DIRECTORATE FOR CULTURAL HERITAGE

- Climate change, sustainability and energy-saving measures

Trondheim, Photo: Marte Boro, Riksantikvaren

The Directorate for Cultural Heritage produces information and guidance on the maintenance and management of cultural heritage. In this folder you will find an overview of various information and reports that are available on the Directorate of Cultural Heritage's website. Unfortunately, the majority are only available in Norwegian.

Cultural heritage and cultural environments represent resources that must be managed in line with the principles for sustainable use and development. Adapting to a changing climate and reducing the impact on the climate in order to reduce climate change are two important tasks that are also relevant for the protection of cultural heritage.

Wood has traditionally been a highly important building material in Norwegian house construction. The majority of protected buildings and buildings deemed worthy of protection in Norway are made of wood. Knowledge of materials and production and craftsmanship must be maintained in order to enable us to safeguard these buildings and a large number of other wooden houses in traditional ways. This is also the basis for the development of a modern sustainable construction industry based on the use of timber.

RIKSANTIKVAREN

Information leaflets

The Directorate of Cultural Heritage's information leaflets deal with the maintenance of different traditional materials and building elements, deterioration factors such as rot and fungus, material quality and surface treatments. Information is also available about the construction and characteristics of various types of buildings and energy-efficiency measures -– see below.

http://www.riksantikvaren.no/?module=Webshop;action=ProductGroup.publicOpen;id=33

Know your house – information leaflets from the Directorate of Cultural Heritage

These information leaflets deal with the construction and characteristics of buildings with different forms of construction and use of materials. The information sheets are designed to help house-owners and craftsmen who work with these types of buildings. The information covers the history of the types of building, and the construction and use of materials. The most important information concerns the buildings' characteristics, such as insulation and draught-proofing, noise reduction, construction and use of materials, moisture and ventilation. The strong points of each type of building are also highlighted so that the house-owner can consciously utilise these characteristics when renovating a house.

The information lealfet on log buildings is also available in English.
http://www.riksantikvaren.no/Norsk/Tema/Energisparing/Publikasjoner/

Energy-efficiency measures – how does heat get out and what measures are most effective?

The Directorate of Cultural Heritage has produced information folders on energy-efficiency measures for different types of buildings. This builds on an assessment prepared by SINTEF and NIKU - the Norwegian Institute for Cultural Heritage Research. In this report, energy consumption and the effect of energy – saving measures in some standard types of buildings are analysed together with the consequences of the various measures on cultural history values.

Link to the information leaflets and to the Sintef/NIKU-report «Energisparing i eksisterende bygninger» (*Energy saving measures in existing buildings – in Norwegian)*
http://www.riksantikvaren.no/Norsk/Tema/Energisparing/Publikasjoner/

Are old houses more environmentally friendly than new ones?

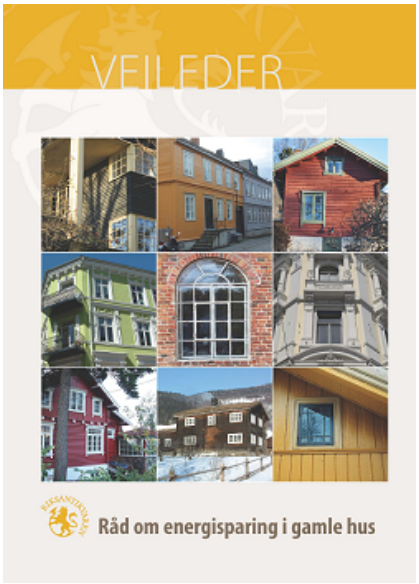
Which is the most environmentally-friendly – an old log house or a new low-energy building? The Directorate of Cultural Heritage has commissioned a comparison of two such houses. The results are available in a report prepared by the constancy company Civitas. The results show that the old house does rather better than the new one.

http://brage.bibsys.no/xmlui/handle/11250/176822

Cultural heritage and rising sea-levels

Ciens has produced a report on cultural heritage and rising sea-levels. The main aim was to collect research-based knowledge about the effects and consequences of changes in sea-levels for the management of cultural heritage along the coast.

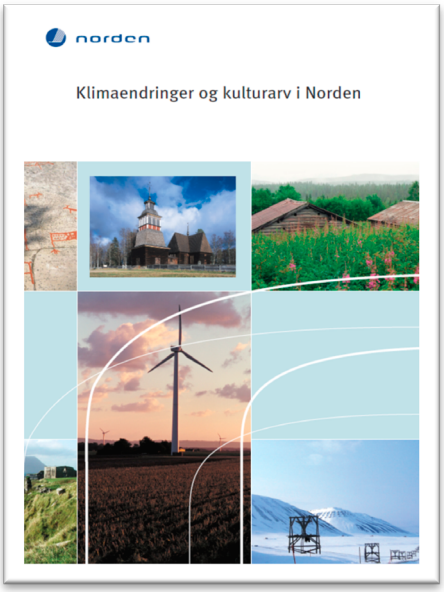
http://brage.bibsys.no/xmlui/handle/11250/175134



Good advice on energy-saving measures

The majority of buildings can be significantly improved without destroying the building's character and history. It is also important to upgrade buildings deemed worthy of protection in order to save the environment, reduce owners' costs and to give the inhabitants and users a good internal climate. The Directorate of Cultural Heritage has produced guidance on energy-saving measures in old houses. The guidance provides background knowledge which is important to have when planning improvements. It contains information about draught-proofing and insulating and upgrading windows. Specific measures are described to clarify options, the energy-saving effect of different measures and the risks of both physical damage to the building and the loss of cultural history values.
http://brage.bibsys.no/xmlui/bitstream/handle/11250/176903/Energiveileder.pdf?sequence=3

How good are windows that have been upgraded?
SINTEF Building and Infrastructure has been commissioned by The Directorate of Cultural Heritage and Enova to document the characteristics of windows that are deemed worthy of protection when they are upgraded with secondary glazing. The report shows that old windows can be upgraded to be as good as new. The results show that the windows achieve better insulation than would normally be expected. This knowledge will contribute to more original windows in old houses being retained. Improving and upgrading will be a simpler choice because the windows will be better than was previously assumed.
Read the report here. It is also available in English.
http://brage.bibsys.no/xmlui/bitstream/handle/11250/176832/Energieffektive_vinduer_SINTEF_norsk.pdf?sequence=1 (Norwegian version)
http://brage.bibsys.no/xmlui/bitstream/handle/11250/176834/Energieffektive_vinduer_SINTEF_eng.pdf?sequence=1 (English version)



Effects of climate change on cultural heritage and cultural environments – Nordic project.
This was a Nordic collaborative project (2008-2010) led by The Directorate of Cultural Heritage in Norway. A warmer and wetter climate will put more stress on cultural heritage. It can contribute to more fungal growth and rot in wooden buildings and to cultural environments and landscapes becoming more overgrown. Rising sea levels, increasing erosion and the danger of floods and landslides can also threaten cultural heritage in exposed areas. Many cultural heritage objects have withstood changing weather and extreme forces throughout the centuries. The project group wanted to highlight the knowledge about climate adaptation that these cultural heritage objects represent.

Klimaendringer og kulturarv i Norden (Climate change and cultural heritage in the Nordic countries) contains the main results of the project and consist of two parts. Part one deals with the anticipated effects of climate change on cultural heritage and cultural environments in the Nordic countries. Part two deals with the consequences of climate change for the management of cultural heritage and contains the project group's recommendations on how to deal with these consequences.

Read the report here. It is also available in English.
http://brage.bibsys.no/xmlui/handle/11250/175122 (Norwegian version)
http://brage.bibsys.no/xmlui/handle/11250/175120 (English version)