

Refrigeration Products

Ecodesign and Energy Labelling
Compliance Assessment

Summary Report



Ecodesign and Energy Labelling Market Surveillance of Refrigeration Products

Summary Report

September 2024

Sustainable Energy Authority of Ireland

SEAI is Ireland's national energy authority investing in, and delivering, appropriate, effective, and sustainable solutions to help Ireland's transition to a clean energy future. We work with Government, homeowners, businesses, and communities to achieve this through providing expertise, funding, educational programmes, policy advice, research, and the development of innovative technologies.

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Introduction

This report gives an overview of the findings of market surveillance of refrigeration products undertaken over the six-year period between 2018 - 2024 by SEAI. It was conducted as part of national market surveillance activities relating to the Ecodesign Directive 2009/125/EC and Energy Labelling Regulation (EU) 2017/1369.

It identifies the initial levels of non-compliance encountered in relation to refrigeration products that were available on the Irish and broader European market over that time period and could facilitate comparison in relation to other refrigeration product market surveillance initiatives over time.

In December 2022, the designation of the Market Surveillance Authority (MSA) for ecodesign and energy labelling in Ireland changed from the Minister for the Environment, Climate and Communications to SEAI. Up until December 2022, SEAI provided operational support to the Minister by organising market surveillance on their behalf. Since then, SEAI has had full responsibility for undertaking market surveillance activities as the MSA.

Applicable statutory instruments:

- S.I. No. 454/2013 - European Union (Ecodesign Requirements for Certain Energy-related Products) (Amendment) Regulations 2013 (as amended).
- S.I. No. 671/2022 - European Union (Ecodesign Requirements for Certain Energy-related Products) (Amendment) Regulations 2022.
- S.I. No. 366/2011 - European Union (Energy labelling) Regulations 2011 (as amended).
- S.I. No. 669/2022 - European Union (Energy labelling) Regulations 2022.

Market surveillance campaigns

The assessment of refrigeration products undertaken by the MSA has been carried out over a number of distinct campaigns between 2018 and 2024. To date, 81 refrigeration products have been assessed, with 8 products tested:

Campaign	Commenced	Product Type	Products Assessed, Tested	Notes
Campaign 1	Q4 2018	Household refrigeration	3 products assessed, 3 tested	Campaigns 1-3 were undertaken to assess product compliance for household refrigeration in accordance with the now repealed ecodesign and energy labelling legislation, which was in force until 1 st March 2021.
Campaign 2	Q2 2019	Household refrigeration	14 products assessed, 2 tested	
Campaign 3	Q3 2020	Household refrigeration	16 products assessed, 0 tested	
Campaign 4	Q4 2021	Household refrigeration	6 products assessed, 3 tested	Campaign 4 assessed product compliance with the requirements of the subsequent ecodesign and energy labelling legislation for household refrigeration, which came into force from March 2021.
Campaign 5	Q2 2022	Commercial refrigeration ¹	20 products assessed, 0 tested	Campaign 5 assessed product compliance with regard to the energy labelling and ecodesign legislation for refrigeration with a direct sales function that also came into force in March 2021.
Campaign 6	Q4 2023	Professional refrigeration ²	17 products assessed, 0 tested ³	Campaign 6 (which is ongoing at the time of writing) is assessing compliance with the requirement of ecodesign and energy labelling legislation that has been applicable since July 2016. Details in relation to the findings of Campaign 6 are not included in this report and will be subject to a separate, standalone report upon completion.
Ad Hoc assessments	Q1 2024	Household refrigeration	5 products assessed, 0 tested	Some 'ad hoc' market surveillance activity was undertaken in Q1 of 2024 in response to non-compliance observed by an Authorised Officer (AO) of the MSA when undertaking inspections within retail stores, resulting in 5 products being assessed for compliance.

¹ Also termed 'refrigeration with a direct sales function', as per Regulation (EU) 2019/2024 and Regulation (EU) 2019/2018

² More specifically termed 'professional refrigerated storage cabinets, blast cabinets, condensing units and process chillers'

³ At time of writing

Relevant legislation

The regulations and standards used to assess compliance of refrigeration products during these campaigns were:

Campaigns 1 – 3

Applicable Legislation

- Commission Regulation (EC) No. 643/2009 implementing Directive 2005/32/EC of the European Parliament and of the Council with regard to ecodesign requirements for household refrigerating appliances
- Commission Delegated Regulation (EU) No. 1060/2010 supplementing Directive 2010/30/EU of the European Parliament and of the Council with regard to energy labelling of household refrigerating appliances

Relevant Standards

- EN 62552 Household refrigerating appliances - Characteristics and test methods
- EN 60704 Household and similar electrical appliances. Test code for the determination of airborne acoustical noise

Campaign 4 (and Ad Hoc Q1 2024)

Applicable Legislation

- Commission Regulation (EU) 2019/2019 laying down ecodesign requirements for refrigerating appliances pursuant to Directive 2009/125/EC of the European Parliament and of the Council and repealing Commission Regulation (EC) No 643/2009
- Commission Delegated Regulation (EU) No. 2019/2016 supplementing Regulation (EU) 2017/1369 of the European Parliament and of the Council with regard to energy labelling of refrigerating appliances and repealing Commission Delegated Regulation (EU) No 1060/2010

Relevant Standards

- EN 62552 Household refrigerating appliances - Characteristics and test methods
- EN 60704 Household and similar electrical appliances. Test code for the determination of airborne acoustical noise

Campaign 5

Applicable Legislation

- Commission Regulation (EU) 2019/2024 of 1 October 2019 laying down ecodesign requirements for refrigerating appliances with a direct sales function
- Commission Delegated Regulation (EU) 2019/2018 of 11 March 2019 with regard to energy labelling of refrigerating appliances with a direct sales function

Relevant Standards

- EN ISO 23953-1/2:2015 Refrigerated Display Cabinets (Supermarket equipment)
- EN 50597:2018 and/or EN63252:2020 Vending Machines
- EN ISO 22043:2020 Ice Cream Freezers
- EN 16838 Refrigerated display scooping cabinets and pozzetto for gelato
- EN 16902 and/or EN ISO 22044 Commercial Beverage Coolers

Approach to market surveillance of refrigeration products

The market surveillance assessment process applied in these campaigns has typically followed the same approach throughout:

- Screening stage which involves shortlisting of products from a long list of products identified as being available on the Irish/EU market
- Assessment of formal compliance typically comprising review of:
 - CE Declaration of Conformity
 - Ecodesign technical documentation
 - Energy label, product information sheet & EPREL registration
- Laboratory verification testing stage which involves testing in a selected laboratory to determine product performance

Summary of campaigns 1 to 4

Campaigns 1 to 4 assessed the compliance of refrigeration products typically used in a domestic setting, following the requirements of ecodesign and energy labelling legislation, including that which was repealed in March 2021.

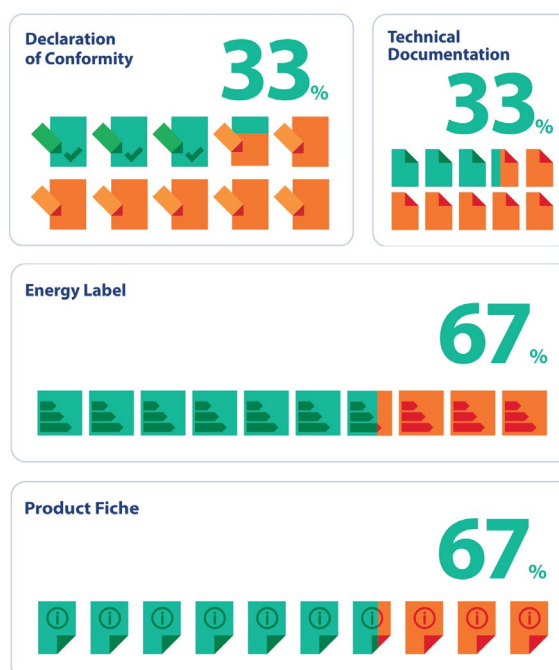
Campaign 1

Campaign 1 was the MSA's first assessment of refrigeration products. Only a small number of products were identified for assessment. However, it was determined from the outset that full assessments (i.e. formal and technical compliance assessments) would be undertaken for the selected products in order to build knowledge of undertaking market surveillance of this product category.

Three models were selected from commonly available brands on the Irish market and formal written requests for the provision of appropriate technical documentation were made to the relevant companies. Technical documentation was received for the three products for which requests were made.

Initial assessments of the responses received showed that no complete file indicating compliance with ecodesign and energy labelling requirements was received at the outset of the assessment process.

Summary of formal compliance assessments⁴



⁴ '% Non-Compliant': refers to the percentage of instances where non-compliances with respect to the applicable regulations have been identified by the MSA. Actions carried out by the economic operator to rectify such 'formal' non-compliances when identified by the MSA are referred to as 'market control' measures by the MSA.

'% Compliant': refers to the percentage of instances where compliant documents were provided, (usually after a number of requests) and where no non-compliances were identified and no changes required by the economic operator.

Issues identified during the formal assessment included:

- Declarations of Conformity being provided that were made by the original equipment manufacturer, rather than the 'brand owner' manufacturer placing the product on the market⁵
- Absence of required information in the technical documentation file or in the product manual
- Inaccuracy of values provided on the energy label
- Absence of product fiche

Product testing

An appropriate laboratory was selected for testing through a procurement exercise. One unit of each of the three selected models was bought from online electrical retailers. These units were shipped to the testing laboratory in accordance with the applicable 'chain of custody' procedure for testing.

Testing was undertaken to determine compliance with the following parameters:

- Storage volume
- Energy consumption
- Storage temperatures and climate class
- Sound power level

Initial test failures were observed in relation to storage volume, energy consumption and storage temperatures and climate class. Two products required triplicate testing, in accordance with the verification procedures laid down in the legislation.

Having engaged with the relevant manufacturer of one of the products, it was identified that this model had been completely discontinued; therefore, no further verification testing was undertaken for the product. However, focus on other product models placed on the market by the same manufacturer was undertaken in Campaign 3.

Triplicate testing was undertaken on the second product, after procurement of three further units from online electrical retailers. This testing confirmed product non-compliance in relation to the energy consumption and storage temperatures and climate class parameters. Upon engagement with the manufacturer of this product, it was discovered that this product had been replaced with a revised product model i.e. a product with a separate product model identifier, which was therefore considered as a separate product. For this reason, a repeat (single unit) test was undertaken on this model as part of Campaign 4.

In addition, where issues were highlighted in relation to formal non-compliance, the manufacturers undertook voluntary actions that were deemed to be satisfactory by the MSA to rectify these issues.

⁵ As defined in Directive 2009/125/EC

Campaign 2

Having gained valuable experience and knowledge in the first campaign, the second campaign undertaken by the MSA assessed a larger number of products, fourteen in total. A decision was made during the formal assessment process to undertake verification testing on two of these products.

Fourteen models were selected for assessment from eight manufacturers that placed refrigeration products on the Irish market. Responses to the MSA's technical documentation requests were received from all manufacturers, with a fully compliant technical file being received for two models, which were produced by the same manufacturer.

Issues identified during formal assessment included:

- DoCs not containing appropriate reference to implementing regulation or applicable standards
- Technical documentation not containing reference to product dimensions, presence of food storage compartments etc.
- Inaccurate product fiche information
- Inaccurate energy label information

In two instances, significant inaccuracies in relation to declared energy efficiency classes were identified. Through engagement with the respective manufacturers, appropriate voluntary actions were taken in relation to rectifying these issues. Furthermore, on the basis of the findings of the formal assessment stage, laboratory testing was undertaken for two products.

Product testing

As per Campaign 1, an appropriate laboratory was selected for testing through a procurement exercise and an individual unit of each of the two selected models was purchased from online electrical retailers. These units were shipped to the testing laboratory in accordance with the applicable 'chain of custody' procedure for testing.

Testing was undertaken to determine compliance with the following parameters:

- Storage volume
- Energy consumption
- Storage temperatures and climate class

Variation was observed between the declared storage volume and energy consumption values for one product but was within the allowable tolerances set out in the applicable regulation, and therefore was deemed to be compliant. On this basis, no further verification testing was undertaken.

Summary of formal compliance assessments



Campaign 3

Based on the discontinuation of a specific model which had been recorded as an initial testing failure under Campaign 1, Campaign 3 focused on a number of models placed on the market by the same manufacturer. Technical documentation was requested for sixteen models from this manufacturer.

Documentation was provided for all models. However, during the formal assessment process, the manufacturer confirmed that the majority of these models would be discontinued due to the entry into force of revised ecodesign and energy labelling regulations for household refrigeration in March 2021. The manufacturer expressed their intent to continue placing on the market three out of the sixteen models selected by the MSA.

Given that the assessment of all models was not fully completed at the time, the MSA determined that the best course of action was to suspend the assessment of the 16 models under the 'old' regulations and to reopen separate cases to assess the three models being continued under the 'new' regulation, as part of a new campaign.

Campaign 4

Campaign 4 was undertaken to assess the compliance of six models from three different manufacturers with the requirements of Regulation (EU) 2019/2019 and Regulation (EU) 2019/2016, which entered into force in March 2021.

Three product models from Campaign 3 were brought forward for assessment, while a further single model was also brought forward from Campaign 1, where its predecessor model had failed initial product testing. Two additional models were selected from a third manufacturer due to issues encountered in previous campaigns in relation to documentation compliance.

Technical documentation for the six models was requested from and provided by the respective manufacturers.

Summary of formal compliance assessments



Issues identified during formal assessment included:

- DoCs not containing reference to the appropriate implementing regulation
- Technical documentation not containing specific information required in product manuals or on manufacturer websites
- Inaccurate information within the product information sheet, which also required amendment of information logged in the EPREL database
- Inaccurate energy label information
- Absence of resource efficiency information i.e. specific spare part availability

Direct engagement with the respective manufacturers resulted in appropriate voluntary actions being taken to rectify these issues.

Product testing

Four models were selected for product testing at an appropriate laboratory selected through a procurement exercise, and an individual unit of each of the four selected models was purchased from online electrical retailers. The models selected were the three units brought forward from Campaign 3 and the single unit brought forward from Campaign 1.

Units were sent to the laboratory by courier under the appropriate chain of custody procedures and the products were tested for:

- Storage volume
- Energy consumption
- Storage temperatures and climate class

Of the four products tested, one model was deemed to have failed in relation to the energy consumption parameter, as the determined value exceeded the allowable tolerances. Testing of a further three units (triplicate testing) in accordance with the legislative verification requirements was undertaken for this model, units of which were bought from online electrical retailers.

Taking the average value of the results determined by the triplicate testing, as required by the verification procedures, the determined result was considered to be within the allowable tolerance for the energy consumption parameter and was therefore considered compliant.

Outcomes of campaigns 1- 4

A number of significant outcomes were achieved through the delivery of campaigns 1 – 4 by the MSA, including:

- Capacity and knowledge building within the MSA.
- Rectification of formal non-compliances identified to manufacturers relating to information provision requirements.
- Addressing of significant issues relating to energy label non-compliances by manufacturers on a voluntary basis.
- The identification of a number of product performance non-compliances through initial and triplicate product verification testing.

Campaign 5

Having focused on refrigeration products used mainly in a domestic setting in Campaigns 1-4, Campaign 5 focused on what are generally considered as refrigeration products used in a commercial environment. These products are considered in the legislation as having a direct sales function, which are accessible directly by users through open sides, doors, drawers etc.⁶

This campaign commenced approximately one year after the ecodesign Regulation (EU) 2019/2024 and energy labelling Regulation (EU) 2019/2018 entered into force. There was no specific ecodesign or energy labelling legislation applied to this category of refrigeration products previously. Therefore, it is considered likely that the market surveillance assessment would have been the first encountered by the relevant manufacturers under this legislation.

Product selection

Commercial refrigeration products selected for assessment were identified from several sources in order to provide (insofar as possible) a reasonable representation of the commercial refrigeration products covered by ecodesign and energy labelling legislation available on the Irish market.

Sources included commercial refrigeration product listings on economic operators' websites offering products for sale on the Irish market. Based on this review, it appeared that the sale of commercial refrigeration in Ireland occurs mainly through a relatively small number of specialist retailers (i.e. dealers in an energy labelling context). In some instances, they also offer own brand products and are considered as the manufacturer of these products in an Ecodesign context (and supplier in an energy labelling context).

From these sources, a long list of commercial refrigeration products was compiled which was considered broadly representative of the range and type of products offered by these economic operators and from which a short list of products was further developed for assessment.

Using this approach, 20 models were selected for assessment from 11 different manufacturers.

Assessment of compliance with formal (administrative) requirements

Technical documentation request letters were issued to 11 manufacturers relating to 20 commercial refrigeration products. Responses were received from all manufacturers for the 20 products for which requests were made.

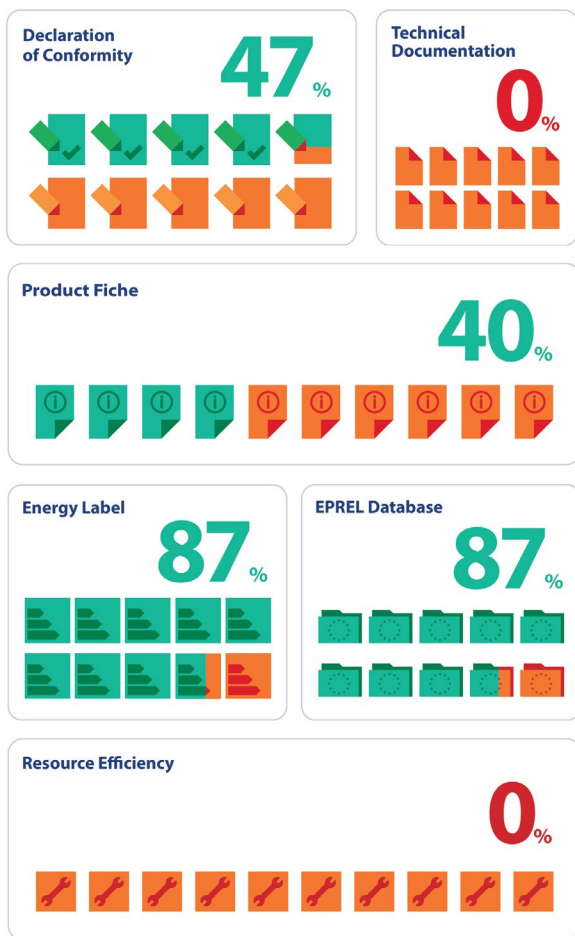
No complete technical documentation file indicating compliance with ecodesign and energy labelling requirements was received at the outset which, based on MSA's experience, is not uncommon at the initial point of technical documentation request.

The quality of information received and resultant engagement with manufacturers varied significantly during the formal assessment stage.

Over the course of the campaign, it was discovered that one manufacturer of three commercial refrigeration products was not able to provide the appropriate level of technical documentation and related information for the three products in question. The MSA met with this manufacturer to ensure that a clear understanding was provided as to the extent of information required. Having exhausted all of the available options for engagement with this manufacturer, and having no jurisdictional powers over them, given they are based in another member state, the MSA passed details of the relevant product cases to the appropriate MSA in that member state, for them to consider the subsequent appropriate actions.

⁶ As per Regulation (EU) 2019/2024 & Regulation (EU) 2019/2018, "‘refrigerating appliance with a direct sales function’ means an insulated cabinet with one or more compartments that are controlled at specific temperatures, cooled by natural or forced convection through one or more energy consuming means and is intended for displaying and selling, with or without assisted serving, foodstuffs and other items at specified temperatures below the ambient temperature to customers, accessible directly through open sides or through one or more doors, or drawers or both, including refrigerating appliances with a direct sales function with areas used for storage of foodstuffs and other items not accessible by customers, and excluding minibars and wine storage appliances”.

Summary of formal compliance assessments



Engagement with an Irish based importer of two products also identified issues in relation to the provision of the required technical documentation. These units were being imported from a third country and placed on the market by an Irish economic operator. Once it was evident that the required technical documentation could not be provided by the third country manufacturer, the Irish based importer voluntarily made the decision to withdraw these two products from the market, with existing stock being returned to the third country manufacturer.

The graphic provides a summary of the findings of the technical documentation assessments undertaken for the 15 remaining products.

Issues identified during formal compliance assessments included:

- DoCs not containing appropriate reference to the appropriate implementing regulation
- Technical documentation not containing specific information required in product manuals or on manufacturer websites
- Inaccurate product fiche information, which required amendment on information presented in the EPREL database

A significant issue observed during assessment was the high level of non-compliance in relation to the resource efficiency requirements laid down in Regulation (EU) 2019/2024, which relate to the availability and provision of spare parts for professional repairers and end-users.

This was a relatively new aspect to ecodesign legislation for energy-related products and it appeared manufacturers were having difficulty in both understanding and demonstrating compliance with these requirements.

Through engagement with the respective economic operators, significant improvements were undertaken by these economic operators to ensure that compliance was achieved through enhancements to systems for spare part availability and the provision of the required information relating to same.

Having engaged directly with all manufacturers in voluntarily addressing the issues highlighted during the formal compliance assessment and considering the actions taken in relation to the products where technical documentation was absent, it was determined that there was no requirement for further laboratory testing of products as part of this campaign.

Ad hoc market surveillance

During the undertaking of retail store inspections to assess dealer⁷ compliance relating to the display of the energy label at the end of 2023, an authorised officer of the Market Surveillance Authority encountered a product with an inaccurate energy label.

Being a brand with which the authorised officer was unfamiliar, further desktop research identified the manufacturer of these products, with other non-compliance issues becoming apparent. It was determined that compliance assessment was warranted for this manufacturer, who was identified as being based in Ireland, with five products being selected for formal documentation assessment.

After requesting technical documentation, early engagement with the manufacturer resulted in the voluntary temporary withdrawal of the 5 products in question from the market, while the non-compliance issues were addressed.

Issues identified during the assessment included:

- Inaccurate energy label format
- Absence of EPREL registration
- Non-fulfilment of resource efficiency requirements
- Required information not provide in product manuals

Over a period a time, the manufacturer undertook actions to rectify the non-compliance issues to the satisfaction of the MSA, such that they were in a position to recommence the placement of these products on the market.

Summary

Having undertaken five separate campaigns relating to refrigeration products, with a sixth ongoing at the time of writing, the MSA has focused significant market surveillance efforts in this sector over the past number of years.

Outcomes resulting from these efforts include:

- Increased economic operator awareness of their legislative obligations in relation to ecodesign and energy labelling for refrigeration products.
- Increased levels of compliance with these obligations, and specifically in relation to resource efficiency requirements for commercial refrigeration.
- The undertaking of appropriate voluntary actions by economic operators to correct identified non-compliance from a formal or product performance related perspective, without recourse to formal enforcement actions.

The refrigeration product sector is one in which the MSA is likely to continue applying resources to, in undertaking future market surveillance activities. Future market surveillance campaigns may adopt a more focused approach, looking at particular economic operators or product sub-categories or types. In addition, the outcomes of the sixth campaign currently ongoing will feed into plans for future market surveillance activities to be undertaken.

⁷ As per Regulation (EU) 2017/1369, a 'dealer' means a retailer or other natural or legal person who offers for sale, hire, or hire purchase, or displays products to customers or installers in the course of a commercial activity, whether or not in return for payment



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