Wilterdink 2014). Included here are changes in the organisation of the state, interstate relations, laws and directives, programmes and so on.

Source: Based on Wilterdink (2014), further advanced and operationalised by the SI Drive project; see also (Howaldt 2016).

As a general note, we would like to add that, in coining social innovation as the driving force for social change, we must be careful not to imply one-directional causality. Social innovation must clearly be understood as being an interdependent process.
3. Karl Polanyi’s approach toward social transformation

In recent years, many renowned contemporary scholars have acknowledged that the wisdom in Polanyi’s oeuvre still speaks to us today as we witness the daily struggle in economic theory as well as in real life between market advocates and the proponents of more market regulation – including all facets in-between those two poles. On the one hand, it seems that more and more spheres of our lives are ruled by the forces of free markets, even formerly independent science and research. Yet, on the other hand, in more and more niches we see the formation of counter-movements, the international networking of which is promoted by globalisation and social networks.

Even though Polanyi wrote *The Great Transformation* more than half a century ago, many general observations and conclusions could be results of current analyses of trends and developments. And his observations are not limited to Europe and the US, where he studied the phenomena that informed his theoretical work, but are also valid for other parts of the world where the attempt to establish self-regulating markets have failed. This is one of the important messages we take from Polanyi’s work: pseudo self-regulating market forces do not exist and acting as if they did will inevitably lead to tensions and eventually to social transformation. For Polanyi, transformation is the social reaction to giving the market primacy in society and pursuing policies that let the self-regulating forces unfold in unrestrained fashion. This attempt to disembend the market from society is of course doomed to fail. It leads to the breakdown of social relationships – and eventually their restructuring as self-regulating market forces provoke counter-movements. Polanyi suggests that any movement toward a laissez-faire economy needs a counter-movement to create or re-establish stability. This paper applies Polanyi’s transformation theory from a social-innovation perspective, which is a novel approach in the field.

Economic sociology has recently also discussed a ‘social-grid approach’ to illustrate social change and transformation as interaction between social and economic forces embedded in institutions, networks and cognitive frames. In this paper, we apply Jens Beckert’s approach that embeds the market in a larger concept of society. According to Beckert (2010), stability of the social grid requires that it undergoes changes to accommodate other changes induced from the outside or from within. Beckert’s model of social grid can help us better understand the notion of embeddedness that Polanyi uses.

In addition to Polanyi, this paper builds on two other theoretical approaches to illustrate change and transformation in social innovation: First, Beckert (2010) noted in his social-grid model that common analyses of markets as social structures fail to integrate established approaches that tend to focus on one explanatory theory alone. This siloed thinking fails to give a full account of the social enactment of economic structures and social exchange relationships and, as a consequence, typically does not acknowledge socio-economic exclusion as a product of market arrangements.

Second, we will utilise a multilevel approach to analyse how an innovation starts from a niche position, becomes a regime and finally a social transformation. During this process, many success and failure factors are influenced by “landscape” developments (Geertz 1973).
4. Applying Polanyi’s approach to two long-term case studies

For a more adequate analysis of the value added that stems from the combination of Polanyi’s and Beckert’s approaches, we focus on two long-term case studies: social housing and fresh water supply. Social housing – also called municipal or community housing – is a response to the severe social challenges that we are facing still today in the EU, even though we have witnessed massive changes and even social transformation in the field of homelessness and in terms of a shortage of adequate housing during the last 100 years. Our case study which is focusing on the special situation in the Austrian capital Vienna, we will show how social innovation was able to economically reintegrate marginalised parts of the population into society and thus attempted to alter the anticipated path of unregulated capitalist development. Similar innovations with integrative effects have also taken place in the fresh water case. The creation of fresh water infrastructure is one of the central innovations making settlements possible. Especially for people with little or no income it is extremely important to always have free access to fresh water.

Social housing has become something similar to a social transformation. In doing so, we intend to spur the discussion regarding the ‘governance’ of social innovations

Beckert contended that the formation and continuation of social grids is not a neutral process but (re)enacts existing power relations and social structures, resisting changes in social relations that disrupt extant benefit regimes. Beckert also saw the three analytic elements of his model – social networks, institutions and cognitive frames – as being closely related by way of multiple interactions and feedback loops.

Social grids have a formative character in different domains, for example, in the political, economic, cultural or legal domain. In our study, we want to distinguish these different domains on the basis of their power structure, as suggested by Michael Mann (2013). The distinction of the different domains seems necessary to better understand the dynamics of change and stability on the one hand and interconnectedness and complexity of the social grid on the other. This understanding is a prerequisite for our later discussion of the governance of social innovation. Accordingly, in the following analysis, we will distinguish the domains at the levels of:

- policy
- economy
- law
- culture
- ideology.

What Beckert’s model does not explain in enough detail though is how change actually occurs or what the inhibitors of change are. This is why we apply the approach by Geels and Schot, which enables a multilevel perspective on the social grid and developments at the landscape level: From a multi-level perspective, the landscape level cannot be influenced directly by actors, not even governments, but follows a more global dynamic. The landscape level allow for a significant change in some niche innovations to establish a new regime or even lay the basis for a social transformation with long-term effects in society.

Especially in the city of Vienna, social housing provides a good example of a social transformation that, still today, determines the integration policy of the city to a large degree. By the same token, the focus will be on the significance of social housing to build resilience within its specific social context and against the laws of the market economy. Thus, the theoretical part of this paper will discuss how to govern social innovation in order to build a more
resilient society, especially to improve the living conditions of marginalised groups in our society – in the past, present and future (see Giesecke 2016).

5. Historical case study 1: Social housing in Vienna

5.1 Historical context

This case study deals with the development of social housing in the city of Vienna from 1919 to the present, covering almost 100 years. Social housing in Vienna serves as a case for exploring the development of a social innovation that has served to cope with a severe shortage of housing and the precarious situation of homeless people and families. After WWI, Vienna’s social democratic local government created a local welfare state that was intended to promote better housing and living conditions as well as better health and education for working-class people. As Reinprecht (2007) points out, among the various programs developed in the Red Vienna period, the construction of municipal housing was the most ambitious and most prestigious undertaking. The Vienna municipality played a key role as both developer and owner. Social housing was built throughout the city and thus had a long-term anti-segregation effect.

Housing in Vienna at the turn of the 19th century

Generally speaking, the construction sector enjoyed a veritable boom in Vienna during the second half of the 19th century. However, it was not spared a collapse in some areas in the wake of the severe economic crisis at the time of the 1873 World Exposition in Vienna. It is interesting to note in this context that housing construction and housing in general was a field entirely controlled by private enterprise. To speak in Beckert’s terms, the social networks of the feudalist and industrialist ruling class had established collective power to shape institutions (such as banks), which in turn influenced the structure of the institutions. From a Polanyian perspective, market liberalism produced an inevitable response—concerted efforts to protect society from the market. These efforts meant that market liberalism could not work as intended, and the institutions governing the global economy created increasing tensions within and among nations. In combination with other causes, this led to World War I and to efforts in many countries for alternatives to market liberalism (Giesecke 2016).

The turn of the century marked an era of industrialisation in some of the bigger cities, and the bourgeois class became more established economically and politically. This development played a role in forming the cognitive frame of that era. At the other end of the social scale, the tenant was highly dependent on the private landlord. This resulted in major inadequacies and severe shortcomings. A typical feature of the period was the flat where the kitchen was to be entered directly from the corridor. It had neither a water tap of its own nor a bathroom or toilet. Running water had to be fetched from the communal tap in the corridor outside the flat, the so-called Bassena, from Italian bacino. The often exorbitant rents gave rise to another social phenomenon, that of the Bettgeher (bed lodgers). The tenants of a flat sublet some beds for the night/day to people who were unable to afford a flat of their own. This of course was not a self-regulating market, even though it was propagated as such. Instead, governmental intervention left tenants with almost no rights and little protection against being evicted if they were not able to pay the rent, while price caps on rents were hardly enforced at all. (Giesecke 2016)
As much as the ruling class had the networks, institutions and cognitive frames to maintain their social grid, the working class lacked such structures, which contributed to perpetuating their misery. In Michael Mann’s terminology, this arrangement constitutes the economic power structure.

![Figure 1: The social grid](source: J. Beckert 2010)
This housing situation was particularly widespread in the suburbs, that is, in the districts that had been incorporated in 1850. Quite a number of these houses have survived up until today. We also see certain stratification patterns, with some districts having always been associated with the upper echelons of society. Here, mention should be made, for instance, of the fourth district, Wieden, with its concentration of embassies, or the eighth district, Josefstadt, with its more well-to-do residents, many of whom were notaries public, lawyers and senior civil servants. Outside the city, in the more rural suburbs, veritable high-quality residential neighbourhoods prevailed even as early as the second half of the 19th century.

**Urban Growth**

The urban area and the outskirts – which formed part of the province of Lower Austria at the time – converged more and more. Many of the problems were difficult or even impossible to solve for the communities on their own because of their insufficient fiscal revenue. This situation was perceived as increasingly harmful. The result was another wave of incorporations from 1890 to 1892, this time of communities south of the Danube. During the first decade of the 20th century (1904), another community, Floridsdorf, became part of Vienna (today one of the city’s 23 districts). It lies north of the Danube and had seen a tremendous economic upswing at the time thanks to the machine manufacturing industries located there. Industrialisation began rather late in Austria, about 100 years later than in Great Britain. Similarly, the influence of unions or even their degree of organisation was rather low. For a long time, it was forbidden by law to form labour-representing organisations, and workers had almost no way of voicing their interests and improving their situation. The situation was different for the ruling class who showed a high degree of organisation, for example, in chambers and guilds. This was an important aspect for social-grid formation among the ruling class at the time – and the lack thereof on the side of the working class (Giesecke 2016).

At that time, population figures in Vienna had continued to rise rapidly, not only as a result of the incorporations but also as a consequence of the massive influx into the capital of the Austro-Hungarian monarchy. We have on record the tallies of the regular censuses since 1869: In
1880, the city had 726,000 inhabitants; by 1890, their number had grown to 1,365,000 – thanks to the incorporation of the suburbs. By 1910, the city had reached the highest figure in its history with 2,031,000 inhabitants. By comparison, London boasted 7.25 million by 1910, Paris 2.85 million and Berlin 2.07 million.

Even before 1918 about 300,000 people were already homeless. During those times, the living conditions of the working class were among the worst in Europe. It is therefore no surprise that many tenants were suffering from infectious diseases such as lung diseases, among them tuberculosis – also called the Vienna disease.

Prior to 1914 the Vienna Social Democrats had already demanded the construction of municipal housing, this but to no avail due to the resistance and dominance of the Christian-Social municipal government (Wiener Wohnen 2015).

Development of infrastructure

The increase in population went hand in hand with mounting demands on the urban infrastructure, which it sought to meet by constructing the metro railway system and of the Second Vienna Spring Water Main at the turn of the century. At this point, the city government set about operating the most important technical services and utilities itself, reversing the privatisation of many hitherto private enterprises. This was true in particular of the transport sector as well as the electricity and gas utilities. These programmes – which had been intended, among other things, as sources of municipal revenue – triggered a rapid increase in expenditures. Most of the budget was spent on education, debt service, roads and streets, general administration, welfare and water supply (in this order; Wiener Magistrat 2015).

It should be noted that all these programmes also reflected the profound change that was taking place in terms of more opportunities for participation in the political life of the country for larger segments of the population. The late 19th century had seen a major extension of the right to vote in general – it had been “decoupled” from tax payments (1907: men’s suffrage, 1919: women’s suffrage) – and, at the same time, Austrian society witnessed the emergence and rise of mass political parties. These included in particular the Christian Social movement, which was the strongest party until the end of the monarchy in 1918, and the Social Democrats, whose rise began with the end of WWI (Wiener Magistrat 2015).

After WWI, the city of Vienna, which used to be at the geopolitical centre of the Austrian-Hungarian Empire, found itself at the periphery of the new Austrian republic. Many civil servants and high-ranking military personnel who had served in the former Crown Lands (Kronländer) returned to Vienna as did many war veterans (Kernbauer 1984: 6; Zimmerl 1998). Vienna was cut off from its former agrarian and resource hinterland and had also lost its traditional sales markets, namely Bohemia, Marovia, Hungary and Galicia. As a consequence, food supply became very critical and posed an additional burden on the marginalised groups, many of which were homeless (Weber 1981: 593–595).

The settlement movement was born out of the suffering of the poor. The disastrous housing shortage was to some extent attributable to the huge influx of people flocking to the imperial capital from all corners of the Habsburg Empire. However, it was also partly due to the fact that most housing was owned by private landlords who leased their property with an eye to maximising their own profits. At the outbreak of WWI in 1914, Vienna already had a population of two million, the poorer segments of which lived in appalling conditions: so-called bed lodgers who could not even afford the rent for a room and therefore had to make do with using a bed for a few hours a day. Or subtenants who had a tiny room to call their own – but in
an overcrowded tenement flat with no running water, no toilet, no daylight and poor ventilation, where disease was rife and spread quickly (Wiener Wohnen 2015).

The need for new housing programmes re-emerged after 1945. The end of WWII also brought the end to the Nazi regime in Austria. Twenty per cent (some 87,000) of all housing units in Vienna had been destroyed, and in Vienna alone 35,000 people were homeless.

After 1989, following the fall of the Iron Curtain, immigration from Eastern Europe increased, also in Vienna. At the same time, the number of single households and the demand for more space per person increased as well.

**Antecedents and invention of the SI solution approach**

The roots of community housing in Vienna can be found in company-owned residencies, the Garden City Movement and the Kaiser-Franz-Joseph-Stiftung, a charity founded before 1919. A few essential steps and dates are listed below:

- **1883** – The Workers’ Housing Association was initiated to overcome the housing shortage. Only 18 family homes are built.
- **1904** – The Christian-Social municipality of Vienna opened the Lainz municipal charity home (*Städtische Versorgungsheim Lainz*).
- **1907** – The central organisation for housing reform in Austria was founded to assess the housing situation statistically and suggest legal measures.
- **1910** – A share of the housing tax was earmarked for a housing charity fund. This fund provided the financial foundation for charitable housing. By 1918, some 8,000 dwellings are constructed.
- **1910/1911** – For the first time, discontented tenants and homeless people organised mass demonstrations against the housing shortage and rent usury. The demonstrations were suppressed bloodily.
- **1912** – The first workers’ home as designed by Hubert Gessner opened. This would be the model that paved the way for the later Red Vienna superblock.
- **Starting 1912** – 250 emergency dwellings were built to host homeless people.
- **1913** – The city of Vienna’s housing policy committee, which had been founded in 1910, was turned into an independent entity to deal with social housing.
- **1913** – The elections based on universal suffrage made Jakob Reumann the first Social-Democratic mayor of Vienna (until 1923).
- **1917** – The emperor issued a decree to fight rent speculation owing to the war situation.

**5.2 Case study overview: Community housing development in four phases**
The last 100 years of social housing in Vienna can be roughly categorised into four different phases, which will be described briefly below. The major part of this paper is committed to describing the case during its most interesting transition phase from the grassroots movement to the Red Vienna era. This is also the most illuminating phase from a Polanyian perspective not only because Polanyi lived in Vienna at the time and collected his impressions there in addition to other locations in Europe and the US. This period is also crucial because it provides an illustrative example of how the government became active to cope with the deficiencies of the imperfect self-regulating market of the previous era and the enormous consequences this had for the marginalised. Another noteworthy aspect is the pace of change at which the social innovation of social housing unfolded and which was of central importance for its short-term success (Giesecke 2016).

5.3 Settlers’ movement – Grassroots movement gains momentum in a political vacuum

The settlement movement was essentially a grassroots movement that involved deprived people taking action to build their own shelters and engaging in some rudimentary farming. It can be interpreted as an attempt to keep the housing market embedded in society and to re-establish social relations. Yet the efforts were undertaken by the settlers, not by the state. In this early phase, the state took a rather passive role. Only later would the state step in and define the housing market as a field for state intervention. Those people who had a room or an apartment in a tenement house were largely dependent on the private landlord. This resulted in major inadequacies and severe shortcomings. A proletarian family of the time was constantly on the move, from one shelter to another, almost without any rights of belonging.

5.4 Superblocks – Community housing during the Red Vienna period

Among the cities implementing municipal housing in the interwar period, Vienna took an outstanding position. The Austro-Marxism practiced at the time not only comprised social housing and with it municipal schools and improvements of hygiene but was came with an emancipatory impetus including a cultural mass movement and a new lifestyle as well as a shared sense of ‘belonging’ on the part of the working class and the marginalised (Reinprecht 2012: 209). We have to bear in mind the context of this municipal housing innovation. This period marks a time of extreme political tension between the well-organised working class active in the industrialised towns on the one hand and the – mostly rural and nationally dominant – lower middle class on the other. The city of Vienna developed towards an Austro-Marxist local social state based on a new type of tax policy and innovative social policies in areas such as health, education and housing. This reformist policy was closely linked with the struggle for cultural and political hegemony. Compared to the first period covered here, we need to point out that the Austro-Marxist city government acted rather paternalistic in many respects and overruled the autonomous settlers’ movement (Reinprecht 2012: 209). The superblocks were designed to prepare for a new society. Housing was not defined as just giving shelter but as a social practice and new form of culture, a contribution to the constitution and reproduction of the working-class family, its collective resilience and identity. For sure, for Polanyi the housing market was a fictitious commodity – a commodity similar to land, labour and money, not originally produced to be sold on a market. The emerging social class was to
be the antipode to conservative-reactionary and catholic social policy and its idealisation of family, class and patriotic territorialism’ (Pirhofer 1982: 326).

5.5 Reconstruction era and corporatist housing policies after WWII

After World War II, social housing and the Vienna superblocks were confronted with a totally new situation. The framework conditions, especially the welfare state, had changed dramatically. Instead of the Austro-Marxist Red Vienna, the new model was based on a corporatist consensus, arranged and negotiated by the elite of the social partners\(^2\). It was characterised by a national welfare state – legitimised by its stabilising and paternalistic function – that guaranteed social peace and the improvement of general living conditions in the post-war era. This welfare model also implied full employment, standardised labour relations and a patriarchal model of the nuclear family. Financially, it was based on an employment-centred work society with social insurance and a subsidiary system of social benefits, complemented by social housing (and other community-financed provisions) (Reinprecht 2012: 210).

While the Red Vienna housing programmes contributed to the dignity and acknowledged status of the proletariat as citizens, the reconstruction era served to institutionalise the rights of the working class, turning them into ‘fully-fledged citizens. Policies in this era targeted not only the proletariat but much more the middle class, securing its path towards social establishment. Included among this clientele were those in standard employment and their families provided that they had Austrian citizenship. Others remained excluded. This pertained to immigrant groups entering the country (and the city) in the mid-1960s until 2006; only thereafter was a change imposed by a new EU directive (Reinprecht 2012: 211).

5.6 From postcorporatist welfare state to neoliberal economisation

The reconstruction era was marked by a general increase in wealth and welfare. Collective economic progress and social advancement was also accompanied by catch-up modernisation. This development came to a slowdown in the late 1970s owing to the energy and economic crisis, the end of full employment, and the progressing flexibilisation of production systems and lifestyles. At the same time, Austrian society witnessed socio-cultural and socio-political diversification. Traditional values as represented by the patriarchic nuclear family were eroding. Social groups found new forms of identification, employment and private life and underwent change toward more pluralisation and individualisation. This was reflected in changes in Vienna’s municipal housing policies. The changes that followed in the consecu-

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1 Stagnation – Disruption during the period of Austro-fascism and the Nazi regime

The Austro-fascist regime that came to power in 1933 deprived the Austrian parliament of its power, inaugurated an authoritarian feudal state and dissolved the municipal constitution of Vienna, thus making the capital dependent on national legislation as was the status before 1923. Under the Nazi regime, the construction of a number of gigantic infrastructure and housing projects in Vienna was planned. Most of them, however, were not realised. With regard to social housing, only some 3,000 units were built during the whole period. The major housing programme that was established sought to erect dwellings for unemployed people on the outskirts of the city that resembled more the settlements of the first period rather than the buildings of the second period, known as Red Vienna. Construction activity ceased in 1942, and the incapability of the Nazi regime to address the persisting housing shortage was compensated by its inhumane Aryanisation policy, which was responsible for the deportation and killing of Vienna’s Jewish inhabitants, thus making room for the migration movement caused by the war (Eigner 1999: 16).

2 Social partners are organisations representing persons in employment, the employers, and the self-employed and other interest groups.
tive years were already ushering in the neoliberal paradigm that culminated in EU competition law and the end of Vienna style municipal housing in the new millennium. Starting in 1981, tenant protection for newly built dwellings was weakened. Higher standards were applied in furnishing new housing, and standardised construction was replaced by housing designs that were more geared to meeting individual needs. The increase in single households and the emergence of patchwork families, paired with increasing demands for more comfort and space, called for more flexible construction approaches. This also entailed higher rents. Thematic, innovative approaches and experiments were attempted, for instance, in the field of energy-efficient housing. Construction of social housing was opened to private contractors to enhance competition and share the burden of financial and technical risks (Reinprecht 2012: 213). The share of better-off middle-class families in municipal housing decreased compared to the two previous decades, and such housing became increasingly associated with marginalised citizens. The share of better-off middle-class families decreased compared to the two previous decades, and municipal housing became increasingly associated with marginalised citizens. In recent years, some observers have even come to speak of “inner segmentation” as housing has more and more been left to the private sector and the state has partially had to retreat from this traditional field of corporatist politics. (Reinprecht 2012: 214). All in all, in the postcorporatist era the institution of municipal housing was no longer to realise collective advancement; instead municipal housing policies were reduced to the management of housing and served to the needs of a more and more diversified and fragmented social structure.
6. Theoretical excursion: What multilevel perspectives can do for the social-grid approach

The debate on the transition to holistic sustainability at the turn of the millennium gave rise to an understanding of innovation as a lifecycle, as developed by Geels and Schot. In the context of this case study and from a Polanyian perspective, the efforts of social innovation in housing can be interpreted as attempts to re-embed major parts of the housing market into a social system by means of necessary governmental intervention to restore the delicate balance between economy and society and introduce reforms that affect how individuals relate to one another.

The lifecycle model in innovation studies is connected with a “multi-level perspective”, which means that transitions are seen as an “outcome of alignments between developments at multiple levels” (Geels and Schot 2007). The MLP (multilevel perspective) approach is a heuristic concept that distinguishes between the three levels of **niche**, **regime** and **landscape** as opposed to the more common understanding in terms of the policy levels of heuristic approach describes the scope of an innovation: Is it restricted to a niche market? Is the scope of the innovation at the level of a socio-technical regime? And how do innovation activities react to transformative pressure from the socio-technical landscape? (Giesecke 2016)

![Figure 3: Multilevel perspective on innovations (original by Geels and Schot 2007)](image)

The origins of this approach go back to the classic innovation-system work of Nelson and Winter (Nelson 1982), who coined the term **technological regime**. This refers to shared cognitive routines among a wide community of technicians, for example, engineers. While Nelson and Winter stuck to the technological paradigm, sociologists of technology have broad-
ened the scope towards society on account of technology not being an end in itself but a result of social production, which implies that social actors should be acknowledged for their impact as well (see Bijker 1995). This broadening of the MLP approach also opens it up for Beckert’s social-grid approach as applied in the CRESSI project. For example, the understanding of socio-technical regimes manifest in cognitive routines that lead to lock-ins is very similar to that of cognitive frames in Beckert’s approach as one of the three social powers responsible for the reconfiguration and reproduction of an existing social grid.

The differentiation of three levels puts the regime in a sandwich position between niche (or niches) and landscape. We could also say micro, meso and macro level instead, but this terminology is often used in more established contexts and discourses and might lead to confusion. The technological niche thus signifies the micro level where new developments occur. The niche is a room for experimentation; some experiments are more successful than others; some disappear, and some prevail in the market and can be classified as innovations. Interestingly, as Geels and Schot point out, niches are “carried and developed by small networks of dedicated actors” (Geels and Schot 2007: 400). In this concept of niche, we thus already encounter the idea of a network as a social power in accordance with Beckert’s understanding of the term. Social innovations develop along similar lines. In general, they start as a niche, just as technological innovations do, and initially as minor alternatives to a dominant social practice.

The term landscape describes a contextual system that embeds regime and niches. Changes at the landscape level are slower than at niche or regime level. Geels and Schot do not explicitly say how such changes occur and why. The question of whether or how changes at the regime level also affect the socio-technical landscape has not been discussed so far (e.g., how 20th-century consumption patterns have accelerated climate change). This interpretation is supported by Geels and Schot’s explanation of transition, which is a process that happens through interaction at all three levels. Both niche innovations and changes at the landscape level (e.g., demographic change) create pressure at the regime level and can lead to a transformation of that regime and give a niche technology the chance to install a new regime. This transformation can even be radical. Landscape pressure is also crucial for the development of a social innovation. Whether and how a social innovation can become stable, grow in scope and scale and succeed at the regime level depends to a large degree on the opportunities induced by changes at or pressures from the landscape level. Pressure on the incumbent regime might open up opportunities for niche solutions and become regimes themselves. In our case study – and in many others on social innovation – the regime level is crucial for governmental intervention. The internal contradictions of a policy area (such as housing) mount to the point that government intervention becomes inevitable. The pace of change at this point – or the total absence of governmental intervention – is of central importance in determining the consequences of this development for society.

Additional theoretical threads to explain change were introduced by Smith et al. (Smith 2005), who also regard change as the outcome of a selection process at the regime level by – what Geels and Schot call – “landscape” and “niche” “forces” (Geels and Schot 2007). Pressure from niches can be of economic origin (e.g., competition) or can originate at the landscape level of political, social and economic developments (globalisation, neoliberalism). This pressure can be internal and/or external, whereas the landscape level usually exerts external pressure.

To make the connection to Beckert’s social-grid model, it is also interesting to consider the differentiation of types of transformation processes that attempts to explain change from i
ternal versus external resources. This typology was introduced by Berkhout et al. (Berkhout 2004). There are some unresolved issues with this typology that are not of interest in the CRESSI context. Beckert’s model does hint at some answers to the question of how change occurs and what ignites it. One option offered is, in Berkhout et al.’s terminology, “endogenous renewal” resulting from within the regime, that is, from its actors who make conscious and planned efforts in response to pressures. Another option is the reorientation of trajectories resulting from internal or external shock followed by a response from regime actors. The third option is emergent transformation as the result of uncoordinated pressure outside the regime. And the fourth and final option is purposive transformations initiated by an intended and coordinated change process from outside the incumbent regime.

Table 1: Typology of change according to Berkhout et al. (Berkhout 2004)

<table>
<thead>
<tr>
<th>Type of change</th>
<th>Origins of change</th>
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<tbody>
<tr>
<td>Endogenous renewal</td>
<td>Change results from within the regime by actors who make conscious and planned efforts in response to pressures</td>
</tr>
<tr>
<td>Reorientation of trajectories</td>
<td>Change results from internal or external shock</td>
</tr>
<tr>
<td>Emergent transformation</td>
<td>Change results from uncoordinated pressure from outside the regime</td>
</tr>
<tr>
<td>Purposive transformation</td>
<td>Change results from an intended and coordinated change process from outside the incumbent regime</td>
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Freeman and Perez (Freeman 1988) introduced a differentiation of innovation according to its impact. Scholars of MLP and lifecycle analysis make use of this typology to define change through innovation in a more refined way. The typology distinguishes incremental, radical and system innovation as well as a techno-economic paradigm shift. Incremental innovations are minor alterations of an existing product or process but do not alter the power constellation within a regime and are usually independent of landscape changes. Radical innovations affect firms and industries. System changes go beyond that level and affect user practices, policies and cultural meanings (e.g., introduction of book printing or the personal computer).

A more recent understanding of technological innovation and its causes and effects in the context of MLP directs attention to studying change not only as being triggered at the niche level but as a result of ongoing processes at the regime and landscape level and mutual interaction between all three levels as well. In this view, niche developments should not be analysed in isolation or out of context.

Scholars of MLP assign niches and regimes to the same or similar kinds of structures, though there are differences in size and stability. Both have communities of interactive groups, also called “organisational fields”. At the niche level they are smaller than at the regimes level and less stable. Their communities share certain rules that coordinate action. This is another theoretical similarity to Beckert’s social grid. According to their different character, niches have less articulated and less stable rules than regimes. Just as in Beckert’s understanding, in MLP (and based on Giddens 1984), “actors are embedded in rules and structures, but at the same time reproduce them through their action” (Geels and Schot 2007: 403). Rules are much harder to change for actors of established regimes than for actors in a feeble or ephemeral niche. “Niche-innovations can become regimes, when social networks grow larger and rules become more stable and constraining, leading to a reversal in their relation to agency” (Geels and Schot 2007: 403).

Landscape changes can also influence the developments of niches and regimes. But since landscapes are structured differently, they do not determine directly the developments of the
other configurations but make some actions easier than others. Generally, socio-technical landscapes are relatively static and solid and change only over much longer periods of time and more on a macro scale (e.g., globally). One exception is an external shock such as war. Actors of regimes and niches are usually unable to influence developments at the landscape level.

To categorise differences in transitions, Geels and Schot (2007) introduced a typology of four pathways that differ in terms of the timing and nature of interaction. Timing is important with regard to when landscape pressure hits regimes and in which state niche developments are at that point: “If landscape pressure occurs at a time when niche-innovations are not yet fully developed, the transition path will be different than when they are fully developed” (Geels and Schot 2007: 405). Landscape pressure on the regime can open up a window of opportunity for niche developments to stabilise and replace – or at least alter – the old regime if the niche developments are ready for this.

We can distinguish different natures of interaction by drawing on MLP:

- **Reproduction process:** This is business as usual. The absence of landscape pressure reproduces the incumbent regime. The regime is dynamically stable, thus incremental change is possible. It has sufficient problem-solving capacity to react to pressure from niches or minor pressure from the landscape level.

- **Transition path:** In case of moderate landscape pressure at a time when niche innovations have not yet been sufficiently developed, regime actors might reorient their strategies and alter some of their actions, but the niche innovations are not ripe enough to take advantage of the landscape pressure and cause a substantial turnaround. Some will be absorbed, others will disappear, some will co-exist. According to Geels and Schot, the transformation path is the only one that acknowledges the impact of outsiders such as societal pressure groups and social movements who target specific issues and demand solutions, for instance, tougher regulations. This also provides opportunities for niche innovations that respond to the demand of such pressure groups more appropriately than the incumbent who caters to mass demand, for example, organic food as opposed to conventionally produced food. Food scandals, press coverage thereof and tougher government regulations (landscape) create a supportive environment for a broader adoption of the niche innovation. This development might take some time as outsider protests and landscape pressure do not automatically lead to a regime change. There is usually some resistance on the part of the old regime. However, we are not talking about a complete overthrow of the old regime here. Rather, the traditional regime actors will “use their adaptive capacity to reorient development trajectories” (Geels and Schot 2007: 407); thus they will survive the turbulence but in an altered state. Most regime actors will still be part of this altered regime, although some changes may occur in social networks – external knowledge might be integrated and absorbed. The basic architecture of the incumbent regime will remain intact.

- **De-alignment and re-alignment:** Accompanied or even triggered by a massive and sudden landscape change, regime problems occur, and the regime cannot respond to the disruption. Traditional regime actors lose faith and turn to new options or resign. “This leads to de-alignment and erosion of the regime. If niche-innovations are not sufficiently developed, then there is no clear substitute. This creates space for the emergence of multiple niche-innovations that co-exist and compete for attention and resources. Eventually, one niche innovation becomes dominant, forming the core for
re-alignment of a new regime” (Geels and Schot 2007: 408). This pathway is often accompanied by a vacuum of some sort, a power vacuum, a regulatory vacuum, a market failure and the like.

- **Technological substitution**: Here we are also speaking of massive landscape pressure of the same quality as in the de- and re-alignment case but at a time when niche innovations have sufficiently developed and can break through in the market. „A new regime is in the process of substituting the incumbent regime. Such innovations have been developed over time under the old regime but could not yet break through because the old regime (and the landscape) was still stable.

- **Reconfiguration pathway**: A new regime grows out of the old one through radical innovations that have initially been developed in niches. These innovations thrive within the incumbent regime without endangering the traditional actors. They can easily be adopted and improve existing technologies, processes or systems. Originally launched to solve a local problem, this reconfiguration alters the basic structure of the regime substantially. Reconfiguration pathways are typical especially in distributed systems or sectors that rely on multiple technologies (agriculture, retail, hospitals). Change in one subsystem might trigger change in another and so on, leading to a new overall organisation of production and redistribution but not necessarily to new actors. Parts of the system might be exchanged while the majority adopts the new innovations and complies with the new system logic.

- **Sequence of transition pathways**: A combination or sequence of transition pathways occurs if slow but continuous pressure is exerted from the landscape to the regime level. The initially moderate reaction of regime actors to cope with the changes imposed by the landscape level eventually becomes more disruptive as more and more problems occur at the regime level. If adjustments from within the regime are sufficient, the change can be characterised as a transition path (see above). If such adjustments are sufficient, niche innovations are adopted and find their way into the incumbent regime. This change will entail even more adjustment measures. If the regime architecture is changed during the course of this transition, it can be characterised as a “reconfiguration path”. If landscape pressure and regime problems continue, radical niche innovations, new firms, entrepreneurs and so on enter the scene and can set foot on the market. If the incumbent regime is able to make sufficient adjustments before such new actors and developments become prominent in the market, the traditional actors will survive. If not, many of the traditional regime actors, products, processes and systems will be substituted by new ones. Depending on whether there is further pressure from the landscape level and the niche development has reached the stage of sufficient maturity, technological substitution and/or de-alignment and re-alignment mechanisms will change the configuration.
7. Applying a theoretical looking glass to zoom in on Red Vienna and community housing innovations

Geels and Schot’s analytical framework for multi-level perspectives on socio-technical transitions and environmental sustainability (Geels and Schot 2007) introduced above can also be used for identifying streams of developments in social innovation. Here social innovations are seen as attempts to keep the market embedded in society, in line with Polanyi. Geels and Schott distinguish three analytical levels:

- Niches: the locus for radical innovations
- Socio-technical regimes: describes regimes that are locked in and stabilised in several dimensions
- Exogenous socio-technical landscapes: these describe major frameworks that encompass the niches, the regimes and the transformation processes; they can hardly be changed ‘from the bottom up’ but only through major developments that are not influenced by niches, regimes or landscapes (e.g., globalisation); yet landscapes do change over time and can open up windows of opportunity for niches and regimes to undergo change or even societal transformation.

For our case study here, we can say that the developments at these three levels proceeded almost in a consecutive manner. We first observe the niche characterised by housing created during the settlers’ movement, which marked the beginning of social housing at a time of political vacuum when top-down solutions were not readily available to cope with the problem of a massive housing shortage. The level of landscape is marked by the superblocks, the community housing in the Red Vienna period. During this phase, municipal housing was not only institutionalised but became a cornerstone of a much larger social movement that created an ideology and provided a locus for ‘belonging’ for the proletariat, thus leading to the third level, social transformation. At this point, the achievements of the regime phase had been widely acknowledged and, from then on, the era was characterised by incremental rather than radical innovations, notably the reconstruction phase of community housing after World War II and the creation of new houses to cope with the migration flows and increasing demand, quantitatively as well as qualitatively.
Figure 4: Dynamics of innovation lifecycles – the case of social housing in Vienna
7.1 Transitions of the social grid during the period of the settlers’ movement

7.1.1 Coping with homelessness

Our ambition with this paper is not only to sketch the change from one level to the next and demonstrate the improvement in the living conditions of the marginalised that the social innovation of social housing yielded; rather, we also want to understand this transition and the determinants that made it happen (Giesecke 2016).

After WWI, not only the political situation in Austria and especially in Vienna had changed but also the population as well as the food and housing situation. In the aftermath of WWI, the former empire’s internal market had disappeared, which led to a continuously growing trade deficit. The loss of the large agrarian regions that used to belong to the empire and ensured its food supply was a critical issue; because of this loss, food now had to be imported. In order to reduce the dependence on imports, the government promoted self-sufficient agricultural production, even involving people living in towns (Bobek 1966: 126; Schaffhauser 1993: 143; Zimmerl 1998: 62). As we have learned from Polanyi, the rise of fascism in the interwar period pivoted on the role of the international gold standard in constraining the political options that were available to national actors. These restrictions and the reparation payments were detrimental to the reforms that the Social Democrats attempted during the interwar period.
7.1.2 Equal voting rights as a fundamental institution

Hunger and homelessness were two important factors influencing the upcoming social housing movement of the first period described in this case study. Another factor were the elections in Vienna in May 1919, which were the first democratic municipal elections based on general, equal, direct and secret voting rights. For the first time, women also had the right to vote. In comparison to the rest of Austria, in Vienna the share of workers was especially high. We have to acknowledge this as an important aspect of institution building, according to Beckert, to strengthen the role of the working class and as a change with the old pattern. The legal changes with regard to voting rights in fact constituted a break with the old regime.

This change ushered in the rise of the Social Democratic Party, and the elections to the mayor of the city of Vienna brought them to power – at least in the capital. One of the biggest political challenges that the new Social Democratic municipal government faced was the housing shortage.

In order to design new strategies, the political decision-makers turned to the poor people’s settlement movement, which was essentially a grassroots movement of illegal settlers in and around Vienna that aimed to provide food and housing in response to the lack of public provision in these areas. Although these movements were primarily initiated to ease the food shortage, the exponential shortage of housing after WWI shifted their focus. Gardens, which were initially intended for self-sufficiency, became areas of cheap and often primitive shelter. During the first years of the young republic there were an estimated 60,000 of such gardens and shelters (Nový 1981: 46; Nový 1991: 26; Bauer 1923: 171; Förster 1980: 406). The settlement movement was indirectly supported by the new laws on the eight-hour work day (Hoffmann 1982: 9). While many of the illegal settlements started out as shelters that were dug into the earth, tentative sheds built of garbage and wood followed, and finally the first regular houses emerged (Hoffmann 1982: 200). The movement became stronger as the settlers began to organise themselves into cooperatives (Genossenschaften) in order to build settlements together. In Vienna, some 50 cooperatives were established, representing more than 80 local groups (Kampffmeyer 1926: 131). They soon created a central organisation (Zentralverband der Kleingärtner und Siedlungsgenossenschaften Wien) with more than 70,000 members. This organisation was active at the federal level along with similar interest groups and represented the interests of more than 700,000 members (Kampffmeyer 1921: 84). This movement marked an important network factor from the social-grid perspective. It was one of the first movements that gave the marginalised a voice and actually took action to improve their living conditions. It is important to note that this was actually a bottom-up movement initiated by the deprived people themselves and only later also attracted more influential groups.

These settlements were located mostly at the urban periphery where land was still available but not easy to reach.³ On account of illegal logging in parts of the Vienna Woods that bordered the city, new land became available for building settlements.⁴ Within the city, the former parade grounds were turned into small gardens and areas for shelter⁵ (Förster 1980: 90; Hoffmann 1982). Later on, during the 1920s, some settlements became legal, others were removed and some had to wait until 1975 to gain legal status (Auböck 1975: 112). This was

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³ Floridsdorf, Kagran, Stadlau, the later 10th, 11th, and 12th district.
⁴ Wolfersberg, Salzberg, Biberhausen, Schwarzlackenau, Strebersdorf, Lainz, Bruckhaufen.
⁵ Schmelz, Prater.
an important change that marked the transition from one regime to the other, as the new institutions built and run by the Social Democrats in power responded to the needs of the underprivileged and rendered those illegal movements not only legal but socially acceptable. This not only strengthened the networks of the marginalised but also changed their cognitive frames. Suddenly, they were a group with an identity and had rights that they could claim and make use of. At this point in time, the government took crucial measures – though limited to the city of Vienna – to protect people, especially the marginalised, from the forces of the free market.

Private and public housing construction had stagnated during the war, and once it was over, there was no investment because banks would refuse to loan money for housing projects. This is an example of the erosion of former institutions and networks. This circumstance opened a window of opportunity for new networks and institutions. As an effect of the new labour law, workers had more time after work to engage in cooperatives and build houses and the necessary infrastructure.

![Illegal shantytown settlement in the district of Kaiserpfalz during the 1920s](Photo: ©ÖNB Archive)

7.1.3 Networks compensating political vacuum and market failure

As indicated above, during the first period of the settlers’ movement, the municipal government was not prepared for this mass movement. Since there had been no public-housing programmes for a long time and necessary reforms had been blocked by conservatives, there were neither policies in place to meet the housing needs nor a response to the situation by the settlers themselves, marking the absence of key institutions. Cooperative housing in Vienna began during the first republic, and its numbers increased every year (Förster 1979: 119).

Settlers organised in cooperatives depended on cooperation with the municipal government. The city government was looking for a solution to the shortage in collective consumption in exchange for public support and the provision of property for settlements. Legally, the principle of not-for-profit and common-benefit housing was introduced in the cooperation between the municipality and the cooperatives (Frei 1991: 172; Novy 1991: 90). This included the following agreements: The cooperatives were in charge of organising the housing construction and infrastructure, which was usually done by the municipality. The technical and
social infrastructure, including road construction and maintenance, street lights, waste collection, etc., was in the responsibility of the settlers. In the beginning, the municipality lacked the financial means to provide such services. Here, new forms of institutions and networks emerged that complemented each other and created new sustainable structures.

Some commentators regard the weak government and missing state power as reasons for the rapid spread of the illegal settlements and their continuous existence. The old monarchy had been abolished, and Austria was falling apart as a nation and empire. Disillusioned soldiers were returning from the front, and the supply situation in the cities was miserable. In order to control the military potential posed by the discharged soldiers and their diminishing networks, institutions and cognitive frames, it was necessary to provide them at least with shelter and employment. In these circumstances, it was difficult to maintain political order, leaving a power vacuum for some time; thus, competing new centres of power emerged, giving more room than usual for action to individuals and interest groups (Stiefel 1983: 105). Not only the state but also the market failed to solve this situation.

Eventually, the city of Vienna supported the settlements, for example, by improving the infrastructure for transporting material and people to the construction sites, by providing water to the gardens in the summers through fire brigades, and by connecting remote locations with the municipal supply networks (Auböck 1975: 113). In legal terms, many wild settlements were eventually converted into proper settlements and even financially supported through loans (Förster 1980: 68 which thus constituted the building of new institutions.

7.1.4 Mass demonstrations and new cultural values as expressions of cognitive frames

The first mass demonstration of the settlers took place on 26 September 1920 and included representatives from across the entire political spectrum; some 50,000 participants were involved, demanding the expropriation of speculative property and a land reform. At the next mass demonstration on 3 April 1921, more than 80,000 settlers followed the call of the Hauptverband für Siedlungs- und Kleingartenwesen. This marked the hegemonisation on behalf of the Social Democrats, on the one hand, and the divide of the settlers’ movement, on the other. One part of the settlers could eventually identify with Social-Democratic ideals. Yet another part, the more conservative faction of the settlers’ movement, went their own way. Outside of Vienna they joint the sections of the Siedlungsverband that represented the other Austrian provinces and regions (Bundesländer). (Novy 1991: 29; Novy 1981: 31). The third and biggest march took place on 12 March 1922 when settlers, tenants and construction workers demonstrated for the continuation of the tenant-protection laws and for measures against homelessness and unemployment and expressed their support for the settlement movement. The demonstration numbered some 100,000 participants (Frei 1991: 136).

The three historic mass demonstrations between 1920 and 1922 had made clear that there was strong support in society for social reforms to improve the housing situation and sufficient political pressure to provoke reactions on the political side. As a result, municipal and national policymakers started supporting the Vienna settlement movement; without this support the movement would not have been successful (Novy 1991: 29). While the mass demonstrations and especially the associations that organised them were characteristic of the rise of new recognisable networks in this era, they are also indicative of the new cognitive frames forming at the time. The settlers’ movement provided the working class with a cultural and legal identity, which contributed to the strong popularity this movement gained (as reflected in the mass demonstrations and in the press) as well as to the movement’s strength and the settlers’ unprecedented self-esteem.
The settlement movement of this first period – the related associations, that is – seized the opportunity on many occasions to provide the wider public with information on the movement’s demands and progress. Among these occasions were garden exhibitions, construction fairs and the like. Technical innovations contributed to the progress of the settlement movement. During the 5th Construction and Building Materials Exhibition in Vienna in September 1923, the most important new types of houses (core houses) were presented by the architects Margarete Schütte-Lihotzky and George Karau on a 1:1 scale. Both architects worked for GESIBA (Gemeinwirtschaftliche Siedlungs- und Baustoffanstalt (Cooperative Settlement and Building Materials Association)). Several innovations in construction helped turn the post-war primitive sheds into regular yet affordable houses (Novy 1991: 37ff; see below).

What we see here early on is the beginning of a development in which academics from a more affluent social class supported the interests of the settlers. This was even more pronounced in the next phase in which the social innovation of social housing was much more strongly attached to a movement of architects who developed designs and worked on behalf of the working class.

At the municipal level, the city council had decided to establish a general housing programme as early as 1920. The original idea eventually evolved into a master plan to turn 1.215 ha into an area for settlements and 770 ha into allotment gardens. Several famous architects, including Peter Behrens, Josef Frank, Josef Hoffmann, Adolf Loos and Oskar Strnad, were assigned the task of elaborating the master plan in more detail with an appropriate combination of multi- and single-story buildings⁶ (Frei 1991: 135; Neurath 1922: 41; Novy 1991: 46). All this is exemplary for the first period.

7.1.5 Institutionalising financial resources

In April 1921, during the first period, 12 days after the second mass demonstration of the settlers and their supporters, the Austrian government, ruled by the Christian Democratic party, implemented a new fund with the votes of the Social Democrats in parliament. The fund supported the settlements set up by the housing cooperatives. It is an example of the creation of new institutions in the construction of a social grid to make the change from one regime to another. This fund was not only crucial for the settlers but marked an important milestone for the continuation of the social innovation in social housing. While in this first phase we see the emergence of a new housing model – at the beginning still a niche – in competition with the old model, it can be interpreted as a first step towards the establishment of a new regime.

The general provision for financing the settlers’ community housing during the first period was that 85% of the building costs would be covered by a loan and the rest had to be financed [in kind] by the settlers [providing their own labour] by working on the construction site (not on their own homes but on other construction sites). However, the municipality ultimately waived repayment of these loans. Together with the cost of the original property and the costs of the principal development and maintenance, the community actually financed the cooperatives more or less 100% (Kampffmeyer 1926: 132; Förster 1979: 121).

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⁶ For the development areas Heuberg, Lainz, Rosenhügel, Hoffingergasse, Laaerberg and Straßäcker (Rukschcio 1987: 286).
Settlers as construction workers

An additional characteristic of the settlers’ movement was the settlers’ involvement in the construction work. This was also crucial for building a network among the settlers who became construction workers and for the cognitive frame of this social class. The municipal council had clearly stated this in a resolution (Kampffmeyer 1926: 126; 132). As mentioned above, the settlers were required to contribute their labour in the amount of 15% of the respective construction costs of the respective project. This is the only contribution that the settlers could be expected to make since they were generally too poor to finance housing by means of cash payments or selling valuables was not an option. This provision stood in contrast to the competing practice of co-operative housing, common also in many cities abroad, where the cooperatives required that the settlers make a significant financial contribution for membership and provided living space with low rents or leases in return. In Vienna, the postwar solution of contributing labour for social housing was regarded as a much more just approach that made housing affordable, even for the unemployed. This approach was called ‘muscle mortgage’. In fact, the overall majority of the houses were constructed by the settlers themselves, and only a small part by professional construction workers. The settlers also contributed to the infrastructure by digging ditches for sewage and electricity lines; they also worked in quarries. 15% of the construction costs amounted to 1,600 working hours. The hourly rate equalled that of an unskilled worker paid according to a collectively bargained standard payment agreement. Higher hourly rates were credited to skilled labourers and lower ones to women and young adults. For reasons of efficiency and solidarity, the settlers did not work on their own future houses. Only after the settlers had completed their working assignment were they evaluated according to their neediness and entered a draw for their homes (Brahams 1987: 24; Kampffmeyer 1926: 132; Förster 1980: 123).

7.1.6 Organisational innovation for self-help and technological innovations for cutting construction costs

An additional institutionalisation emerged during the first period of the settlers’ movement as guilds were founded for constructing settlements, apartments and infrastructure. Some observers called this ‘guild socialism’, a combination of state socialism and syndicalism and an important basis of the corporatism that was established at that time. It was an attempt to subject part of the economy to the control of the proletariat. The principle of local community government was transferred to parts of the economy (Novy 1981: 34; Novy 1991: 89; Hoffmann 1982: 145).

In order to reduce the costs of the settlements, it was necessary to reform several provisions of the Vienna building code. This was also a field of further institutionalisation based on changed construction norms and rules, made possible through the increased – direct or indirect – political influence of the Social Democrats. For example, a provision requiring fireproof partition walls was eliminated from the code after the reform of 1920. Furthermore, the minimum height of a story of a building was reduced to 2.6 metres and the minimum width of the stairs to 90 cm. It was permitted to use hollow masonry, wooden ceilings without filling, wooden stairs without flush-mounting and outdoor peat latrines (Förster 1980: 124; Posch 1981: 63).

Scarcity of materials and the need to reduce costs led to the use of alternative construction materials such as clay bricks or slag masonry. They were produced by the settlers themselves. Most of the new settlements were located not far from such production sites, which saved transportation costs. One important innovation concerning substitute materials was the ‘pax
brick’. It was a masonry brick made of cement, slag, sand and water and pressed by hand. Pax bricks were filled with clay. They served as a major construction material until 1923 when the economic situation improved and conventional bricks were used (Baaser 1960; Koch 1987: 5; Novy 1991: 155). This alternative and cheaper construction method was estimated to save up to 50% of the building costs (Schacherl 1926: 21–25).

Most settlement construction sites also included carpentry, locksmithery, tinsmithery and glass workshops, where the building elements were produced in small series. Building a home was not understood as an individual effort or undertaking but as standardised work to serve the masses where efficiency was needed. These workshops were community-owned; some became cooperatives. This form of cooperative work was interpreted as a milestone in creating alternatives to private enterprise and an alternative path for large-scale mass production (Schacherl 12 September 1926: 21). The cheap production method can be considered a technological innovation, although it had not necessarily been a result of technological progress but rather of scarcity and need.

An additional important innovation was Adolf Loos’ ‘house with one wall’. This idea, also born out of the necessity, was to build enormous amounts of houses in an efficient and effective way using scarce resources. The house with one wall also gave its builders and occupants more flexibility. It was an invention to build row houses in a system with only one load-bearing wall. Several accompanying inventions helped not only to save building material but also labour because the houses could be constructed mainly by unskilled workers (Cremer 1992: 37).

The core house was another technical innovation of the time. The idea emerged in the early 1920s. With this type of innovation, one part of the house was immediately habitable and was constructed with simple means and materials. Later on, the settlers’ could use their own means to extend this core house to a complete settlement house (Förster 1980: 68; Neumann 1929: 23; Novy 1991: 76). The first larger settlement of core houses was implemented by means of a loan of one million schillings granted to GESIBA by the city of Vienna. All in all, 198 core houses were built in several Vienna locations.

With the settlers’ movement of the first period came a few other social innovations that expanded the functions provided by the networks of the rising working class and also catalysed the constitution of a proud class identity as part of a cognitive frame: kindergartens, playgrounds, sports activities, day care, youth clubs, theatres and music groups etc. emerged, financially supported by the settlers, sometimes with additional support from the city of Vienna. In some cases, the Social Democratic party had its own sections in the settlements (Novy 1991: 90).

Further innovations occurred on the organisational level. The settlers’ notion that their joint undertaking could only work out if they formed a functioning community led to several initiatives and artefacts, for instance, the community house (Genossenschaftshaus). Every larger settlement owned one of those houses; they were either built by the settlers themselves or the settlers remodelled existing larger buildings. They were usually located at the centre of the settlement. These community houses included a Vereinszimmer (meeting room), the cooperative’s administrative offices, a cooperative store, a library, and a restaurant or cafeteria (Novy 1991: 92). The supporters of the settlers’ movement regarded the community houses as the

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7 For instance, the Heuberg Siedlung.
8 Landengasse in Simmering, Jedlesee and Jägermais in Floridsdorf, and the settlements Eden and Friedensstadt (Kernhausgasse) in Wolfsberg.
heart and brains of the settlements; they were places of cultural activities, which were also occasionally used for secondary education for adults and for festivities. This was interpreted as an expression of genuine community life (Max Ermers in his *Festschrift der Siedlung auf dem Rosenhügel* (as cited in Novy 1981: 134).

There were economic innovations as well. High unemployment made settlers dependent on collective self-subsistence. They set up their own workshops, nurseries, provisions for health care etc. in a collective/cooperative manner to generate economies of scale, work more efficiently and thus cut prices. The entire food supply and retail was organised through the cooperative (*Konsumentenverkauf*) that ran the stores in the settlements (Novy 1991: 90; Kampffmeyer 1926: 135).

The settlements were run and administered by their own members; occasional experts for bookkeeping were consulted, who [then] worked on a voluntary basis. Conflicts within a settlement were usually solved by *Siedlungsschiedsstellen* (an ombudsperson) unless they involved issues of a larger magnitude (Novy 1991: 56; 91).

All settlements developed intense passion for gardening and for breeding and herding small animals. The German pioneer and garden ecologist Leberecht Migge had a substantial influence on such developments.

### 7.1.7 The end of the settlers’ movement

Several developments were responsible for the fact that the settlers’ movement ceased to be the focus of interest and the subsequent Red Vienna movement received more attention. Some external factors that accounted for this were located at the landscape level such as increased inflation, which considerably decreased the need for capital investments in housing construction. In 1922, the victorious allies concluded an agreement on monetary stabilisation, which led to a shortage of public investment in Austria. The ruling conservative party withdrew from public financing of housing and mainly favoured private investment. The Social Democrats had profited from incorporating the settlers’ movement, but the movement itself had lost its dynamism over the years and was not capable of fighting the financial odds by means of sheer self-initiative. Actually, the settlers’ movement lost the characteristics of a movement and became more and more part of Vienna’s municipal housing policy (Hoffmann 1982: 140; Kernbauer 1984: 11; Frei 1991: 136).

As we will see in the next section, settlements, as a social innovation to solve the problem of homelessness, remained a niche. But the social grid that was formed along this social innovation was a crucial starting point for the next generation of social-housing projects and their upscaling towards social transformation.

### 7.1.8 Type of change: De- and re-alignment

If we categorise the phase before 1919 according to the types of change in the MLP approach, it would be classified as a reproduction process in which low pressure or the absence of pressure reproduces the incumbent regime. When the settlers’ movement started, in phase one, however, we observe a de- and re-alignment process that was triggered by the lost war, the loss of major (agricultural) parts of the former empire and by an economic crisis. In light of the problems faced, the regime could not respond to the crises of homelessness. Instead, the culminating problems lead to the erosion of the old regime. Niche solutions had not yet been sufficiently developed to the degree that they could step in and substitute the old regime.
The vacuum situation created space for the settlers’ movement to point to new directions for policymaking that were then adopted in a strongly modified fashion by the Red Vienna social housing policy (Giesecke 2016).

7.2 Transitions of the social grid during the superblock period

7.2.1 Institution building from niche to regime

As indicated in the previous chapters, the housing market is easily overstretched when free-market principles are applied. Put in Polanyi’s words, one major reason for this phenomenon is that housing is one of the fictitious commodities that explains the impossibility of disembedding the economy. Real markets, such as the housing market, need state intervention to meet societal demand, especially the demand of the marginalised.

When state policies move in the direction of disembedding through greater reliance on market self-regulation, not only the marginalised but also even ordinary people are forced to bear higher costs. Workers and their families a more sensitive to the effects of the free market than others because they are more vulnerable.

The state is represented in all three pillars of the social grid, most of all in institutions. Institutions are crucial for a social innovation to develop from a niche into a regime, to use the terms introduced by Geels and Schott, especially when these institutions are legally grounded. The Social Democrats won the elections, which made Jakob Reumann the first Social Democratic mayor of Vienna and determined the course of some long-term changes in society that would reach far beyond the city. The municipal election was made possible through a constitutional change that had been discussed for more than 50 years. In the early 1920s, Vienna obtained the status of a federal state in its own right and became independent of the federal state of Lower Austria. Some politicians also wanted to reform the municipal boundaries, integrating some parts of Lower Austria into Vienna, in order to have agrarian land for the city’s food supply. This reform, however, was not implemented, forcing Vienna policy makers to devise alternative strategies to solve the severe food situation in the city. This was a condition that defined the framework for the city of Vienna’s subsequent development.

On 21 September 1923, a few weeks before the general parliamentary elections, the Social Democrats announced the municipality’s plan to build 25,000 housing units over the next five years. Thus, the period of superblocks started and the short settlement era as a solution to the housing shortage slowly came to an end. However, the settlement period was crucial for all phases that followed as it constituted the social grid of a new type of housing regime. Like the earlier programme of settlement support, this plan was linked to efforts to curb unemployment in Vienna. It intended to provide jobs for thousands of construction workers, craftsmen, sculptors and architects. The new housing programme [also] promised to contribute significantly to the beautification of the city. The estimated budget for the building programme was 400 million crowns per year (approx. US$5,700,000 in 1923), which was to be paid out of the housing construction tax. In turn, this new institutional arrangement contributed to a further strengthening of the cognitive frames and social networks, thereby reinforcing the new social grid of a publicly sponsored social-housing regime and circumventing traditional market forces to which the housing problem had been left in the former regime, which had failed.
By the end of 1924 – a year of serious economic crisis in Austria during which the stock exchange collapsed and industry was affected by 380 successive strikes involving over 265,000 workers – the municipality nevertheless managed to complete the building of 2,478 dwellings. In 1925, additional 6,387 units were completed. In 1926, housing construction figures rose to 9,034, so that by the end of that year a total of 20,849 dwellings had been built since the inception of the five-year programme. A further 7,000 dwellings were under construction. In December 1926, the city decided to add another 5,000 units to its programme, to be erected in 1927. By the end of that year, almost 30,000 units had been completed and 6,000 more were under construction (Czeike 1959: 53).

Inspired by this dynamic, the Social Democrats announced a second five-year programme in May 1927. Scheduled to begin in the following year, it involved the construction of additional 10,000 dwellings. This ambitious schedule, however, could not be met. Several incidents put a halt to the programme, amongst them were political tensions, the failure of the Bank of Austria in 1928 and the world-wide economic depression. Nevertheless, between September 1923, when the Vienna building programme began, and the end of 1933, a total of 58,667 dwellings had been built by the city. By the end of 1934, 61,175 dwellings had been completed. This period ended after the Austro-fascist coup of February 1934 (Czeike 1959: 53). What this illustrates is that a window of opportunity to establish a new social-housing regime in Vienna had opened up at the landscape level during the 1920s.

The total number of new dwellings built by the municipality of Red Vienna, including those constructed between 1919 and 1923, was 64,125. In addition to this new construction, the city had provided further 2,145 dwellings in renovated or requisitioned old buildings. By the end of the Social Democrats’ tenure, the municipality owned and administered 66,270 of total of 613,436 living quarters recorded in the census taken in the capital in 1934. This means that the Social Democrats had increased the housing resources in the city by 11%. By 1934, between one-tenth and one-eighth of the total population of Vienna lived in municipal dwellings built almost entirely through the city’s budget (Czeike 1959: 53).
7.2.2 Networks strengthening the Social Democratic clientele

The Social Democrats in Vienna had made housing policy one of their priorities and regarded it as a socially and economically fundamental issue, thus strengthening their own clientele and political support – at least in the city of Vienna. The newly formulated right to housing led to big municipal housing programmes and thus to a major cultural leap among the working class, again an important factor for rising class consciousness and the constitution of the cognitive frame in this social grid (Pirhofer 1982: 230; Förster 1980: 105). Tenant protection was a central prerequisite for public-housing policies and was a major object of discord between the different parties during the entire interwar period. In 1922, parliament passed the new tenant-protection law with the support of the (oppositional) Social Democrats and the ruling conservative party against the interests of the landlord organisation. At the time, no other country made use of tenant protection as a means of social welfare and doing so changed the structure of housing in the city of Vienna with its two million inhabitants. The new tenant-protection policy was a precondition for the extensive public-housing programme and, like the building programme, made tenant protection a long-lasting institution. So, even though the tenant-protection law can be classified as an institution that was part of the newly formed social grid, the fact that the Vienna Social Democrats were promoters of the tenant protection law to be passed in the national parliament is a case for the formation and strengthening of networks, as they could credibly show that this law was crucial for the whole country.
7.2.3 Cognitive frames adopting progressive values

Some of the politicians inaugurated by the Social Democratic mayor Jacob Reumann during the first period promoted the incorporation of the settlers’ movement into the Social Democratic movement. At first there were resentments of some Social Democrats, because the petty-bourgeois lifestyle of the settlers did not match with the progressive ideals of the new human being. However, many of the settlers could be regarded as Social Democrats. They were labourers, railway workers and some worked for the city of Vienna. This incorporation of the settlers by the Social Democratic movement must be understood as a dynamic process, not a static one, and there were also other options. Nonetheless, it enlarged the Social Democratic network and bolstered their political support among the settlers and their sympathisers. The joint objective of the majority of the settlers sharing Social Democratic convictions was not only the creation of new spaces for living but also a transformation of the social order. However, it also marked the start of the end of the autonomy of the settlers, and what had started as a grassroots movement now became co-opted by party politics.

The architects and urban planners involved followed the creed that the focus of their design should not be on individual houses but rather on housing ensembles. Unifying ornaments and clear lines were to emphasise this point of view (Neurath 1922: 34-40). The characteristic design of settlers’ houses as part of a cooperative dates back to the traditional British workers’ homes as they were once built by many corporations and by the British garden city movement around 1900 (Novy 1991: 87).

7.2.4 Co-developments: Circumventing traditional market forces

Many of the city’s communal facilities – hospitals, counselling centres, libraries, playgrounds, kindergartens, youth centres, gymnasiums, day-care facilities, laundries, carpentry shops, theatres, cinemas, post offices, cafes run by the city, cooperative stores etc. and sometimes also the offices of various municipal departments – were in the new housing blocks. Historians have pointed out that by incorporating workers’ dwellings in the party’s new social and cultural organisations, the Gemeindebauten (community buildings) thus became the framework for and focus of intense socialist activities. Thus, the housing areas, as the locus of so many of the municipality’s communal organisations and facilities, were the nexus of Red Vienna’s institutions and the spatial embodiment of its communitarian and pedagogical ideals. The co-developments were also signs of a social transformation showing the limits of traditional market forces, which failed to cope with the challenges of the interwar period. The new housing regime and the co-developments, circumventing market forces, showed that alternative models could work well (at least to some degree) and reinforced each other in this new type of social grid.

The year 1921 marked the zenith of the settlement movement during this first period and its integration into the municipal administration and into a system of self-help and self-improvement (Novy 1981: 36). The high degree of organisational affiliation of its members with the Social Democratic Party and the unions helped to organise self-sustaining groups for many spheres of life. Cooperatives spread at all levels and in all sectors, thus forming a large network with the aim to prevent private profitmaking, improve cost advantages for the community, define standards and encourage standardisation to make mass production more efficient and consumption affordable, and finally to achieve some independence from the private market. These efforts were supported by decisive measures on the political side (Novy 1991: 29; 53).
7.2.5 Protective institutions to stabilise the new cognitive frame

As mentioned above, the Social Democrats in Vienna had made housing policy one of their priorities and regarded it as a socially and economically fundamental issue. The newly formulated right to housing resulted in extensive municipal housing programmes and a major cultural leap among the working class and is therefore worth being mentioned here once again in the context of cognitive framing (Pirhofer 1982: 230; Förster 1980: 105). The new tenant-protection policy was a precondition for the extensive public-housing and housing-construction programme and turned tenant protection into a long-lasting institution.

7.2.6 Financial institutions for scaling up social housing

As opposed to the initial intentions in the first period described above, the majority of funding was not invested in bigger settlements but in tenant houses (superblocks). In the following years, the Social Democratic municipal government of Vienna invested far more in these settlements than the national government in social housing in all of Austria (Hoffmann 1982: 103). We have already identified financial resources based on legal provisions as one of the key – if not the key – factor for a substantial change from one social grid to another or for the succession of one regime by a new one coming out of a niche position.

The institutionalisation of the settlement movement in Vienna’s municipality became obvious in the establishment of the Siedlungsamt (settlement office) and Siedlungsfond (settlement fund). All administrative competencies relevant to the support of the settlements were concentrated in one public institution (Posch 1981: 48). Hans Kampffmayer, an internationally renowned promoter of the garden-city concept became director and Alfred Loos became chief architect and later Kampffmayer’s successor. Some of the major pioneers of modern urban development were hired as architects, for instance, Tessenow and Josef Frank (Hoffmann 1987: 17; Novy 1981: 31; Novy 1991: 29). The settlement office pursued a holistic approach: it took care of social benefits for settlers, organised the property, supervision of construction, building loans and consultation in construction matters (Posch 1981: 18; (Kampffmeyer 1926: 131).

Another landmark of the ongoing social transformation inspired by the settlers’ movement was the foundation of GESIBA in September 1921. All these formal institutions and their budgets were important cornerstones of the social grid of the superblock era. And even though they were largely suspended during the Ständestaat (corporative state) period and the Nazi regime, these institutions were revived in similar form after WWII because of the landmark role that they had once played.

Role of the cooperatives

One noteworthy characteristic of the Vienna housing policy and a landmark of the first period was that the administration of communal housing was transferred to the housing cooperatives. The cooperatives as communal property owners put an alternative to private for-profit home ownership. What we have here is a merger of networks and institutions, reinforcing each other. A new law prevented property speculation, at least to some degree. Property owned by the municipality was transferred to the cooperatives at a minimum interest rate. In this way, the cooperatives and the subsequent settlers or residents did not have to invest money for buying land but just for the annual lease. Where land was scarce, the municipality expropriated land or negotiated a low price for the cooperatives. By the end of 1927, 1,430,000
m² of community land had been transferred to the cooperatives and the settlers. The cooperatives or residents were not permitted to sell the land; however, if a resident died, the right to live there could be transferred to the heirs (Novy 1991: 114; Novy 1981: 29; Das Wohnungswesen der Stadt Wien 1933: 19).

Central to the new superblock housing policy was its financial basis. The Social Democrats in the Vienna municipal council passed a new building tax in January 1923, which marked the beginning of the second period: the building of superblocks. This was made possible through Vienna’s independence as a city with its own tax sovereignty and an absolute Social Democratic majority in the city council (see above; Brahams 1987: 34; Hautmann 1980: 31; Förster 1980: 103). The tenants did not pay a regular rent to their landlords but a tax to the city, and this money was invested in the construction of new public housing. Thus, this tax revenue was earmarked for the construction of housing. The taxes were graduated in accordance to the size and location of the home and the financial abilities of the tenants. Poor people in small homes paid only little or no tax at all. It was a progressive mass and luxury taxation reflecting the creed of social justice, which implied that those who already had a home should help those who did not. In comparison to other cities and countries, a strong tax progression characterised Vienna’s housing policy. It was an essential contribution to solidarity in housing policy (Förster 1980: 104). The new housing tax also had the psychological effect of signalling that building houses for people in need was a joint undertaking, thus reinforcing the new formation of a cognitive frame around this notion of solidarity among the working class (Bauböck 1981: 130).

The city was able raise its revenue from the housing tax from 3.37 million schillings to 38.47 million schillings between 1923 and 1926 and reached a stable level of 36 million schillings in 1931. Between 1924 and 1927, the city yielded net revenue of 117 million schillings from the housing tax alone, while its total expenditure for housing construction increased to 372 million schillings, which was a record high (Czeike 1959: 403). Compared to the prewar period, construction costs rose by 60% and interest rates doubled. Without the new housing-construction tax, the landlords of the traditional tenant houses would have achieved enormous profits. However, since the private construction of housing had become unprofitable, their income would not have been invested in new homes but in other sectors of the economy. The success of the city’s public-housing policy demonstrated that public policy could limit free market forces and find alternative solutions for the housing problem (Novy 1991: 54). Additional taxes used for the public-housing sector, even though less important, were the property tax and capital gains tax (Förster 1980: 104). The gains from the housing tax reform were to be used as follows: 60% for social housing (blocks), 30% for the settlers’ housing and 10% for the remodelling of existing social housing (Kampffmeyer 1921: 33).

The tenant-protection law had resulted in radical land depreciation in Vienna, which enabled the city government to buy enough land within the city for its ambitious housing projects (Danneberg 1929: 63). By the end of 1924, the city had acquired 7,300,000 m² of construction land; by 1930, the city already owned more than a quarter of Vienna’s land property (Brahams 1987: 35).

7.2.7 Architectural and interior design reflecting new cognitive frames

Additional innovations concerned the interior design of the houses. In almost all big settlements of the 1920s, architects designed model furniture. The so-called reform furniture consisted of lightweight and mobile pieces but also walk-in closets adjusted to the limited dimensions of the settlers’ homes. Adolf Loos, Margarete Schütte-Lihotzky and Franz Schuster
became famous for their interior designs. Margarete Schütte-Lihotzky developed the first prototype of the built-in kitchen, a precursor of the later-famous Frankfurt kitchen, which found international acclaim and distribution. For the bedrooms, Adolf Loos designed closet walls that could be altered according to the users’ needs. For his core house, Georg Karau designed furniture that could be combined in a system, similar to the American bookcases (Novy 1991: 76–80). As part of a changing cognitive frame, cultural identity was formed not only in various common social activities, co-operatives at all levels and educative institutions but also through cultural artefacts and a new style in housing, furniture and ornaments.

The Vienna type of social housing was developed during the Red Vienna period, as mentioned above. It symbolises especially the first generation of housing complexes built from 1923 to 1926. The simple design of the floor plan envisaged an apartment with a kitchen as the main room and an adjunct bedroom for all family members (which usually consisted of 5 to 6 people). Most apartments had a small entrance space leading to a separate room with a water closet and another room for a scullery. This first generation came to an end by 1926 when delegates of the International Town Planning and Housing Congress took tours organised by the city administration of the achievements of Red Vienna. The visitors remarked that the new apartments were too small. City officials responded immediately, announcing that, in the new building programme to be launched in 1927, four new apartment types would replace the old 38 and 48 m² units. The 38 m² units only held a niche for the kitchen, whereas in the bigger units the kitchen was a separate room that opened up to the bedroom.

In addition, the blueprints envisaged the installation of gas pipes, stoves and portable showers in the kitchens. This was only made possible by technological advancements in the energy and infrastructure sector and had consequences for the floor plan of the new type of apartment (also called the “Western” type because it was close to the standard types of apartments in Western countries, at least in terms of size) (Blau 1999: 198). It also had more than just a kitchen and living room and a bedroom or two. In the new plans, the open-plan or also called eat-in kitchen (Wohnküche), the central space in the proletarian dwelling, was eliminated and replaced by a ‘working kitchen’ (Arbeitsküche) and a separate, self-contained living room. The cooking niche or scullery also disappeared, so that the linked scullery, washing area and toilet that had been a feature of many of the early apartments were eliminated. In the new floor plans, the toilets all opened off the small entrance hall.

To understand the floor-plan design of the first- and second-generation housing units in the Red Vienna superblocks, we have to look back to the Gründerzeit era. The working-class dwelling before the Red Vienna period and even before the settlement period had been little
more than a corridor (Gangküchenhaus) that was divided into rooms by walls. In the usual Viennese tenement apartment, consisting of a kitchen and one room, the kitchen was the room in which the family actually spent time. The other room was reserved for sleeping and receiving guests (Blau 1999: 200). As mentioned above, there was no direct light. Thus, the opening up of the Vienna type apartment and its Western sibling either toward the street or toward a light and spacious yard with trees and fresh air not only marked an important innovation but also an improvement in the living conditions of the proletariat at the time.

As in the Gangküchenhaus, in the Vienna type house and its Western modernised version, one entered a room by going through another room or several other rooms, except for the kitchen and toilet (the typical entry sequence of the first apartment type advances from threshold to small entrance hall, to Wohnküche, to bedroom, to Kabinett9 [if any]). Thus, instead of traffic being channelled within the apartment through a corridor, it is funnelled through spaces that are as flexible, multipurpose and multidirectional as possible. The traditional Wohnküche used to be a place for cooking, eating and attending to household chores, but it was also a place for study, play and leisure activities (Blau 1999: 200; Blau 2012: 182).

This design of movement from room to room resembled the bourgeois Ringstraßen palais architecture and similar well-to-do family homes of the 19th century, which in turn idealised the design of the emperor’s palace (e.g., Schönbrunn). The Westernised version of the Vienna type apartment was considered an embourgeoisement of proletarian living space – causing considerable discussion of proletarian identity.

Remarkable in this context is the changing role of the kitchen: formerly the central space of the family, it was now the realm of the housewife. This change was made possible by the innovation of the aforementioned Frankfurt kitchen, designed by the Vienna architect Margarete Schütte-Lihotzky (and others, working under the direction of Ernst May, housing an administrator in Frankfurt). The Frankfurt design team created a new designation for the kitchen: the traditional Wohnküche, in which wood or coal-burning stoves functioned as both cooker and living room hearth, was an anachronism since stoves in Frankfurt – and later also in Vienna – were gas fired and could be turned off when not in use for cooking. The [traditional] double use therefore no longer catered to fuel economy. Since the Frankfurt apart-

9 Kabinett is a room with one window entered from another room, not from a hallway.
ments were centrally heated, there was no need for the kitchen to open to the bedroom or living room. According to this notion, the most efficient use of space was to separate the cooking area from the living area, to make the kitchen and living room into discrete albeit interconnected spaces, divided by a sliding door. The new kitchen developed by Schütte-Lihotzky in 1926 was a ‘working kitchen’ for meal preparation and related tasks but not for eating or other domestic or recreational purposes. In the development of the new kitchen design, Schütte-Lihotzky had in fact employed Taylorist methods of time-motion studies, calculating the distances between sink, stove, dining table and so on (Blau 1999: 198; Ottillinger 2015: 52-57).\(^\text{10}\) This innovation in design reflects the cognitive framing along the lines of a rationalisation of housework and the acknowledgement of the housewife as a working woman with a working space of her own, similar to the workshops and factories of the (mostly) male proletariat.

7.2.8 The Red Vienna period comes to a hold

In February 1934, the ban on all political parties except for the Christian Social Patriotic Front (Christlich Soziale Vaterländische Front) led to a civil war during which many of the social-housing superblocks were damaged. Vienna lost its federal independence and came under Austro-fascist rule. The social-housing programme was put on hold.\(^\text{11}\)

After the annexation (Anschluss) of Austria by the Third Reich in March 1938, thousands of Jewish tenants and settlers (and also some of the brains of the social-housing programme like Hugo Breitner) were deported and killed. The Nazi regime lifted tenant protection and expelled Jewish inhabitants from more than 70,000 homes. Even though the regime announced in the beginning that 60,000 new homes would be built in Vienna, only 300 per year were in fact constructed.

7.2.9 Type of change: Re-alignment or substitution?

The type of change we see in the second phase does not fit any of the predefined categories of the MLP approach. We are rather dealing with a mixture of types in this case. There was a realignment insofar as a niche innovation such as the superblocks model (and its funding scheme) became dominant, forming the core of a new regime. The superblocks also replaced the pre-war model and the regime represented by the settlers’ movement (the latter was never a dominant regime, though). The massive landscape pressure was almost the same in this phase as in the previous one. As opposed to the settlers’ movement, the superblock model was ultimately developed to the point that it could achieve a breakthrough in “the market”. But, contrary to Geels’ and Schot’s definition, the superblock model was not a typical technological substitution because it had not developed under the old regime over time and had not just been waiting for a breakthrough. Rather, it was a scaled-up version of settlement housing born out of the settlers’ movement and with a newly established social grid providing an ideal situation. The change was also an expression of a broader reconfiguration since the change in one subsystem (e.g., equal voting rights) triggered change in another subsystem (e.g., in the

\(^{10}\) The re-design of the apartments and especially the kitchen did not occur without heated discussion among Vienna city officials and architects, arguing pros and cons of dismantling the working-class home.

\(^{11}\) The only exceptions were the settlements [allowing] for supplementary income [opportunities] (Neubenerwerbssiedlungen), which were intended to ease the situation of an increasing number of homeless and unemployed people.
taxing and funding model, via the composition of the municipal government, subsequently leading to a new overall organisation of production and redistribution (Giesecke 2016)).

7.3 Looking at social housing today
7.3.1 Status quo of the SI

The last housing units under the social housing regime were built in 2004. Today, there is a different approach; on account of EU directives and competition laws, the city of Vienna no longer invests directly in social housing (see explanation above).

In Vienna, the housing structure still differs from the rest of the country, which shows that the historical developments of the 1920s and even before have had a long-lasting impact. Social housing in Vienna accounts for 48% of the dwellings, compared to only 25% in the rest of the country. In Vienna, the percentage of the publicly owned housing stock (mostly municipal ownership) is 26%, while in the rest of Austria it is 10% (Reinprecht 2007: 35).

In Austria as a whole, privately rented dwellings are of relatively high importance with 20% as of 2007. 55% of the housing is owner-occupied. Social housing accounts for 25%, of which 10% is publicly owned and the remaining 15% belong to cooperative, not-for-profit or semi-public housing associations (Genossenschaften).

While the city of Vienna still leads the way in social housing, the prevailing trend in the sector has also affected its social housing policies. Since the 1950s, there has been a significant withdrawal from publicly funded housing programmes. “Between the 1950s and the beginning of the 21st century state/municipal housing as a percentage of new housing construction fell from 35 to 1” (Reinprecht 2007: 35). The city of Vienna withdrew from public involvement in new construction because of financial pressures and a neoliberal turn in the housing sector (in part due to the conservative right-wing government at the time).

Two-thirds of Viennese citizens live in municipal or publicly subsidised housing, and eight out of ten flats built in the city today are financed by Vienna’s housing-subsidy scheme. For many years now, Vienna has been recognised as an international pioneer in publicly subsidised housing construction; its policy of providing supply-side building subsidies has encouraged more new flats to be built than in other major cities. The city is even further ahead of the
field when it comes to housing refurbishment: the city of Vienna subsidises the modernisation of some 10,000 flats per annum, while in Munich the figure is only about 1,000 (Wiener Wohnen 2015).

**Box 2: A proud record**

<table>
<thead>
<tr>
<th>Year</th>
<th>Proportion of Viennese citizens living in municipal housing</th>
</tr>
</thead>
<tbody>
<tr>
<td>1900</td>
<td>Over 2 million inhabitants, 300,000 of whom owned no home of their own.</td>
</tr>
<tr>
<td>1934</td>
<td>One in ten Viennese citizens lived in municipal housing.</td>
</tr>
<tr>
<td>2013</td>
<td>One in four Viennese citizens lived in municipal housing.</td>
</tr>
</tbody>
</table>

(Wiener Wohnen 2015)

Vienna’s first municipal housing complexes brought a quantum leap in living standards for their tenants. The upward trend continued uninterrupted from then on – although obviously not always in quite such a spectacular fashion. As the graph below shows, the average living space in m² per capita expanded from 22 m² to 38 m² between 1961 and 2001.

![Figure 8: Living space in Vienna](Figure 8: Living space in Vienna (City of Vienna – Wiener Wohnung 2014: 11))

Nowadays the benchmark standard is 40 m² per capita, not least because the number of single-person households has mushroomed, shooting up from 22 to 48% between 2000 and the present alone. In other words, we are witnessing decisive changes in the demographic structure that are driving demand for smaller and, above all, more affordable flats. Here, too, the city of Vienna has come up with a contemporary solution: SMART flats are compact, low-cost housing units, with some 6,500 housing units per annum being built with public funding, especially designed for young families, single mothers and students. It is a similar story with the multitude of climate- and environmental-protection measures the city has been implementing as part of its municipal housing refurbishment programme (Wiener Wohnen 2015).

**7.3.2 Impact of the SI**

- During the first years of the young Austrian republic, between 1919 and 1923, the number of self-sufficient gardens and primitive shelters, as established during the beginning of the settlers’ movement, was an estimated 60,000 (Novy 1981: 46; Novy...
1991: 26; Bauer 1923: 171; Förster 1980: 406). Between 1923 and 1927 almost 30,000 units were completed.

- Between September 1923, when the Vienna building programme began, and the end of 1933, a total of 58,667 dwellings had been built by the city. By the end of 1934, with the buildings under construction before the Austro-fascist coup of February 1934 having been completed, this number increased to 61,175.

- By 1951, 100,000 housing units had been constructed since 1923 with the support of the social housing programme.

- By 1956, 50,000 housing units had been completed during the reconstruction and expansion period since the end of WWII.

- By 1969, 100,000 housing units had been completed since the end of WWII.

- By 1981, 200,000 housing units had been completed.

- During incremental innovation periods, especially in the 1990s, remodelling initiatives and new modern buildings had strongly improved the quality of living quarters in Vienna. To give an example, whereas in 1984 39% of all social housing units were classified as ‘sub-standard’, only 5% fell in this lowest category in 2009.

- Today: ‘Wiener Wohnen’ is the biggest housing-management organisation in Europe.

### 7.4 Conclusion

In this case study, we started with the transition of a social and economic housing market during the Austrian Empire before 1919 and discussed the role of social innovation in making housing not only affordable but a common good for the marginalised in the city of Vienna. We showed the flaws of a liberal housing market that subordinates human purposes to the logic of an impersonal market mechanism. To overcome this situation, the Social Democratic government of the city of Vienna, as part of a social grid of supporting institutions, cognitive frames and networks, used the instruments of democratic governance to control and direct the economy to meet the individual and collective needs of the people during the 1920s.

What we have not discussed much so far is the significance of a social innovation in the concept of transformation in Polanyi’s approach. In our case study, the social innovation of community housing served to restore the working relationship between the economy and society to integrate the marginalised into the economy AND society both. We also showed that this social innovation affected how the individuals of their time related to each other, for instance, how they created collective goods and community services.

The role of the state is significant here. It is actually much more important than in Beckert’s work on the social grid. Even though the social innovation [in housing] started as a grassroots movement, it could develop from a niche to a regime of housing supply only through state intervention and the prominent position of the state in networks, cognitive frames and, most of all, in institutions. We see a methodological and theoretical enrichment in bringing the approaches of Beckert and Polanyi together for this case study.

To stick with Polanyi’s arguments, the grassroots movement and the governmental actions that developed to turn this niche innovation into a regime (that still exists today, although in a somewhat altered form) was crucial to protect society from the market. This advancement, from niche to regime, is defined as a transition in our case study. It is not to be confused with
Polanyi’s term of “transformation”. For Polyani, transformation is a social reaction to giving the market primacy in society and to pursuing policies that lets the self-regulating forces unfold in unrestrained fashion. As our case study has shown, community housing as a new regime was the prerequisite for a “great transformation”.

The reasons for the failure of this movement to spread beyond Vienna and expand all over Austria are complex and rooted in the history of the country and in the global trends of that time. They are too complex to be explained in this paper. But since Polanyi’s work on the great transformation explains the rise of fascism as one reaction to the rise of market liberalism, it seems fair to say our case study follows his arguments. Neither the Social Democratic movements nor any other was able to impose a solution to the economic crisis; tensions mounted until fascism gained the strength to seize power and break with laissez-faire and democracy both.
8. Historical case study 2: Fresh-water supply

Fresh-water supply in cities is similar to social housing in that both represent a large socio-economic system that has evolved over several decades, in some regions even over several centuries. Just as in our case study of social housing, we can detect niche innovations in our second case study of fresh-water supply that struggled to replace of existing regimes and finally evolved into new regimes, which at least presented a serious alternative model to the incumbent. Another parallel between the two long-term cases is that the issues at stake, housing and water, are fictitious commodities. Thus, they should not be left to free-market forces. In both cases, we see a framing and reframing of social grids: first as an issue of fragmented market and municipal forces, then the tendency to treat them as a common good again a common good again; this was followed by a struggle to again subject them to the free market, and – in the case of fresh-water supply – citizens’ attempts to render water a public good once more.

Contrary to the case of social housing where a dominant regime was in place when a change at the landscape level occurred, the fresh-water case started with a fragmented situation where no singular regime really prevailed. This is attributable in part to the fact that we are not looking at a specific municipality as in the social housing case.

Prior to the 1850s, there often co-existed several supply solutions in many cities without really solving the issues of sewage, pollution, diseases and death due to fresh-water problems. The following sections roughly describe how a municipal regime emerged that became more and more prominent in most European cities until WWII and even beyond. Even though there had been singular attempts to challenge this municipal regime, it was not before the 1980s that a neoliberal regime of private water supply replaced the municipal solution. About 20 years later, the municipal regime re-emerged to seriously challenge the private regime. In the meantime, other solutions have emerged as well but remained in a niche. Mixed forms of concessions and even cooperatives have managed fresh-water supply in some communities, offering singular solutions that are not appropriate for scaling up, often for logistical and other technical reasons. Due to the fact that we are dealing with several European countries and their municipalities in general, it is not possible to tell when which regime was in place. Our fresh-water case study intentionally covers a long period of time because it takes a long time for a niche to emerge, establish itself and replace a previous one, including the option that the predecessor may continue to co-exist as the dominant regime in some municipalities.
D4.3 Report on the contribution of social innovation to systemic change and transformation (31 January 2017)
8.1 Fresh-water supply and marginalised people

The relation between fresh-water supply and social innovation might not be as obvious as the one between social housing and innovation especially when the term social innovation is linked to the situation of the marginalised populations in society. Whereas social housing was (and is) dedicated to socially disadvantaged people (or to those whose income is below a certain threshold), fresh water is grid-connected and reaches everyone who is connected to the grid. However, in both cases society as a whole profits if the social innovations involved in achieving this are implemented on a large scale. The benefits of social housing are not limited to the fact that marginalised people are sheltered and can develop a local identity. The social innovation also contributes to social stability, a secure workforce, better prospects for their children, investments in the building sector, an increase in income and consumption etc. In the fresh-water case, the social innovation is historically driven by caring for the health of citizens. Clean water is still a precondition for public health today. Several centuries ago, the marginalised and poor segments of the population could not afford clean water, and the technologies to purify water were either not available or only available exclusively to the affluent populations. However, not only marginalised people suffered from bad water quality. Diseases caused by germs from sewage spread to the affluent parts of society as well.

8.2 Distinguishing three regimes of fresh-water supply

We can distinguish three phases of regime change in fresh-water supply. In the fresh-water case, it is more difficult to distinguish the proper starting point of the development since the history of fresh-water supply for a community is as old as human settlements are. Antique societies already built systematic grids for water. To make this case comparable with the case study on social housing, we will roughly start in the second half of the 19th century when fresh-water supply was an urgent issue for all European cities (and beyond). Most major municipalities were concerned with the supply of fresh-water to their citizens and industry and cooperated with private investors to provide this basic need. We think it is justified to call this period a fragmented era of fresh-water supply because water was provided by private companies in many cities, yet by municipalities in others, and in some cases the responsibilities kept changing. This initial state was followed by a phase of municipalisation of fresh-water services until about the 1970s. Thereafter, we observe a neoliberal phase of recommodification of fresh water. Only after 1990, and in many cases after the turn of the millennium, remunicipalisation began on a larger scale by promoting alternative regimes. The following text is organised according to these phases.

8.3 Fragmented solutions for fresh-water supply

Even though fresh-water supply was not considered a public good in the municipalities of former times, in many cities the local government provided water to the public, maintained water lines and extended the grid.

In Great Britain, for example, where the private sector owned and ran the water services from early on, the municipalities took over ownership in the second half of the 19th century, and public provision became the norm (Prasad 2008, de la Motte and Lobina 2005). In France,
private companies built water-supply systems only in the big cities where this was profitable (Juuti 2005). At this time, there was no predominant discourse on whether this was a public obligation or should be left to private enterprise. Public views on the issue were just emerging, and expert opinions gradually formed as science and technological innovation progressed. In Germany, however, there was public demand for publicly run water works and for communities to meet certain sanitary standards as early as around 1880 (Steuer 1912). A few years sooner, in 1872, Berlin had already bought the local water works from a private supplier. This was a precondition for the subsequent expansion of the water-supply network and sewage system (Jellinghaus 2006).

In contrast, fresh-water supply in Paris had been regarded as a public obligation since the Napoleonic era. There was generally a stronger belief in the benefits of “planification” for cities, which also effected the planning for springs, wells and cisterns (Schimpf et. al. 2015). The Great French city planner George Hausmann understood the link between fatal diseases, such as cholera, and the quality of drinking water. Accordingly, his plans envisaged the delivery of fresh water from Champagne via an aqueduct that was 150 km long. It was completed in 1867 but had only limited effects on the overall water situation of the French capital since house owners were not required to connect to it (Schimpf et. al. 2015).

Municipalisation mainly took place between mid-19th century until the end of WWI (Kalweit 1998). Before the 1900s, there was no clear distinction in responsibilities for fresh-water supply between the municipalities and private actors across European cities. In some cases, it was left to private initiative (as in Amsterdam), but the majority of countries saw water as a public good and implemented laws and regulations accordingly.

The neoliberal regime: Market the major category of water supply

12 Water was already subject to regulation as early as the 18th century. Industrialisation and urbanisation caused water quality to deteriorate, and existing regulations were not sufficient to cope with this new development (Schimpf et al. 2015).
Building a grid of water pipes was a major investment, and in many cities there was no obligation to connect to the grid. The bigger the system, the better were the economies of scale, thus reducing the cost for this innovation. The benefits did not stop there, however. Extending the water supply and sewage system improved both public health and human welfare (United Nations Development Programme).\textsuperscript{13}

Before the 20th century, the affluent middle class had emerged as an important player in this context. This was a time when a well-educated and self-confident middle class had gained economic and political power and was a driver of technological and social progress, often as entrepreneurs of growing corporations. This middle class showed serious concern for the health and education of the workforce since the ability to rely on a healthy labour force that could work in its factories without a loss of working hours due to sickness, caring for relatives or even death was in its own interest. The emerging cognitive frame at the time was not only that poor people needed better access to water in order to stay healthy and clean, but also that this innovation would make the poor better citizens and keep the social situation stable to prevent unrest, strikes and turmoil (Schimpf et. al. 2015).

Even though the motivation of the affluent class for supporting the ubiquitous supply of fresh water was ambiguous, the poor populations profited from this policy. Before the introduction of this innovation, the marginalised were especially vulnerable to precarious water conditions. Since everyone needs clean water to survive, the burden for higher costs or access, to prevent diseases etc. are disproportionally higher for the less affluent.

It was not only the bourgeois employers from the middle class who took an interest in supplying fresh water to the marginalised but eventually also government authorities. Naturally, the state takes an interest in healthy citizens who earn money, pay taxes, attend schools, contribute to economic wealth and can serve as soldiers (Schimpf et al. 2015; Frevert 1985, 423)

A strong network to support the supply of fresh water as a social innovation was the sanitary school in Great Britain and the hygiene movement in other European countries. Their efforts culminated in the General Report on the Sanitary Conditions of the Labouring Population, published by the social reformer Edwin Chadwick in 1842. The tenor of this and similar publications was that the social question was one of hygiene and directly connected to the access to clean and fresh water. At this time, the first expert discourse emerged, documented in papers and journals, and discussed the origins of common, often lethal, diseases and the link with water quality. The discourse formed cognitive frames on social conditions, public health, hygiene and potable water.

Technological innovations promoting the nation-wide construction and expansion of water works, canalisation and grids, and water treatment plants were essential for the advancement of fresh-water supply. Some of this progress, however, was curbed by the construction and operation of factories that not only needed large amounts of water for production but produced extensive amounts of sewage that contaminated fresh water for use by civil society, especially in the large industrial regions (Steuer 1912, 23; Hirschfelder 2009, 122). Diseases stemming from such pollution made further innovation in separate supply systems and water treatment necessary.

\textsuperscript{13} Upon introducing systems of fresh-water supply, life expectancy grew, infant mortality decreased and epidemics became few in Europe. The appearance of epidemics in the 20th century was mostly the result of irregularities in water supply or of disruptions thereof during or after wars or natural disasters. Once irregularities were resolved or the water supply was intact again, the number of health impairments declined (Schimpf et al. 2015; Feldkamp 2009, 9, 103).
The technical history of fresh-water supply is also a history of separate, small-scale grids on the one hand and centralised, integrated water supply systems on the other.\textsuperscript{14} For the latter, London and Paris are examples. Both London and Paris were front-runners in population growth, economic growth and in solving the water problem.\textsuperscript{15} The strategy in London was to have private companies lay the piping for a sewage system and the beginnings of the fresh-water supply (Act of Parliament).

In summary, The social grid of this era was rather fragmented and could not provide a stable structure for establishing a dominant regime of fresh-water supply. The social grid remained open for occasional changes. The extension of the supply grid demanded a more stable structure of the social grid, which called for municipalisation.

### 8.4 Entering an era of municipalisation of fresh-water supply

After the innovation was successfully introduced in most cities across European, the focus shifted to the urban peripheries and rural areas (Schimpf et. al. 2015).

During the hygiene movement, it became obvious that a private company operating the fresh-water supply for the purpose of maximising profits might work in a big city like London but was not necessarily the best solution for users in smaller locations because the investments were too high and profits too low. However, for a long time the cities did not have the means or the policies to invest public money into water works, so the field was left to private operators via concessions. It was only during the second half of the 19th century that the municipalities took over the responsibilities for fresh-water supply, in many cases because of poor private management, corruption and high costs (Schimpf et. al. 2015).

\textsuperscript{14} “Fragmented, piecemeal and localized systems were abandoned in favor of highly centralized and integrated water supply systems. This occurred in 1802 in Paris, in 1808 in London and in 1856 in Berlin.” (Prasad 2008; Schimpf et al. 2015).

\textsuperscript{15} Both London and Paris experienced population growth since the 16th century and had about one million inhabitants each around the year 1800. “London continued to rely on local water sources to use its rivers for waste disposal, while Paris favoured imported water and protection of its rivers reusing human waste as fertilizers.” (Sedlak 2014, 27; Schimpf et al. 2015)
Fresh-water supply: Municipalisation

After WWII, water treatment plants helped to protect drinking water on a larger European scale, at least in many cities, and clean water from pollution, fertilisers and chemicals. By the 1950s, access to fresh water and a functioning sewage systems was virtually available all over Europe (and in major parts of the globe). The European Declaration on Water, introduced in 1968, was one of the first institutional setting to protect water (Schimpf et. al 2015). It was also a milestone for a social network in Beckert’s sense because all European countries represented on the Council of Europe supported the declaration.

An important institutional framework in Beckert’s terminology is the “service of general interest” where the municipal authorities or the state took full responsibility for the provision of fresh water. This norm marks the relationship between the cognitive frame and the institutions and became acknowledged as a human right in 2010 (Schimpf et. al 2015).

Germany experienced an era of decentralisation and municipalisation of fresh-water supply after WWII. Several thousand associations for water usage were created to guard, maintain, supply and clean water. This special organisational form of collaboration between communities also solved the problem of small communities that could not afford such complex undertakings on their own collaborations (BMWI 2001).

From a British perspective, the Water Act of 1973 was a landmark. It created ten regional water authorities (RWA), making the public providers responsible for all uses of water in England and Wales (Hassan 1996). During the neoliberal era, however, the RWA were privatised and outsourced to ten limited companies, which were supervised by an independent economic regulator.

The social grid of the municipalisation era provided necessary stability for an extension of the fresh-water supply systems, which yielded several benefits, such as universal access to clean water, improved health, a healthier workforce and enhanced social cohesion, yet also repre-
sented a major public investment. It needed maintenance and innovation. Over time, public discourse began to question its efficiency as a public enterprise without competition. The idea that public responsibility was the best way of supplying fresh water was challenged in the transition phase to the newly emerging neoliberal social grid.

8.5 The neoliberal regime

The neoliberal turn was precipitated by the need of public authorities to redeem the debt of cities such as Berlin (in 1999). But the discussion of liberal markets for fresh-water supply had begun long before that, in the 1980s with the onset of the Thatcher and Reagan era and the notion that society does not exist, only individuals. Also, the perception that the fall of the Iron Curtain in 1989 marked the end of history and the ultimate victory of market economies over socialism had contributed to the cognitive framing of neoliberalism.

Not only Berlin had experienced cost pressure, so had other cities in Europe, in part due to the lagging economy after the recession 2008 and the emergence of mass unemployment. Many public authorities had started to sell or outsource public supply systems to generate more public revenue in order to keep at least some parts of municipal and national operations and maintenance running. This hit fresh-water supply systems just as hard as it did telecommunications, energy or public transport.

16 “And, you know, there’s no such thing as society. There are individual men and women and there are families.” Margret Thatcher in an interview in Women’s Own in 1987. [emphasis in the original].

The neoliberal regime: Making the market the major category of water supply
At the global level, the major networks for implementing institutions and influencing cognitive frames towards market liberalisation were the World Bank and the IMF. The efforts to treat water as a commodity culminated in the Dublin Principles in 1992, acknowledging water as having an economic value and the supply and treatment thereof as a service that could be operated more efficiently if companies competed in free markets.

Networks of companies were important to promote the water privatisation wave in the 1990s, which involved establishing new global value-creating networks and multinational co-operations (e.g., Veolia, Suez).

These liberal market tendencies and the attempts to to give primacy to markets for providing a crucial good for human life provoked counter movements in civil society and gave rise to the global water justice movement, a coalition of civil-society actors to fight for the human right to water. This movement has to be considered in the context of the green and environmental movement of the time, which provided a cognitive frame not only for social protests but also for environmental concerns and demands for more political participation in essential decisions regarding public goods.

However, the neoliberal social grid did not prove stable in the long run, not least because of underinvestment by private actors in public infrastructure, non-transparency and social protests. It was not able to meet the changing demands of the time, for instance, maintenance, investments also in less populated areas, environmental concerns raised by society etc.

8.6 Remunicipalisation of fresh-water supply

Fresh-water supply: Re-municipalisation
The deficits of liberal fresh-water markets have become obvious over recent years. Private companies tend to sell fresh water as a commodity and do not treat it as a public good. The capitalist paradigm of profitmaking directs investments only to infrastructure improvements promising additional profits, which is not necessarily where they are needed. This has led the struggle for ‘decommodification’ to become a global movement and citizens in many cities and countries to fight for restoring public ownership of systems of fresh-water supply.

A case in point is the Berlin Water Table (*Berliner Wassertisch*). A network of active citizens motivated by the cognitive frame that access to water is a human right demanded more transparency in regard to the secret treaties between the city government and the private supply companies RWE and Veolia (for details, see deliverable 5.3). Public pressure forced the municipal government to buy back its previous shares from the private utility companies, though at a higher price.

At the supra-national level, the OECD has called for the creation of water governance capacities. Moreover, non-profit networks have emerged at the supra-national level to promote the public provision of fresh water. In the public sector, the Aqua Publica Europea (APE) was founded in 2008 to “promote public water management at European and international level” (Aqua Publica Europea, Schimpf et al. 2015). In the civil society sector, the European Movement for water was formed to promote the human right to water and the public management of water on the principles of democratic participation of citizens and workers. In the professional sector, the European Water Association (EWA) was founded in 1981 to scientifically focus on key technical and policy issues dealing with the management and improvement of the water environment in Europe (Schimpf et al. 2015).

Although water quality in Europe has improved over the decades, several problems have persisted, such as waste water from households and industry spilling into sewers and aquatic systems, occasionally causing health problems and environmental harm (Schimpf et al. 2015).

Water quality, not only for drinking water but disposable water led into rivers, has become a matter of cultural ethics in a society in which environmental protection and animal rights have become become a concern. Saving water has become a cultural norm.


### 8.7 Challenges ahead

The challenges of the future with regard to fresh-water supply are to some degree a continuation of the historic development in matters such as water security or disease prevention, which remind of the concerns of the 19th century when germs from sewage contaminated drinking water, causing not only serious health threats but also fatalities. Water safety remains an issue still today not only related to sewage but also in terms of being a potential
target for terrorist attacks. Water scarcity caused by climate change is a more recent challenge, pointing to the need for a more responsible use of water and to design the supply systems accordingly, for instance, installing two supply systems – one for potable water, one for irrigation water – as proposed by several expert communities. Another more recent issue is water quality in some alpine areas where glaciers are melting and toxic particles that have been stored in old ice for centuries are now being released and merging with fresh water. Yet another developing concern is the competition for water: as a resource for industry, agriculture, for energy and for potable water. To tackle these future issues, political decisions need be taken, supported by the respective institutions, networks and cognitive frames, which must first lay the groundwork to render these decisions possible. A suggestion geared to enhancing the ability to adapt to future needs is the introduction of more decentralised water systems instead of centralised ones.

9. Conclusion

For social innovation to have a transformative impact, support from strong institutions, especially governmental (municipal, national, transnational) ones, is needed. Only if this requirement is met will social innovation make a difference in the lives and integration of the marginalised. Our two case studies have covered infrastructure development that addresses two essential basic needs: social housing and fresh water. The context of these cases was the discussion whether they should be treated as commodities or as public goods. Over a period of more than a century, we have seen several transformations, from market to public domains and vice versa and mixed forms as well.

In Polanyi’s terms, transformation is a social reaction to prior attempts to giving markets primacy in society and pursuing policies that let the self-regulating market forces unfold in an unrestrained fashion. These self-regulating forces do not exist, however. In our examples, they have failed to provide for the basic human needs of housing and clean water over a length of time and maintain a stable social grid. The self-regulating market for water supply and social housing neglected the marginalised and contributed to social unrest until social transformation restored equilibrium.

Acting as if such forces existed has led to tensions and eventually to social transformation, which we have seen in both cases in several phases. The attempt to disembed the market from society is doomed to fail. It leads to a breakdown of social relationships – and ultimately their restructuring as self-regulating market forces provokes counter-movements. Polanyi suggests that any movement toward a laissez-faire economy needs a countermovement to create or re-establish stability. This does not mean, however, that the transformation lasts over generations. Even in a phase of stability, changes at the landscape level can induce changes at the regime level and introduce new niche solutions as serious alternatives to established regimes.
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