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Energy-performance certificates: Poor value for money

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Energy-performance certificates: Poor value for money

Riksrevisionen (the Swedish National Audit Office, SNAO) has examined the central-government sector's work to implement energy-performance certificates. The outcome of that audit is presented in this performance-audit report.

Representatives of the Government Offices, the National Board of Housing, Building and Planning, the Swedish Board for Accreditation and Conformity Assessment and the Swedish Energy Agency have been given the opportunity to read a draft version of the report in order to examine its content from a factual point of view and provide any other comments.

The report is submitted to the Government by virtue of Section 9 of the Act on the Audit of Government Activities (SFS 2002:1022). It is submitted at the same time to the Board of the SNAO.

The report contains conclusions and recommendations relating to the Government and the National Board of Housing, Building and Planning. The SNAO will follow up the audit.

Auditor General *Claes Norgren* has had the right of decision regarding this report. Audit Director *Adam Sandebring* has been responsible for the presentation of material. Assistant Head of Audit Department *Hans Folkesson* and Audit Director *Fredrik Engström* have participated in the finalisation of the report.

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Summary

Starting at the end of 2008, an energy-performance certificate must be drawn up for most large buildings and for all single-family homes that are sold. The requirement for energy-performance certificates in Sweden is part of the implementation of Directive 2002/91/EC of the European Parliament and of the Council on the energy performance of buildings. The objective of that Directive is to promote the improvement of the energy performance of buildings. Account is also to be taken of outdoor climatic and local conditions, as well as of indoor-climate requirements and cost-effectiveness.

The Riksdag (Swedish parliament) set a new objective in 2006 for the energy efficiency of buildings: Total energy consumption per unit of heated area in homes and other buildings is to be reduced. The reduction should be 20 per cent by 2020 and 50 per cent by 2050.

The Energy Efficiency Working Committee states that energy consumption in homes and other buildings accounts for one-third of Sweden's end-use of energy. The Committee also emphasises that there is a large potential for enhancing the energy efficiency of existing buildings, corresponding to end-use energy of about 13 TWh from district heating and fuels, and about 11 TWh from electricity, by 2016. However, the Committee claims that there are indications that only about 15 per cent, on average, of the measures that would be cost-effective to building owners are actually carried out.

The energy-performance certificate is a policy instrument intended to promote the reduction of the energy consumption of buildings. If necessary for the establishment of the energy-performance certificate, the building must first be inspected by an independent expert. Where a building has a potential for energy savings, the expert must then propose cost-effective measures to enhance its energy efficiency. The idea is that receiving such proposals will make building owners more inclined to carry out the investments involved.

For some categories of buildings, such as apartment blocks, the energy-performance certificate must be made available to the public in a prominent place in the building. The provision of information to tenants about their building's energy consumption relative to that of similar buildings is intended to make them demand that their landlord should make the improvements to energy efficiency that are possible.

The SNAO has examined whether the Government and the government agencies responsible have created good conditions for the system of energy-performance certificates to promote energy efficiency. It has also

assessed whether the agencies' application of the legislation is such that it promotes compliance with the overall objectives in the field.

The SNAO's audit shows that the Government and the government agencies responsible have not created adequate conditions for the purpose of energy-performance certificates to be achieved. In addition, the audit has revealed material problems in how the agencies apply the relevant legislation.

Little advice for the money

The main purpose of energy-performance certificates is that they should help make building owners invest in measures to enhance energy efficiency. However, a large proportion – 48 per cent – of all certificates do not include any recommendations for measures. In other words, owners get little advice for their money.

In 25 per cent of the cases, the building was actually inspected without any measures being proposed. And in 7 per cent of the cases, measures to enhance energy efficiency were proposed in the energy-performance certificate even though the building had not been inspected. This latter category of energy-performance certificates is not allowed under the legislation. In both of these cases, which together account for 32 per cent of all certificates, it can be questioned whether the benefit building owners derive from the energy-performance certificate justifies the price they pay for it.

Delays in implementation and application

Sweden's implementation of the EU Directive and its application of the rules have been strongly delayed. As a result of the drawn-out legislative process, there was little time left to build a system for energy-performance certificates and to draw up certificates for all of the buildings covered by the provisions. Moreover, the National Board of Housing, Building and Planning estimates that building owners' expenditures for energy-performance certificates are considerable – about SEK 700 million per year.

The delays in the implementation of the Directive have led to a failure to identify and address points of unclarity in the rules. This lack of clarity has entailed problems in application, such as the fact that few certificates include recommendations. If such problems are not dealt with at an early stage, the consequence may be that the application of the rules will not promote compliance with the overall objectives in the field. This, in turn, may undermine the effectiveness and legitimacy of the system.

Points of unclarity relating to inspections and recommendations

There are points of unclarity in the Swedish legislation as presently worded, both in relation to the concept of 'inspection' and as regards when a building needs to be inspected. It is also unclear when energy experts are to propose measures. These points of unclarity relate both to the Riksdag Act and the Government Ordinance and to the Regulations on energy-performance certificates issued by the National Board of Housing, Building and Planning.

The issue of whether a building needs to be inspected or not influences both the quality and the price of certificates. On the one hand, an inspection may be necessary in order for an energy expert to verify the owner's information about the energy consumption of a building and to determine what specific measures would be cost-effective. On the other hand, a certificate including an inspection can be assumed to cost more than a certificate without an inspection.

Just over two-thirds of the certificates were preceded by an inspection, and only half of them include proposed measures.

For one-third of the certificates, their usefulness to building owners can be questioned. This category consists above all of certificates where a building was inspected but no recommendations were made. This may be justified in some cases where an expert needs to verify the information that the owner of a building has provided about its energy performance. If there is no need for such verification, however, the owner of the building will have paid a higher price than should be necessary to have the certificate drawn up. This category also includes a smaller group of certificates where no inspection was carried out but recommendations were made anyway, which is explicitly against the rules.

The problems that have arisen as a result of the lack of clarity in the legislation have been known for a long time. Even so, neither the Government nor the National Board of Housing, Building and Planning has taken action to address these points of unclarity.

The direction exercised by the Government is not linked to the overall objectives

The Riksdag has decided overall objectives for the energy efficiency of the Swedish building stock. The Government has failed to break down these overall objectives into monitorable sub-objectives for energy-performance certificates. The lack of monitorable sub-objectives set by the Government makes it more difficult to assess whether energy-performance certificates contribute to the achievement of the Riksdag's overall objectives in the field.

Inadequate division of responsibility

The Government has not vested any government agency with overall responsibility for the system of energy-performance certificates. Several agencies and ministries have specific areas of responsibility in relation to this system. This entails a risk that systemic problems will fall between the cracks.

It is unclear which agency is responsible for supporting the supervision exercised by municipalities. This unclear responsibility may cause supervision to be assigned lower priority by municipalities and may lead to unjustified differences in levels of supervision.

The system of energy-performance certificates overlaps with other policy instruments

So far, energy-performance certificates have not been coordinated with other central-government policy instruments to enhance the energy efficiency of the existing building stock. Other such policy instruments include the advice on issues of climate and energy that is provided by municipalities and funded in part by the central government, as well as central-government grants and tax relief. The inadequate coordination between energy-performance certificates and other central-government policy instruments may lead to sub-optimisation of the central government's overall effort.

In the energy bill submitted in the spring of 2009, however, the Government proposes that energy-performance certificates should be coordinated with a proposed web-based advice portal and the proposed tax relief for the repair, maintenance, re-building and extension of certain homes.

The certification and accreditation system does not fulfil its purpose

Compared with other EU Member States, Sweden has a complex system to ensure that energy experts are independent and have the requisite skills. Under this system, SWEDAC (the Swedish Board for Accreditation and Conformity Assessment) accredits certification bodies, which then certify experts and the inspection bodies for which the experts work. By laying down these certification and accreditation requirements, the Swedish legislation goes beyond the minimum requirements of the Directive.

Based on its own processing of data from the National Board of Housing, Building and Planning, the SNAO has concluded that,

notwithstanding the certification and accreditation requirements, there are indications of problems in the quality of certificates and the independence of experts. No government agency systematically checks the content of energy-performance certificates. There are also indications that certain experts may not be sufficiently independent of building owners and that certain experts are selling other products as part of their work on energy-performance certificates.

The certification and accreditation system has no purpose in and of itself; it exists only to ensure the quality of energy-performance certificates and the independence of experts. There are indications that the Swedish system as presently designed does not ensure the quality of certificates.

Inadequate follow-up

There is no regular follow-up of the content of energy-performance certificates or the functioning of the system. Nor is there any regular follow-up of the investments prompted by energy-performance certificates. Further, no central-government body monitors building owners' expenditures for having energy-performance certificates drawn up or for carrying out investments to save energy.

As a result, neither the Government nor any government agency has an overview of how the system of energy-performance certificates has evolved. The Government thus lacks the information it would need to assess the benefit of energy-performance certificates.

The lack of regular follow-up and evaluation to determine building owners' expenditures for having energy-performance certificates drawn up and for carrying out energy-saving investments, and to determine what savings such investments have yielded, makes it impossible to assess the present and future effectiveness of energy-performance certificates. Without that information, it cannot be determined whether energy-performance certificates contribute to the achievement of the overall objectives set by the Riksdag.

Municipalities have been encouraged not to exercise supervision

Because of Sweden's delayed implementation of the EU Directive, few buildings had been the subject of an energy-performance certificate before the EU deadline. One consequence of this was that the Swedish Association of Local Authorities and Regions (SALAR) encouraged municipalities not to exercise their statutory supervision of energy-performance certificates. The

Government gave a green light to this. In other words, the Government was complicit in SALAR's decision to encourage municipalities not to abide by the Act adopted by the Riksdag. This may undermine the legitimacy of the system.

Recommendations for the Government

- Ensure the timely implementation of EU Directives. Delays in implementation may entail that the rules concerned are applied in a hasty and ill-considered manner. This may lead to inadequate legitimacy and efficiency in application;
- Make all bodies of rules (the Act, the Ordinance and the Regulations) clearer and simpler, so that they are internally consistent;
- Formulate monitorable sub-objectives for energy-performance certificates on the basis of the Riksdag's objectives for the energy efficiency of buildings, and clarify the division of responsibility in this area. Entrust one government agency with central responsibility for energy-performance certificates. Give that agency the task of supporting municipal supervision to ensure that it is uniform across the country;
- Ensure that energy-performance certificates are coordinated with other instruments such as various types of support and the municipal energy and climate advisors who are funded by central-government appropriations;
- Ensure the quality of certificates and the independence of experts. Give the centrally responsible agency the additional task of regularly monitoring the quality of certificates, the savings achieved through them and building owners' expenditures for energy-performance certificates and investments. Use the existing funds intended for the monitoring of energy consumption.

Recommendations for the National Board of Housing, Building and Planning

- Make the Regulations and the General Advice clearer as regards inspections and proposals for measures;
- Make sure that the register of energy-performance certificates can be used to retrieve the information necessary to monitor and evaluate the impact that energy-performance certificates exert on energy consumption. Follow up on what recommendations have an impact among building owners.

1 Background and focus of the audit

Starting at the end of 2008, an energy-performance certificate must be drawn up for most large buildings and for all single-family homes that are sold (see Annex 1). The requirement for energy-performance certificates in Sweden is part of the implementation of Directive 2002/91/EC of the European Parliament and of the Council on the energy performance of buildings.

Energy-performance certificates are a policy instrument intended to promote the reduction of the energy consumption of buildings. The owner of a building must commission an independent energy expert to draw up an energy-performance certificate. The owner must provide the expert with basic information about the building and its energy consumption. On the basis of that information, the expert must decide whether an inspection should be carried out. If the expert intends to propose cost-effective measures to enhance energy efficiency, the building must first be inspected. The idea is that receiving proposals for cost-effective measures will make building owners more inclined to carry out investments that will yield energy benefits. The certificate must be recorded by the independent expert in the register kept by the National Board of Housing, Building and Planning.

Owners of apartment blocks and certain other buildings must also put up a certificate indicating that a certificate has been drawn up in a prominent place in the building. These certificates are intended to make tenants and others demand that their landlord should take measures to enhance the energy efficiency of the building.

The Energy Efficiency Working Committee states that energy consumption in homes and other buildings accounts for one-third of Sweden's end-use of energy. The Committee also emphasises that there is a large potential for enhancing the energy efficiency of existing buildings, corresponding to end-use energy of about 13 TWh from district heating and fuels, and about 11 TWh from electricity, by 2016. However, the Committee claims that there are indications that only about 15 per cent, on average, of the measures that would be cost-effective to building owners are actually carried out.¹

The importance of enhancing energy efficiency is increasingly highlighted both in Sweden and at the EU level. More efficient use of energy resources will create opportunities to secure the supply of energy at competitive prices. Enhanced energy efficiency leading to a fall in energy consumption is also a prerequisite for the reduction of dependence on fossil fuels so

¹ Government Bill 2008/09:163, pp. 119, 129, 165; cf. SOU 2008:110, p. 154.

that the energy system can be made more sustainable. What is more, enhanced efficiency will also create a good foundation for Sweden's work in international negotiations for new commitments to reduce emissions of greenhouse gases. More efficient energy use will also free up resources for other purposes.

1.1 Reasons for the audit

An EU Directive prescribes results that each EU Member State must attain on its own territory, under national legislation. Directives must be implemented in (or, differently put, transposed into) national legislation. In principle, a Directive lets Member States determine the formal and material aspects of the implementation method.²

The deadline for Member States' implementation of the Directive on the energy performance of buildings was 4 January 2006. The Directive was implemented in Swedish legislation by means of nine Swedish legislative and regulatory acts. Most of these acts, above all the Energy Performance Certificates for Buildings Act (SFS 2006:985), were implemented on 1 October 2006.³ That was more than six months after the EU deadline.

However, the Directive allows Member States to delay their full application of certain of its provisions, including those on energy-performance certificates, by a further three years 'because of lack of qualified and/or accredited experts'. If Member States make use of this opportunity, they must notify the European Commission and provide the appropriate justification together with a time schedule for the further implementation of the Directive.⁴ Sweden used this opportunity, which ended on 4 January 2009.

Of the approximately 350,000 buildings that had to be the subject of an energy-performance certificate, certificates had been drawn up for about 50,000 at the end of 2008.⁵ Starting in January 2009, about 50,000 certificates will have to be drawn up each year for single-family homes that are sold and for new buildings.⁶

Besides the delays in the implementation of the EU legislation, the SNAO also identified other problems during the pre-study that preceded the audit, including important points of unclarity in the Swedish legislation and varying quality of energy-performance certificates.

² Bernitz & Kjellgren, *Europarättens grunder*, 3rd edition, p. 30 f. In this report we use the term 'implementation' to refer to the transposition of a Directive into Swedish law. We use the term 'application' to refer to the use made of provisions laid down in the Directive or in the Swedish implementing legislation.

³ See EUR-Lex Celex 72002L0091. There are three main types of legislative and regulatory acts in Sweden: *acts* (Swedish: *lag*), which are adopted by the Riksdag (parliament); *ordinances* (Swedish: *förordning*), which are adopted by the Government under powers conferred on it by the Riksdag and usually specify the provisions of acts; and (agency) *regulations* (Swedish: *föreskrift*), which are adopted by government agencies under powers conferred on them by the Government and usually further specify the provisions of ordinances. Agency regulations are often accompanied by non-binding *general advice* (Swedish: *allmänna råd*) on their application.

⁴ Article 15(1) and 15(2) of Directive 2002/91/EC of the European Parliament and of the Council of 16 December 2002 on the energy performance of buildings.

⁵ Boverket [National Board of Housing, Building and Planning], annual report for 2008, p. 106.

⁶ E-mail message from the National Board of Housing, Building and Planning, 27 March 2009.

1.2 Purpose and audit questions

The purpose of the audit is to assess whether the Government and the government agencies responsible have created good conditions for the system of energy-performance certificates to promote energy efficiency. It should also assess whether the agencies' application of the legislation⁷ is such that it promotes compliance with the overall objectives in the field.

To meet its purpose, the audit should provide the answers to two audit questions:

- Have the Government and the government agencies responsible created good conditions for achieving the objectives of the legislation relating to energy-performance certificates?
- Are there any material problems in the agencies' application of the legislation relating to energy-performance certificates; and, if so, what are these problems?

1.3 Assessment criteria

The basis for the audit consists mainly of the Directive on the energy performance of buildings and the Energy Performance Certificates for Buildings Act.

The objective of the Directive on the energy performance of buildings is to promote the improvement of the energy performance of buildings within the European Community. Account is also to be taken of outdoor climatic and local conditions, as well as of indoor-climate requirements and cost-effectiveness.⁸ Among other things, the Directive lays down requirements relating to the energy certification of buildings.⁹ The term used in Swedish national legislation for 'energy-performance certificate' is 'energy declaration'.

The Energy Performance Certificates for Buildings Act (SFS 2006:985), which was adopted by the Riksdag (parliament) in the spring of 2006 and entered into force on 1 October of that year, is part of Sweden's implementation of the Directive on the energy performance of buildings.¹⁰ The objective of that Act is to promote the efficient use of energy and a good indoor environment in buildings.¹¹

⁷ 'Legislation' here refers to the Directive, the Act, Government ordinances and agency regulations.

⁸ The other policy instruments for which requirements are laid down in the Directive are the following: (1) the general framework for a methodology of calculation of the integrated energy performance of buildings; (2) the application of minimum requirements on the energy performance of new buildings; (3) the application of minimum requirements on the energy performance of large existing buildings that are subject to major renovation; and (4) regular inspection of boilers and of air-conditioning systems in buildings. See Article 1 of Directive 2002/91/EC of the European Parliament and of the Council.

⁹ Among other things, Member States must ensure that, when buildings are constructed, sold or rented out, an energy-performance certificate is made available to the owner or by the owner to the prospective buyer or tenant. The energy-performance certificate must include reference values in order to make it possible for consumers to compare and assess the energy performance of the building. The certificate must be accompanied by recommendations for the cost-effective improvement of the energy performance. Energy-performance certificates for certain types of buildings must be placed in a prominent place clearly visible to the public. See Article 7 of Directive 2002/91/EC of the European Parliament and of the Council.

¹⁰ Committee Report 2005/06:BoU9, p. 1; Riksdag Written Communication 2005/06:365.

¹¹ See Section 1 of the Energy Performance Certificates for Buildings Act (SFS 2006:985).

The Act lays down, among other things, that the owner of a building must ensure that certain information about the energy consumption and indoor environment of that building is presented in an energy-performance certificate. Such a certificate must be drawn up when a building is first constructed. For certain types of buildings, their owner must also ensure that there is always an energy-performance certificate which is not older than ten years. The latter requirement does not apply to one-family and two-family homes which are not being rented out; in other words, most small homes are exempt. For such homes, however, a certificate must be drawn up when the building is sold unless there is already a certificate which is not older than ten years. The energy-performance certificate must be drawn up by an independent expert and contain certain specified information. For some categories of buildings, the energy-performance certificate must be made available to the public in a prominent place in the building where it is clearly visible.¹²

A more general basis for the SNAO's assessment is the requirement laid down in the Central Government Budget Act (SFS 1996:1059) that a high level of efficiency should be aimed for in the operations of the Swedish central-government sector. This means that central-government operations must be conducted in such a way that the objectives set by the Riksdag are achieved to the largest extent possible within the framework of the existing resources.¹³

1.4 Methodology and scope

The audit was carried out using several methods. Both qualitative data (documents and interviews) and quantitative secondary data (extracts from the register of energy-performance certificates) were used to analyse the system of energy-performance certificates.

A pre-study was carried out and a number of problems were identified. Information about these problems was derived from the study of documents and from interviews with representatives of four stakeholder organisations: the Association of Swedish Energy Advisers (*Sveriges energirådgivare*), the Swedish Property Federation, the Swedish Association of Municipal Housing Companies and the Swedish Homeowners Association. These problems then informed the wording of the audit questions.

¹² See Sections 4–13 of the Energy Performance Certificates for Buildings Act (SFS 2006:985). In Government Bill 2008/09:16, the Government proposes an amendment to the Energy Performance Certificates for Buildings Act (a new Section 6a). This would entail that a joint energy-performance certificate may be drawn up for three-dimensional cadastral units belonging to a building complex if the complex has a joint heating system.

¹³ Central Government Budget Act (SFS 1996:1059), Government Bill 1995/96:220, Part 5.1.

One limitation to the scope of the audit is that we do not evaluate the impact that the system of energy-performance certificates has had in terms of enhanced energy efficiency. None of the actors responsible has yet compiled such information. Further, the timeframe of the audit did not permit the collection of such information.

A second limitation is that the audit does not include any estimate of the future savings that energy-performance certificates may lead to. Such an estimate would depend to a large extent on the assumptions made about measures carried out on the basis of recommendations contained in certificates and on the assumptions made about future energy prices.

The analysis concerns two fields: the process to implement the Directive in Sweden and the practical application of the relevant legislation. The period covered begins at the time of adoption of the Directive in 2002 and ends in the spring of 2009.

1.5 Audit objects

The main central-government entities concerned are the following:

Ministries:	<i>Ministry of Enterprise, Energy and Communications</i> Responsible for implementing and applying the Directive and for exercising direction over the Swedish Energy Agency.
	<i>Ministry of the Environment</i> Responsible for exercising direction over the National Board of Housing, Building and Planning.
Government agencies:	<i>National Board of Housing, Building and Planning</i> Responsible for issuing regulations and for maintaining a register of energy-performance certificates.
	<i>Swedish Board for Accreditation and Conformity Assessment (SWEDAC)</i> Responsible for accreditation. Accredits the companies that certify individual energy experts as well as the companies that draw up energy-performance certificates.
	<i>Swedish Energy Agency</i> The administrative authority responsible for energy issues.

Other entities are also concerned by energy-performance certificates: the Prime Minister's Office, which is responsible for coordinating the implementation of EU Directives within the Government Offices; the Ministry of Justice, which is involved in the drawing-up of Swedish acts and ordinances; and the Ministry for Foreign Affairs, which has budgetary responsibility for SWEDAC. However, since these entities perform only limited tasks in relation to energy-performance certificates, the audit did not focus mainly on them.

1.6 Structure of the report

The report has the following structure: Chapter 1 includes information about the background and focus of the audit. Chapter 2 deals with the purpose of the system of energy-performance certificates and the division of responsibility within that system. Chapters 3–6 contain the SNAO's observations about the system of energy-performance certificates. Chapter 3 deals with the Swedish implementation process, Chapter 4 with inspections and proposals for measures, Chapter 5 with issues of direction and follow-up, and Chapter 6 with issues of checks and supervision. Chapter 7 presents the SNAO's conclusions and recommendations.

2 Purpose of the legislation and division of responsibility

2.1 Overall purpose and objectives

2.1.1 *The EU Directive*

The foundation on which the rules on energy-performance certificates rest is specified in Directive 2002/91/EC of the European Parliament and of the Council on the energy performance of buildings.¹⁴ That Directive is the EU's main legal instrument to bring about a holistic perspective on the efforts to enhance the energy efficiency of buildings. The principal objective of the Directive is to promote the improvement of the energy performance of buildings. Account is also to be taken of outdoor climatic and local conditions, as well as of indoor-climate requirements and cost-effectiveness.¹⁵

Most of the provisions of the Directive apply to all types of buildings, regardless of their size and of whether they are used for residential or other purposes. The provisions combine prescriptive policy instruments¹⁶ and information-based policy instruments; energy-performance certificates belong to the latter category.

The Directive is a 'minimum Directive', meaning that the Member States may adopt stricter rules when implementing it. At the end of 2008, the Commission presented the Member States with a proposal for a recast of the Directive. The purpose of recasting the Directive is to clarify and simplify certain provisions, extend the scope of the Directive and reinforce certain provisions to enhance their impact.¹⁷

¹⁴ Annex 2 lists examples of other EU Directives which are linked to the energy efficiency of the building stock.

¹⁵ Article 1 of Directive 2002/91/EC of the European Parliament and of the Council.

¹⁶ For example, the obligation for Member States to determine requirements for the energy performance of new buildings and buildings undergoing major renovation.

¹⁷ European Commission, *Communication from the Commission, Explanatory Memorandum, Proposal for a directive of the European Parliament and of the Council on the energy performance of buildings (recast)*, SEC (2008) 2820–2821, p. 2 f. Under the Commission's proposal, the new requirements would have to be transposed into national legislation by 31 December 2010 and fully implemented in national legislation by 31 January 2012. The Commission mentions that there have been delays in the implementation of the Directive but that 22 Member States have now declared that they have implemented the provisions; the Commission will carry out an evaluation to ascertain whether this is the case. The Swedish Government estimated in January 2009 that negotiations in the Council on the proposal for a recast Directive will begin in the spring and be concluded in the autumn of 2009. See Regeringskansliet, Näringsdepartementet [Government Offices', Ministry of Enterprise, Energy and Communications], Factual Memorandum 2008/09:FPM57, *Omarbetning av direktivet om byggnaders energiprestanda* ['Recast of the Directive on the energy performance of buildings'], 9 January 2009.

2.1.2 Objectives set and legislation enacted by the Riksdag

In 2006, the Riksdag adopted a new sub-objective relating to the energy efficiency of buildings under the national environmental-quality objective of 'A Good Built Environment':¹⁸

Total energy consumption per unit of heated area in homes and other buildings is to be reduced. The reduction should be 20 per cent by 2020 and 50 per cent by 2050 compared with the 1995 level of energy consumption. By 2020, dependence on fossil fuels for energy use in the building sector should be broken and the proportion of renewable energy should be increasing continuously.

In parallel with the new sub-objective relating to the energy efficiency of buildings, the Riksdag adopted the Energy Performance Certificates for Buildings Act in 2006. The objective of that Act is to promote the efficient use of energy and a good indoor environment in buildings.¹⁹

In its report, the Riksdag Committee on Housing emphasised that energy-performance certificates would create incentives to meet the objectives relating to the efficient use of energy and a good indoor environment. According to the Committee, the legislative proposal should not be seen exclusively as a way for Sweden to meet the requirement of implementing the EU Directive on the energy performance of buildings in Swedish legislation. The Committee further stressed that, to achieve the objective of promoting the efficient use of energy and a good indoor environment in Sweden's buildings, it would be crucial that building owners, holders of rights of use and other stakeholders had a positive attitude to the system of energy-performance certificates right from the start.²⁰

2.2 Division of responsibility

2.2.1 Government Offices

At the Government Offices, the Prime Minister's Office is responsible for coordinating the implementation and application of EU legislation. The Ministry of Enterprise, Energy and Communications is responsible for the implementation and application of the Directive on the energy performance of buildings, and it exercises control over the Swedish Energy Agency. The Ministry of the Environment exercises direction over the National Board of Housing, Building and Planning while the Ministry for Foreign Affairs is responsible for exercising direction over SWEDAC.

¹⁸ Committee Report 2005/06:BoU9, Riksdag Written Communication 2005/06:365. The new sub-objective replaced an old one relating to the energy consumption and other characteristics of buildings.

¹⁹ Section 1 of the Energy Performance Certificates for Buildings Act (SFS 2006:985).

²⁰ Committee Report 2005/06:BoU9, Riksdag Written Communication 2005/06:365, p. 30 f.

2.2.2 Government agencies and municipalities

The National Board of Housing, Building and Planning is the administrative authority for issues relating to the built environment and the management of land and water resources, for town and country planning, for construction and building management, and for housing issues. When it comes to energy-performance certificates, the Board is responsible for issuing regulations specifying the rules as regards the drawing-up of certificates, exemptions from the duty to draw up certificates, inspections, the content of certificates, the presentation of information about energy performance in certificates and the means by which certificates are to be made available to the public in certain types of buildings. The Board may also issue regulations specifying the qualification requirements applicable to energy experts. It is also the duty of the Board to keep a register of certificates.²¹

The task of SWEDAC in the field of energy-performance certificates is to accredit certification bodies, which then certify that energy experts have the qualifications needed to draw up energy-performance certificates. SWEDAC is also responsible for the accreditation of the inspection bodies for which the experts work. It exercises supervision over the certification and inspection bodies it has accredited.²²

The Swedish Energy Agency is the administrative authority for issues relating to the use and supply of energy. However, the Agency has not been given any specific responsibilities as regards energy-performance certificates except that the National Board of Housing, Building and Planning must consult with it before issuing regulations in certain areas, including the presentation of information about energy performance in certificates.²³

Municipalities²⁴ are to exercise supervision to ensure that owners of large special buildings and buildings rented out with a right of use (such as apartment blocks) maintain in a clearly visible place a certificate indicating that a certificate has been drawn up. This supervision is intended to ensure that energy-performance certificates are drawn up for the buildings concerned. If necessary, municipalities may issue orders to post such certificates in a clearly visible place. They may also impose a fine on anyone failing to comply with such an order.²⁵

²¹ Section 16 of the Energy Performance Certificates for Buildings Act (SFS 2006:985), Section 1 of the Ordinance with Instructions for the National Board of Housing, Building and Planning (SFS 2007:1065) and, above all, Sections 5–9 and 11–12 of the Energy Performance Certificates for Buildings Ordinance (SFS 2006:1592).

²² Sections 14–18 of the Technical Inspections Act (SFS 1992:1119). An 'accreditation' is a statement to the effect that a certain body possesses the requisite qualifications to perform a certain activity.

²³ Section 1 of the Ordinance with Instructions for the Swedish Energy Agency (SFS 2007:1153) and Section 7, third paragraph; Section 8, first paragraph, Point 2; and Section 8, second paragraph, of the Energy Performance Certificates for Buildings Ordinance (SFS 2006:1592).

²⁴ More specifically, the municipal committees that fulfil the duties imposed on municipalities in the planning and building sector.

²⁵ Sections 24–25 of the Energy Performance Certificates for Buildings Act (SFS 2006:985).

There is no supervision to ensure that owners of small residential buildings draw up a certificate before selling them. This is because it has been concluded that, in the case of the sale of a small residential building, the buyer's demand will be a sufficient incentive to ensure that a certificate is drawn up.

2.2.3 *Administrative appropriations*

The National Board of Housing, Building and Planning is the only agency which is given a specific appropriation for energy-performance certificates; this appropriation was SEK 15 million per year in 2005–2008 and SEK 9 million in 2009. The appropriation was not fully utilised in 2005–2008; some appropriation savings were made. The appropriation was larger before 2009 because the Government considered that the need for resources would be greater during the first years of the system. During those years, the Board built a register for energy-performance certificates and carried out basic work on its regulations.²⁶

SWEDAC carries out the accreditation of the bodies that certify energy experts and the accreditation of the companies that draw up energy-performance certificates on a purely contractual basis; its accreditation operations are entirely funded from fees. SWEDAC therefore does not receive any public appropriations for its work relating to energy-performance certificates. Its work in the field of energy-performance certificates must bear its own costs.²⁷

²⁶ The appropriation for energy-performance certificates allocated to the National Board of Housing, Building and Planning is granted by way of the Government's appropriation directions for the Swedish Energy Agency because the management of central-government appropriations for energy issues is the duty of the Ministry of Enterprise, Energy and Communications. Interview at the Ministry of Enterprise, Energy and Communications, 20 March 2009.

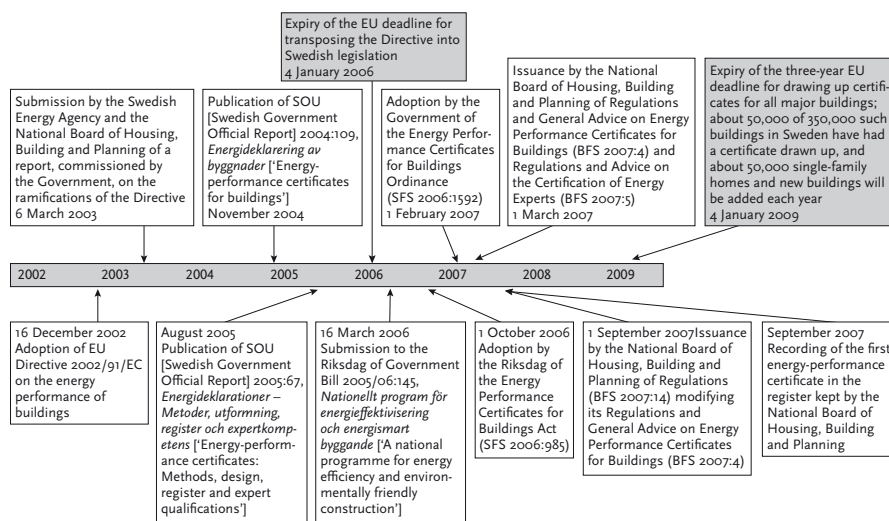
²⁷ SWEDAC, interview on 3 March 2009.

3 The implementation process

The Swedish legislation relating to energy-performance certificates is based on the EU Directive on the energy performance of buildings. There have been significant delays in the Swedish implementation and application of the EU legislation. Because of the drawn-out implementation process, there was a shortage of energy experts at the initial stage and few buildings had energy-performance certificates drawn up before the deadline. What is more, building owners' expenditures for energy-performance certificates are significant – the National Board of Housing, Building and Planning has arrived at a rough estimate of SEK 700 million per year.

3.1 A lengthy implementation process

Figure 1: Sweden's implementation of Directive 2002/91/EC



Source: Information compiled by the SNAO.

When the EU deadline for the full application of the Directive on the energy performance of buildings expired at the end of 2008, energy-performance certificates had been drawn up for only about 50,000 out of about 350,000 buildings.

Even though the Directive was adopted at the EU level as far back as December 2002, it was not implemented in Swedish legislation, and material provisions relating to energy-performance certificates were not applied, within the agreed period. As a result of the drawn-out legislative process, there was little time left to build a functioning system for energy-performance certificates and to draw up certificates for all of the buildings covered by the provisions.

The Directive on the energy performance of buildings was adopted by the European Parliament and the Council in December 2002. In April 2002, even before the Directive was adopted, the Government instructed the National Board of Housing, Building and Planning and the Swedish Energy Agency to investigate how the Directive could be implemented in Sweden.²⁸

After those two agencies had completed their task, the Government entrusted a special investigator with the task of submitting more detailed proposals for how the Directive should be implemented and applied. The terms of reference were decided at a Government meeting on 6 November 2003.²⁹ The first meeting of the Committee of Inquiry on the Energy Performance of Buildings, headed by the special investigator, took place in February 2004. The Committee then submitted an interim report in November 2004 and a final report in August 2005.³⁰

Based on the reports of the Committee of Inquiry, the Government on 16 March 2006 submitted a bill to the Riksdag on the introduction of energy-performance certificates in Sweden.³¹ Besides dealing with the expected effects and the practical implementation of energy-performance certificates, the bill also linked energy-performance certificates to the Government's overall programme for energy efficiency and environmentally friendly construction. The Riksdag Committee on Housing generally endorsed the Government's proposals but suggested certain modifications.³²

The Energy Performance Certificates for Buildings Act (SFS 2006:985) entered into force on 1 October 2006, about nine months after the deadline set by the EU for the implementation of the Directive in national legislation.³³ The Energy Performance Certificates for Buildings Ordinance (SFS 2006:1592) entered into force four months after the Act, on 1 February 2007.

²⁸ SOU 2004:109, *Energideklarering av byggnader – För effektivare energianvändning* ['Energy-performance certificates of buildings: For the more efficient use of energy'], p. 46. The report subsequently submitted by the two agencies was Statens Energimyndighet [Swedish Energy Agency] and Boverket [National Board of Housing, Building and Planning], *Regeringsuppdrag om hur Europaparlamentets och rådets direktiv 2002/91/EG om byggnaders energiprestanda skall genomföras i Sverige* ['Government commission on how Directive 2002/91/EC of the European Parliament and of the Council on the energy performance of buildings is to be implemented in Sweden'], Ref. No. 00-02-1325.

²⁹ Terms of Reference 2003:139, *Kommittédirektiv – Genomförande av EG-direktivet om byggnaders energiprestanda* ['Terms of reference: Implementation of the EU Directive on the energy performance of buildings'].

³⁰ SOU 2004:109, *Energideklarering av byggnader – För effektivare energianvändning* ['Energy-performance certificates of buildings: For the more efficient use of energy']; SOU 2005:67, *Energideklarationer – Metoder, utformning, register och expertkompetens* ['Energy-performance certificates: Methods, design, register and expert qualifications']. The proposals made in those reports were coordinated with those made in SOU 2004:78, *Byggnadsdeklarationer – Inomhusmiljö och energianvändning* ['Building certificates: indoor environment and energy use'].

³¹ Government Bill 2005/06:145, *Nationellt program för energieffektivisering och energismart byggande* ['A national programme for energy efficiency and environmentally friendly construction'].

³² Committee Report 2005/06:BoU9, Riksdag Written Communication 2005/06:365, p. 2.

³³ Article 15(1) of Directive 2002/91/EC of the European Parliament and of the Council. The deadline for the entry into force of the necessary national provisions was 4 January 2006.

On 1 March 2007, the Regulations and General Advice issued by the National Board of Housing, Building and Planning on the Certification of Energy Experts and on Energy Performance Certificates for Buildings entered into force.³⁴

Once the Board's Regulations and General Advice on the Certification of Energy Experts had entered into force, SWEDAC began its work to accredit certification and inspection bodies.

The first energy experts were certified and the first inspection bodies were accredited in September 2007. The first Swedish energy-performance certificates were drawn up during that same month.

3.2 Inadequate supply of experts

As a result of the lengthiness of the implementation process and the relatively complicated Swedish system for the accreditation and certification of energy experts (see further Chapter 6), there was a shortage of qualified experts at the initial stage.

Compared with the other Member States, Sweden has a relatively complicated system to ensure the independence and qualifications of energy experts.³⁵ Under this system, SWEDAC accredits both the organisations that certify energy experts and the companies for which the energy experts work.³⁶ The minimum requirement laid down in the Directive is that certificates must be drawn up in an independent manner by qualified and/or accredited experts.³⁷ The Swedish legislation goes beyond the requirements of the Directive by demanding certification and accreditation.

In August 2005, the Ministry of the Environment informed the European Commission that it was already obvious that there would be a shortage of energy experts in Sweden during the first years of the proposed system.³⁸ In December of the same year, the Ministry informed the Commission that Sweden would make at least partial use of the opportunity under the Directive to extend the application of certain provisions by three years. The reason given was the shortage of independent experts that would obtain during the first years of the system.³⁹

³⁴ Regulations and General Advice on the Certification of Energy Experts (BFS 2007:5 CEX 1) and Regulations and General Advice on Energy Performance Certificates for Buildings (BFS 2007:4 BED 1) issued by the National Board of Housing, Building and Planning. The Board subsequently modified its Regulations and General Advice on Energy Performance Certificates for Buildings (BFS 2007:4 BED 1); the modified version (BFS 2007:14 BED 2) entered into force on 1 September 2007.

³⁵ Interview at the Ministry of Enterprise, Energy and Communications, 20 March 2009.

³⁶ A company which employs a certified expert in a supervisory capacity and is accredited may also use other qualified employees to draw up energy-performance certificates. There are no firm rules in this respect, but SWEDAC has stated as a rule of thumb that between five and fifteen people may work under a certified supervisor at an accredited company.

³⁷ Article 10 of Directive 2002/91/EC of the European Parliament and of the Council.

³⁸ Miljö- och samhällsbyggnadsdepartementet, rättsenheten [Ministry of the Environment, Legal Division], *Svar på kommissionens frågor i ärende TREN/D1/KP/ic D (2005) 114824 angående genomförandet av direktiv 2002/91/EG om byggnaders energiprestanda* ['Replies to the Commission's questions in matter TREN/D1/KP/ic D (2005) 114824 relating to the implementation of Directive 2002/91/EC on the energy performance of buildings'], Ref. No. M2005/4405/R, 23 August 2005.

³⁹ Miljö- och samhällsbyggnadsdepartementet, rättsenheten [Ministry of the Environment, Legal Division], *Underrättelse enligt artikel 15.2 i Europaparlamentets och rådets direktiv 2002/91/EG av den 16 december 2002 om byggnaders energiprestanda* ['Notification under Article 15(2) of Directive 2002/91/EC of the European Parliament and of the Council of 16 December 2002 on the energy performance of buildings'], Ref. No. M2005/6452/R, 21 December 2005.

The shortage of energy experts, in turn, also occasioned a recommendation in the autumn of 2008 for municipalities to abstain, for the time being, from exercising active supervision to ascertain whether building owners had fulfilled their obligations as regards certificates. Municipalities were also recommended not to impose fines on building owners who had ordered an energy-performance certificate before 31 December 2008. This recommendation was issued by the Swedish Association of Local Authorities and Regions following consultations with the Ministry of Enterprise, Energy and Communications, the Ministry of the Environment, the Ministry of Finance, the National Board of Housing, Building and Planning and the Swedish Energy Agency (see further Chapter 6).⁴⁰

There are also indications that a shortage of energy experts may persist as late as the spring of 2009 in certain municipalities in sparsely populated regions. For example, there is at present only one accredited company on the island of Gotland.⁴¹

3.3 Few buildings were made the subject of a timely energy-performance certificate

By the middle of March 2009, energy-performance certificates had been drawn up for about 88,000 buildings.⁴² The total number of buildings for which certificates should have been drawn up by 4 January 2009 was about 350,000. The National Board of Housing, Building and Planning has estimated that a 'normal situation' will arise during 2010, meaning that certificates will then exist for all buildings not offered for sale.⁴³

Building owners have had a short time in which to have certificates drawn up. From the time when it was first possible to draw up an energy-performance certificate, they have had one year and three months in which to obtain certificates for all of their buildings.⁴⁴

3.4 Building owners' expenditures

According to a rough estimate made by the National Board of Housing, Building and Planning, building owners' expenditures for having energy-performance certificates drawn up are about SEK 700 million per year.⁴⁵

⁴⁰ Sveriges Kommuner och Landsting [Swedish Association of Local Authorities and Regions], Circular 08:62, 1 September 2008.

⁴¹ E-mail message from SWEDAC, 16 March 2009.

⁴² E-mail message from the National Board of Housing, Building and Planning, 27 March 2009.

⁴³ Interview at the National Board of Housing, Building and Planning, 20 February 2009.

⁴⁴ Interviews at the National Board of Housing, Building and Planning, 20 February 2009, and at SWEDAC, 3 March 2009.

⁴⁵ 350,000 commercial and public buildings × an average price of SEK 13,000 for a certificate spread across (i.e. divided by) 10 years + 50,000 single-family homes and new buildings per year × an average price of SEK 5,000 for a certificate = SEK 450 million + SEK 250 million = SEK 700 million per annum. E-mail message from the National Board of Housing, Building and Planning, 27 March 2009.

This estimate is based on the assumption that 350,000 commercial and public buildings need to be subject to energy-performance certificates over a ten-year period and that an average of 50,000 single-family homes and new buildings need to be the subject of a certificate each year.

The average prices for drawing up an energy-performance certificate for various types of buildings are the following, according to the National Board of Housing, Building and Planning:⁴⁶

- Apartment block: SEK 7,000–15,000.
- Non-residential building: SEK 10,000–20,000.
- Small home: SEK 4,000–6,000.

In order for the system of energy-performance certificates to be efficient, the expenditures for having energy-performance certificates drawn up and the investments made by building owners must be covered by the energy savings that those investments lead to.

Expenditures for having an energy-performance certificate drawn up are deductible from income tax, usually as sales-related expenditures for a private residential building and as a running operating cost for a commercial building.⁴⁷ The effective tax rate for capital gains on private homes is 22 per cent.⁴⁸ Income tax is 26.3 per cent for limited companies, foundations, incorporated associations, non-profit associations and life-insurance companies.⁴⁹ For natural persons owning commercial buildings, the related revenues together with any income from employment make up total earned income. Earned income is (to simplify matters) subject to municipal income tax and, in higher income brackets, to central-government income tax.⁵⁰

3.4.1 *Prices in other European countries*

In the United Kingdom, the estimated price of an energy-performance certificate for a small home is about GBP 100 (about SEK 1,250).⁵¹

In Finland, the Ministry of the Environment states that the price of an energy-performance certificate is between EUR 50 and EUR 700 (about SEK 560–7,850).⁵²

⁴⁶ E-mail message from the National Board of Housing, Building and Planning, 27 March 2009.

⁴⁷ <http://www.skatteverket.se/skatter/energideklaration.4.69ef368911e1304a62580002052.html> (website of the Swedish Tax Agency), 27 April 2009.

⁴⁸ Chapter 65, Section 7, and Chapter 45, Section 33, of the Income Tax Act (SFS 1999:1229). The tax rate is 30 per cent and the taxable proportion of capital gains is 22/30.

⁴⁹ Cf. Chapter 65, Section 14, of the Income Tax Act (SFS 1999:1229) until 30 June 2009 and subsequently Chapter 65, Section 10, of the same Act.

⁵⁰ Chapter 1, Section 5, of the Income Tax Act (SFS 1999:1229). Total earned income is the sum of surpluses in the income categories of income from employment and income from business less general deductions. The remaining amount, in principle, constitutes earned income as assessed. The deductions made from earned income as assessed include a basic deduction. The remaining amount is taxable earned income.

⁵¹ http://www.direct.gov.uk/en/HomeAndCommunity/BuyingAndSellingYourHome/Homeinformation/packs/Energyperformancecertificates/DG_177137, 23 April 2009. Exchange-rate date: 23 April 2009.

⁵² <http://www.environment.fi/default.asp?contentid=179130&lan=SV>, 23 April 2009. Exchange-rate date: 23 April 2009.

The Danish Energy Agency states that a ceiling has been set for small homes. The amounts may be reduced on certain conditions. Pricing is free for other buildings. The price is to be agreed between the expert and the owner of the building.⁵³ Danish energy-performance certificates are valid for five years.⁵⁴ From 1 January 2009, the ceilings for the Danish fees are the following:

- DKK 5,319 including VAT for a building of less than 100 m² (about SEK 8,000).
- DKK 5,851 including VAT for a building of 100–199 m² (about SEK 8,800).
- DKK 6,382 including VAT for a building of 200–299 m² (about SEK 9,600).

3.5 Energy-saving potential

The Energy Efficiency Working Committee emphasises that there is a large potential for enhancing the energy efficiency of existing buildings. It finds that the financially viable potential for enhancing efficiency corresponds to end-use energy of about 13 TWh from district heating and fuels, and about 11 TWh from electricity, by 2016.⁵⁵

In a recent bill relating to climate and energy policy, the Government states that the system of energy-performance certificates is a policy instrument whose main impact will be exerted in the long term and that an energy-performance certificate drawn up in accordance with the applicable rules will contain recommendations for cost-effective measures to enhance the energy performance of the building concerned. Individual building owners have opportunities to save money by carrying out the measures indicated in the certificate. According to the Government, however, this does not always happen at the pace that would be desirable from the perspective of energy efficiency. The Government considers that there are a great many reasons why building owners may fail to take cost-effective measures to enhance energy efficiency. Examples include a lack of information, a shortage of capital, a perceived lack of incentives to take such measures and other real or perceived obstacles.⁵⁶

⁵³ <http://www.ens.dk/sw49379.asp>, 23 April 2009. Exchange-rate date: 23 April 2009.

⁵⁴ <http://www.ens.dk/sw49379.asp>, 23 March 2009. Exchange-rate date: 23 April 2009.

⁵⁵ Government Bill 2008/09:163, p. 129.

⁵⁶ Government Bill 2008/09:163, *En sammanhållen klimat- och energipolitik – Energi* [‘An integrated climate and energy policy: Energy’], p. 125 f.

4 Inspections and proposals for measures

The purpose of energy-performance certificates is to promote the enhancement of energy efficiency. Where there is scope for enhancing energy efficiency, the building is first to be inspected, whereupon recommendations for cost-effective measures are to be made.

Data from the register of energy-performance certificates kept by the National Board of Housing, Building and Planning show that two-thirds of all certificates were preceded by an inspection and that only half of all certificates contain proposals for measures. There may be several explanations for this.

About one-third of all certificates either were preceded by an inspection but contain no proposals for measures or were not preceded by an inspection but even so contain proposals for measures. The usefulness of this one-third of the certificates can be questioned.

There are strong indications that the problems in relation to inspections and proposals for measures are caused by points of unclarity in the Swedish legislation.

4.1 Outcome of energy-performance certificates

The cost and usefulness of an energy-performance certificate to the owner of a building is influenced by whether the energy expert inspected the building and proposed measures. The time required to draw up a certificate is influenced by whether an inspection is performed, and this will also affect the price of the certificate. The certificate is useful to building owners only to the extent that they receive proposals for cost-effective measures to save energy.

The SNAO has processed data from the National Board of Housing, Building and Planning on the certificates recorded until the middle of March 2009. The outcome of this data-processing operation is mainly presented in charts in this section. For reasons of clarity, these charts do not show the proportions for the building categories 'one- and two-family homes', 'apartment blocks' and 'commercial and special buildings'. In some cases, information about such proportions is instead provided in the running text.⁵⁷

⁵⁷ The data were obtained from the National Board of Housing, Building and Planning on 27 March 2009. They relate to information contained in certificates recorded before or on 12 March 2009.

The register data provided by the Board are not entirely reliable. Some energy-performance certificates may have been recorded several times.⁵⁸ The information as such may also be uncertain to some extent. This may be because the energy experts filled in certificate forms incorrectly, for example by describing their proposals for measures in annexes that they did not enter into the Board's register or by failing to indicate whether an inspection was performed.

One consequence of the latter problem is that the total number of certificates differs across the charts.⁵⁹

4.1.1 *Two-thirds of the buildings for which a certificate has been drawn up were inspected*

The SNAO's processing of data from the National Board of Housing, Building and Planning shows that just over two-thirds (71 per cent) of the buildings for which a certificate has been drawn up were inspected prior to the drawing-up of the energy-performance certificate. The proportion of inspected buildings is lowest for apartment blocks (69 per cent). However, this is only marginally lower than the proportions for one- and two-family homes (70 per cent) and commercial and special buildings (75 per cent).

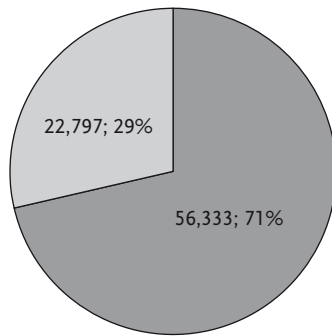
The reason why a given building was not inspected may be that basic data about it caused the energy expert to conclude that the building was so energy-efficient that no cost-effective measures could be recommended. Another possible reason is that the inspection was omitted to keep the price of the certificate down. The figure below shows the numbers of certificates and the proportions of all certificates where the relevant building was inspected and not inspected, respectively.

⁵⁸ This is because the first 2,500 certificates recorded did not contain information about building ID. At the time, the Board considered that the price charged by the Mapping, Cadastral and Land Registration Authority for that information was too high. The buildings concerned still cannot be identified in the register, but the Board has stated that it intends to correct this error manually. E-mail message from the National Board of Housing, Building and Planning, 24 April 2009.

⁵⁹ Telephone interview with the National Board of Housing, Building and Planning, 31 March 2009; e-mail message from the National Board of Housing, Building and Planning, 31 March 2009.

Figure 2: Numbers of energy-performance certificates involving and not involving an inspection

- Number of energy-performance certificates involving an inspection
- Number of energy-performance certificates not involving an inspection



Source: The SNAO's processing of data from the National Board of Housing, Building and Planning.

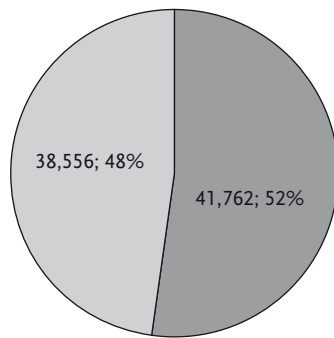
4.1.2 *Only half the energy-performance certificates include proposals for measures*

The main purpose of energy-performance certificates is that they should help make building owners invest in measures to enhance energy efficiency. If possible, the certificates should include recommendations for cost-effective measures (also called 'proposals for measures'). However, a large proportion – 48 per cent – of all certificates do not include any recommendations for measures. This may indicate that a large share of the building stock for which certificates have been drawn up has already attained maximum energy efficiency. Another possible explanation is that too small a share of the buildings have been inspected (see Section 4.1.1).

The proportion of certificates including proposals for measures is also very similar across building categories. It is lowest for one- and two-family homes (50 per cent) and slightly higher for apartment blocks (53 per cent) and commercial and special buildings (52 per cent). The figure below shows the numbers of certificates and the proportions of recorded certificates that contain proposals for measures.

Figure 3: Numbers of energy-performance certificates including and not including proposals for measures

- Number of energy-performance certificates including proposals for measures
- Number of energy-performance certificates not including proposals for measures



Source: The SNAO's processing of data from the National Board of Housing, Building and Planning.

4.1.3 *The usefulness of one-third of the certificates can be questioned*

The outcome of further processing as regards the content of the certificates indicates that the present system of energy-performance certificates has considerable problems of efficiency. Under the applicable rules, a building *shall be inspected if the energy expert deems this to be necessary* for an energy-performance certificate to be drawn up. However, if a certificate must contain recommendations for measures to enhance the energy performance of a building, the building *shall* first be inspected.⁶⁰

The SNAO has processed data on certificates with and without recommendations for measures to enhance energy efficiency as well as certificates preceded and not preceded by a building inspection.

It emerges that in 25 per cent of the cases, the building was inspected without any measures being proposed in the certificate. This category could consist of buildings that are already energy-efficient but were nevertheless inspected even though this was presumably not necessary. Another reason for performing an inspection could be that the expert deemed it necessary to verify the information about the energy performance of a building provided by its owner.

⁶⁰ Section 8, first paragraph, of the Energy Performance Certificates for Buildings Act (SFS 2006:985) and Section 6, first paragraph, of the Energy Performance Certificates for Buildings Ordinance (SFS 2006:1592).

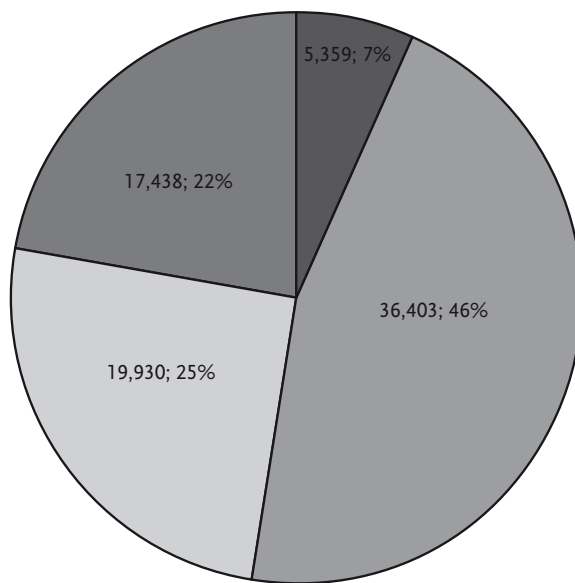
In 7 per cent of the cases, measures to enhance energy efficiency were recommended in the certificate even though the building had not been inspected. Such certificates are directly in breach of the legislation.

In both of these cases, which together account for 32 per cent of all certificates, it can be questioned whether the benefit that building owners derive from the energy-performance certificate justifies the price that they pay for it.

The figure below shows the four relevant categories of certificates.

Figure 4: Numbers of energy-performance certificates including and not including proposals for measures

- Number of energy-performance certificates with an inspection and with proposals for measures
- Number of energy-performance certificates with an inspection and without proposals for measures
- Number of energy-performance certificates without an inspection and without proposals for measures
- Number of energy-performance certificates without an inspection and with proposals for measures



Source: The SNAO's processing of data from the National Board of Housing, Building and Planning.

4.2 Points of unclarity in the legislation

4.2.1 *It is unclear what an 'inspection' is and what determines whether one should be performed*

When energy-performance certificates were introduced, the Government assumed that a large share of the responsibility for the extent and quality of inspections would be placed on the independent experts.⁶¹ However, the questions of what actually constitutes an inspection and what determines whether a building has to be inspected in order for a certificate to be drawn up present energy experts and building owners with significant problems.⁶² The main reason for these problems is that the legislation (the Act, the Ordinance and the Regulations issued by the National Board of Housing, Building and Planning)⁶³ and its preparatory materials (Government bills, reports of Riksdag committees, etc.) are unclear and in part contradictory. In Annex 3 of this report we provide a more detailed description of the points of unclarity to be found in the legislation on energy-performance certificates and its preparatory materials.

The main points of unclarity are the following:

- It is unclear what determines whether a building must be inspected;
- It is also unclear whether an inspection always has to be performed on-site or whether – and, if so, when – it may be carried out in a place different from that where the building is located;
- Further, it is unclear whether the Government's authorisation for the National Board of Housing, Building and Planning to issue regulations covers both the extent of inspections and the form of inspections.

In greater detail, the points of unclarity relate mainly to the following:

- Under the Act, the owner of a building shall ensure that it is inspected if that is necessary in order for a certificate to be drawn up. The Government or the agency appointed by it may issue regulations relating to inspections;⁶⁴
- According to the Government's legislative proposal, a building would have to be inspected in the way that was necessary for a certificate to be drawn up. The Government thus seemed to assume that inspection would be compulsory. At the same time, however, the Government stresses in its bill that an on-site inspection is not always necessary.⁶⁵

⁶¹ Government Bill 2005/06:145, p. 77.

⁶² See, for example, SWEDAC's letter of 18 March 2009 to accredited inspection bodies in the field of energy-performance certificates for buildings, Ref. No. 09-733-69.

⁶³ See, for example, Boverket [National Board of Housing, Building and Planning], *Förttydligande angående besiktning* ['Clarification as regards inspection'], 2 April 2009. Cf. SWEDAC's letter of 18 March 2009 to accredited inspection bodies in the field of energy-performance certificates for buildings, Ref. No. 09-733-69, p. 1.

⁶⁴ Section 8 of the Energy Performance Certificates for Buildings Act (SFS 2006:985).

⁶⁵ Government Bill 2005/06:145, p. 77.

However, it is unclear whether the Government, by its use of the expression ‘on-site inspection’, wishes to emphasise that an ‘inspection’ is always performed on-site, specify that inspections may take another form, or indicate that in certain cases no inspection of any kind is required;

- The main point of unclarity in the report of the Riksdag Committee on Housing relates to its statement that the Government’s proposed legislative text on inspections could lead to a misunderstanding to the effect that an expert cannot draw up a certificate without first performing an on-site inspection. At the same time, the Committee emphasises that it does not wish to change the material meaning of the Government’s proposed provision on inspections. In addition, the Committee states that the Government or the agency appointed by it enjoys fairly wide scope to regulate ‘the extent and form of inspections’.⁶⁶ This latter statement could be interpreted to mean that the Committee extends the meaning of ‘inspection’ to include off-site examination. An alternative interpretation, though, is that the Committee still considers that an ‘inspection’, by definition, is always performed on-site;
- It is laid down in the Ordinance that if an energy-performance certificate must contain recommendations for measures to improve the energy performance of the building concerned, the certificate shall be preceded by an inspection. The Ordinance does not lay down any more detailed provisions relating to inspections. Instead it authorises the National Board of Housing, Building and Planning to issue regulations specifying how extensive an inspection needs to be. The Board is also authorised to issue any additional regulations that may be required in relation to the inspection of existing buildings.⁶⁷ If the concept of ‘inspection’ is interpreted in such a way that an inspection can be performed in a place different from that where the building is located (cf. the above discussion of the Riksdag Committee on Housing), then the Ordinance authorises the Board to issue regulations specifying the form of inspection as well. This entails a further need to specify the meaning of ‘inspection’ in the Board’s Regulations. In several other Acts, ‘inspection’ refers to an on-site examination of, for example, a building.⁶⁸ If the concept of ‘inspection’ were to be applied in the same way as in other Acts, the authorisation in this case would entail a right to lay down, for example, how detailed an on-site examination needs to be;

⁶⁶ Committee Report 2005/06:BoU9, p. 31 f.

⁶⁷ Section 6 of the Energy Performance Certificates for Buildings Ordinance (SFS 2006:1592).

⁶⁸ See, for example, Section 23, first paragraph, of the Administrative Procedure Act (SFS 1971:291) and Chapter 18, Sections 8 and 30–40, of the Property Tax Assessment Act (SFS 1979:1152).

- The wording of the Regulations of the National Board of Housing, Building and Planning indicates that their subject is the extent of inspections. These Regulations lay down rules for two different types of inspections: 'inspections performed under the Ordinance' and 'other inspections'.⁶⁹ The extent of inspections under the Ordinance shall be determined by whether the inspection may yield recommendations for cost-effective measures without negative consequences for, among other things, the indoor environment. The Board does not specify what 'other inspections' refers to. Both the form and the extent of 'other inspections' are unclear;
- In connection with its Regulations, the National Board of Housing, Building and Planning also provides General Advice, mainly to the effect that the cost of the inspection should be considered in the assessment of cost-effectiveness. The Board also states that if the energy expert finds that there are no cost-effective measures to an extent justifying an inspection, the expert may instead provide general advice on energy efficiency.

In April 2009, the National Board of Housing, Building and Planning stated that the rules may be difficult to interpret, that the provisions are not always correctly applied and that some recorded energy-performance certificates are in breach of the rules.⁷⁰ The Board and SWEDAC also state that inspections should be performed in virtually all cases – if for no other reason, then to verify the correctness of the owner's information about the energy consumption of the building.⁷¹ Both agencies also consider that the legislation needs to be applied more strictly, so that more buildings are inspected.

The National Board of Housing, Building and Planning has not yet amended its Regulations nor its General Advice. For the time being, the Board instead refers, first, to a letter from SWEDAC to the accredited inspection bodies and, second, to a clarification dated 2 April 2009 published on the Board's website.⁷² The Board has also appointed, jointly with SWEDAC, a committee of inquiry to investigate how the Board may issue guidelines on inspections in the context of energy-performance certificates. According to the Board, the work of the committee of inquiry, which is expected to submit its report in June 2009, may lead to changes in the Regulations or General Advice issued by the Board.⁷³

⁶⁹ Section 4, first and second paragraphs, of the Regulations and General Advice on Energy Performance Certificates for Buildings (BFS 2007:4 BED 1) issued by the National Board of Housing, Building and Planning.

⁷⁰ Website of the National Board of Housing, Building and Planning, 2 April 2009: <http://www.boverket.se/Bygga--forvalta/Energideklaration/Aktuellt/Aktuellt/>.

⁷¹ 'Inspection' is here used in the generally accepted meaning of 'on-site examination'. Interviews at the National Board of Housing, Building and Planning, 20 February 2009, and at SWEDAC, 3 March 2009.

⁷² Website of the National Board of Housing, Building and Planning, 2 April 2009: <http://www.boverket.se/Bygga--forvalta/Energideklaration/Aktuellt/Aktuellt/>.

⁷³ E-mail message from the National Board of Housing, Building and Planning, 24 April 2009.

There are both building owners and energy experts who take advantage of these points of unclarity. Some building owners impose requirements as to how certificates are to be drawn up when inviting tenders. Experts who agree not to perform an inspection may then offer a lower price, which constitutes a competitive advantage. What is more, some energy experts offer 'inspection-free' certificates.⁷⁴

4.2.2 *It is unclear when experts have to make proposals for measures*

The EU Directive lays down that certificates must be accompanied by recommendations for the cost-effective improvement of energy performance.⁷⁵ The starting point of the Energy Performance Certificates for Buildings Act is that such recommendations must be made if the energy performance of a building is capable of improvement considering the need for a good indoor environment.⁷⁶ These recommendations, or proposals for measures, are crucial to the achievement of the purpose of energy-performance certificates. If no recommendations are made and no measures are carried out, energy-performance certificates entail nothing but costs to building owners and to society.⁷⁷

The SNAO's processing of data from the National Board of Housing, Building and Planning (see Section 4.1.2 above) shows that 48 per cent of all energy-performance certificates do not contain any proposals for measures. There may be several reasons for this. For example, the buildings for which certificates have already been drawn up may be the most energy-efficient ones; the quality of inspections may be inadequate; or there may be differences in what different experts deem to constitute cost-effective measures. There may also be uncertainty among experts as regards the circumstances in which they must make recommendations.⁷⁸

A further factor that may have contributed to the low number of recommendations could be the design of the register of energy-performance certificates kept by the Board. Energy experts may perform separate calculations to evaluate potential energy savings, but it is not possible to enclose such calculations when recording the certificates in the register.⁷⁹

74 Cf. SWEDAC, Ang. kravet om oberoende ['On the requirement for independence'], Ref. No. 08-161-69, 22 January 2008; SWEDAC, Kontrollorganets oberoende ['The independence of the inspection body'], Ref. No. 08-2105-69, 5 June 2008; SWEDAC, Beträffande kraven på ett kontrollorgan för energideklarationer ['On the requirements imposed on an inspection body for energy-performance certificates'], Ref. No. 08-2105-69, 17 June 2008; and SWEDAC, Krav på kontrollorgan ['Requirements imposed on inspection bodies'], Ref. No. 09-733-69, 18 March 2009.

75 Article 7(2) of Directive 2002/91/EC of the European Parliament and of the Council.

76 Section 9, first paragraph, Point 4, of the Energy Performance Certificates for Buildings Act (SFS 2006:985).

77 Cf. Statens energimyndighet [Swedish Energy Agency] and Boverket [National Board of Housing, Building and Planning], Regeringsuppdrag om hur Europaparlamentets och rådets direktiv 2002/91/EG om byggnaders energiprestanda skall genomföras i Sverige ['Government commission on how Directive 2002/91/EC of the European Parliament and of the Council on the energy performance of buildings is to be implemented in Sweden'], 6 March 2003, Ref. No. 00-02-1325.

78 Interview at SWEDAC, 3 March 2009.

79 Interview at SWEDAC, 3 March 2009.

There are also indications in the register that certain recommendations may be used routinely. Examples of such recommendations include fitting a vent, using low-flow toilets and reducing indoor temperature by one degree.⁸⁰

As yet, neither the National Board of Housing, Building and Planning nor SWEDAC has tried to find out why such a small number of certificates contain recommendations or analysed the quality of the recommendations made.⁸¹

⁸⁰ Interview at SWEDAC, 3 March 2009.

⁸¹ Interview at the National Board of Housing, Building and Planning, 20 February 2009.

5 Direction and follow-up

The Riksdag has decided an overall long-term objective for the energy efficiency of the Swedish building stock. Total energy consumption per heated unit of area should fall 20 per cent by 2020 and 50 per cent by 2050.⁸² The Government has not specified how energy-performance certificates are to contribute to the achievement of that objective.

Several government agencies and ministries have specific areas of responsibility in relation to the system of energy-performance certificates. This entails a risk that systemic problems will fall between the cracks. So far, energy-performance certificates have not been explicitly coordinated with other central-government policy instruments to enhance the energy efficiency of the existing building stock. In the energy bill submitted in the spring of 2009, however, the Government proposes that energy-performance certificates should be coordinated with a proposed web-based advice portal and the proposed tax relief for the repair, maintenance, re-building and extension of certain homes.

So far there has been no regular follow-up of the improvements to energy efficiency that have been made following energy-performance certificates. The register of energy-performance certificates has weaknesses that make follow-up difficult. There is no central-government entity in charge of monitoring building owners' expenditures for having energy-performance certificates drawn up. However, the Government has instructed the National Board of Housing, Building and Planning to evaluate during 2009 how the administrative procedures of the system of energy-performance certificates work from the perspective of building owners and users.

5.1 Unclear objectives

The environmental-quality objective of 'A Good Built Environment' set by the Riksdag has an associated sub-objective under which total energy consumption per heated unit of area should fall 20 per cent by 2020 and 50 per cent by 2050 relative to 1995 levels.⁸³ This is the overall objective when it comes to the energy efficiency of the Swedish building stock. One of the policy instruments to achieve that overall objective is energy-performance certificates.

⁸² Committee Report 2005/06:BoU9, Riksdag Written Communication 2005/06:365.

⁸³ Committee Report 2005/06:BoU9, Riksdag Written Communication 2005/06:365.

The Government has not broken down the objective set by the Riksdag for the energy efficiency of the building stock into monitorable objectives for energy-performance certificates. There is no objective in terms of the proportion of the improvement of energy efficiency to which energy-performance certificates are to contribute.

The Government's general instructions for the National Board of Housing, Building and Planning lay down that the Board is responsible for coordination, development, follow-up, evaluation, reporting and information as regards the environmental-quality objective of 'A Good Built Environment'.⁸⁴

However, the Government's appropriation directions for the Board relating to 2007–2009 do not specify any objectives for energy-performance certificates that are explicitly linked to the Riksdag's overall environmental-quality objective for this field. Nor are any such objectives to be found in the appropriation directions for SWEDAC or the Swedish Energy Agency relating to the same period.

5.2 Inadequate overview of the system and inadequate direction

5.2.1 *Divided responsibility*

Several government agencies and ministries have specific areas of responsibility in relation to the system of energy-performance certificates. This division of responsibility among several actors may have contributed to the failure to identify systemic problems.

The Ministry of Enterprise, Energy and Communications is responsible for energy issues at the Government Offices, and the Ministry of the Environment exercises direction over the National Board of Housing, Building and Planning. What is more, the government agencies concerned are also responsible for specific parts of the system of energy-performance certificates. The Board is responsible for drawing up regulations and for keeping a register of certificates. SWEDAC is responsible for ensuring the independence and qualifications of experts.⁸⁵ When the Board is considering regulations on how information about the energy performance of buildings is to be presented in energy-performance certificates, it must first obtain the opinion of the Swedish Energy Agency, which is the administrative authority with overall responsibility for energy issues.

⁸⁴ Section 4, third paragraph, of the Ordinance with Instructions for the National Board of Housing, Building and Planning (SFS 2007:1065).

⁸⁵ Section 10, second paragraph, Point 1(a), of the Energy Performance Certificates for Buildings Act (SFS 2006:1592), with reference being made to Section 14 of the Technical Conformity Assessment Act (SFS 1992:1119).

The Government has not vested any agency with overall responsibility for the system of energy-performance certificates. This may be part of the reason why no agency has noted that the certification and accreditation system, for which SWEDAC is responsible, does not appear to ensure the quality of the content of certificates. The inadequate quality of content is clear from the SNAO's processing of data from the register of energy-performance certificates kept by the Board. The present organisation thus entails a risk that systemic problems will fall between the cracks.

5.2.2 *No coordination with other policy instruments*

There is at present no link between energy-performance certificates and the central-government grants and tax relief available to building owners who implement various proposals for measures. The support and subsidies that owners may receive to implement measures to enhance energy efficiency are only described in general information brochures from the National Board of Housing, Building and Planning and the Swedish Energy Agency.⁸⁶

Building owners may also obtain information about measures to enhance energy efficiency from municipal energy advisors, who receive central-government funding through the Swedish Energy Agency. The framework appropriation for that activity was SEK 106 million in 2008. The funds in question must not be used for inspection activities or for participation in the drawing-up of energy-performance certificates.⁸⁷

The Government proposed in its recent bill on climate and energy policy that an integrated portal for information and advice should be established to promote increased implementation of the measures contained in energy-performance certificates of buildings. The Government proposes that such a portal should be introduced during the 2010–2014 period.⁸⁸ It also announced in the same bill that a system will be introduced under which tax relief will be granted for labour expenditures relating to the repair, maintenance, re-building and extension of certain homes. Under this proposal, owners of small homes who wish to carry out measures to enhance energy efficiency, for instance adding extra insulation or replacing windows with more energy-efficient ones, will be granted tax relief for labour-related expenditures.⁸⁹

⁸⁶ Interview at the National Board of Housing, Building and Planning, 20 February 2009.

⁸⁷ Appropriation directions relating to the 2008 budget year for the Swedish Energy Agency, 13 November 2008; Section 2, fourth paragraph, of the Grants for Municipal Energy and Climate Advice Ordinance (SFS 1997:1322).

⁸⁸ Government Bill 2008/09:163, *En sammanhållen klimat- och energipolitik – Energi* [‘An integrated climate and energy policy: Energy’], p. 124.

⁸⁹ Government Bill 2008/09:163, p. 126. The tax relief applies to such work carried out from 8 December 2008 and is granted to the person bearing effective responsibility for maintaining his or her home. This means that the types of work eligible are the repair, maintenance, re-building and extension of small homes, owner-occupied flats and tenant-owner flats owned or possessed, respectively, by the person applying for or requesting tax relief. Rented flats are thus not covered by the reform.

5.3 Inadequate follow-up

5.3.1 Follow-up of effects

At the time of the introduction of energy-performance certificates, the National Board of Housing, Building and Planning carried out two limited surveys to ascertain building owners' knowledge about and attitudes to the legislation. In its surveys, the Board also asked about building owners' intentions to perform improvement measures. Further, the Government has instructed the Board to evaluate during 2009 how the administrative procedures of the system of energy-performance certificates work from the perspective of building owners and users.⁹⁰

However, no central-government entity has regularly followed up and analysed the investments made after energy-performance certificates have been drawn up or the effects of such investments in terms of energy savings.

REGISTER OF ENERGY-PERFORMANCE CERTIFICATES

The purposes for which the register of energy-performance certificates may be used include the following:

- The production of statistics;
- The follow-up and evaluation of energy consumption and the indoor environment of the building stock; and
- Supervision.⁹¹

The Riksdag Committee on Housing stressed, in a report adopted by the full Riksdag, that the register of energy-performance certificates may become of great importance in a number of fields, including the ones listed above. The Committee also emphasised the important role of the register in the monitoring of compliance with the environmental-quality objective of 'A Good Built Environment'.⁹²

However, one weakness of the register kept by the National Board of Housing, Building and Planning is that the recommended proposals for measures cannot be categorised in useful ways. This reduces the usefulness of the register for follow-up. The system only categorises proposals for measures in three very rough categories.

This rough categorisation entails that it may be difficult to follow up, say, whether a certain type of proposed measure – relating to, for example, geothermal energy or heat pumps – has had a particularly large impact among building owners.

⁹⁰ Markför Marknad och Kommunikation, October 2006, *Nollmätning "Lagen om energideklaration"* ['Baseline measurement, "Energy Performance Certificates for Buildings Act"'] and November 2007, *Uppföljning "Lagen om energideklarationer"* ['Follow-up, "Energy Performance Certificates for Buildings Act"'].

⁹¹ Section 18 of the Energy Performance Certificates for Buildings Act (SFS 2006:985).

⁹² Committee Report 2005/06:BoU9, Riksdag Written Communication 2005/06:365, p. 38 f.

5.3.2 *Follow-up of expenditures*

There is no central-government entity in charge of monitoring building owners' expenditures for having energy-performance certificates drawn up. However, a rough estimate by the National Board of Housing, Building and Planning suggests that building owners' expenditures for having energy-performance certificates drawn up are about SEK 700 million per year.⁹³

5.4 Commissions and investigations

The Government has instructed the National Board of Housing, Building and Planning to evaluate during 2009 how the administrative procedures of the system of energy-performance certificates work from the perspective of building owners and users. Where necessary, the Board will consult with the Swedish Energy Agency to propose changes to improve and further develop procedures and documentation in the context of energy-performance certificates. If the Board sees a need for legislative changes, it is to make the relevant proposals. The Board will also examine how energy-performance certificates are perceived by various building owners, to what extent they consider that they have obtained new knowledge about possible energy measures and whether they have implemented or are planning to implement the measures proposed in energy-performance certificates.

Further, the Board will investigate how residents of apartment blocks perceive the energy-performance certificate and whether it has increased their knowledge about the energy consumption of their building, about radon and about ventilation.⁹⁴

In September 2008, the Government appointed a special investigator to perform in-depth scrutiny of the operations of the National Board of Housing, Building and Planning. Among other things, the committee of inquiry headed by the investigator will determine whether there is a need to change the Board's operations in terms of focus, objectives and priorities. The committee will also identify any possible actions to enhance the efficiency of operations and any needs to change the responsibilities of the Board and the way in which the Government exercises direction over its operations. The committee must submit its report by 31 May 2009.⁹⁵

⁹³ E-mail message from the National Board of Housing, Building and Planning, 27 March 2009.

⁹⁴ Appropriation directions for the National Board of Housing, Building and Planning relating to 2009, Section 3, Task 12, 18 December 2008.

⁹⁵ Terms of Reference 2008:107, *Fördjupad prövning av Boverkets verksamhet* ['In-depth scrutiny of the operations of the National Board of Housing, Building and Planning'].

It is unclear whether the Government will commission an independent review of the system of energy-performance certificates. The Energy Efficiency Working Committee proposed that an independent evaluation of the system of energy-performance certificates should be carried out in 2010 at the latest. The Government does not state in its 2009 energy bill whether it will accept the Committee's proposal.⁹⁶

⁹⁶ SOU 2009:110; Government Bill 2008/09:163, p. 123.

6 Checks and supervision

The charts in Chapter 4 indicate that the Swedish system for the certification of experts and the accreditation of companies does not ensure the quality of certificates. No government agency systematically checks the content of energy-performance certificates.

The Directive stipulates that certificates must be drawn up in an independent manner. There are indications that some experts are not sufficiently independent of building owners. There are also indications that some experts sell other products as part of the drawing-up of certificates.

At the end of 2008, 240 out of 290 Swedish municipalities had notified persons authorised to access the register of energy-performance certificates kept by the National Board of Housing, Building and Planning. It is unclear which central-government entity is responsible for supporting the supervision exercised by municipalities.

The Swedish Association of Local Authorities and Regions (SALAR) issued a circular to municipalities encouraging them to abstain, during a transitional period, from imposing fines on building owners for failing to have energy-performance certificates drawn up. The Government gave a green light to this. Provided that there is a shortage of experts, building owners who have ordered an energy-performance certificate from a certified energy expert should not be made to pay a fine. The circular does not state when the transitional period will end and does not specify what constitutes a 'shortage of experts'.

6.1 Quality assurance of certificates

There are indications that the Swedish system for the accreditation of companies and the certification of individual experts does not ensure the quality of certificates (see Chapter 4).

The Directive on the energy performance of buildings requires Member States to ensure that buildings are made the subject of energy-performance certificates drawn up in an independent manner by qualified and/or accredited experts.⁹⁷

A common approach to this process, carried out by qualified and/or accredited experts, whose independence is to be guaranteed on the basis of objective criteria, will contribute to a level playing field as regards efforts made in Member States to save energy in the buildings sector and will introduce transparency for prospective owners or users with regard to the energy performance in the Community property market.⁹⁸

6.1.1 *Checks of certificates*

No government agency performs systematic reviews of the contents of a large sample of the energy-performance certificates drawn up. However, SWEDAC carries out checks on limited samples of certificates when examining companies' procedures as part of its annual scrutiny linked to their accreditation.⁹⁹

In addition, no agency monitors the prices charged for energy-performance certificates. However, SWEDAC indicates that the prices of certificates may vary greatly, above all for large building stocks. The agencies see no need to monitor pricing in the market more closely, given that there is free competition. However, the price charged for a certificate may be a proxy for the time spent on drawing it up and, by extension, for its quality.

6.1.2 *The independence of experts*

The starting point of the Directive is that certificates are to be drawn up in an independent manner by qualified and/or accredited experts.¹⁰⁰ The starting point of the Swedish legislation is that the expert's independence should be in relation to the other contracting party (the building owner).¹⁰¹

⁹⁷ Article 10 of Directive 2002/92/EC of the European Parliament and of the Council. The Commission's proposal for a recast Directive lays down that Member States must ensure that energy-performance certificates and other documentation are drawn up in an independent manner by qualified and accredited experts. It is proposed that the accreditation of experts should be based on the competence and independence of experts. European Commission, *Communication from the Commission, Explanatory Memorandum, Proposal for a Directive of the European Parliament and of the Council on the energy performance of buildings (recast)*, SEC (2008) 2820–2821, Art. 16. The English text of the Directive uses the term 'accredited', which corresponds to 'auktoriserad' ['authorised'] in the Swedish text of the Directive. The Swedish Government used 'auktoriserad' at the start of the discussion contained in its bill on the design of the Swedish system of independent experts; see Government Bill 2005/06:145, p. 87. However, the Government Offices use a different term, 'ackrediterad' ['accredited'], in Factual Memorandum 2008/09:FPM57, p. 3, in the description of the Commission's proposal for a new wording for the Directive.

⁹⁸ Recital 10 of Directive 2002/91/EC of the European Parliament and of the Council.

⁹⁹ Interviews: National Board of Housing, Building and Planning, 22 February 2009; SWEDAC, 3 March 2009; Ministry of Enterprise, Energy and Communications, 20 March 2009; Ministry of the Environment, 20 March 2009. E-mail message from SWEDAC, 16 March 2009.

¹⁰⁰ Article 10 of Directive 2002/91/EC of the European Parliament and of the Council.

¹⁰¹ See, for example, Government Bill 2006/06:145, p. 88. Cf. also Section 10 of the Energy Performance Certificates for Buildings Ordinance (SFS 2006:1592).

The Directive does not specify how Member States are to ensure that the experts draw up certificates in an independent manner or that they possess the requisite qualifications. Sweden has introduced a system under which individual experts are certified and the companies for which the experts work are accredited. Accreditation is intended to ensure the independence of the experts by verifying that the company is independent of entities involved in the management and maintenance of building stocks. Certification of the independent experts is intended to ensure that they possess the requisite knowledge.¹⁰²

However, SWEDAC has identified problems with the independence of experts. In 2008–2009, it deemed it necessary to send four letters about the independence requirement to the accredited companies. In its letters, SWEDAC mentions that some energy experts have yielded to building owners' demands that no inspection should be carried out and that only recommendations decided beforehand may be made. SWEDAC considers that by yielding to such demands, a company breaches the rules on the independence of experts. Such a company should risk having its accreditation revoked by SWEDAC.¹⁰³

Another problem as regards the independence of experts is that some accredited companies may propose measures that promote the sale of their own products.¹⁰⁴ Several large consultancies that draw up energy-performance certificates also offer to plan reconstruction projects including energy-saving measures. There are also cases where a contract to draw up an energy-performance certificate specifies that the inspecting company should obtain a certain share of the energy savings made.¹⁰⁵

So far, no expert has had his or her certification withdrawn. SWEDAC also has not yet revoked any accreditations.¹⁰⁶

THE INVESTMENT MADE BY CONSULTANTS

A consultant who wishes to be accredited and certified to draw up energy-performance certificates must make a certain investment.

For an accreditation, SWEDAC charges about SEK 30,000 per year. The price varies according to the size of the company, however.¹⁰⁷ In March 2009, there were 338 accredited companies.¹⁰⁸

¹⁰² For a more detailed description of the accreditation and certification procedures, see Annex 4.

¹⁰³ Cf. SWEDAC, *Ang. kravet om oberoende* ['On the requirement for independence'], Ref. No. 08-161-69, 22 January 2008; SWEDAC, *Kontrollorganets oberoende* ['The independence of the inspection body'], Ref. No. 08-2105-69, 5 June 2008; SWEDAC, *Beträffande kraven på ett kontrollorgan för energideklarationer* ['On the requirements imposed on an inspection body for energy-performance certificates'], Ref. No. 08-2105-69, 17 June 2008; and SWEDAC, *Krav på kontrollorgan* ['Requirements imposed on inspection bodies'], Ref. No. 09-733-69, 18 March 2009.

¹⁰⁴ SWEDAC, *Enheten för anläggningar och installationer* [Buildings and Installations Division], *Minnesanteckningar möte teknisk kommitté energideklarationer för byggnader 2008-09-18* ['Notes meeting Technical Committee Energy Performance Certificates for Buildings 18 Sept. 2008'], 10 October 2008.

¹⁰⁵ SWEDAC, *Angående kravet om oberoende* ['On the requirement for independence'], 22 January 2008, Ref. No. 08-161-69.

¹⁰⁶ E-mail message from SWEDAC, 16 March 2009.

¹⁰⁷ SWEDAC considers that the price will fall as it takes on people with suitable technical qualifications. At present, SWEDAC uses consultants to make the technical assessments. Its expenditures for those consultants are charged to the applicant companies. Interview at SWEDAC, 3 March 2009.

¹⁰⁸ E-mail message from SWEDAC, 16 March 2009.

Certification costs about SEK 5,000 and is valid for five years. According to SWEDAC, there were 739 certified experts in March 2009.¹⁰⁹

A company which employs a certified expert in a supervisory capacity and is accredited may also use other qualified employees to draw up energy-performance certificates. There are no firm rules in this respect, but SWEDAC has stated as a rule of thumb that between five and fifteen people may work under a certified supervisor at an accredited company.¹¹⁰

6.2 Supervision of whether certificates have been drawn up

6.2.1 *Buildings subject to rights of use and special buildings*

Municipalities have a supervisory duty to check that, in buildings subject to rights of use and in large special buildings, certificates have been posted indicating that an energy-performance certificate has been drawn up.

At the end of 2008, only 240 out of 290 Swedish municipalities had notified persons responsible for this to the register of energy-performance certificates kept by the National Board of Housing, Building and Planning.¹¹¹

It is unclear what central-government entity should support the supervisory work of municipalities and ensure that it is uniform across the country. The Board does not consider that it has formal responsibility for doing so, even though in practice it does carry out activities in support of municipalities.

Instead, it claims that county administrative boards probably bear formal responsibility for support because they have a general duty to support municipalities' supervision in relation to the provisions of the Planning and Building Act (SFS 1987:10).¹¹² However, the Ministry of Enterprise, Energy and Communications states that there is no such link between the Planning and Building Act and the Energy Performance Certificates for Buildings Act, meaning that the duty to support municipalities is not vested in county administrative boards.¹¹³

In 2008, the National Board of Housing, Building and Planning noted that the deadline for drawing up energy-performance certificates of all buildings was not going to be met. It therefore held discussions with the Ministry of Enterprise, Energy and Communications, the Ministry of the Environment, the Ministry of Finance, the Swedish Energy Agency and the Swedish Association of Local Authorities and Regions (SALAR). As a result of these discussions, SALAR sent a circular to all municipalities. This circular

¹⁰⁹ E-mail message from SWEDAC, 16 March 2009.

¹¹⁰ Interview at SWEDAC, 3 March 2009.

¹¹¹ Boverket [National Board of Housing, Building and Planning], annual report for 2008, p. 107.

¹¹² Interview at the National Board of Housing, Building and Planning, 20 February 2009.

¹¹³ Interview at the Ministry of Enterprise, Energy and Communications, 20 March 2009.

suggested that municipalities should abstain, during a transitional period, from imposing fines on building owners for failing to have energy-performance certificates drawn up. Provided that there was a shortage of experts, owners who had ordered an energy-performance certificate from a certified energy expert should not be made to pay a fine. The circular does not state when the transitional period will end and does not specify what constitutes a 'shortage of experts'. The exact wording of the circular as regards municipalities' handling of supervision is reproduced in Annex 5.¹¹⁴

At the same time, the National Board of Housing, Building and Planning stresses that it is important for municipalities to take their supervision of energy-performance certificates seriously. The Board's earlier experience from compulsory checks of ventilation shows that there may be major shortcomings in municipal supervision.¹¹⁵

6.2.2 *One- and two-family homes*

There is no supervision of energy-performance certificates of one- and two-family homes. Instead, market forces are supposed to create sufficient incentives for energy-performance certificates to be drawn up. Sellers of small residential buildings must have a certificate drawn up in conjunction with the sale. If no certificate has been drawn up, the buyer may have one drawn up at the seller's expense. Home buyers are expected to ask for an energy-performance certificate of their own accord, either because they must otherwise have one drawn up themselves or because they cannot determine the operating costs of the building.

There are cases where the seller and the buyer agree that there is no need for a certificate and specify in their contract that the buyer waives his or her right to have a certificate drawn up later at the seller's expense.¹¹⁶

¹¹⁴ Sveriges Kommuner och Landsting [Swedish Association of Local Authorities and Regions], Circular 08:62, 1 September 2008.

¹¹⁵ Interview at the National Board of Housing, Building and Planning, 20 February 2009.

¹¹⁶ Interview at SWEDAC, 3 March 2009.

7 Conclusions and recommendations

The objective of the Directive on the energy performance of buildings and the Swedish legislation on energy-performance certificates is to promote the improvement of the energy performance of buildings. Account is also to be taken of outdoor climatic and local conditions, as well as of indoor-climate requirements and cost-effectiveness.

The Riksdag (Swedish parliament) set a new objective in 2006 for the energy efficiency of buildings: Total energy consumption per unit of heated area in homes and other buildings is to be reduced. The reduction should be 20 per cent by 2020 and 50 per cent by 2050.

The Energy Efficiency Working Committee states that energy consumption in homes and other buildings accounts for one-third of Sweden's end-use of energy. The Committee also emphasises that there is a large potential for enhancing the energy efficiency of existing buildings, corresponding to end-use energy of about 13 TWh from district heating and fuels, and about 11 TWh from electricity, by 2016. However, the Committee claims that there are indications that only about 15 per cent, on average, of the measures that would be cost-effective to building owners are actually carried out.¹¹⁷

Energy-performance certificates are a policy instrument intended to promote the reduction of the energy consumption of buildings. If necessary for the establishment of the energy-performance certificate, the building must first be inspected by an independent expert. Where a building has a potential for energy savings, the expert must then propose cost-effective measures to enhance its energy efficiency. The idea is that receiving such proposals will make building owners more inclined to carry out the investments involved.

For some categories of buildings, such as apartment blocks, the energy-performance certificate must be made available to the public in a prominent place in the building. The provision of information to tenants about their building's energy consumption relative to that of similar buildings is intended to make them demand that their landlord should make the improvements to energy efficiency that are possible.

The SNAO has examined whether the Government and the government agencies responsible have created good conditions for the system of energy-performance certificates to promote energy efficiency. It has also

¹¹⁷ Government Bill 2008/09:163, pp. 119, 129, 165; cf. SOU 2008:110, p. 154.

assessed whether the agencies' application of the legislation is such that it promotes compliance with the overall objectives in the field.

The SNAO's audit shows that the Government and the government agencies responsible have not created adequate conditions for the purpose of energy-performance certificates to be achieved. In addition, the audit has revealed material problems in how the agencies apply the relevant legislation.

7.1 The Government and the agencies have not created good conditions for achieving the objectives of the legislation relating to energy-performance certificates

LITTLE ADVICE FOR THE MONEY

The main purpose of energy-performance certificates is that they should help make building owners invest in measures to enhance energy efficiency. However, a large proportion – 48 per cent – of all certificates do not contain any recommendations for measures. In other words, building owners get little advice for their money.

In 25 per cent of the cases, the building was actually inspected without any measures being proposed. And in 7 per cent of the cases, measures to enhance energy efficiency were proposed in the energy-performance certificate even though the building had not been inspected. This latter category of energy-performance certificates is not allowed under the legislation. In both of these cases, which together account for 32 per cent of all certificates, it can be questioned whether the benefit building owners derive from the energy-performance certificate justifies the price they pay for it.

DELAYS IN IMPLEMENTATION AND APPLICATION

The Swedish legislation relating to energy-performance certificates is based on the EU Directive on the energy performance of buildings. There have been major delays in Sweden's implementation of the Directive and in its application of the rules. As a result of the drawn-out legislative process, there was little time left to build a system for energy-performance certificates and to draw up certificates for all of the buildings covered by the provisions. Moreover, the National Board of Housing, Building and Planning estimates that building owners' expenditures for energy-performance certificates are considerable – about SEK 700 million per year.

The delays in the implementation of the Directive have led to a failure to identify and address points of unclarity in the legislation. This lack of clarity has entailed problems in application, such as the fact that few certificates contain recommendations. If such problems are not identified in time, the consequence may be that the application of the rules will not promote compliance with the overall objectives in the field. This, in turn, may undermine the effectiveness and legitimacy of the system.

POINTS OF UNCLARITY RELATING TO INSPECTIONS AND RECOMMENDATIONS

There are points of unclarity in the Swedish legislation as presently worded, both in relation to the concept of 'inspection' and as regards when a building needs to be inspected. It is also unclear when energy experts are to propose measures. These points of unclarity relate both to the Riksdag Act and the Government Ordinance and to the Regulations issued by the National Board of Housing, Building and Planning.

The issue of whether a building needs to be inspected or not influences both the quality and the price of certificates. On the one hand, an inspection may be necessary in order for the energy expert to verify the owner's information about the energy consumption of a building and to determine what specific measures would be cost-effective.

On the other hand, a certificate including an inspection can be assumed to cost more than a certificate without an inspection.

Just over two-thirds of the certificates were preceded by an inspection, and only half of them contain proposals for measures.

For one-third of the certificates, their usefulness to building owners can be questioned. This category consists above all of certificates where a building was inspected but no recommendations were made. This may be justified in some cases where an expert needs to verify the information that the owner of a building has provided about its energy performance. If there is no need for such verification, however, the owner of the building will have paid a higher price than should be necessary to have the certificate drawn up. This category also includes a smaller group of certificates where no inspection was carried out but recommendations were made anyway, which is explicitly against the rules.

The problems that have arisen as a result of the lack of clarity in the legislation have been known for a long time. Even so, neither the Government nor the National Board of Housing, Building and Planning has taken action to make the legislation clearer.

THE DIRECTION EXERCISED BY THE GOVERNMENT IS NOT LINKED TO THE OVERALL OBJECTIVES

The Riksdag has decided overall objectives for the energy efficiency of the Swedish building stock. The Government has failed to break down these overall objectives into monitorable sub-objectives for energy-performance certificates. There is no objective in terms of the proportion of the improvement of energy efficiency to which energy-performance certificates are to contribute.

The lack of monitorable sub-objectives set by the Government makes it more difficult to assess whether energy-performance certificates contribute to the achievement of the Riksdag's overall objectives in this field.

INADEQUATE DIVISION OF RESPONSIBILITY

The Government has not vested any government agency with overall responsibility for the system of energy-performance certificates. Several government agencies and ministries have specific areas of responsibility in relation to the system of energy-performance certificates. The main ministries and agencies responsible are the Ministry of Enterprise, Energy and Communications, the Ministry of the Environment, the National Board of Housing, Building and Planning, the Swedish Board for Accreditation and Conformity Assessment (SWEDAC) and the Swedish Energy Agency.

This widespread allocation of responsibility may be part of the reason why no agency has noted that the certification and accreditation system, for which SWEDAC is responsible, does not ensure the quality of the content of certificates. The inadequate quality of content is clear from the SNAO's processing of data from the register kept by the National Board of Housing, Building and Planning. The present organisation thus entails a risk that systemic problems will fall between the cracks.

Further examples of problems whose solution requires clear direction and coordination are the points of unclarity in the legislation and the lack of independence on the part of some experts.

It is unclear which agency is responsible for supporting the supervision exercised by municipalities. The National Board of Housing, Building and Planning does not consider that it has formal responsibility for doing so, even though in practice it does carry out some support activities. Instead, the Board claims that county administrative boards probably bear formal responsibility for support because they have a general duty to support municipalities' supervision in relation to the provisions of the Planning and Building Act (SFS 1987:10). However, the Ministry of Enterprise, Energy and Communications states that this is not a task for county administrative boards. Since no agency has formal responsibility for supporting municipal

supervision, the National Board of Housing, Building and Planning may choose of its own accord to give lower priority to that support. The SNAO finds that this may cause supervision to be assigned lower priority by municipalities as well, and that unjustified differences in levels of supervision may arise.

THE SYSTEM OF ENERGY-PERFORMANCE CERTIFICATES OVERLAPS WITH OTHER POLICY INSTRUMENTS

So far, energy-performance certificates have not been coordinated with other central-government policy instruments to enhance the energy efficiency of the existing building stock. Building owners may obtain information about measures to enhance the energy performance of their buildings not only from certificates but also from municipal energy advisors. Those municipal advisory activities are paid for in part by central-government funds; in the appropriation directions for the Swedish Energy Agency relating to 2008, the framework appropriation for those activities was SEK 106 million. What is more, there is at present no direct link between energy-performance certificates and the central-government grants and tax relief available to building owners who implement various proposals for measures to enhance energy efficiency. The inadequate coordination between energy-performance certificates and other central-government policy instruments may lead to sub-optimisation of the central government's overall effort.

In the energy bill submitted in the spring of 2009, however, the Government proposes that energy-performance certificates should be coordinated with a proposed web-based advice portal and the proposed tax relief for the repair, maintenance, re-building and extension of certain homes.

THE CERTIFICATION AND ACCREDITATION SYSTEM DOES NOT FULFIL ITS PURPOSE

Compared with other EU Member States, Sweden has a complex system to ensure that energy experts are independent and have the requisite qualifications. Under this system, SWEDAC accredits certification bodies, which then certify experts and the inspection bodies for which the experts work.

By laying down these certification and accreditation requirements, the Swedish legislation goes beyond the minimum requirements of the Directive. The Directive only stipulates that certificates must be drawn up in an independent manner by qualified and/or accredited experts.

Based on its own processing of data from the National Board of Housing, Building and Planning, the SNAO has concluded that, notwithstanding the certification and accreditation requirements, there are indications of problems with the quality of certificates. No government agency systematically checks the content of energy-performance certificates. There are also indications that certain experts may not be sufficiently independent of building owners and that certain experts may be selling other products as part of their work on energy-performance certificates.

So far, no expert has had his or her certification withdrawn. SWEDAC also has not yet revoked any accreditations.

The certification and accreditation system has no purpose in and of itself; it exists only to ensure the quality of energy-performance certificates and the independence of experts. There are indications that the system as presently designed may not ensure the quality of certificates.

7.2 Material problems in government agencies' application of the legislation relating to energy-performance certificates

INADEQUATE FOLLOW-UP

There is no regular follow-up of the content of energy-performance certificates or the functioning of the system. As a result, neither the Government nor any government agency has an overview of how the system of energy-performance certificates has evolved. The Government thus lacks the information it would need to assess the benefit of energy-performance certificates.

The register of energy-performance certificates has weaknesses which make it difficult to monitor what measures are proposed. Moreover, in its handling of that register, the National Board of Housing, Building and Planning has failed to address the fact that about 7 per cent of certificates are contrary to the applicable legislation.

There is no regular follow-up of the investments prompted by energy-performance certificates. Further, no central-government body monitors building owners' expenditures for having energy-performance certificates drawn up or for carrying out the investments to save energy.

The lack of regular follow-up and evaluation to determine building owners' expenditures for having energy-performance certificates drawn up and for carrying out energy-saving investments, and to determine what savings such investments have yielded, makes it impossible to assess the present and future effectiveness of energy-performance certificates. Without that information, it cannot be determined whether energy-performance

certificates contribute to the achievement of the overall objectives set by the Riksdag.

MUNICIPALITIES HAVE BEEN ENCOURAGED NOT TO EXERCISE SUPERVISION

The Swedish Association of Local Authorities and Regions (SALAR) issued a circular to municipalities encouraging them to abstain, during a transitional period, from imposing fines on building owners for failing to have energy-performance certificates drawn up. The Government gave a green light to this. Provided that there is a shortage of experts, the circular suggests that owners who have ordered an energy-performance certificate from a certified energy expert should not be made to pay a fine. The circular does not state when the transitional period will end and does not specify what constitutes a 'shortage of experts'.

The impossibility of abiding by the Act is due to the length of the implementation process carried out by the Government and to the Government's introduction of a national system that in some respects goes beyond the EU requirements. This, in turn, has led to a shortage of experts.

In other words, the Government was complicit in SALAR's decision to encourage municipalities not to abide by the Act adopted by the Riksdag. This may undermine the legitimacy of the system.

7.3 Planned modification of the EU Directive

The European Commission has proposed that the Directive on the energy performance of buildings should be recast. Negotiations are expected to take place in the autumn of 2009.

However, the fact that the Directive is going to be renegotiated should not prevent the Government and the agencies from beginning to monitor and evaluate the present functioning and impacts of the system of energy-performance certificates. Such monitoring and evaluation could facilitate the Swedish implementation and application of the renegotiated Directive. The information thus obtained could also be used in the negotiations on the modifications to be made to the Directive.

7.4 The SNAO's recommendations

7.4.1 *Recommendations for the Government*

- Ensure the timely implementation of EU Directives. Delays in implementation may entail that the rules concerned are applied in a hasty and ill-considered manner. This may lead to inadequate legitimacy and efficiency in application;
- Make all bodies of rules (the Act, the Ordinance and the Regulations) clearer and simpler, so that they are internally consistent;
- Formulate monitorable sub-objectives for energy-performance certificates on the basis of the Riksdag's objectives for the energy efficiency of buildings, and clarify the division of responsibility in this area. Entrust one government agency with central responsibility for energy-performance certificates. Give that agency the task of supporting municipal supervision to ensure that it is uniform across the country;
- Ensure that energy-performance certificates are coordinated with other instruments such as various types of support and the municipal energy and climate advisors who are funded by central-government appropriations;
- Ensure the quality of certificates and the independence of experts. Give the centrally responsible agency the additional task of regularly monitoring the quality of certificates, the savings achieved through them and building owners' expenditures for energy-performance certificates and investments. Use the existing funds intended for the monitoring of energy consumption.

7.4.2 *Recommendations for the National Board of Housing, Building and Planning*

- Make the Regulations and the General Advice clearer as regards inspections and proposals for measures;
- Make sure that the register of energy-performance certificates can be used to retrieve the information necessary to monitor and evaluate the impact that energy-performance certificates exert on energy consumption. Follow up on what recommendations have an impact among building owners.

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Annex 1 Buildings requiring an energy-performance certificate

Extract from the website of the National Board of Housing, Building and Planning, 8 December 2008.

The introduction of energy-performance certificates is now beginning, with full entry into force expected around the end of 2008. Below is a description of the buildings concerned and the deadlines for drawing up energy-performance certificates for them.

- *Special buildings* of more than 1,000 m², such as indoor swimming pools, libraries, schools and health-care buildings, must have had an energy-performance certificate drawn up by the *end of 2008*. It is indicated on the tax-assessment certificate whether a building is categorised as a special building. The Property Tax Assessment Act (SFS 1979:1152) includes a list of the buildings categorised as special buildings, and the information can also be found on the internet, on a web page run by the 'Rättsnätet' network;
- *Buildings subject to a right of use*, such as leased flats, tenant-owner's flats and rented-out non-residential buildings, must have had an energy-performance certificate drawn up by the *end of 2008*. This category also includes one- and two-family homes rented out or leased under tenant-owner's rights. For tenant-owner's flats, it is the duty of the tenant-owners' association to ensure that there is an energy-performance certificate;
- *Buildings that are sold* must have an energy-performance certificate drawn up from *1 January 2009*, unless an approved energy-performance certificate already exists. This applies, among other things, to single-family homes sold after that date;
- *New buildings* must be the subject of an energy-performance certificate from *1 January 2009* (two years after the taking-into-use, but no later than two years after the final certificate of construction). If a building was notified before 1 January 2009, there is no requirement to draw up an energy-performance certificate because it is a new building. It may, however, be necessary to draw up a certificate because the building is rented out or because it is a special building.

An energy-performance certificate is valid for ten years.

Exemptions

The following types of buildings are exempt from the obligation to have an energy-performance certificate drawn up. However, if a building has an air-conditioning system which is mainly powered by electricity and whose effective rated cooling capacity exceeds 12 kW, the system must be inspected at least once every ten years after 31 December 2008.

- Buildings which are mainly used for prayer and other religious activities;
- Industrial installations and workshops;
- Holiday cottages containing no more than two residential units;
- Temporary buildings intended for use during no more than two years;
- Operational buildings of forestry and farming enterprises;
- Separate buildings of less than 50 m²;
- Secret buildings;
- Historic buildings and buildings which are particularly valuable (under Chapter 3, Section 12, of the Planning and Building Act), in cases where no proposals for measures can be made;
- Buildings subject to rights of use where:
 - (1) letting takes place on a temporary basis or relates only to a small part of the building;
 - (2) letting takes place between companies belonging to the same group;
or
 - (3) letting takes place through a land lease and the building is not used as the leaseholder's residence;
- One- and two-family homes subject to a right of use where:
 - (1) letting takes place because the owner is working or studying elsewhere, is spending time abroad, is ill, etc.;
 - (2) letting takes place through a last will and testament; or
 - (3) letting takes place to a close relative or similar;
- In the case of the sale of a building:
 - (1) between companies belonging to the same group;
 - (2) through compulsory purchase or repossession;
 - (3) by a bankruptcy estate or through coercive measures; or
 - (4) by a close relative or similar.

Annex 2 EU legislation linked to energy aspects of the building stock

Council Directive 89/106/EEC of 21 December 1988 on the approximation of laws, regulations and administrative provisions of the Member States relating to construction products.

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Annex 3 Points of unclarity in the legislation

In this Annex we provide a more detailed description of the points of unclarity found in the Swedish legislation and its preparatory materials as regards inspections and recommendations.

Energy Performance Certificates for Buildings Act (SFS 2006:985)

Section 8 Before an energy-performance certificate is drawn up for an existing building, the owner of the building shall ensure that it is inspected if that is necessary in order for a certificate to be drawn up.

The Government or the agency appointed by it may issue regulations relating to inspections.

Section 9 An energy-performance certificate shall include:

- (1) information about the energy performance of the building;
- (2) information about whether a compulsory functional check of the ventilation system has been carried out in the building;
- (3) information about whether a radon measurement has been carried out in the building;
- (4) information about whether the energy performance of the building is capable of improvement considering the need for a good indoor environment and, if so, recommendations for cost-effective measures to improve the energy performance of the building; and
- (5) reference values enabling consumers to assess the energy performance of the building and compare it with that of other buildings.

The Government or the agency appointed by it may issue regulations specifying how the energy performance of a building as referred to in the first paragraph, Point 1, is to be determined; what reference values as referred to in the first paragraph, Point 5, are to be used; and what information in addition to that referred to in the first paragraph, Points 1–5, is to be provided in a certificate.

*Energy Performance Certificates for Buildings Ordinance
(SFS 2006:1592)*

Section 6 If, by virtue of Section 9, first paragraph, Point 4, of the Energy Performance Certificates for Buildings Act (SFS 2006:985), an energy-performance certificate must contain recommendations for measures to improve the energy performance of the building, the certificate shall be preceded by an inspection making it possible to assess the impact of the measures on the indoor climate and the cost-effectiveness of the measures.

The National Board of Housing, Building and Planning may issue regulations specifying how extensive an inspection needs to be considering the energy performance of the building as well as any additional regulations that may be required in relation to the inspection of existing buildings under Section 8 of the Energy Performance Certificates for Buildings Act.

Regulations and General Advice on Energy Performance Certificates for Buildings (BFS 2007:4 BED 1) issued by the National Board of Housing, Building and Planning

Section 4 The extent of inspections performed under the Energy Performance Certificates for Buildings Ordinance (SFS 2006:1952) shall be determined by whether the inspection may yield recommendations for cost-effective measures without negative consequences for the indoor environment, the cultural heritage embodied by the building and any other material requirements imposed on its characteristics.

The extent of other inspections shall be determined on the basis of the information provided by the owner of the building to the independent expert.

General Advice: The assessment of cost-effectiveness should also include the cost of an inspection. The higher the level of energy use per square metre and year, the more scope there may be for an inspection and thus for recommendations for cost-effective measures. The information referred to in the second paragraph above includes the energy consumption and areas of the building, the compulsory functional check of the ventilation system, radon measurement and any other information to be provided in the energy-performance certificate. If the independent expert finds that there are no cost-effective measures to an extent justifying an inspection, the independent expert may instead provide general advice on the enhancement of efficiency, adapted to the category to which the building belongs.

Description of the points of unclarity

The Energy Performance Certificates for Buildings Act lays down that a building must be inspected *if that is necessary* in order for a certificate to be drawn up. The Government or the agency appointed by it may issue regulations relating to inspections. An energy-performance certificate must include, among other things, information about whether the energy performance of the building can be improved considering the need for a good indoor environment. If that is so, the certificate must also include recommendations for cost-effective measures to improve the energy performance of the building.¹¹⁸

The difficulties that have arisen in the application of these provisions concern, first, what exactly constitutes an 'inspection' and, second, what determines whether a building needs to be inspected in order for a certificate to be drawn up.

The Government's legislative proposal seems to assume that inspection will be compulsory. The legislative proposal included in the Government bill has the following wording:

Section 8 Before an energy-performance certificate is drawn up for an existing building, the owner of the building shall ensure that it is inspected in the way that is necessary in order for a certificate to be drawn up. The Government or the agency appointed by it may issue regulations relating to the extent of inspections.

The statements about inspections made by the Government in its bill include the following one:¹¹⁹

An energy-performance certificate presupposes the gathering of information from the owner of the building and the on-site inspection of the building in the respects necessary for the drawing-up of a complete certificate. The extent of the inspection must be governed by the regulations relating to the content of the energy-performance certificate. Large part of the responsibility for the extent and quality of inspections will rest on the independent experts proposed in Part 15. The housing stock that will be covered by the obligation to draw up certificates represents a number of different building types of varying design, age, complexity, management, energy performance and indoor environment. As is clear from Part 12, the timing of certificates will vary across categories of buildings. For some categories a certificate will be drawn up every ten years while the interval may be longer for other categories. There is thus a need for more detailed and to some extent different criteria specifying the extent of inspections. In some cases, for example when a building already has a good energy performance, there may conceivably be no need for an on-site inspection. The Government or the agency appointed by it should be authorised to issue such regulations.

¹¹⁸ Section 8 and Section 9, first paragraph, Point 4, of the Energy Performance Certificates for Buildings Act (SFS 2006:985).

¹¹⁹ Government Bill 2005/06:145, p. 77.

It is unclear whether, by the expression 'on-site inspection', the Government intends to emphasise that an 'inspection' is always performed on-site, specify that inspections may take another form, or indicate that in certain cases there may be no inspection. The Riksdag Committee on Housing proposed to the full Riksdag that certain amendments relating to inspections should be made to Section 8 of the Government's proposed legislative text as regards inspections. The present wording of Section 8 is that found in the Committee's proposal. Among other things, the Committee stated the following in its report:¹²⁰

The Committee on Housing finds that the Government's legislative proposal gives the Government or the agency appointed by it fairly wide scope to specify, by means of regulations, the extent and form of inspections. This is necessary given the broad range of buildings that will be covered by the Act. It is reasonable that the requirements imposed may differ, for example, between the first inspection and energy-performance certificate of a building and later re-inspections of a building whose characteristics are by then well known. In many cases, it will probably be clear from the start that an energy-performance certificate cannot be drawn up unless an on-site inspection is first carried out. In other cases, the characteristics of the building may be so well known that such an inspection is unnecessary. It may therefore be appropriate for the expert chosen to assess, as a first step in the work intended to result in an energy-performance certificate, and on the basis of information already available, whether there is a need to gather additional information and, if so, whether this necessitates an on-site inspection of the individual building. As is clear from the above, the Government also agrees with the conclusion that on-site inspections will probably not always be necessary. However, the Committee has found that the wording proposed by the Government for Section 8 may give rise to a misunderstanding to the effect that the expert chosen cannot draw up a certificate without carrying out an on-site inspection. The Committee therefore proposes a minor re-wording of that provision to remove that risk. It should be emphasised that the Committee does not wish to change the material meaning of the provision proposed by the Government. In the second paragraph of Section 8, a minor change should be made to ensure better coherence with the wording proposed by the Committee for the first paragraph. Section 12 should also be the subject of a minor change for the same reason.

The Committee on Housing also proposed to the Riksdag that the Government's proposal for the delegation – to the Government or the agency appointed by it – of the authority to issue regulations should be changed. According to the Government's unclear proposal, which seemed to take as its starting point that inspection was compulsory, this delegation

¹²⁰ Committee Report 2005/06:BoU9, p. 34 f. When it comes to inspections, the amendments concerned Section 8, first and second paragraphs, and Section 12, first paragraph.

would relate to the ‘extent of inspections’. The Committee proposed that it should instead relate to ‘inspections’.

The main point of unclarity in the report of the Committee on Housing relates to its statement that the Government’s proposed legislative text on inspections could lead to a misunderstanding to the effect that an expert cannot draw up a certificate without performing an on-site inspection. At the same time, the Committee emphasises that it does not wish to change the material meaning of the Government’s proposed provision on inspections. In addition, the Committee states that the Government or the agency appointed by it enjoys fairly wide scope to regulate ‘the extent and form of inspection’.¹²¹ This latter statement could be interpreted to mean that the Committee extends the meaning of ‘inspection’ to include off-site examination. An alternative interpretation, though, is that the Committee even so considers that an ‘inspection’, by definition, is always performed on-site; The Committee’s report gives no further clues to how the concept of ‘inspection’ should be interpreted.

In general usage, ‘inspection’ (Swedish: besiktning) refers to the examination of a site or an object.¹²² That meaning is in accordance with, for example, the provision on inspections included in the Administrative Procedure Act (SFS 1971:291). By virtue of that Act, a court may ‘make an order that a view is held at the *locus in quo* for the inspection of’ real property or a site or an object that cannot be brought to the court.¹²³ In the field of property taxation, there are a number of provisions laying down that the Tax Agency may perform voluntary and compulsory inspections of real property. These provisions are based on the assumption that, by definition, an ‘inspection’ is always made of the actual real property.¹²⁴ There are also other administrative authorities with the authority to hold views or carry out inspections. For example, municipal environmental-health committees and planning and building committees may do so as part of their supervisory activities.¹²⁵

In the case of the Energy Performance Certificates for Buildings Ordinance, the inspection is made conditional upon whether the certificate must contain recommendations for measures to improve the energy performance of the building. The inspection is supposed to make it possible to assess the impact of the measures on the indoor environment and the cost-effectiveness of the measures. The Ordinance does not lay down any more detailed provisions relating to inspections. Instead it authorises the National Board of Housing, Building and Planning to issue regulations specifying *how extensive* an inspection needs to be considering the energy

¹²¹ Committee Report 2005/06:BoU9, p. 34 f.

¹²² See *Nationalencyklopedin* [‘Swedish National Encyclopaedia’].

¹²³ Section 23, first paragraph, of the Administrative Procedure Act (SFS 1971:291).

¹²⁴ Chapter 18, Sections 8 and 30–40, of the Property Tax Assessment Act (SFS 1979:1152). See also Skatteverket [Swedish Tax Agency], *Förfarandehandledning i fastighetstaxering* [‘Procedural guidance on property-tax assessment’], SKV 287 edition 1, p. 75 f.

¹²⁵ Håkan Strömberg and Bengt Lundell, *Allmän förvaltningsrätt* [‘General Administrative Law’], 24th edition, 2008, p. 106.

performance of the building. The Board is also authorised to issue any additional regulations that may be required in relation to the inspection of existing buildings under Section 8 of the Energy Performance Certificates for Buildings Act. The wording of Section 6 of the Ordinance is most closely related to the Government bill, where it was assumed that '[a]n energy-performance certificate presupposes the gathering of information from the owner of the building and the on-site inspection of the building in the respects necessary for the drawing-up of a complete certificate'.¹²⁶ If the concept of 'inspection' is interpreted in such a way that an inspection can be performed in a place different from that where the building is located (cf. the above discussion of the Riksdag Committee on Housing), then the Ordinance authorises the Board to issue regulations specifying the form of inspection as well. This entails a further need to specify the meaning of 'inspection' in the Board's Regulations. In several other Acts, 'inspection' refers to an on-site examination of, for example, a building.¹²⁷ If the concept of 'inspection' were to be applied in the same way as in other Acts, the authorisation in this case would entail a right to lay down, for example, how detailed an on-site examination needs to be.

The Board's Regulations explicitly specify only the extent of inspections; they do not specify whether inspections are to be performed. According to the Regulations, the extent of an inspection 'under the Energy Performance Certificates for Buildings Ordinance' is to be determined by whether the inspection may yield recommendations for cost-effective measures without negative consequences for, among other things, the indoor environment. However, the Board then lays down – without specifying the meaning of the concept in question – that the extent of 'other inspections' shall be determined on the basis of the information provided by the owner of the building to the independent expert.¹²⁸ The Board has also issued (non-binding) General Advice in conjunction with its Regulations; this advice is difficult to interpret.¹²⁹

In April the Board published a clarification (not in the form of agency regulations) on its website relating to the interpretation of the legislation. One source of difficulty as regards the Board's clarification is that, first, it uses a new term for 'inspection' ('the building has been visited') and, second, it declares without the support of either the Act or the Ordinance that the rules allow energy-performance certificates to be 'drawn up without the building having been visited only when it is *obvious* that no measures can be recommended that lead to lower energy consumption or when

¹²⁶ Government Bill 2005/06:145, p. 77 f.

¹²⁷ See, for example, Section 23, first paragraph, of the Administrative Procedure Act (SFS 1971:291) and Chapter 18, Sections 8 and 30–40, of the Property Tax Assessment Act (SFS 1979:1152).

¹²⁸ Section 4 of the Regulations and General Advice on Energy Performance Certificates for Buildings (BFS 2007:4 BED 1) issued by the National Board of Housing, Building and Planning.

¹²⁹ Interview at the National Board of Housing, Building and Planning, 20 February 2009.

the information provided by the owner of the building is complete and credible.¹³⁰ As we have reported above, the actual starting point of the Act is that a building must be inspected if that is *necessary* for a certificate to be drawn up.

In a document attached to its clarification, the Board states that ‘the rules may be difficult to interpret, but the Board has noted that the provisions are not always correctly applied and some recorded energy-performance certificates do not comply with the rules.’¹³¹

The unclarity as regards what constitutes an inspection is also affected by the fact that, according to the ISO/IEC 17020 accreditation rules, energy experts are to make ‘on-site visits’. The purpose of such visits, according to SWEDAC, is ‘verification on the building owner’s premises to review materials provided’.¹³² ‘On-site visits’ would appear to refer to the same thing as the ‘other inspections’ mentioned by the Board in its Regulations.

¹³⁰ <http://www.boverket.se/Bygga--forvalta/Energideklaration/Aktuellt/Aktuellt1/>.

¹³¹ Boverket [National Board of Housing, Building and Planning] (2009), *Förttydligande angående besiktning* [‘Clarification as regards inspection’], 2 April 2009.

¹³² Under ISO/IEC 17020, ‘on-site visits’ are a requirement for inspection bodies for the purpose of the verification of their information. SWEDAC, *Minnesanteckningar möte teknisk kommitté energideklarationer för byggnader* [‘Notes meeting Technical Committee Energy Performance Certificates for Buildings’], 4 December 2008, Stockholm.

Annex 4 Certification and accreditation

Certification

The cost of certification, which is valid for five years, was about SEK 5,000 in March 2009. To be certified, a person must meet criteria relating to the following:

- Basic training;
- Practical experience;
- Suitability for the task;
- Theoretical knowledge (verified through an examination).

Certification is mainly based on the following elements as laid down by the National Board of Housing, Building and Planning:

- SWEDAC accredits certification bodies (of which there are four at present) to certify individuals who meet the requirements laid down in the Board's Regulations;
- Accredited organisations train the experts to the extent that specialised knowledge is required and certify the experts;
- Certification is valid for five years;
- Those certified must work for inspection bodies accredited by SWEDAC;
- There are different requirements for certification in relation to simple and complex buildings, etc. (normal, qualified, air conditioning).

The certification requirements are laid down in the Board's CEX 1 Regulations. Based on the overall requirements specified there, the accredited certification bodies have developed more detailed requirements. The certification bodies have a technical committee whose task is to interpret and clarify the certification requirements to ensure that uniform standards apply to certification. The Board is a member of that committee in its capacity as the body imposing the requirements.

In March 2009 there were 739 certified experts entitled to access the Board's register.

A company which employs a certified expert in a supervisory capacity and is accredited may also use other employees to draw up certificates. There are no formal rules in this respect, but SWEDAC has stated as a rule of thumb that between five and fifteen people may work under a certified supervisor at an accredited company.¹³³

¹³³ Interview at SWEDAC, 3 March 2009.

Accreditation

SWEDAC also accredits the companies that draw up energy-performance certificates. The accreditation process is intended to ensure, first, that the companies' administrative procedures and systems guarantee their independence and, second, that the companies draw up certificates in a correct way.

The price charged by SWEDAC for accrediting a company is about SEK 30,000 per year; for large companies, the cost is higher. In March 2009 there were 338 accredited companies.

SWEDAC's goal is that the time from the submission of a complete application to the first inspection visit by SWEDAC should be no more than three months. At present, this time is about two months.¹³⁴

¹³⁴ Ibid.

Annex 5 Extract from Circular 08:62 of the Swedish Association of Local Authorities and Regions

Extract from Circular 08:62, *Energideklarationer och kommunens tillsynsansvar* ['Energy-performance certificates and municipal supervisory duties'], of the Swedish Association of Local Authorities and Regions, relating to municipalities' handling of supervision.

Municipalities' handling of supervision

Considering that the number of buildings for which an energy-performance certificate must be drawn up is very large, about 300,000, and that the number of energy experts is not yet sufficient to meet the need, it may be difficult to complete all energy-performance certificates by the 31 December 2008 deadline.

To find a reasonable solution to this problem, the Swedish Association of Local Authorities and Regions has discussed the matter unofficially with the National Board of Housing, Building and Planning, the Swedish Energy Agency, the Ministry of Finance, the Ministry of Enterprise, Energy and Communications and the Ministry of the Environment.

The Association proposes that municipalities should encourage their building owners – those who must submit an energy-performance certificate before 31 December 2008 – to place, without delay, a written order for an energy-performance certificate with a certified energy expert and have the energy expert verify the order. If it subsequently turns out that the energy-performance certificate cannot be drawn up before 31 December 2008, the person responsible for supervision at the municipal authorities will be able to accept the order and will not need to take any action such as the imposition of a fine.

However, the energy-performance certificate will have to be drawn up and submitted to the National Board of Housing, Building and Planning within a reasonable time. How long 'a reasonable time' is will have to be decided by municipalities on a case-by-case basis.

As regards the general supervision to ensure that certificates indicating that energy-performance certificates have been drawn up are posted in prominent places in the various buildings, no proactive work is to be initiated.

If the attention of the building and planning committee of a municipality is brought to the absence of a certificate, the committee is to take action. The first measure to be taken by the committee should be to send a letter to the owner of the building, asking why the certificate is not publicly available. It may be that those responsible have simply forgotten to post it.

If no certificate has been drawn up, a fine should be decided and the owner should be told to have an energy-performance certificate drawn up without delay. It is suggested that the fine should be slightly higher than the price of an energy-performance certificate.

The municipality is not to request the submission of energy-performance certificates for purposes of verification or the like. This is the responsibility of the National Board of Housing, Building and Planning and of the Swedish Energy Agency.

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