Must Protection Stop Revitalization?

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Abstract. “The rate of building renovation needs to be increased, as the existing building stock represents the single biggest potential sector for energy savings. Moreover, buildings are crucial to achieving the Union objective of reducing greenhouse gas emissions by 80-95% by 2050 compared to 1990” according to Directive of the European Parliament and of the Council of the European Union, 2012. We have international objectives in Europe today, but not international regulations. Among other things, minimum energy requirements are defined at the national level and they are often not clear in case of existing buildings, including heritage buildings. The existing building stock in Norway has a great potential. Most of the buildings expected to be used in 2050, around 70-80%, are already built. A large part of them represents older buildings with a high value of cultural heritage. The use and re-use of them instead of demolition should be considered as important environmental protection. The current regulations in the Norwegian Planning and Building Act of 2010, PBL10/TEK17, are formulated for all buildings, including existing buildings. In general, in the event of modernization of any existing building, the investor must apply for an exception if the building does not meet the current requirements. Therefore, demolition is often preferred due to the lack of clear retrofitting regulations and requirements as well as uncertainty in terms of profitability for investors. However, buildings with the highest value of cultural heritage are protected by the Cultural Heritage Act of 1979, Kulturminneloven, before they meet the requirements set out in the Norwegian Planning and Building Act. This means that demolition or any changes to these buildings are not allowed or very difficult to carry out. In practice, revitalization of these heritage buildings, including upgrading them to current minimum energy requirements or higher energy standards, is a challenge. Can we effectively protect them without interrupting their revitalization? In this article, the current status of regulations and requirements for existing buildings with the highest value of cultural heritage protected by the Directorate for Cultural Heritage in Norway, Riksantikvaren, are analyzed. Conflicts and gaps in the current regulations, as well as ownership-related challenges that stop revitalization projects, are mapped. Today, the revitalization of protected buildings in Norway is challenging. Upgrading existing buildings and protecting buildings with the highest value of cultural heritage requires clear and separate regulations, requirements and guidelines that take into account to specific situation of protected buildings and cultural landscape that they create, and we can enjoy today, to preserve these unique values for future generations.

1. Introduction
There are about 6000 buildings with the status of a protected building with the highest value of cultural heritage protected by Kulturminneloven in Norway today. Kulturminneloven is managed by Riksantikvaren, while the management of protected buildings after 1650 has been delegated to the Department of Cultural Heritage of the county municipality, [1].
The highest level of protection is known as fredet, which can be translated as protected, preserved or listed [2]. Literally, freda means “the peace”. This means in practice that the building has a very high historical value and it is excluded from the usual current requirements formulated in the Norwegian Planning and Building Act, PBL10/TEK17 [3], and at first is protected by Kulturminneloven [4]. According to this law, an “useless” cultural heritage value represents the value of a building before the value of its use. Any changes or exceptions that may affect the original form of a revitalized building are not allowed. The regulations are aimed primarily at saving the value of the cultural heritage to the most valuable buildings. Freda as the strictest form of protection implies that any changes in cultural memory beyond maintenance must be approved by the authorities [4][5].

Often a long and demanding administrative process must be completed before the revitalization project begins. Approval process usually starts in cooperation with the authorities associated with the Cultural Heritage Act, Kulturminneloven [4], who forward their recommendations and suggestions to the upcoming project and ends up with authorities related to the Norwegian Planning and Building Act [3] who issue a building-permit and, finally, a use-permit. During this process, the revitalization project meets various requirements, and collisions between the “useless” heritage value and the utility value of the building becomes visible. Limitations and barriers become a challenge.

For owners, especially those representing the private sector, useful value is just as important as the “useless” value of cultural heritage. If not more. However, the utility value depends on the construction potential to meet the requirements set in the current regulations, becoming stronger and stronger, among others in terms of construction safety, fire safety, energy efficiency, health and environmental quality and accessibility for all users. The Norwegian Planning and Building Act is pre-formulated for all buildings. It means that any projects, also revitalization projects, meet the same requirements. As a result, many buildings with the highest value of cultural heritage are not used and remain empty. Even if the use is considered one of the best methods for protection [1, 2].

The challenges associated with revitalization projects, from the point of view of the owners, are related to the different practice of regulations by the authorities. The need to be involved in a long and difficult administrative process, and probably very expensive investment, which will ultimately prove unprofitable, discourages investors [1, 6]. But, must protection stop revitalization?

Figure 1 and 2. Huitfeldtbrygga at Kjøpmannsgata 13, 2018, Photo: Hrynyszyn BD
2. Demolish and replace, or protect?

Debate around the future of unique sea houses, brygger, in the heart of the old town of Trondheim has returned in recent years with a tendency to divide the followers into two opposing groups: opponents and supporters of protection. Even if protection seems indisputably the best solution in this case, many unique houses have been replaced by new ones, often as a result of a fire or damage caused by lack of use in the past.

Opponents of protection argue that sensible revitalization is not united with the current regulations and is not profitable. It is expected that the “first emergency help”, which must be covered by public funds, will cost around 37 million Norwegian Kroner [7]. Exceptions that must be applied for do not relate to the building security, energy efficiency as well as a new useful value that can be achieved and accepted. Not only investment costs, which can be partially refunded by some public institutions and foundations, but also the operating and maintenance costs that will burden owners and users in the long term, are higher than for modern buildings of the same function. How will the public resources be protected in the event of a change of ownership or plans in the future? Can all buildings of similar, high historical value be protected in this way or only some of them with a more strategic nature?

Finally, modern buildings formed as the traditional sea houses often represent a good and new architectural quality, opponents argue and say: Tear down these “ghost houses” [8, 9].

Supporters of protection argue that unique heritage value is most important and must be protected even if the resources involved are expected to be high. They believe that the older houses are environmentally friendly and can be upgraded in terms of both energy saving and conservation of their cultural heritage values [10]. Politicians and authorities, supported by a significant part of the local community, want to save the cultural landscape between two of the oldest town’s streets Kjøpmannsgata and Bakklandet. Supporters believe that the old sea houses, Bryggerekkva at Kjøpmannsgata, not only have a national value but also an international universal value and must be protected for future generations. Without a doubt, the unique buildings and culture landscape deserve a place on the prestigious UNESCO World Heritage Site, and an application is considered. Another ambition is to apply for status as European Capital of Culture for Trondheim in 2030 [11]. The specific architectural form of the old traditional sea houses and the landscape they have created over time is an important part of the city’s identity in addition to other buildings and places like the Nidaros Cathedral, supporters argue [12].

Figure 3 and 4. Demolish and replace … or protect?, 2018/2011
Photo: Hrynyszyn BD
Photo: Hrynyszyn TJ

Who is right?
3. Case: Bryggerekka at Kjøpmannsgata in Trondheim

Sea houses along Nidelva river in Trondheim are figuratively as old as the city has existed. King Olav Tryggvason founded a trade town in 997, at this time called Nidaros, and a main shopping street, called Kjøpmannsgata today, along the river was established. The law from 1276 provides for how the sea houses, bryggene, can be hired and used by sellers. Trondheim was repeatedly destroyed by fires. In 1598, the city's citizens asked the king for permission to expand three of the city's strategic streets to prevent fire extinguishing. Unfortunately, the whole town burned down in 1681 and the sea houses which we can see today come from the time after. [13]

Protected buildings in Trondheim are under the care of the Directorate for Cultural Heritage, Riksantikvaren, and delegated local authorities can propose a level of protection in line with the heritage values of individual buildings. The cultural heritage plan from 2013 for a period 2013-2025 contains descriptions and maps as well as information on the current state and practice of protected buildings and zones. In the plan, revitalization of sea houses at Kjøpmannsgata is proposed as a high priority project. In the past, sea houses served as warehouses, which is why, among other things, the revitalization of these unique buildings is particularly difficult. So far, revitalization for residential purposes has not been allowed. The Directorate for Cultural Heritage, Riksantikvaren, suggests that the sea houses cannot be accepted for reconstruction for residential purposes due to the reconstruction for housing requires a much larger transformations then other functions, and the characteristic qualities inside will be lost. In addition, housing will lead to the privatization of a place that should be available to the community, [14].

There are some bridges in Trondheim that are very important not only for communication, but they are also a part of today’s city identity. They connect not only the island, the heart of the old town, called Kalvskinnet, with the surrounding city but also the older cultural landscape in Bakklandet with contemporary Solsiden. Both parts are iconic for today’s Trondheim. There are many cozy cafes and other places on the both sides of the river, where people meet, enjoy and experience. Some of them open early in the morning, when people go to work, to prepare a good start for a new day with a good coffee to read the news of the day.
According to the recommendation of the Directorate for Cultural Heritage in Trondheim, all relevant buildings with the high value of cultural heritage are classified in one of the following classes:

**Protection class A**: Very high heritage value, corresponding to the value of *freda*, according to *Riksantikvaren*.

Red colour on the map over protected buildings in the center of Trondheim, *Aktsomhetskart*.

Older buildings with many antiquarian values in stock. Buildings characterized by age values which are the key to experience and understand the cultural environment as a whole. The most sensitive to any changes.

**Protection class B**: High heritage value.

Purple colour on the map over protected buildings in the center of Trondheim, *Aktsomhetskart*.

Older buildings with significant heritage values in stock. Buildings characterized by age values which are the key to experience and understand the cultural environment as a whole.

**Protection class C**: Heritage value.

Blue colour on the map over protected buildings in the center of Trondheim, *Aktsomhetskart*.

Heritage value of the buildings is initially associated with their overall values and potential as a cultural environment. The buildings are also of special value as an adaptive architecture.

**Unclassified:**

Heritage value of the buildings is initially associated with their overall values and potential as a cultural environment. The buildings are also of special value as an adaptive architecture from the 80s.

In line with the cultural heritage plan, a cultural and historical analysis processed by the Municipal Urban Office and the Directorate for Cultural Heritage in Trondheim has been completed in 2016 in cooperation with the Sør-Trøndelag County Council and *Riksantikvaren* where owners and users were also involved.

The analysis was carried out according to the DIVE method, which is a tool developed inter alia by *Riksantikvaren* in the framework of Nordic cooperation. The DIVE method implements four steps: D – Describe, I – Interpret, V – Valuate, E – enable.

Consequences of the changed use were examined and guidelines for the right balance between protection and use were given. The analysis was carried out using the necessary means and will be a part of the basis for decision making regarding the future revitalization of the area, [6].
Five of the oldest see houses located at Kjøpmannsgata where classified as a protection class A [6]. According to guidelines for this protection class any changes and conservations for this kind of heritage buildings, which go beyond a regular maintenance, must be approved by authorities [1].

**Bryggerekka, Kjøpmannsgata 13 (1740/1840).**
Second from the left (brown). Protection class A, the value of freda. Currently empty. The original traditional log house. Primary and secondary bearing structure in wood, as well as original materials, cannot be changed. Other parts of existing structures must also be preserved. Repairs is prioritized rather than replacements. Transformation capacity: small outside and small to medium inside. Recommended use in the future: subordinate to cultural heritage values both in exterior and interior. Non residential. [6]

**Figure 9. Bryggerekka, 2018**
Photo: Hrynyszyn BD

**Bryggerekka, Kjøpmannsgata 27 and 29.**
Shown from the right (yellow and red-brown). Protection class A, the value of freda. 27 (1867): Currently empty, but was used for exhibitions, seminars and more. 29 (1800/1801): Industry on the first and partially second floor. Otherwise empty. The original traditional log house. All the old wooden constructions must be preserved. Transformation capacity: small outside and small inside. Recommended use in the future: subordinate to cultural heritage values both in exterior and interior. Non residential. [6]

**Figure 10. Bryggerekka, 2018**
Photo: Hrynyszyn BD

**Bryggerekka, Kjøpmannsgata 53/55 and 57.**
Shown from the right (green and brown). Protection class A, the value of freda. 53/55 (1767/1839): Currently used as mosque on the first floor. Otherwise empty. 57 (1740): Currently used as a restaurant on the first and second floor. Otherwise office. The original traditional log house. All the old bearing structures in wood must be preserved. Transformation capacity: very small outside and small inside. Recommended use in the future: subordinate to cultural heritage values both in exterior and interior. Non residential. [6]

**Figure 11. Bryggerekka, 2018**
Photo: Hrynyszyn BD
4. Case: Sea houses, Bryggerekka, at Kjøpmannsgata in Trondheim. Limitations and barriers

In principle, in case of revitalization of sea houses, all interventions and repairs should be carried out using original, old materials and craftsmanship. The aesthetic shape and character of the buildings, both outside and inside, should remain unchanged. The culture value of buildings, even if the value is not united with the useful value of buildings, is given to the executive priority by Kulturminneloven.

One of the best working protection methods is the use. But, selecting a building for protection class A, the value of *freda*, means that it meets limitations and barriers in the case of revitalization in the Norwegian Planning and Building Act, PBL10/TEK17, among others, in terms of construction safety, fire safety, energy efficiency, health and environmental quality and accessibility for all users. The useful value must be considered not only as income from the use, but above all as the safety of the users and the buildings. Some of the most important conflicts are illustrated below.

**Construction safety**

Older wooden foundations and other bearing structures are damaged to a varying degree, often spoiled, as in the case of Huitfeldtbrygga. Preserving structures and adapting to a new use is probably possible but very demanding in terms of resources and costs. Therefore, a detailed expertise should be carried out to determine the size of work and costs as a basis for future decision making by investors.

**Figure 12.** Bryggerekka, 2018, Photo: Hrynyszyn BD

**Fire safety**

In the past the sea houses were often used as warehouses. Change of the use is challenging according to the current regulations regarding to fire safety and fire dimensioning. New fire sectioning without any changes in exterior and interior is demanding in terms of limitations resulting from the existing buildings geometry and construction as well as used material, older wood, which must be saved and shown.

**Figure 13.** Fire at Kjøpmannsgata, 1983
Source: Municipal Archives of Trondheim,

**Energy efficiency**

Older log houses were usually built similarly to one of the methods, of course without any insulation. Additional insulation is not possible if both external appearance and interior must remain unchanged. Upgrading older buildings of this sort to the current minimum requirements or higher energy standards is a challenge and is often not sensible. The additional insulation in this case is also not recommended in accordance with the principles of building physics in the field of protection against moisture damages.

**Figure 14.** Principles for building older log houses, Source: SINTEF, Byggforsk, 723.304 [15]
5. Protection by use
Buildings standing empty and not used get spoiled faster, like in the case of some of the highest protected, fredet, sea houses. The most spectacular example, Huitfeldtbrygga, located at Kjøpmannsgata 13 (shown on several Figures before) is today one of the most damaged. What stops its revitalization?

In the DIVE analysis owners and users of sea houses were involved and interviewed. Pride in history and awareness of the cultural values of the unique place as well as good location by the river close to the city center and nice surroundings are some of the reasons that make the possession and rental of sea houses attractive. However, problems with regulations and strong technical requirements mean that the necessary investments are not economically justified. This stops further development. Financial security and guaranteed income are necessary to invest in revitalization. The use or rental as office or cultural functions is often associated with frequently changing users and this is a challenge. Therefore, the owners prefer mixed functions, for example offices and flats or only apartments that provide better long-term economic stability. [6]

Owners believe that the further activation of the area depends on profitable use and needs clear signals from the municipal authorities about what is allowed or forbidden. The value of cultural heritage should be considered together with development potential and technical requirements and, what is equally important, with profitability. The most unfavourable thing is that the owners let the sea houses remain empty in the future, they say. [6]

In 2017, Oslo Economics carried out a report on behalf of the Norwegian Cultural Heritage confirming that the challenges that are most difficult to isolate in case of revitalization of heritage buildings are related to energy efficiency, overall maintenance in line with the Directorate for Cultural Heritage requirements, accessibility for all users and requirements for fire safety and emergency exits. One of the most important and unresolved problems is that the owners have to spend a lot of time and have considerable resources to carry out the operations necessary to obtain profitable activities related to cultural heritage. Another problem is that the regulations are practiced differently by different municipalities. This may be due to lack of competence, different interpretations of regulations or different attitudes, and creates a sense of injustice among the owners of cultural heritage. [1]

Figures 15 and 16 show some older sea houses that are successfully used as small shops, cafes, restaurants, galleries, offices and workshops located on lower levels, often in combination with apartments located above. They are located on the other side of the Nidelva river in Bakklandet.

**Figure 15.** Bakklandet, 2011
Photo: Hrynyszyn TJ

**Figure 16.** Kjøpmannsgata and Bakklandet, 2011
Photo: Hrynyszyn BD
6. Discussion
There is no doubt that the use is one of the best working methods of protection and it has many supporters. The questions is: Did the highest level of protection saved the heritage buildings or stopped their revitalization in the past and if the protection is going to work in the future? How to protect heritage buildings of highest value without stopping their revitalization?

The most valuable heritage buildings, representing the freda value = protection class A, are protected by the Cultural Heritage Act, Kulturminneloven, and the Directorate for Cultural Heritage, Riksantikvaren. This means that the Norwegian Planning and Building Act’s authority is subordinate to Kulturminneloven in this case. According to Kulturminneloven, a protected heritage must not be torn, moved, upgraded, altered, altered material or colors or made other changes beyond standard maintenance. Measures beyond this require need permission from the competent authority [4]. Then, Kulturminneloven must first protect the values of the cultural heritage, even if it does not represent a value in use. In accordance with the law, the owner of a protected building has an obligation to protect it from damage and the authorities can perform and enforce it. Kulturminneloven, however, does not contain any technical requirements, guidelines or recommendations, regarding among others construction safety, fire safety, energy efficiency, health and environmental quality and accessibility for all users. It is not clear who takes responsibility for obtaining a building-permit and, finally, a use-permit since any building project, also a revitalization project, must be approved by the authorities associated with the Norwegian Planning and Building Act, and therefore meet the current regulations set out therein. Another problem is that the regulations are formulated for all buildings and do not take into account to specific situation related to limitations and barriers that protected buildings of the highest heritage value, meet.

In the light of these facts, it is not surprising that the revitalization projects often have to go through a long and complicated administrative process to be implemented. This may in turn have a demotivating effect on the owner who, regardless of this, is in the light of law charged with the responsibility for maintaining the heritage building. Even if one can say that the old, broken house is just a little bit of the universe, it is an own universe for an owner, user and anyone who cares.

7. Conclusions
- Gaps in the current regulations and a lack of communication between Kulturminneloven and the Norwegian Planning and Building Act as well as unclear status of responsibility for decision making has stopped revitalization of the most valuable heritage buildings.
- Upgrading existing buildings and protecting buildings with the highest value of cultural heritage requires clear and separate regulations.
- Not a lack of competence, but these unclear conditions make the revitalization process challenging. However, a breadth and interdisciplinary competence must be involved already from the start of the process, including planning process, to succeed.
- Providing a higher status of the “useless” cultural heritage value before useful value does not protect the buildings in practice. The use as a best-working method of protection does not work in this case. In turn, owners often experience ownership of a protected building as burdening, challenging and not attractive. The safety, profitability and comfort of users must not be underestimated if it is to work.
- Conflicts must be excluded and revitalization must be prioritized to implement cultural heritage plans in a sustainable way and protect buildings with the highest value of cultural heritage and the cultural landscape they create, and we can enjoy today, for future generations.
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