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# A Legacy of Energy Saving: The Discussion on Heritage Values in the First Programme on Energy Efficiency in Buildings in Sweden, c. 1974–1984

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## ABSTRACT

The paper analyses the ‘energy savings plan for existing buildings’ (EBB) introduced in Sweden after the first oil crisis of 1973, and how effects of policies on the built heritage were perceived and communicated to a wider public. A conflict between conservation aims and energy efficiency was constructed for the first time in Sweden. The programme was a huge investment made by the government to reduce the import of oil. At first, little consideration was taken to the fact that heritage values might be at risk when giving property owners financial incentives to retrofit their houses. Soon increasing knowledge about the existing building stock showed that older houses were not necessarily energy inefficient. An information campaign launched by protagonists of building conservation encouraged property owners to direct measures to the interiors of buildings, thus saving the exterior character of not just single buildings but also complete neighbourhoods. Towards the end of EBB, the field of conservation had become a more articulated voice when it came to influencing measures aiming at increased energy efficiency. Finally, the paper discusses how values constituted in the 1970s affect policy and practice today.

## KEYWORDS

Energy; efficiency; policies; conservation; built heritage; values

## Introduction

The paper analyses the ‘energy savings plan for existing buildings’ (*Energisparplan för befintlig bebyggelse*, hence abbreviated EBB) introduced in Sweden following the first global energy crisis of 1973, and how effects of policies on the built heritage were perceived and communicated to a wider public. The overarching goal of the programme, which also was reached in a 10-year period, was to make Swedish economy much less dependent on oil by making the nation’s energy use more efficient. For the first time, a conflict between heritage values and energy saving goals was constructed, a conflict that is alive still today. Before the 1970s, there was not a clear-cut conflict at a policy level.<sup>1</sup> The purpose of the paper is therefore to understand how the heritage sector intervened when a political demand for large cuts in the energy use of the built environment was articulated and policies implemented. By studying how energy and heritage policies have come in conflict with each other, we can hopefully understand

how to design more integrated policies that are less prone to cause friction between energy use and consumption.

Historical studies of how energy policies have developed, not only focusing on the particular effects in economic or energy saving terms but also analysing discursive and organisational changes, can be useful for future policy making.<sup>2</sup> We therefore set out to trace the historical origins of Swedish policies for energy efficiency in buildings, how these were debated and mitigated, and to discuss how values and ideological standpoints constituted in the 1970s affect policy and practice in Sweden today. Our focus is the management of built heritage and how the discourse on heritage conservation has co-evolved with energy efficiency policies.

A significant share of a nation's building stock is commonly perceived as having heritage values, but only fractions are officially designated as heritage buildings in Europe.<sup>3</sup> Heritage values in the built environment are often labelled by policymakers as barriers to energy-efficient renovation, best addressed by exempting designated historic buildings from energy efficiency programs.<sup>4</sup> We contend that the ideological standpoints underpinning the early policies continue to influence both policy making and popular attitudes towards energy saving and heritage conservation. Today, we argue, it is possible to speak of a Swedish heritage of energy saving in the sense that two generations of citizens have grown up being taught that it is important to reduce energy use and how to do it in general terms. But how did it all begin, and what were the main lessons of the first policies put in use? By looking at how the issue was first debated and tackled with policies and campaigns, we can reflect upon the legacy of energy saving in buildings.

There is good reason to concentrate the investigation of Swedish energy efficiency policies in the built environment to the decade 1974–1984. This was the period in which a great transition of fuels from oil to district heating and electric heating took place.<sup>5</sup> It was also the period when a huge leap in energy efficiency was made. The explanation has been that the transition to electricity eliminated most of the loss of energy that came from using oil for heating single apartment houses. In their synthesis of European energy systems 1500–2000, Kander et al. describe the rapid expansion of oil as a fuel in Europe from 1945 to 1975: it 'exploded during the "golden decades" of the 1950s and 1960s, when cheap oil flooded European markets and the oil share rose from 10 percent to 50 percent'.<sup>6</sup> Sweden became particularly dependent on oil in these years. Between 1945 and 1960, Sweden actually took the position as one of the most oil-dependent countries in Europe. At the beginning of the 1970s, the oil share of energy consumption in Sweden peaked at a staggering 70%, which was one of the highest shares in Europe. Then Sweden suddenly 'made a striking turn away from oil',<sup>7</sup> making it one of the *least* dependent countries in Europe. From a point of view of energy use, then, the period from 1970 to 1985 represents a paradigmatic shift in Sweden.

Towards the end of the 1970s, it was estimated that roughly half of all energy in Sweden was used in buildings. Making buildings more energy efficient was thus one important aim of the EBB programme. This programme would prove to have a tremendous influence on the conservation of built heritage. Starting in 1974, the government issued loans and grants to property owners who wished to make investments in order to improve the energy performance of their property. The idea was to catch an existing demand for renovation and use it to quicken up the pace of introduction of thermal

insulation, triple glazing, more efficient heating systems, lower indoor temperature in buildings etc. Policies were to be used to level differences between what was economically viable for the state vis-à-vis the individual. Some of the consequences of interventions in buildings were unnecessary replacements of facades, or replacement of old wooden windows and doors that could easily have been conserved. Ironically, the year 1975 had been the European Architectural Year, in which architectural heritage had been celebrated throughout Europe. This campaign produced an awareness of especially urban heritage and connected with the global environmental movement that was growing.<sup>8</sup>

## Energy Efficiency and Heritage Conservation

Traditionally, the conservation of built heritage has rested on the belief that there are heritage values embedded in some but not all buildings. These values are often summarised as the 'character' of a building. This point of view was first described in educational material used in Sweden in the 1970s to inform teachers in the field of energy.<sup>9</sup> If the character was compromised by insensitive changes, there could be a loss of values. This loss was negative not only for the owner of the property but for the community as a whole. In such an argument, historical values form the basis of social and cultural identities, and of a community's ability to engage with its past, present and future. As a consequence, rapid and massive changes in the built environment could cause irreparable damages to the identity and self-knowledge of a community. One important aim of modern conservation policies has thus been to slow down the rate of change in the built environment, and to completely halt the alteration of a small selection of buildings, places and sites that are deemed to be of great importance to heritage. Energy efficiency policies have generally been directed against the mass of the building stock, and thus, such policies have been pitted against policies designed to conserve buildings and to minimise alterations.<sup>10</sup>

Policies for cutting the energy use in buildings have been in use in Sweden for well more than four decades. While both the goals and designs of energy efficiency policies have changed significantly, as well as the political and social context in which they have been shaped, they seem to be as much asked for now in Europe as they were in the 1970s. Today, they address a wide array of goals such as economic householding of energy, cushioning the pace of climate change and improving the quality of the air we breathe. Analysts and policymakers have regarded the built environment as a cornucopia for reducing energy use and greenhouse gas emissions, but the level of energy used in buildings remains stubbornly high in Europe, on par with 1970s levels.<sup>11</sup> In Sweden, energy use in buildings has levelled off since the 1980s, but it seems to be difficult to further reduce the use of energy in a considerable way.

In recent years, there has been a more nuanced discussion in both academia and among heritage professionals on how to balance energy efficiency and heritage preservation. The need for interdisciplinary research has been emphasised.<sup>12</sup> Questions of how we should go about saving energy are complex and embedded in social practices. It has therefore been argued that policymaking should be based on a more refined understanding of how decisions on energy efficiency interventions actually are made and how they relate to everyday practices.<sup>13</sup> Heritage buildings might be particularly

difficult to reach with general energy efficiency policy. Yarrow discusses how the importance of the legislative context tends to be downplayed in cases where heritage values are decisive, as the decision-making often is based on professional judgement and informal negotiations about case-specific circumstances.<sup>14</sup> Homeowner's perceptions of heritage values in the home are often important for decisions about energy-efficient renovation.<sup>15</sup> Understandings of heritage significance 'frame assessments of whether and how modifications are deemed acceptable'.<sup>16</sup> These examples point to the fact that value, irrespective if referred to as 'significance', 'character' or just 'old', plays not only an important but also complex and ambiguous role when making existing buildings more energy efficient. In general, policymakers seem to have largely shunned this potential conflict by means of exclusion or ignorance.

Unlike the above-mentioned research on energy efficiency and heritage, this paper positions itself within the interdisciplinary field of heritage studies. It is a field that has emerged as a result of a growing gap between theory and practice. Heritage studies ask why heritage has come to develop into a global phenomenon in recent decades, and why we today seem to be living with an 'abundance' of heritage. In traditional scholarship, heritage is often seen as mainly about buildings and objects presented from the past and its interpretation. Heritage studies, on the other hand, argue that 'heritage is primarily *not* about the past, but instead about our relationship with the *present* and the *future*'.<sup>17</sup> It thus becomes quite central to see heritage as emerging from relations between people, places and practices, and not just from the buildings themselves. This perspective reveals that policymaking may not just be understood as reacting at a static mass of heritage buildings. Instead, policymaking can also be seen as actively contributing to the construction of heritage. It is a fact that energy efficiency policies may determine which buildings become affected by them, and in what ways.

Heritage, then, is understood as shaped in the present, and it generally reflects both inherited and contemporary concerns about the past and how it may be used. The conservation movement emerged in the twentieth century from a viewpoint that heritage was more or less constantly under threat, at risk of being destroyed or downgraded, and in need of legal and formal protection.<sup>18</sup> This put the heritage sector in a defensive position that merely allowed for something more than passive management of the remains of the past. The values were already immanent in the built environment, and the task was to safeguard that they were not obliterated by demolition or insensitive renovation. In reality, however, heritage is produced in contemporary society through connections between people and objects.

## Sources and Methodology

Since this is an historical study, the source material consists of archives and published sources. Four archives of institutions involved in built heritage have been explored: *Statens Institut för Byggnadsforskning* (The Institute for Building Research, SIB), *Arkitektur- och Designcentrum* (ArkDes), *Riksantikvarieämbetet* (Swedish National Heritage Board, RAÄ) and *Svenska byggnadsvårdsföreningen* (Swedish Association of Building Conservation, SBF). SIB was a government-led research institute existing between 1960 and 1993. Its archive is kept in *Riksarkivet* (Swedish National Archives, RA) in Stockholm. ArkDes is today a museum of architecture and design, also located in Stockholm, and

keeps a large archive of architectural drawings, exhibitions and models. For the purpose of this paper, we have made use of its documentation of a touring exhibition on energy efficiency in historic buildings from the years 1979–1981.

RAÄ is the central authority of heritage planning in Sweden and keeps a vast archive. The project *Energibesparing och byggnadsvård* (energy savings and building conservation) produced correspondence, protocols and publications demonstrating the work of RAÄ in this novel field. Records illustrating the actions carried through by the authority in 1979–1984 as a consequence of the implementation of EBB have been utilised. There are two volumes in the F4 series of the archive of *överantikvarien* in which this information is collected.

SBF is a non-profit association founded in 1975 to work for the protection of built heritage in Sweden. From 1979, SBF worked actively to promote knowledge of built heritage and how to go about when making old buildings more energy efficient. Board meeting protocols from SBF's archive have been useful to shed light on the strategy employed by the association. SBF worked together with RAÄ and ArkDes to produce a touring exhibition on how to make old buildings more energy efficient without depreciating their historical values. In this paper, the documentation of the above-mentioned exhibition *Ta hand om hus* ('Take care of houses') represents the official view of the heritage sector in the late 1970s and early 1980s. It is kept in three volumes (numbers F2:93, F2:94A and K4) of the ArkDes archive.

A vast number of publications were produced by different actors in order to guide property owners and the wider public in their own decisions when it came to energy use in buildings. In this paper, a selection of publications concerning energy efficiency in buildings printed 1974–1984 is used.

## The Introduction of Energy Efficiency Policies

In the 1970s, building in Sweden was regulated in the Building Code. The code made it possible to designate overall protection to certain blocks or complete neighbourhoods, as well as to individual houses.<sup>19</sup> Supplementing the code was the Building Regulation (*Byggnadsstadgan*), stipulating (paragraph 44a) that new houses be built in a way that would ensure good energy economy. In the course of the decade, the responsibility for overseeing the protection of the built heritage was decentralised from RAÄ to the counties, which motivated the county administrations to acquire up-to-date knowledge about the built environment by conducting surveys. This also meant that there was a general move from a monumental view of heritage to an environmental view, including larger and newer parts of the building stock and its environments.

By 1975, there were policies in place to make it feasible for property owners to reduce energy use in their buildings. Thirty-five per cent of the costs for energy efficiency improvements could be subsidised by the government, allowing a maximum support of 2000 SEK per apartment. There was also the possibility of lending up to 65% of the total cost for improvements, with a ceiling of 4000 SEK per apartment. That amount is equal to 22,375 SEK in the monetary value of year 2017.<sup>20</sup> Potentially, then, a homeowner could fund the complete improvement with a grant and loan. This included measures on heating, thermoregulation and thermal insulation. Houses that already had sufficient insulation could however not be supported with such a grant or loan. Except

for the energy efficiency support (*energisparstöd*), there were also other government loans designed for house owners. There were loans for improvement (*förbättringslån*), loans for historically valuable housing (*kulturhistoriskt värdefull bostadsbebyggelse*) and loans for reconstruction (*bostadslån för ombyggnad*).<sup>21</sup>

Governments have made the built environment a target for policies by surveying, categorising and describing it. In Sweden, there were multiple techniques that government authorities employed in order to do this. Even though these techniques differed, they had in common that they created connections between the past, present and future. The national planning authorities used dichotomies such as 'modern' and 'outdated' to easily divide the building stock into neat categories ripe for planning policies.<sup>22</sup> The ways in which the building stock was categorised reveal how government on both national and local level looked at the potentials of energy savings. Even though these very simplistic tools for categorising had similarities in their way of conceptualising the temporality of the built environment, they were used for profoundly different purposes. References to 'modernity' were used by planners to point to the need for additional modernisation by way of using more comfort technology and making buildings more energy efficient. The EBB should be understood within the wider context of the massive 'modernisation' of housing that took place in the 1970s.

In a similar fashion, the national heritage authorities used a chronological perspective categorising buildings into 'older' ones, usually ones built before 1940, and 'newer' ones in order to make the implementation of heritage policies easier.<sup>23</sup> The categorisation used by the heritage sector was instead intended for the protection of older buildings from interventions that changed their exterior appearance, thus minimising the risk for obliterating historical values. Listed buildings, however, remained very few in Sweden: the law on building monuments was reserved for an exclusive selection of buildings worthy of protection.<sup>24</sup>

The categorisation was made from different viewpoints in conservation. The building materials and technology used were crucial whereas the planning sector looked on modernity as defined by the level of comfort and hygiene. In reality, in some municipalities, the planning department applied a more holistic approach to the built environment, meaning that also buildings erected later than 1940 could be considered part of heritage. Lamellar built in the early 1940s, for instance, were seen as valuable by the building committee in Stockholm, and RAÄ could consider some complete environments from the 1950s (Figures 1 and 2) as worth preserving around 1980.<sup>25</sup> This was especially the case after 1975, as there was something of a renaissance for architectural heritage. The number of building surveys carried out increased sharply after 1974,<sup>26</sup> but still at the end of the decade, there was comparatively little detailed knowledge on the general constitution of the total building stock when it comes to historical values and energy performance. In 1976, *Statens planverk* (SP) was assigned the task of calculating the potential for energy savings in the built environment in the following 10 years.<sup>27</sup>

In a study on how to proceed with surveys of historical buildings with regards to the needs for protecting them against insensitive energy efficiency measures, RAÄ also included some newer areas. In this illustration, a case of brick-clad detached houses from the 1950s is discussed.



*I Olsfors samhälle ligger denna koncentration av fasadtegelklädda villor från 1950-talet. Villorna bildar tillsammans en enhetlig och tidstypisk miljö som skulle gå förlorad om ett enda av husen får en annorlunda fasadbeklädnad. Husen har dessutom ett känsligt läge alldeles vid infarten till samhället.*

**Figure 1.** Source: Riksantikvarieämbetet, Kulturhistorisk byggnadsinventering

The building committee of Stockholm published (1983) a guide on how the facades of 1930s and 1940s lamellar should be treated when making the houses more energy efficient.

The EBB programme was finally launched in May 1978 with the ultimate aim of reducing total energy use in buildings by 25–30% in 10 years.<sup>28</sup> A toolbox of policies was implemented massively all over the country. Just in the first fiscal year of the programme, a total of 54,000 buildings were granted a support valued to almost 1 billion Kronor. During the period 1978–1988, a total of 40 billion Kronor was spent on thermal insulation, new heating systems, new windows and doors, information to homeowners etc. The funding was allocated by *länsbostadsnämnder*, county housing committees that in general seem to have circumvented the local planning authorities in order to respond quickly to homeowners' applications. Local and regional authorities were supposed to cooperate and reach consensus on how to deal with building and planning in a municipality,<sup>29</sup> but in reality, municipalities seem to have accepted that a quick processing of applications for energy saving loans and grants overrode considerations of environmental or historical values. Only in areas with detailed plans for building, such as in urban areas, did homeowners need to apply for building permits when making substantial changes to the exterior appearance of their houses. In information





*De flesta smalhusen har ljusa slätputsade fasader. Fönstren lades i fasadlivet och bildar tillsammans med putsen en slät yta utan nischer.*



*Fasadisolering med puts där fönstren ligger kvar i nischer. Fasaden blir en muryta med hål i, men mycket av ursprungskaraktären finns kvar genom material- och färgverkan.*



*Fasadisolering med plåt. Genom materialverkan, skarvar, färgindelning och onödiga skador är husets ursprungskaraktär helt förvanskad.*

**Figure 2.** Source: Stockholms byggnadsnämnd, *Smalhus. Energisparande och fasadisolering*

to homeowners from 1982, the National Housing Board (*Bostadsstyrelsen*) suggested improvement of facades, a kind of measure that normally would have a major impact on the appearance of a house.<sup>30</sup>

## From Great Expectations to Empirically Founded Conclusions

In order to understand why such radical measures were considered legitimate by SP, which until 1988 was the authority in charge of urban plans, housing and the management of natural resources, it is necessary to briefly explain the prevailing discourse of the built environment of 1970s Sweden. The housing stock was basically divided into three categories by SP: there was 'modern', 'half-modern' and 'outdated' housing. The aim of the government was to decrease the number of the latter two categories in order to increase the share of modern housing units, in order to make a general improvement of the housing standard in Sweden. Half-modern housing was units with running water, sewage, central heating and water closet, but missing a bathroom. Outdated housing units were missing these technical installations.<sup>31</sup>

Since the 1960s, there had been a consistent effort of the government to reduce the share of outdated housing. In 1975, SP could announce that 85% of all housing was 'modern', as compared to 50% in 1960.<sup>32</sup> This number revealed something of the revolution of the built environment that had taken place in Sweden, with a wave of strong urbanisation and the development of new suburbs. This revolution in housing quality was the result of so-called modernisation and demolition of outdated housing. In the 1950s and 1960s, a large number of 'outdated' housing units were demolished in the cities in the name of 'decontamination' (*sanering*). The concept of *sanering* was used extensively in Sweden after 1945 in a nation-wide programme of urban renewal. In practice, whole blocks and neighbourhoods of older buildings in cities were demolished in order to make way for modern, hygienic and rationally planned housing. By the mid-1970s, however, funding for building new housing was running out, and investments in renovation of existing buildings grew instead. Renovation with the purpose of making housing more energy efficient was increasingly important and easy for property owners to fund.<sup>33</sup>

Beginning in the mid-1970s, however, there was a reaction against the wave of modernisation and demolition from the conservation sector and the developing environmental movement. This response was based on a popular environmental movement that turned against what was seen as the dismantling of community identity and heritage.<sup>34</sup> The authors of a report (1981) on the effects of energy saving measures on heritage noted:

Towards the mid- and late 1970s one can notice a reaction against the loss of tradition. The interpretations of the Swedish building tradition made by house and material producers are now marketed in the form of standardised homes with associating names and easily sold attributes. (...) About 30% of our residential housing was built before 1940. Taken together the older houses constitute great historical and environmental values. A large and important part of them still exists and is well preserved. Our old view of town and country is partially still intact, but for how long?<sup>35</sup>

The situation described in the quote is one of creeping but vast changes of the building stock taking place. RAÄ associated 30% of all buildings in Sweden with at least some historical value loosely based on an absolute age criteria ('built before 1940').<sup>36</sup> For the conservation sector, this year marked the introduction of industrial building technologies, and the definitive abandonment of traditional craftsmanship in building. Considerations of how this substantial share of all buildings was to be protected from changes caused by the wish to insulate and decrease energy use were scarce on the national level. There was no policy in effect that made it possible to protect 30% of all houses. So which houses or districts should be protected, and more precisely, on what grounds? The answer to that question remained unanswered. There was not a methodology in use that could readily be applied with the purpose of identifying these buildings.

From 1977 to 1982, there was an advisory for issues of energy use in buildings at RAÄ. The reason for this advisory was that RAÄ was supposed to monitor the interests of the cultural heritage sector when policies for energy efficiency in buildings were designed and implemented. RAÄ, traditionally an authority with the task of monitoring monumental heritage and which had not been much involved in urban planning, was at this point in time not yet used to communicating with or supporting the planning authorities.<sup>37</sup>

RAÄ meant that if thermal insulation could be concentrated to the interiors of buildings, such as the floors and the inside of walls and ceilings, there should be little reason for conflict between energy efficiency goals and historical values. However, due to the unnecessary focus put by SP on exterior insulation of facades there was a great risk that significant values were spoiled.<sup>38</sup> The authority wished to become more involved in the national planning process on energy saving, in which it did not have any clear role or any resources at its disposal. There was for instance no allocated money for publishing and distributing advice on how to consider historical values when planning measures for increased energy efficiency.

The most important work carried out by RAÄ in the field of energy efficiency was to cooperate with SIB in a research project on the Swedish building stock. SIB had just finished a survey of the energy saving potential in buildings.<sup>39</sup> While the EBB programme had been designed, SIB had been carrying out a survey of the actual potential for saving energy in the built environment. An inventory of 3000 randomly selected houses was carried out in 1977, based on plans, inspections and interviews. The purpose of the inventory was to survey the potential for increased energy efficiency in the built environment.

SP's view had thus been based on a perception of modern housing as vastly more energy efficient than houses built before 1960, i.e. those that were described as 'half-modern' or 'outdated'. There was a tendency to value the most recent building construction as the ideal one. Older buildings were regarded as wasteful of energy and technically outdated by SP, as they often were poorly insulated and leaky.<sup>40</sup> There were some considerations of historical values of older buildings made by SP, especially concerning fin-de-siecle apartment buildings on which exterior alterations such as changes in the facade layer were not deemed appropriate. It was easier to give smaller

houses exterior insulation.<sup>41</sup> This perception of houses built before 1960 was quite quickly rejected by SIB following its inventory.

The final results of SIB were published in Spring 1978, shortly after the programme had been launched. The most important observation was that SP had consistently underestimated the energy efficiency of a large part of the building stock, namely older single apartment homes.<sup>42</sup> SP had been wrong in supposing that a lot of these houses had not already received additional thermal insulation. According to SIB, 25% of single apartment homes already had insulated outer walls, and 22% had an insulated attic. The conclusion, then, was that it would be much more expensive for the state than previously planned to reach the goals for energy saving. Much had already been done to make older houses less energy demanding, and additional measures would probably lead to smaller gains.<sup>43</sup> The supposition that older constructions would be much more easy to make more effective only partially seemed to correspond with reality. This also meant that if older houses were to be made more energy efficient, historical values would have to be bargained with to a greater extent than what first had been expected.

By 1979, the first fiscal year of the EBB had been evaluated, and the conclusion was not optimistic.<sup>44</sup> The energy saving potential did not meet the public investment made, and way too little energy was saved. The analysis showed that too many single family houses with relatively good thermal insulation had received grants and loans, bringing down the effects of policies. Subsidies, then, had been given in a much more generous manner than planned. The costs of improving single family homes were much bigger per unit than larger houses. A conclusion was that policies should focus on multiple apartment buildings with poor insulation and that the least efficient measures should be left out of the programme.

A sudden surge in the oil price in 1979 made it more profitable for property owners to use less oil for heating their houses, or to abandon heating with oil all together. Increased prices in combination with generous policies for grants and loans led to large-scale interventions on the older housing stock that turned out to have unwanted consequences for the historical values of the built environment. The contemporary legislation on building and planning and its shortcomings were analysed in a government report, but curiously enough without any mentioning of the energy saving policies.<sup>45</sup> It was as if energy efficiency measures were not seen as having any relevance for the preservation of historic buildings.

### **Communication of the Policy Effects on Built Heritage**

In 1980, the survey carried out by the architects Olof Antell and Catherine Paues was published by RAÄ. The survey was based on a statistically calculated selection of 200 houses, both single family homes and apartment buildings, which had received support for making energy efficiency measures. The focus was on exterior features of individual buildings, most predominantly changes of facades, windows, doors and roofs. The authors argued that historical values were severely affected by energy efficiency measures supported by government grants and loans.<sup>46</sup> The publication was designed both as a warning to and as advice to the homeowner on how to proceed with different measures. According to the authors, major changes to the exterior of some houses in a

district, such as colour and a new facade material, made these buildings deviate from their surroundings.<sup>47</sup>

Surveys carried out on a municipal level, however few, attempted to describe changes in the overall character of the building stock due to energy saving policies. These municipal publications differed from the RAÄ argument primarily in the way that they recognised broader historical values not just determined by an absolute age criteria. Examples of built areas erected later than 1940 were often included and their character described. Locally initiated surveys of the 1970s, then, were more inclusive than the national RAÄ survey was.

In a study booklet produced by Arkitekturmuseet in 1980, it was stated that Sweden had a long history of energy economics. Only in the most recent years had energy (read: oil) become so affordable that individuals have been able to give priority to other issues than heating and fire:

But most of what has been built in this country has been produced under meagre conditions that forced people to household with heat and fuel. As late as in the crisis years of the 1940s many of us had to experience heat rationing, which only admitted hot water one day a week.<sup>48</sup>

Examples mentioned portrayed neighbourhoods in which the houses had undergone radical changes in their exterior appearance.<sup>49</sup> If measures had not been energy efficient enough, the effects on the historical values had been unacceptable and unnecessary. The purpose of publishing such surveys was educational: the public needed to be taught about the dangers of not caring for historical values. The booklet, which was intended to be used in study circles together with an illustrative slide show, included examples from recently built areas, such as a block in the suburb Tensta built in 1968 and typical lamellar buildings from 1937, and was thus not occupied only with 'old' houses.<sup>50</sup> The newer houses were probably not included for their historical values, but for their potential to save more energy than small houses.

The booklet and the exhibition lingered at the problem of absent energy savings, clearly wishing to teach the course participant how to make what appeared to be rational choices. When intervening in a single family home several mistakes could be made: the measures could be done in a sloppy or wrong way, more easily performed measures such as sealing of windows and doors should have been prioritised, the walls may prove to have a better  $U$  value than expected, or actual energy consumption might be measured in the wrong way.<sup>51</sup> The information campaign focussed some measures as clearly unacceptable from a conservation point of view (substantial exterior changes), and some measures deemed appropriate. Among the latter ones were the sealing of windows and doors, interior insulation and improvements of the heating system – measures that did not affect the exterior appearance of a building. Apparently, the 1970s brought forward a simplified way of approaching energy efficiency gains while at the same time preserving built heritage that is still valid today.

In the period 1977–1983, the investments made in the different kinds of interventions in buildings shifted much.<sup>52</sup> One of the more important changes was when the grant for energy-efficient measures was abolished (July 1981). In 1980, the government decided

to set a target of cutting energy use in existing buildings with 30% within 10 years. The property owners were the ones supposed to carry out this cut in consumption.<sup>53</sup> Interestingly, in 1984, *Bostadsstyrelsen* (The Board of Housing) still predicted that a lot of improvements would be necessary to carry out, including insulation of facades and window replacements: 'In this way interventions in the buildings may become substantial', was one conclusion.<sup>54</sup> There was no mention that any serious consideration had to be taken regarding the conservation of buildings. On the contrary, the reasons to involve the building committees of municipalities were downplayed. With decreasing energy rates, increased energy efficiency would not be the main target of policies in the built environment in the following years. Instead, in 1983, an ambitious home improvement programme was launched in order to boost the building sector and decrease the level of unemployment among construction workers and craftsmen. Aims of energy efficiency were now incorporated into this programme.

## Conclusion

Today, the EBB programme of 1978–1987 has a bad reputation among preservationists as well as energy experts since it already in the late 1970s was criticised for being a waste of taxpayers' money, and for destroying historic values. This may be true to some extent, but if one looks at important experiences drawn during the implementation of the programme, the judgement of the effects becomes more nuanced. Empirically based knowledge about the character and potentials of the built environment in Sweden was improved radically after 1977 as a consequence of energy efficiency policies. A number of surveys were carried out and their results published. If knowledge of the existing buildings was improved, there seems to have been much less knowledge of human behaviour. Towards the end of the programme, observations were made that property owners as well as tenants to a limited extent collected and analysed information before making choices about their energy use. Often, they seemed to base their decisions on a 'gut feeling' or by speaking to neighbours or friends.<sup>55</sup> Nonetheless, even today, there is a persistent view in the professional field that consumers should be seen as rational beings making choices between 'right' and 'wrong' interventions. This idea of rational choice making can thus be derived from the very beginnings of the entanglement of energy saving/building conservation. In information brochures produced during the period, choices that consumers should make regarding their energy use are portrayed as easy and nonproblematic, a perception that is still common today. Another problem identified during those early years that persists today is the great uncertainty about the actual, and not just hypothetical, potential for saving energy in the built environment.

The entanglement of energy efficiency and cultural heritage has shifted in character since the late 1970s. The gradual adoption of yet wider definitions of heritage has made the issue of conservation and energy saving more complicated than it first was perceived as. Whereas most buildings associated with heritage at that time were built before 1940, more recent buildings erected with methods of modern building production and industrially manufactured materials have been included since. Further, the aims of energy saving are quite different from the original ones. In the 1970s, it was all about quenching the nation's thirst for oil, leading to a boost in

electrical heating, whereas today, the discourse is geared towards combating the global threat of climate change. The focus has gradually shifted from a national point of view to a global, but the problem also seems so much more complex today than it did 40 years ago.

How society relates to the issue of energy efficiency depends to a great extent on a perceived relationship between the past, present and future, in the way that the now more than four decades old discourse on energy efficiency policies has had an immense effect on how we today perceive and value built heritage. The critical approach applied here makes it possible to analyse positions taken both by the heritage sector and the urban planning sector in the 1970s and 1980s as a response to political demands on increased energy efficiency in buildings. We believe that the positions taken today by experts in the field are largely the same, both among scholars and practitioners. The reason for this may be that the circumstances in which the discourse on the conservation of built heritage developed in the late 1970s and early 1980s served to shape the perception of a conflict between energy efficiency and conservation for a very long time to come.

Swedish preservationists, however, probably need to abandon the notion that heritage is constantly under threat and in need of more legal protection. Such a notion underpins a static and expert-oriented view on heritage, supporting the notion that values are immanent in the material itself and beyond any meaningful engagement from non-experts. This may have the unwanted consequence of alienating laypersons and disqualifying their own identification and emotional attachment to heritage. It also puts the heritage sector in the position of constantly having to argue that a certain object or feature of an object is more valuable than another one. The designation of 'official' heritage means the simultaneous construction of non-heritage, or stuff that is not to be considered valuable or useful as heritage. Considering the fact that we today live with an abundance of heritage, such a delineation between heritage and non-heritage is losing legitimacy and is increasingly difficult to defend. Despite urbanisation, a massive increase in land use and global population, there is more and not less heritage today than there was 40 years ago.

## Notes

1. Legnér and Geijer, *Kulturarvet och komforten*, 276–279.
2. Rosenow and Galvin, *Evaluating the Evidence*.
3. Hassler, *Long-Term Building*.
4. Webb, *Energy Retrofits*.
5. Energimyndigheten, *Effektiv energianvändning*, 77.
6. Kander, Malanima and Warde, *Power to the People*, 256.
7. Kander et al., 258.
8. Glendinning, *The Conservation Movement*, 403–4.
9. Statens planverk, *Kulturhistoriskt intressant bebyggelse*.
10. Marie Stuart, *Managing or Driving*; Sunikka Blank and Galvin, *Irrational homeowners?*; Leijonhufvud, *Decision Making*; and Yarrow, *Negotiating Heritage*.
11. Kohler and Hassler, *Alternative Scenarios*.
12. Fouseki and Cassar, *Energy Efficiency*.
13. Gram-Hanssen, "Retrofitting owner-occupied housing".
14. Yarrow, *Negotiating Heritage*.

15. Judson, Iyer-Raniga and Horne, "Greening heritage housing"; and Galvin and Sunikka-Blank "The UK Homeowner-Retrofitter".
16. Yarrow, *Negotiating Heritage*, 2.
17. Harrison, *Heritage*, 4.
18. Pendlebury, *Conservation in an Age of Consensus*.
19. Legnér, "Regeneration," 132.
20. Edvinsson and Söderberg, "A Consumer Price Index".
21. Bostadsstyrelsen, *Underhåll Upprustning Ombyggnad*, 22–5.
22. Statens planverk, *Energihushållning i befintlig bebyggelse*, 21.
23. Antell and Paues, *Isolering uppåt väggarna*.
24. Lag (1960:690).
25. Riksantikvarieämbetet, *Kulturhistorisk byggnadsinventering*, 21; and Stockholms byggnadsnämnd. *Smalhus. Energisparande och fasadisolering*.
26. Riksantikvarieämbetet, List of Total Surveys (*totalinventeringar*) carried out in Swedish municipalities. Excel sheet emailed to the author.
27. *Energihushållning i befintlig*, 7.
28. Proposition 1977/78:76, *Energisparplan för Befintlig Bebyggelse*.
29. Thun, *Bevara – Förnya*, 176.
30. Bostadsstyrelsen, *Statligt stöd till tilläggsisolering i småhus*.
31. Schönbeck, *Stad i förvandling*, 192–4.
32. *Energihushållning i befintlig*, 21.
33. Schönbeck, *Stad*, 279.
34. *Ibid.*, 287.
35. Antell and Paues, *Isolering*, 15.
36. *Ibid.*, 5.
37. Riksantikvarieämbetet, *Program för kulturminnesvård*.
38. Antikvarisk-Topografiskt Arkiv (Stockholm), Överantikvariern, F4:1 'Energi', PM 1 December 1978: 'Kulturminnesvårdens roll i energidelegationens arbete', p. 2.
39. Hammarsten and Persson, *Undersökning av hur statligt stödda energisparåtgärder utförts*; and Hirn, *Historical and architectural aspects of energy conservation measures...*
40. *Energihushållning i befintlig*, 39.
41. *Ibid.*, 41.
42. Bergström and Hammarsten, *Undersökning av husbeståndet ur energisynpunkt. Delrapport 3*, 27.
43. Hammarsten, "Äldre hus bättre isolerade än väntat?", 27.
44. Bostadsstyrelsen, *Sammanfattning av bostadsstyrelsens utvärdering*.
45. SOU, *Kulturhistorisk bebyggelse*.
46. Antell and Paues, *Isolering*.
47. *Ibid.*, 88.
48. Arkitekturmuseet, *Ta hand om hus*, 5.
49. Arkitekturmuseet, *Ta hand*, 17.
50. A copy of the pictures shown in the slide show, and images of the exhibition, is kept in the ArkDes archive (Stockholm), volume K4.
51. Arkitekturmuseet, *Ta hand*, 34.
52. Bostadsstyrelsen, *Bostadsstyrelsens lån- och bidragsgivning*, 7.
53. Bostadsstyrelsen, *Myndigheternas ansvar för energihushållningen*, 3.
54. Bostadsstyrelsen, *Myndigheternas ansvar*, 4.
55. Klingberg, *Val och användning av styrmedel*, 115.

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