Aalborg Universitet

AALBORG UNIVERSITY
DENMARK

Affordable housing as a niche product

The case of the Danish “SocialHousing Plus”

Jensen, Jesper Ole; Stensgaard, Anne Gro

Publication date:
2017

Document Version
Tidlig version også kaldet pre-print

Link to publication from Aalborg University

Citation for published version (APA):
Jensen, J. O., & Stensgaard, A. G. (2017). Affordable housing as a niche product: The case of the Danish “SocialHousing Plus”. Paper præsenteret ved ENHR Conference 2017 Tirana, Tirana, Albanien.

General rights
Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
- You may not further distribute the material or use it for any profit-making activity or commercial gain
- You may freely distribute the URL identifying the publication in the public portal -

Take down policy
If you believe that this document breaches copyright please contact us at vbn@aub.aau.dk providing details, and we will remove access to the work immediately and investigate your claim.

Downloaded from vbn.aau.dk on: April 17, 2024

Affordable housing as a niche product: The case of the Danish "SocialHousing Plus"

Jesper Ole Jensen

Danish Building Research Institute, Aalborg University, Copenhagen, Denmark. e-mail: joj@sbi.aau.dk

Anne Gro Steensgaard

Danish Building Research Institute, Aalborg University, Copenhagen, Denmark.

Abstract

Establishing affordable housing is a growing demand in many larger cities there is however a number of challenges related to establishing affordable housing, as well as many different approaches. This paper presents a case-study of an affordable housing concept in the Danish social housing sector, the "SocialHousing Plus" ("AlmenBolig+") which is based on lowering production costs as well as operation costs including residential self-management, large-scale production of pre-fab housing units, low-energy solutions and other innovative approaches. The concept was developed in 2007, and has so far resulted in the production of more than 1.500 dwellings. The paper will discuss the results of the concept, and the various challenges related to it. Based on the theory of Technological Transition (Geels, 2002) it will discuss the options and limitations of providing affordable housing through developing innovative niche products, and their options for wider dissemination in the existing housing regime.

Key words: Affordable housing, social housing, self-management, Technological Transition, niche

A first version of the paper was presented at the housing research seminar in Copenhagen, December 2016.

Introduction

With increasing urbanization throughout the world, leading to rising housing prices and increasing segregation, the struggle for establishing affordable housing has become a central policy issue in countries and cities. At the same time, many institutions that traditionally have been seen as the providers of affordable housing, such as municipalities and social housing organisations, have increasingly become "marketized", thereby reducing their capacity for operating beyond the market, and for providing affordable housing. Although the demand and the political interest for affordable housing is increasing, there is not a clear acceptance of what the term covers. A generally used definition in

developed and transitional countries is that affordable housing should comprise no more than 30 % of the median household's income (UNHabitat, 2016). Many countries use this definition, based on the relationship between household income and cost of the accommodation (Whitehead, 1991). Also many financial institutions have applied a rule of not allowing households to take out home loans requiring more than 30 % of gross income for their servicing (Select Committee 2008). This is a model which on paper is easy to work with, but is often difficult to operate when household incomes and housing prices changes over time (O'Neil et al, 2008). Critics have pointed out that the conceptualization and measuring of affordability is just as complex as understanding the causal factors of the housing affordability problem itself (Gabriel et al 2005). Problems of defining the concepts is often due to a simplified understandings of the problem, for instance overlooking that affordability can be experienced by household types in different ways, relating to a number of factors as employment, transport, health etc. (Gabriel et al, 2005).

Practical definitions of affordable housing are usually specific to the policy and program context in which they are used. Typically policies have a notion of what comprises affordability and a reference to the target group(s) for whom they are intended (Milligan et al 2007). A typical example is that in many European and North American cities, a rising number of people, essential to the cities basic functions like schoolteachers, policemen and nurses, cannot afford housing near their place of work, which is seen as a problem for providing these core functions in the community. These people often have salaries that exceed the option for living in social housing or public housing, where access to housing is regulated by income, and therefore only can be occupied by people with low incomes. Housing for people unable to buy a home or rent an apartment at market rate, but who exceed the income or need criteria for social or public housing are often labeled *workforce housing* or *intermediate housing* (Lazarovic et al, 2016). Also in the Danish context, the term affordable housing often refers to housing in the cities for keyworkers such as nurses and police officers, or families with children from the broad middle class (Bech Danielsen, 2011).

As a result of the call for affordable housing in urban areas, and the inability of the existing institutions to deliver, various new concepts for affordable housing have been developed internationally. This paper will discuss the first Danish example on developing an affordable housing concept as a part of social housing, the "Social Housing Plus" concept (SH+). The concept addresses core workers, and their chance for finding a home in the larger cities, and includes a number of alternative solutions, that all represents a shift from "normal" practice in the sector. SH+ represents one of the main development projects in the social housing sector over the last decades, and it has gathered immense professional and public attention in Denmark.

In spite of the success of the concept, it is obvious that the SH+ concept will not itself solve the problem of affordable housing in the larger cities. The question is therefore, to which extent the concept can inspire and influence the existing housing sector into providing affordable housing, by utilizing the elements of the SH+ concept.

The aim of the paper is two-fold. Firstly, it will discuss the experiences so far, outlining the achievements and challenges of the concept. The problem of

solving problems through building concepts is, however, that the solutions often remains isolated concepts, that fails, to address the challenge (in this case affordable housing) in a broader sense. Therefore, secondly, the paper will discuss the potential of the concept to influence the rest of the housing sector towards providing affordable housing. This will be done from the perspective of the theory of "Technological Transition" (Geels, 2002), that describes technological innovations as starting as being developed from protected niches, but as a result of political and societal pressures, the solutions developed in the niches might enter the existing regimes, and eventually substitute the existing practices.

The Danish Housing market as context for affordable housing

The housing market

The housing market in Denmark is in many ways divided in two parts; a rental market which consists primarily of apartments and an owner housing market which consists primarily of single-family houses (Turkington & Watson, 2015). 58 % of all Danes live in owner-occupied housing. 44 % of the Danish homes are single-family houses, 39 % are apartment buildings, while the remaining dwellings are other types of buildings. The figures have been relatively stable since 1981, but with internal shifting, with the proportion of younger homeowner's declines and proportion of elderly homeowner increases.

The housing market in Copenhagen is in several ways significant different than the rest of Denmark. In Copenhagen 18% of the housing stock are owner-occupied, private rental is 19%, private cooperative housing (private co-ops, in Danish "andelsboliger") represents 33 % and social housing 20 % (kk.dk/boligbarometer 2014). In the largest cities home-ownership is restricted to a large extent to middle and high income earners (Alves & Andersen, 2015).

Urbanization and the lack of affordable housing

Like many European cities, the Danish cities have undergone major change the last 25 years. In the period 2006-2013 the population in Denmark's largest cities has grown remarkably. In the Copenhagen metropolitan area the population has increased by 13 %, and in Århus, the second largest city, the population has grown by 12 % (www.mbbl.dk). The discussion about providing affordable housing has primarily been an issue in Copenhagen, where the amount of affordable houses have been reduced in recent years due various changes: An increasing urbanization and immigration (10.000 new inhabitants per year), as well as a privatization of formerly municipal rented flats and an increasing number of private flats being merged.

In the early 1990's the housing stock in Copenhagen was characterized by mainly small, worn-out apartments, which meant that the majority of the resourceful citizens chose to leave the municipality when their economy allowed it. In 1995, the city council created a 10-point housing policy program to ensure that a number of domestic policy actions were implemented (Bisgaard 2010). The program's primary objective was to keep and attract resourceful inhabitants who can help to strengthen the city's economy and position. The programs also contain new residential areas to be built and old restoration, and to invest in infrastructure, urban spaces, playgrounds and new institutions. The

program also entailed that the City of Copenhagen decided to sell about 19.000 affordable homes that primarily was converted into private cooperative apartments. About a fifth of the private rental stock (about 20.000 apartments) was transformed into private owned dwellings and sold (Factsheet 02, www.kk.dk/boligbarometeret). The combination of the increasing urbanization and the abolishment of formerly affordable housing had led to increasing housing prices in Copenhagen and other larger cities in Denmark, being up to 10 times the national average the last 5 years (for single family houses), and app 50% higher than the national average for flats (see table 1).

Table 1. Price trends in percentages on the single-family houses and flats (Year 2015 figures). Source: Bolig&Tal7, Boligøkonomisk Videncenter 2015

Region	Last 5 years	Since 1st quarter of 1992
Single- Family houses		
Denmark	2,3 %	194,4 %
Capital region	9,8 %	307,5 %
Copenhagen municipality	29,5 %	528,5 %
Flats		
Denmark	25,0 %	288,2%
Capital region	33,3 %	351,4 %
Copenhagen municipality	40,6 %	452, 8 %

An increasing number of people, especially in and around the major cities, experiences difficulties finding a home that match both need and price, and therefore are forced to live in inadequate conditions or live far from work and study (Hansen et al 2014; Hansen and Østerby 2015 et al.). Especially those that are new in the housing market may, among them young households and keyworkers, have difficulty finding affordable housing (Scanlon and Vestergaard 2007). At the same time, national and municipal policies aiming to provide affordable housing have been absent (Dagbladet Information, 2016), or focusing mainly on providing new social housing, but being unable to provide affordable housing in new urban development areas.

The social housing sector in Denmark

The term ”Social Housing”, although being used as a common concept, has different meanings internationally. In the Danish context, social housing is not need-dependent and the sector is accessible to all residents of Denmark, which is the reason that it sometimes is labelled as “public housing” (Skovgaard Nielsen, 2016). However, in this paper we will use the term “social housing”.

The social housing sector represents one fifth of the Danish housing stock, and one out of every six Danes are living in the social housing sector. The sector

consists approximately of 700 social housing associations, which together cover more than half a million homes which are spread across 8.000 housing estates. The estates are owned by non-profit housing organizations who manage the homes. The rents are cost-related, which means that each housing estate constitutes a self-employed economic entity. Agreements on building new houses concluded between municipalities, construction companies and social housing organizations, the latter applying the municipality for permission to build public housing. 10 % of the purchase price is financed with community capital base, 2 % is funded by residents' deposits, and 88 % financed by mortgage loans, the State continuously provide service support. In return of their co-funding, municipalities have the right to assign people in acute need of housing (up to 33 % in Copenhagen) (Alves & Andersen, 2015).

The social housing stock is dominated by relatively small homes, 73 % of the homes are blocks of flats, and only one of four dwelling is larger than 90 m^2. The social sector had originally a socially broad compositions of tenants, were the working class was the majority of the population. Due to structural changes and general increase in income the populations in the social housing sector changed dramatically in the 1970s and 1980s and the social housing household became marked by marginal groups like immigrants, unemployed, single income household and elderly (Scanlon & Vestergaard, 2007; Alves & Andersen 2015).

The Social Housing Plus-concept

The Social Housing Plus-concept (SH+) was developed by the Copenhagen Social Housing Association (KAB) from 2007, as a response to an ongoing political discussion on lack of affordable housing in Copenhagen, as a result of increasing housing prices over recent years. The development was provoked by the former Mayor of Copenhagen (Ritt Bjerregaard), and the goals from her election campaign in 2005 on establishing affordable housing in Copenhagen, formulated as “5.000 houses for 5.000 Dkr. (700€) a month”. However, the Mayor did not see the social housing associations as a partner in achieving this goal, which provoked KAB to develop their own affordable housing concept. In the outset, all types of elements in making housing affordable was discussed, ending up with a concept aiming at a rent level 30% lower than comparable new housing, based on the following core elements:

- Large tenders of a standardized housing concept, based on prefabrication with wooden elements reducing production costs and on-site operations, aiming at 10% reduction production price compared to “normal” social housing
- The buildings are constructed as low-energy buildings (according to the Danish Building Regulation (BR 10’s energikrav for bygningsklasse 2020)), reducing the energy costs in operation
- The buildings are constructed as “basic concepts” where a number of interior development is left to the residents, e.g. establishing interior dividing walls
- The residents being responsible for the operation for the shared outdoor areas and for large parts of the building operation, meaning there is no operation staff from the housing organization present in the area.
- Costs for maintenance and savings for future renovations are established through a new concept where costs are reduced in the first years

There are other supplementary elements in the concept, e.g. a market-based assessment of the improvements made by the residents (as a contrast to pre-defined regulation of the value of improvements), and a fully digital communication with the housing association through mails and digital platforms.

The houses are established mainly as two-floor row-houses (but also with 1 floor and 3 floor buildings), in units with typically 50-100 flats which was seen as an ideal size, allowing a certain minimum volume for enabling local maintenance, but also not making the estates too large to allow a local community feeling and promoting social relations between the residents. The neighborhood design aimed at the popular urban row-house concept, with small gardens and relatively high density. A main reference for this was the extremely popular "potato-rows", one of the first social housing estates built in Copenhagen (now owner-occupied housing), having a large social sense of community, having a reputation as a place for creative and left-wing intellectuals.

The main target-group for SH+ concept are "core-workers" (typically articulated as "policemen and nurses"), who under normal circumstances will have difficulties finding an affordable house or flat in Copenhagen and other larger cities, and therefore are likely to move to the suburbs. The sizes of the SH+ flats are up to 130 m^2 which exceeds the normal maximum size of social housing flats (normally 100 m^2). This, as well as many other elements in the concept, was formulated as a "test arrangement" under the Ministry of Housing that permitted various exceptions from the act on social housing, all which were important for the concept as a whole. These exceptions were decided in 2007, allowing up to of 2.000 housing units being built under this concept. So far, app. 1.500 housing units following the SH+ concept has been built, mainly in Copenhagen and some surrounding municipalities (Køge, Herlev, Rødovre, Hvidovre, Ishøj, Albertslund, Frederikssund and Roskilde). The test-period ran until 2015. In this period there has been a close dialogue between KAB and the Ministry for Housing on adapting and evaluating the concept. The evaluation was carried out by the Danish Building Research Institute, and is the primary source of information for this paper.

It was a goal for KAB to include a number of other housing associations in the concept, not only to promote the concept, but also to increase the volume that allows the large tenders and subsequent cost-reductions in the production-stage. Therefore KAB in an early stage invited other large social housing associations to participate. However, there were divided views on the concept amongst the other housing associations, and only two other social associations in Copenhagen (3B and Domea), joined the project, as well as one association in Aarhus (Østjysk Bolig) (Jensen & Friis, 2011). Also, it was necessary to have an acceptance from the municipalities where the SH+ was to be built, as they in accordance with the social housing model in Denmark provide a financial security for the projects. Besides, the SH+ concept involves potential risks, e.g. that the residential operation and maintenance might lead to a decay of the housing units, which eventually might affect the municipal economy.

The production concept

A main idea of lowering the costs is to base it on pre-fab production of housing modules of a "framework tender". The production of SH+ has taken place in

different “framework tenders”, each consisting of a certain design concept, where different social housing associations have ordered a number of housing units within the same design, with the same producer of buildings. This has enabled larger volumes (100-500 housing units), which again has led to lower production prices. So far, four frameworks, each consisting of between 84 (framework 3) and 525 units (framework 1) have been produced and built. Moreover, two independent frameworks have been produced.

The design of the different framework tenders has been decided through architect competitions where a number of teams of architects and building producers have come up with different concepts.

Figure 1. The housing units in SH+ are based on design concepts in frameworks (bundled tenders), allowing indoor prefab production with a large number of housing units (left picture, from the producer ScandiByg, who won the Framework 1 with 525 housing units). For the buyers, small variations are allowed within the general design, e.g. the type of materials on the façade, the size of the flats etc. For this purpose, a 1:1 test-house has been built at the production facility in Løgstør (right picture).

The self-management concept

Traditionally, social housing in Denmark is characterized by having buildings that generally are in good condition and has a high level of service, where janitors and operation staff take care of maintaining and cleaning the outdoor areas and the building operation. Costs of maintenance and building operation represents in average app. 10 % of the rent, equivalent to 4.300 Dkr. (575€) per household per year (Landsbyggefonden, 2013) (There are minor differences between the different housing types). The majority of the cost of maintenance goes to labor costs for operating staff. This administrative expenditure represents in average app. 6 % of social housing estates’ total expenditure, corresponding to 3.160 Dkr. (420€) per household per year (Landsbyggefonden, 2013). Reducing these costs through self-management it would be possibly to skip employ operating personnel, thereby reducing costs significantly.

The SH+ concept is based on the residents being responsible for managing the outdoor areas and large parts of the building operation, as well as the administration of the estate. The specific tasks related to the residents' responsibility for the dwellings are divided between administrative tasks (accounting, mail correspondence, meeting convening and holding of general board meeting) and practical tasks (street cleaning and maintenance of common areas such as lawn moving, snow removal and collection of garbage and some building maintenance like painting, cleaning gutters, regulating heat pumps etc. However, the concept (according to the regulation of the Social Housing sector) still includes an annual professional review of the buildings, which the housing association is responsible for, that will ensure that the buildings stays in good

condition, and costs for future building maintenance and renovation is included in the budget.

It is the residents themselves who determine how tasks should be organized. The concept however allows each estate the opportunity to hire a company to clear snow or other tasks. This corresponds largely to the tasks for private co-ops, a predominant type of ownership in Copenhagen and other cities in Denmark, where the residents own the building collectively, and takes care of building operation and administration collectively (but also with the option of outsourcing tasks). When future tenants sign the rental agreement they also sign an allonge, which contains a number of issues, including that residents must be committed in participating in the maintenance and administration task, and if the tenants fail to participate they may be charged an extra expense or have terminated their lease.

In order to prepare the residents for the new concept before moving in, a number of preparation meeting were held by the housing associations, where the SH+ concept was explained for the residents, including the concept about the flats, the self-management, the digital communication, as well as information to support the formation of the local board. After the first meeting, people interested in a flat could sign up. The access to the houses was regulated by using criteria for "Flexible renting", which is an arrangement introduced in the social housing sector, that enables housing associations to pick certain types of residents according to criteria. For SH+, residents belong to one of the following groups were prioritized: Employed families with children, employed persons with no children living at home, or persons experienced with housing maintenance (including people over the age of 55). For those qualified, the flats were distributed through a lottery, and the remaining applicants were put on a waiting list.

At the remaining introduction meetings, only people who had been appointed a flat were present. The last meeting before moving in functioned as a general assembly, where the local board was settled, and the residents could start making decisions on how to organize the self-management groups, typically by forming different groups being responsible for different issues, and discussion procedures for meetings, communication etc. in the groups.

Controversies and dilemmas on the concept

During the development of the concept a number of critical discussions were raised, concerning some of the core elements of the concept.

A main controversy amongst the housing associations that were invited as potential partners concerned the target group and the concept of self-management. Typically, the social housing sector has a large proportion of "fragile" residents – being without jobs, marginalized, on social welfare etc., and on this background it was argued that the SH+ concept would not be accessible for these groups, and these types of residents would not be able to carry out maintenance, cleaning, gardening etc., which is required by the residents in SH+. On this background, a number of social housing associations declined on participating in developing and building the SH+ concept. The counter-argument from KAB was that "Social Housing" originally has the meaning of being a housing type for the whole population, and not only the weakest groups. It has been a general ambition in the social housing sector over the last decades to bring back the middle class to the social housing sector. The

SH+ concepts can be seen as falling in line with this ambition, although this has not been an explicit ambition.

Another main issue was the relation between technical quality and affordability. Especially, a question was raised of the “low basement” being a part of the design concept. Amongst critics this type of basement (for instance the Danish Building Defects Fund) was feared to create problems with mold and poor indoor climate in the wood-based construction, if the ventilation of the basement was not sufficient, or in case of surface water entering the construction. The initiators (KAB housing association) tested this problem in a period by monitoring the level of moist in the basements of selected buildings, but according to these measures the moist level was not critical. Other questions regarding the building quality concerned the assembly process on the site, and the risk of not making the assembly dense to allow moist to get in the buildings.

Affordable housing as a technological transition

Technological Transitions (TT) (Geels, 2002) is a theory for understanding technological change. The theory is based on a Multi-Level-Perspective (MLP), constituting of landscapes, socio-technical regimes and niches. The landscape represents societal and political frames for the socio-technical regime. The socio-technical regimes represent actors and networks in professional and civil life, e.g. specific sectors with its producers, consumers, local authorities, intermediaries, institutions, financers etc. Niches are networks of users and producers formed around pioneering technologies, but protected from market mechanisms (e.g. being part of demonstration or development projects, or con amore efforts with no profit involved), and to various degrees being a part of the existing socio-technical regime. The niches provide space for “new ideas, artefacts and practices to develop without being exposed to the full range of selection pressures that favour the regime” (Smith, 2007).

The theory suggests, based on historical experience that radical innovations and changes begin in niches. The existing socio-technical regimes are motivated for changes, i.e. taking up ideas developed in niches, when the landscape puts a pressure on the regime due to upcoming societal challenges, as for instance to deliver affordable housing.

Niche innovations might not necessarily compete with and substitute the existing regime – they may be developed within the regime, become incorporated, and subsequently transform the regime from within (Schot & Geels, 2008). Therefore niches can have different roles – as innovations eventually replacing the existing regimes, or as innovations being incorporated into existing regimes through adaptation and learning processes (Schot & Geels, 2008). Thus, transition processes might take place in many different ways.

Research question and methodology

The main question is to illuminate the potential of the SH+ concept to influence the social housing sector towards providing more affordable homes, and to understand the challenges of this transition, instead of existing only as a niche product with limited influence on a larger scale.

As a first step, the SH+ concepts' quality will be assessed, based on the evaluation of SH+ (Jensen & Stensgaard, 2014). From this, the paper will discuss the experiences from the concept, and potentials of integrating it further into the existing socio-technical regime.

The analysis is based three evaluations of the SH+ concept that took place in different stages, from 2011 to 2015, and had the purpose to assess a wide array of issues of the concept, under three themes:

- Planning and building stages: Industrialization, economy, municipal collaboration, motivations and expectations amongst actors (1st part-evaluation, Jensen & Friis (2011))
- Operation stage: Residential composition, recruiting of tenants, renting and re-renting, neighborhood relations, building maintenance and digital communication (2nd part-evaluation, Jensen & Stensgaard (2014))
- Technical and economic issues: Technical quality, energy use, building costs and rent level (Final evaluation, Jensen & Stensgaard (2016))

The evaluation focused on a share of the existing SH+ stock, namely the housing estates built within the first two frameworks, framework 0 and framework 1(136 resp. 525 housing units) in the period 2011-2013. This represents app. 650 housing units, or close to half of the total SH+ stock (1.500 housing units). This was mainly to include the experiences from the operation stage in the evaluation. This, on the other side, to some extent excluded the lessons being learned from the earlier stages, towards the later stages. These lessons learnt were however included in interviews with building professionals from the social housing associations.

As methodology for assessing these themes, various methods were used:

- Interviews amongst housing associations, municipalities, architect and housing producers in order to map and understand the different views on the concept, practical as ideological. In total ten interviews were carried out.
- Qualitative interviews with residents and residents boards about the SH+ concept in general, as well as the self-management concept, as well as interviews with the housing associations regarding the recruiting, and the preparation of the resident for the self-management concept. In total, eight interviews with individual residents were made, and four focus-group interviews with residents (between 4 and 8 participants)
- A survey amongst residents and residents boards on the experiences with the SH+ concept in general and the self-management concept. The survey was sent to 611 persons, and 150 answers were received (25% answer rate). The questionnaire was distributed to the residents from the housing association which might have affected the communication and the answer rate. The answers were analyzed only through descriptive statistics, i.e. frequency tables.
- Various material from the SH+ estates, including rent level and operation costs, energy consumption, reports on technical housing quality and other relevant material was collected as a part of the evaluation
- Expert interviews and expert assessments on the material regarding building quality (two external assessments and interviews)

In the following sections we will present the main findings from the evaluation (Jensen & Stensgaard, 2016; Jensen & Stensgaard, 2014; Jensen & Friis, 2011) with special attention to the self-management approach.

Experiences from the concept

Residents and their views on SH+

To understand the preconditions for the SH+ concept and the evaluation, the residential composition in the SH+ estates, according to the survey, has been compared to the residential composition amongst social housing in the metropolitan area (table 2)

Table 2. Residential segments in SH + estates compared to social housing in the metropolitan region

	couples with children	residents aged 25 to 49 years	residents with long or medium-long education	Single family households without children
SH+	50%	73%	60%	14%
Social housing in the Metropolitan area	13%	41%	22%	50%

This shows an over-representation of families with children, residents aged 25 to 49 years and residents with long or medium-long education. In contrast, singles without children are under-represented in SH+. This indicates that the residents in SH+ are generally strong on resources, compared to social housing in general, and also the general housing market in Copenhagen. A survey amongst the residents showed that more than one third of the residents comes from owner-occupied housing or private co-ops, indicating that the SH+ concept has made social housing more competitive to other owner types on the housing market.

The popularity of the concept was first indicated when the concept was announced (in newspapers, websites etc), and a provisional waiting-list soon gathered app 8.000 persons, which (according to representatives from KAB) is exceptional in the social housing sector. Subsequently, surveys amongst residents made by KAB and later by SBi, as well as qualitative interviews with residents, have showed a high satisfaction with the concept. The two main reasons for this is the housing type (row-house with own garden) and the low costs (respectively 57% and 64% of the residents had these issues as top priorities). The popularity is also indicated by the low rate of households leaving the estates in the first years (between 0 and 10%) which are significantly lower that other new-built social housing estates (as an example, households leaving new social housing estates in Copenhagen in the first years have been between 23% and 40%). In the survey amongst SH+ residents, 65% of the residents said they had no plans for leaving. Also in interviews quotations like "*we never want to leave*" and "*I will stay here forever*" were frequent in the qualitative interviews.

Cost reductions in the affordable housing concept

Being labelled as an affordable housing concept, it is relevant to ask about the actual rent reduction achieved in the SH+ concept. This is not easy to answer, due to lack of statistics and an unclear base-line. The actual rent for five SH+ estates was 855 Dkr/m^2/year (but with variations between the different estates), which is 22% lower than the rent in new social housing in the metropolitan area which is 1.090 Dkr/m^2/year, according to statistics from the National Building Fund. However, the latter includes buildings established over a longer period (2000-2013), and the buildings located in the region, and therefore not necessarily close to Copenhagen where land prices are higher. Also, the buildings include multi-story buildings (and not only row-houses as SH+), and it does not take into consideration that the SH+ buildings are being built as a low-energy house, in contrast to "average" social housing.

Therefore an alternative assessment method was used, defining a traditional housing concept based on estimated standard prices. From this, the savings reached by the SH+ concept are estimated to 237 Dkr. /m^2/ year, corresponding to a reduction on 21% compared to the rent in conventional new-built social housing (row-houses) which are estimated to 1.116 Dkr/m^2/year in the metropolitan region. See table 3.

Table 3. Estimated annual rent-savings (DKr per m^2) in SH+ compared to comparable traditional new-built social housing

Post	Theoretical annual savings, Dkr./m^2 (€/m^2)	% of total saving	Explanation / rationale Costs for a 104 m^2 flat
Costs related to building	62 (8,3)	26%	Savings estimated on assumption that building costs are 10% lower than normal
Administration costs	7 (0,9)	3%	Savings estimated according to standard prices for administration
Cleaning	37 (4,9)	16%	Savings estimated according to standard prices for cleaning
Reservation for maintenance	85 (11,3)	36%	Lower reservations in the first years due to less tear & wear (caused of fewer relocations amongst residents, and more responsible use)
Shared house / office	46 (6,1)	19%	Shared house or office for local janitor is not included in SH+
Energy adjustment	27 (3,6)	11%	SH+ is built as a low-energy buildings which normally would increase the building costs (but this was not the case in SH+ due to the prefab-concept)
Total	237 (31,6)	100%	The total savings represents a reduction on 21% compared to a similar new but traditional social housing department

The estimated savings presented in table are interesting in relations to the assumptions on cost reductions. For instance, the administration and the cleaning being main parts of the self-management concept represents 19% of the total savings, and therefore app. 4% of the rent reduction – which was

originally expected to represent 20%. On the other hand, the new concept for reservations for maintenance, which was only mentioned as a secondary way to reduce the rent, represents the largest part of the savings (36%), corresponding to app. 7% of the rent reduction, being in total 21%. The latter saving is, however, time-limited, and will rise to "normal" level after 10 years, meaning that one third of the rent-saving in SH+ will disappear, according to this way of estimating the rent reduction.

Although the overall aim of reducing the rent by 30% was not fully reached, the SH+ estates still have managed to cut off 21-22% of the rent compared to other types of new social housing in the metropolitan area. For a flat on 100 m^2, this corresponds to a final rent on 950 € per month, which is 263 € cheaper per month, compared to the rent in other new social housing estates. However, the savings were achieved differently than expected, as indicated above. The evaluation also shows that assessing the cost reductions in affordable housing and the degree of affordability can be very difficult, especially when no clear base-line has been defined.

Self-management

In the following we will discuss results from the survey, the achievements from the self-management concept as well as problems and challenges. The self-management concept in SH+ divides in three parts: The buildings, the common spaces and the administration. We will argue that the demand for self-management to a large extent have increased the feeling of ownership, and to a large extent have functioned well so far, but also that there are several risks related to the concept.

The buildings

The evaluation shows that there is a general satisfaction with the buildings, in spite of some complaints about certain details, as well as the sparse outfit (no internal separation walls and the low quality of kitchens). This had led to some investments from the residents; a survey in four estates showed that 89% had made investments in improvements so far, and in interviews with residents we found that 29 of 30 had made investments in improvements, ranging from changing the kitchen-tabletop, establishing separation walls, or changing the whole kitchen. In interviews with residents it was however often emphasized that these home improvements increased the feeling of ownership to the buildings:

"...I think it's important that you get the freedom to do things that are not locked….when you invest time or money in it, then you feel a larger ownerships to things" (resident interview)

"..Yes, you could compare SH+ with a private co-op… it's also therefore I could not imagine to move away, we have put our own shape on it … just as we would have done if we had bought our own house … we have sort of made it our own" (resident, interview)

The initial improvements and building and building operation maintenance has however not been without problems. Several reviews carried out internally by the housing organizations have pointed out some of the problems encountered in the internal stages. For instance, several residents have reported that the establishment of internal separation walls had led to blocking of ventilation outtakes. Other have pointed to problems related to the heat exchanger and

problems of regulating it (the residents have to do this themselves), potentially leading to higher energy bills. So far, there has been no need for larger maintenance jobs on the buildings, and the annual professional building reviews have reported no problems in relation to the buildings.

Although the general picture gives an impression of relative limited problems regarding the building operation, other studies have pointed to problems when residents have to maintain ventilation filters, and potential problems regarding the resident-based building operation (Johansson, 2016). Therefore, the housing associations need continuously to stay in dialogue with the boards and residents.

The common spaces

Generally the perception is that the common spaces in the SH+ estates are well-kept. According to the KAB (the main housing administration) none of the annual inspections made by the housing organizations, have been able to identify poor maintenance or shortage. Two thirds of the residents (66 %) find the common areas all together have a satisfactory appearance. These viewpoints are also supported in interviews with residents and board members.

The operation of the tasks have followed two different principles (according to a survey among residents); either by all households attendance to one or more working groups, each having their work of field (this model used in five estates), or by the estate's various operational rotates among all households (this model used in two estates). The survey also indicate that both types of organization has both advantages and challenges; by the permanent working groups, residents have the opportunity to deal with task that they find interesting or fit their skills, but are less in touch with what is going on in the rest of the estate. In the estates where duties rotate between households, residents tend to feel a greater responsibility for the entire housing estate's operation, but it may be an inconvenience for some residents to perform a task you do not have much interest in. All estates have joint working-days that complement the daily operations.

The estates have the option for out-sourcing some tasks (for instance snow removal), but according to budgets from five estates this takes place in a very limited degree (0,5 €/ m^2 / year).

Asked about what kinds of tasks they take part in, residents correspond:

Table 2. “What types of tasks do you take part in?”. Source: SBi research.

Tasks	Percent
Common joint days	98%
Janitorial work and Maintenance	92%
Other tasks	83%
Administrative work	35%
Homepage	34%
Event and activity committees	34%

The workload varies from estate to estate, primarily due to the number of households and the extent of common areas which varies from estate to estate. Residents, who do not participate in the administrative task, work an average of

1-2 hours a month. 81% of the residents responded that they find the volume of work appropriate and only 3 % responds that they work too much. 7 % responds that they work too little.

According to the survey, four out of five residents fully or partly agree that resident's responsibility for maintenance and administration leads to greater ownership of the property, and that the organization and execution of the tasks is to create strong cohesion in the estates. This is supported in several interviews, for instance:

"I think that the concept of helping along is great because someone like me who moves in and is alone every second week, I need to know my neighbors, and I think I get to do that …but also that you feel committed to the place you live, that you pick up waste when you pass somewhere. I think it gives a large sense of responsibility (resident, interview)

An obvious risk relate to the self-management is free-riding; 64% of the residents agreed that lack of participation creates frustrations. In all estates there are households who fail to participate in maintenance work, but some estates can better accommodate the free-riding than others. Our interviews indicates that estates located further away from the center of Copenhagen, where the common areas typically are larger, also have a higher workload on maintenance and cleaning, and therefore also a higher risk of having residents that do not participate in the tasks. In contrast, estates closest to the center of Copenhagen have a smaller degree of shared spaces, and therefore also smaller workload and smaller problems with free-riding. Moreover, our interviews indicate that those estates where the estate board managed to articulate the importance of broad participation as a way to keep expenses low, has had less problems with free-riding. Finally, interviews with residents and members of the local boards indicated that the homogeneity of the estates was a background for the well-functioning self-management:

"But it's not without reason that we find it so cozy here. It's because we're a bit the same, we don't have any big conflicts, we're the same kind, the neighbors are just as our friends (resident in Grøndalsvænge)

For some of the residents operational work is not only something you participate in because you have to, but also an opportunity to get to know one another. When KAB first developed the AlmenBolig + concept they had only seen the self-management-principle as a means to reduce costs and it had not occurred to them that the self-management concept could have a positive influence on the neighborhood and sense of ownership (Stensgaard, 2014).

Figure 2. One of the first SH+ estates (Dorthevej) from 2013, located in Copenhagen. The residents are responsible for maintaining buildings and outdoor areas, as well as taking care of the administration. The estate has 51 homes between 85 and 125 m^2, some with a small private garden, other with balconies. The average rent in SH+ housing is 855 Dkr/m^2 per year (2013), which is app. 21% below comparable new social housing in the metropolitan region.

Administration

The self-management concept also includes self-administration, of which the majority lies with the estate board. For example, the estate boards are typically responsible for organizing the ongoing maintenance incl. planning and control of maintenance and making the annual budget. The absence of caretakers and estate office in each estate means that the board members in addition to the traditional board duties such as monthly board meetings, respond to inquiries from residents, communication with housing associations, etc., also stands for a variety of practical tasks including having to contact and wait for artisans, showcase vacant homes etc. The communication between the residents and the central administration is primarily digital.

There has generally been a great interest to join the estates boards. Asked about their motivation, 71% of the board members corresponds that they would like to have influence, and 64% that they like tasks. Compared to traditional social housing estates this enthusiasm for being a board member is highly unusual, as many local estates experiences problems of recruiting members for the local boards. Our evaluation shows, however, that the local board has a high workload which has caused many members to leave the board after some time. In the survey board members were asked to assess a number of tasks. The tasks which directors find most challenging are to handle constructional tasks (71%), communication with the housing organization and accounting and budget (both 50%). The tasks which fewest directors find challenging is the internal cooperation of the estate (21%) and cooperation with working groups and organizing estate meetings (both 29%). In the qualitative interviews the board members describe the responsibilities as time-consuming, and assess that the work-time is 5-7 hours a week. In the survey amongst board members 71% find the workload adequate and 21% that it is too big. Interviews with the boards support this impression:

”It has been insanely demanding, and if I had known that I would never have entered the board” (Board member, SH+ estate)

"..In a housing association which has been running for decades you have all these routines…"this is how we use to do it"*…we just don't have them here" (Board member, SH+ estate)*

Moreover, a large part of the residents come from other types of ownership, there is a call for better information on about the organization in social housing estates (rights, duties, rules, regulation etc.).

So far, the problems of recruiting new members for the boards have been limited, but over time there could be a risk that no residents will do the voluntary work in the board. This is not unusual in the social housing sector, but it's is more critical in the SH+ concept that is based on self-management.

The value of having to create an organizational culture is evaluated differently by the residents who have been interviewed. Some believe that this particular challenge has resulted in a declining interest in the tenant democracy and the community, while others believe that the effort has been a plus for the estates, since the process has provided a greater ownership of rules and organization.

A few of the interviewed residents who are not board members, have noticed that the board is not only significant for the practical work, but also has an impact on how the estate functions socially.

"The estate is very dependent on the constitution of the board… if the board has an attitude like" we must put up signs and fence", then that's becomes the benchmark (Resident in SH+)

Overall, the survey and the interviews strongly indicate that the board not only has an impact on how the estates operate organizationally, but also influence how the local culture develops in the estate.

Summing up the experiences

Overall the SH+ concept in itself is relatively successful for various reasons. Firstly, the concept has taken up a holistic and innovative approach to affordability, including and combining various measures, from production, operation, sustainability, management of the buildings, and local neighborhood cohesion. Secondly, the concept has to a large extent been successful, especially as the self-management concept has proven to function, and promoting a sense of ownership to the buildings and the neighborhood. This stands in contrast to the classic welfare-approach in social housing, based on a high level of service paid over the rent, and limited responsibility for buildings, shared areas and administration amongst the residents. Thirdly, the concept has proven attractive for groups that normally avoid the social housing sector, which might pave the way for a better and more detailed image of the social housing sector in Denmark. From this point of view, the SH+ concept proves that affordable housing instead of being a burden for the social housing sector, could become a winning case.

There are, however, a number of risks related to the self-management concept, related to the framework for the self-management, in terms of recruitment of residents, quality of the buildings, and options for operation and managing free-riders. In relation to this we argue that the housing associations have to monitor the estates and develop the dialogue with them, as well as with the municipalities on accommodating new residents for the estates; the concept not

only re-redefines the role of the residents in building management, it also re-defines the role of the housing associations, and their relation to the local estates.

Regarding the self-management, the overall evaluation shows that the concept seems to work. However, there are a number of risks and uncertainties involved in the concept of self-management.

The recruitment and preparation of the residents for the SH+ concept: At the outset it was possible to establish certain procedures for the recruitment of residents, including preparation meetings and requirements according to flexible renting, but after establishing the estate, preparation meetings will not be possible, and the recruitment procedures will be as strict, i.e. that more residents will come directly from the waiting list, having potentially little interest in the self-management concept. If this will be the case, the amount of free-riding will potentially increase. In combination with the limited options for dealing with free-riders this might become a problem. An easy way to solve these problems is to outsource the maintenance tasks, but this will disrupt the self-management concept as well as the affordability, and is also likely to lead to less local engagement and feeling of ownership.

In the case of municipal accommodation it is the responsibility of the municipality to inform the coming residents about the SH+ concept, and it is a demand in the agreement that the residents fulfil the criteria in flexible rent when they move in. However, for these residents there is no preparations meetings, in contrast to the first breed of residents, therefore a generally lower level of preparation amongst new residents is expected over time. However, there are differences amongst the municipalities, as to which degree they use their right to accommodate residents for SH+.

Some of these issues are more at stake in some estates than in other; for instance, the lack of participation (maintenance of outdoor areas and administration) becomes critical in estates with a low number of houses, and in estates with larger outdoor areas. Experiences indicate that the local board is a critical unit for the general function of the estate, and if the workload of the local board gets to large (due to administrations or organizational tasks), this might affect the whole estates ability to take of the operation and maintenance.

The evaluation of SH+ concept shows that the self-management is based on other elements of the concept, including the design (easy-to-maintain design and materials), to the procedure of recruiting residents, to the neighborhood concept (a limited size that allows high level of social contacts), and probably also the ability to attract residents from other types of housing that are used to and willing to operate with self-management.

Transition of the SH+ concept

In the following, the SH+ will be discussed in relation to the Technological Transition Theory. Firstly, the discussion will discuss the research question. i.e. whether the SH+ concept is likely to influence the existing social housing regime. Secondly, it will discuss some observations to the type of transition this might include, as well some observations regarding the concepts of the theory.

Understanding SH+ as a niche

We have argued that the SH+ can be seen as a niche, as there were certain formal exceptions from the social housing regulation that allowed the concept to be implemented, as well as certain changes from "normal practice" that affected various actor groups involved in the concept. As stated by Smith (2007), the stabilization of the niche includes both learning processes and institutional embedding. The SH+ include both; of the 15 elements that defined the concept, the majority was merely administrative and includes no legal changes, but only changes in practice, whereas four elements require changes in the legislation:

1. Time-schedules in the approving procedure for building social housing have been adjusted, in order to enable production of large quantities (300-500 units prefabricated houses).
2. Maximum housing sizes were raised to 130 m^2
3. The deposit was indexed, so that the residents will receive an indexed deposit when they move away.
4. The rules for the physical changes that the residents make in the flats have been simplified, so that they resemble the ways in which improvements, changes etc. are managed in other types of housing.

As the experiences were positive with four elements, there are initiatives for making them permanent changes, therefore implying that some institutional embedding has taken place.

The other elements in the concept, including the operation and maintenance, the savings for future improvements etc. are purely administrative, and can be implemented without changes in the formal regulation. However, they require several changes in the traditional practice related to social housing, both amongst users, administrators, producers etc. The evaluation showed that the concept had many critics amongst other social housing associations, technical experts and urban planners in the municipalities. Amongst users, however, the concept has been very positively received, and most noteworthy, it has attracted user segments that under normal conditions would not have demanded social housing.

Looking at the three different stages in the niche formation, as outlined by Schout & Gels (2007), we can identify different formation challenges:

1. The articulation (and adjustment) of expectations or visions: The visions for SH+ were formulated by KAB, but strongly inspired by the formal major of Copenhagen. This included an extensive evaluation of all types of expenses related to social housing, and possible means to reduce costs
2. The building of social networks and the enrolment of more actors: This stage was critical, as it involved other social housing associations, as well as the ministry for Housing, which allowed the concept to be implemented in real life, in terms of a niche, excepting the concept from certain types of regulation. As previously described there were many critical attitudes to the concept amongst other housing associations, especially regarding the self-management concept and the aim of attracting "core-workers"
3. Learning and articulation processes on various dimensions: Learning, observations and adjustment of the concept has taken place all along the process, and has implied several changes, but also lessons related to user preferences, practical administration of the SH+ departments etc.

One of the lessons is that the housing association has realized that they also need to change their role in the SH+ concept. This include practices regarding the delivery process, the information of the residents, better information from producers to tenants regarding operation of buildings etc. Another is that the low production price could be achieved by producing only 100 units at a time, whereas it was assumed that 300-400 housing units were necessary at the outset. This means that the production concept become available for other types of customers. Other lessons learnt included unexpected benefits, especially that the low-budget concept that implied that the residents to a larger extent made own improvements in the dwellings, and that they had to perform self-management, which contributed to a large degree of ownership amongst the residents. This was stated several times in the interviews and surveys, but not a benefit that was expected when the concept was conceived.

In this respect, the SH+ has to some extent followed the classic steps in a niche-formation. There are however also some differences from traditional niches: The SH+ concept was only to some extent protected from the "real world"; there were exceptions that allowed the concept to be established, but the test and adaptation took place in real life, with real people living in real houses; there was no testing period, where users could become familiar with the technology and the social framework, or the social housing association to become familiar with the management of the SH+ departments etc.

Although the SH+-concept was not developed to substitute the existing regime, but to serve as "*another commodity on the shelf*" (CEO at KAB), the SH+ contains a number of elements, some innovative, others just changing administrative practice, but in total might be included in "normal" practices in the regime – whereas other elements in the concept were controversial, both related to technical issues and to social and moral issues (e.g. the low basements and the self-management, leading to a selective choice of tenants), or related to a large insecurity (free-riding, ability to maintain buildings, the recruitment process of tenants etc.).

Has the SH+ concept had any impact on the existing regime?

Seen in pure quantities, the production volume of the SH+ concept has included app. 1.500 dwellings (from 2011-2016), of which 1.200 has been built in the metropolitan region. In the same period, there has been built a total of 4.800 social housing dwellings in the metropolitan region (Landsbyggefonden, 2017). This corresponds to 25 % of all new social housing in the period in the metropolitan region. Therefore it can be argued that the SH+ has already gained a large share of – and impact on – the social housing regime, when it comes to new buildings. After the test period ended (in 2016), two more SH+ departments has been established, one (Robinievej, in Ledøje-Smørum) under the housing association BO-VEST who was not a partner in the SH+ concept during the testing period. In this case the SH+ dwellings is used as temporary housing for residents under a large renovation scheme (Albertslund Syd).

The SH+ has also evolved to other social housing concepts: One is a concept for an affordable youth-housing (BasisBolig). Another is a refugee-housing concept, based on a combination with the BasisBolig-concept ("Flygtningeboliger med perspektiv"). In both concepts ideas about self-management and social inclusion are central elements. A third example is a concept for a multi-generational housing ("Generationernes Byhus"), where the

aim is to mix generations in the same building. These are concepts developed by KAB, in partnership with shifting designers, financers, authorities etc.

The concept has generally influenced the housing management in KAB in many different ways, and has ”*...become a part of our DNA*” (KAB, 2016), leading to incorporating various lessons from SH+ in their daily routines and strategic practices.

Thus, the SH+ concept at this stage has had a rather large impact, both in terms of dissemination on the market for new-built social housing, on the administrative culture in KAB, and on the development of new housing concepts.

A fast pathway with slow change?

As argued before, it can be discussed how radical the SH+ concept is in relation to existing practices and concepts in the regime, and how much the development of the concept has actually changed the regime; the main achievement is the arrangement of various existing elements, in combination with a few new approaches, such as the self-management.

In relation to the typology of transition paths as suggested by Geels & Schot (2007): 1. Transformation, 2. Technological substitution, 3. Reconfiguration, 4. De-alignment and re-alignment – the SH+ concept seems to follow a combination of the technological substitution (“niche-innovations gain high internal momentum (because of resource investments, consumer demand, cultural enthusiasm, political support, etc.), in which case they can replace the regime without the help of landscape pressures”, Schout & Geels, 2007) and a reconfiguration, where “niches are symbiotic to the regime” and therefore “incumbent actors can adopt them as ‘add-ons’ to solve local problems” (Schout & Geels, 2007). In contrast, more radical pathways as the “Transformation” and the “De-alignment” demands a lot more pressure from the landscape, which is difficult to see at the moment, in spite of a large public debate on affordable housing. Thus, individual agency has been a main driver for the development of the concept, although ”agency”, which has been criticized for lacking in the MLP-model (Geels, 2011), as the model puts too much emphasis on structural conditions for change. Agency also comes around as the sector itself is put under pressure, due to the gradual out-move of resourceful residents, and a similar influx of residents with small resources; this has not resulted in a pressure from the landscape, but as an internal ambition within the social housing sector to make a change, and attract other types of residents, and provide development in different ways. However, this has not taken place as a coordinated effort across the social housing sector, but has been left to the individual housing associations – therefore agency in terms of individual initiatives for a change has played a large role in this case.

Conclusions

There are several observations and conclusions, as well as questions, to be drawn from the SH+ concept: The figures indicate that the concept has actually captured a relatively large part of new-built social housing in the metropolitan region, as well as leading to new innovative housing concepts, and qualitative data suggests that the concept has actually changed the practices amongst the

developers (the social housing association KAB). The evaluation indicates that a main reason for this apparent success has been the satisfaction with the concept amongst the users, and the willingness to take part in the self-management concept – moreover, this has contributed to establishing a high sense of ownership amongst the residents. Another main reason is the lack of radical changes in relation to the existing regime. Instead, the innovation is based on orchestrating a coordinated change effort, including a number of elements that are necessary for the new niche configuration to work. A third reason for the popularity is, supposedly, that the concept has managed to attract families from the middle-class, coming from other types of tenure.

Therefore, it is no surprise that the change and innovation, in spite of being the largest development project in the social housing sector in the last decades, has neither been radical, nor revolutionary – but rather incremental. We also notice that the change that the SH+ concept has caused only to some extent has been structurally based (political wishes for affordable housing, but with no changes in regulation), but instead individual agency seems to have more importance in this case.

In a longer perspective, there are, however obvious threads related to the concept; the self-management concept seems to work well in a configuration with mainly middle-class families, enabled by a strict visitation before moving in. In the long run, changes in the residential composition might change, the maintenance jobs might be heavier, and the self-management concept might be challenged. Therefore, a next step could be to open, develop and test the concept for other groups, the "traditional" social housing residents, and challenge the assumption that only the families from the middle-class is able to take carry out self-management, and having the feeling of ownership to the built environment.

References

Abramsson M and Borgegård L (1998) "Changing welfare states and social housing: Consequences for spatial segregation reviewed". *Scandinavian Housing and Planning Research*, 15 (3): 149-173

Alves, S., & Andersen, H. T. (2015). Social housing in Portugal and Denmark: a comparative perspective. Paper presented at European Network for Housing Research, ENHR, Lisboa, Portugal.

Andersen og Fridberg (2006) *"Den almene boligsektors rolle i samfundet. Hvad ved vi fra hidtidig forskning og undersøgelser"* SBi 2006:11,

Bech-Danielsen, C. (2011) *Blev de billige boliger bedre?: Evaluering af arkitektoniske kvaliteter.* (1 udg.) Hørsholm: SBI forlag. (SBI; Nr. 13, Vol. 2011).

Bisgaard, H. 1990-2010. *Københavns Genrejsning*. 1 udgave edn, Bogværket, 2010.

Boligøkonomisk Videncenter (2015) Tal & Fakta: http://www.bvc.dk/SiteCollectionDocuments/Nyhedsbreve/BoligTal%207%20-%20Boligprisindeks%202%20kvartal%202015.pdf

Dagbladet Information (2016) *Hvor er strategien for at skaffe billige boliger til København?* 13. juni 2016.

Gabriel M, Jacobs K, Arthurson K, Burke T and Yates J (2005) *Conceptualising and measuring the housing affordability problem*, National Research Venture 3: Housing affordability for lower income Australians Research Paper No. 1, Australian Housing and Urban Research Institute.

Geels, F. W. (2002). Technological transitions as evolutionary reconfiguration processes: a multi-level perspective and a case-study. *Research Policy*, *31*(8–9), 1257–1274. http://doi.org/10.1016/S0048-7333(02)00062-8

Geels, F. W., & Schot, J. (2007). Typology of sociotechnical transition pathways. *Research Policy*, *36*(3), 399–417. http://doi.org/10.1016/j.respol.2007.01.003

Glerup Aner, L & Hansen, Høgni Kalsø. 2014. *Flytninger fra byer til land og yderkommuner*. SFI – Det nationale forskningscenter for Velfærd.

Hansen, S and Østerby, A., red.(2015) Mangel på billige boliger – muligheder og barrierer for flere billige boliger i Danmark. 2015. Kuben Management. Rådet for Socialt Udsatte.

Jensen, J.O. & Stensgaard, A.G. (2016) *Evaluering af AlmenBolig+*. SBi 2016:07. Statens Byggeforskningsinstitut, Aalborg Universitet.

Jensen, J.O. & Stensgaard, A.G. (2014) *2. delevaluering af AlmenBolig+: Udlejning og naboskab samt beboernes ansvar for drift og vedligehold*. Notat.

Jensen, J.O. & Friis, F. (2011) *Evaluering af AlmenBolig+ konceptets 1. fase: Nyindustrialisering, økonomi og tværkommunalt samarbejde*. Notat.

Johansson, J. (2016) *Bæredygtighed i danske almene boliger - med et brugerfokus*. PhD-dissertation. København: Det Kongelige Danske Kunstakademiets Skoler for Arkitektur, Design og Konservering.

KAB. (2013a). *AlmenBolig+ undersøgelse*. Spørgeskemaundersøgelse fra 2013 blandt beboere i fire AB+ afdelinger. Udført af Defgo.net i perioden 14-05-2013 - 12-08-2013. KAB Totalrapport, 2013.

KAB. (2013b). *Almenbolig+. Statusrapport juli 2013*.

Københavns Kommune: Boligbarometer: https://www.kk.dk/sites/default/files/Boligbarometer%202014_endlig.pdf

Landsbyggefonden (2017) *Nybyggeri i den almene boligsektor 2011-2016*. Temastatistik 2017:6

Landsbyggefonden (2013) *Statistisk analyse af driftsomkostninger i den almene boligsektor 2013*.

Lazarovic, R., Paton, D & Bornstein,L.(2016) Approaches to workforce housing in London and Chicago: from targeted sectors to income-based eligibility. *Housing studies*, 2016. Vol. 31 NO 6, 651-671

Milligan V, Phibbs P, Gurran N and Fagan K (2007) *Approaches to Evaluation of Affordable Housing Initiatives in Australia*, National Research Venture 3: Housing affordability for lower income Australians Research Paper No. 7, Australian Housing and Urban Research Institute.

O'Neil, Phillip et al. (2008) *Housing Affordability Literature Review and Affordable Housing Program Audit*. Urban Research Centre, University of Western Sydney.

Orbicon. (2015). *Sammenlignende oversigt over byggeskadefondens 1-års gennemgange af AlmenBolig+ afdelinger*. Notat dateret 09.01.2015

Scanlon, K. J., & Vestergaard, H. (2007). *The solution or part of the problem?: Social housing in transition. The Danish case.* In ENHR 2007 International Conference 'Sustainable Urban Areas'. ENHR.

Schot, J., & Geels, F. W. (2008). Strategic niche management and sustainable innovation journeys: theory, findings, research agenda, and policy. *Technology Analysis & Strategic Management*, *20*(5), 537–554. http://doi.org/10.1080/09537320802292651

Skovgaard Nielsen, Rikke (2016) Straight-line assimilation in leaving Home? A Comparison of Turks, Somalis and Danes. *Housing Studies*, 31:6, 631-650 DOI: 10.1080/02673037.2015.1114076

Smith, A. (2007). Translating Sustainabilities between Green Niches and Socio-Technical Regimes. *Technology Analysis & Strategic Management*, *19*(4), 427–450. http://doi.org/10.1080/09537320701403334

Stensgaard, A.G. (2014). *Vi flytter aldrig – en undersøgelse af hverdagsliv, fællesskab og stedstilknytning i Almenbolig+* 2014. Speciale-afrapportering på By, Bolig og Bosætning, Aalborg Universitet

Turkington, R& Watson, C . 2015. *Renewing Europes Housing.* Policy Press, UK.

UN-Habitat. (2016). *World Cities Report 2016*. Chapter 3: The Fate of Housing. Nairobi, Kenya.

Whitehead, C. (1991) 'From need to affordability: An analysis of UK housing objectives', *Urban Studies*, vol. 28, no. 6, pp. 871-87