

<p>Title: The Alternative Fuels Infrastructure Regulations (AFIR) Review</p> <p>PIR No: DfTPIR0061</p> <p>Lead department or agency: Department for Transport</p> <p>Other departments or agencies: Department for Energy Security and Net Zero and the Office for Product Safety and Standards</p> <p>Contact for enquiries: consumerofferconsult@ozev.gov.uk</p>	Post Implementation Review
	Source of intervention: EU
	Type of regulation: Secondary legislation
	Type of review: Statutory - other
	Date of implementation: 09/10/2017
	Date review due (if applicable): 09/10/2022
Summary: Intervention and Review	RPC Opinion: Not Applicable

1a. What were the policy objectives and the intended effects? (If policy objectives have changed, please explain how).

The intended policy objectives of the Alternative Fuels Infrastructure Regulations (AFIR) were to establish a common framework of measures for the deployment of alternative fuels infrastructure to minimise oil dependence, mitigate the environmental impact of transport and provide long-term stability for private investments. In transposing the Directive in the UK the aim was to:

- Support work under way to transition the UK road vehicles to zero emission
- Position the UK as a global leader in the use of ultra low emission vehicles; and
- Support work under way to reduce sulphur emissions from ships

The second objective for these regulations was to ensure that government does not place an unnecessary and unfair regulatory burden on members of the alternative fuels infrastructure industry.

1b. How far were these objectives and intended effects expected to have been delivered by the review date? If not fully, please explain expected timescales.

All provisions within the Alternative Fuels Infrastructure Regulations (AFIR) are expected to have been delivered by the review date.

2. Describe the rationale for the evidence sought and the level of resources used to collect it, i.e. the assessment of proportionality.

This PIR has been conducted on the basis of a low level of evidence.

In assessing the level of evidence gathering that would be proportionate, it was considered that the regulations are low risk and likely to have a low impact as was stated in the Regulatory Triage Assessment (RTA). Despite the additional layer of regulation, the cost impact overall was believed to be relatively light compared to other regulations. Even in the highest cost scenario, the total cost to business was anticipated to be less than £1m. These regulations were qualified as a low-cost fast-track measure. We did not think it would be proportionate to hold bilateral meetings or industry workshops for these regulations. In our evidence gathering we sent a survey to industry seeking responses from the same types of stakeholders originally consulted. We have also sought to address concerns expressed originally relating to the time period that non-compliant infrastructure operators had to correct non-compliant infrastructure before being issued with a penalty.

All other concerns originally expressed were considered and resolved with amendments to lead times and the amounts of civil penalties for regulated entities to bring their infrastructure into compliance.

3. Describe the principal data collection approaches that have been used to gathering evidence for this PIR.

Electric vehicles (EVs)

The principal data collection consisted of surveying chargepoint operators, distribution network operators and vehicle manufacturers to understand the cost, benefits and overall impact of the Regulations on their businesses. The survey asked respondents whether they believed the Regulations met their objectives, if they experienced any unintended effects, the costs and benefits, if the provisions are fit for purpose and if any concerns they had initially about the Regulations were resolved. This survey was distributed via email to a large stakeholder list, including those who responded to the 2016 regulatory triage assessment when AFIR was introduced. We received four responses from stakeholder bodies. We received five responses from industry.

Shore-side electricity for seagoing ships

The principal data collection consisted of surveying ports that has been affected by the Regulations. Only one port was affected and a survey was sent to them to primarily understand the cost and benefit implications of the Regulations.

Hydrogen

Data was collected via email survey. The survey was sent to hydrogen fuel cell electric vehicle (FCEV) manufacturers and organisations who construct and operate hydrogen refuelling stations (HRS). The questions asked organisations for: whether they had been able to comply with the regulations and any issues experienced trying to comply; unintended consequences; costs, benefits, risks and challenges to compliance; feedback on the timetable for compliance and whether the original objectives of the regulation had succeeded in its original objectives. No responses were received through the hydrogen survey; however, one relevant response was collected through the electric vehicle survey described above. Given the lack of response, a reminder email was sent a month after the initial survey went out, followed by a final chaser three weeks later, which included an extension to the deadline.

4. To what extent has the regulation achieved its policy objectives? Have there been any unintended effects?

Electric vehicles

The survey asked respondents if they believe that the Regulations met their objectives of:

- supporting the transition to zero emission vehicles,
- introducing a common framework of measures for the deployment of alternative fuels infrastructure and
- providing long-term stability for private investments.

Increased standardisation was referred to by almost all respondents as evidence of the Regulations fulfilling their objective of encouraging the transition to EVs and introducing a common framework of measures for the deployment of alternative fuels infrastructure. Respondents stated that introducing connector types, geographic data accessibility and intelligent metering for chargepoints were key factors in achieving the objectives. However, two responses referred to issues with the ad-hoc access provision as a barrier to the Regulations fully achieving their objectives. Inadequate government enforcement of the ad-hoc access requirement was stated by one respondent as a reason why the Regulations have not fully achieved their objectives. The Office for Product Safety and Standards (OPSS), the enforcement body for these Regulations, regularly inspects chargepoints for compliance and ad-hoc access is an area that is regularly inspected. OPSS have worked with businesses in the past to bring them into compliance. There

has been one substantive issue in recent times brought to the attention of OPSS relating to a pilot project. OPSS are working with the relevant chargepoint operator to resolve this.

One respondent mentioned that the ad-hoc access requirement was burdensome on industry and that this was underused as a payment option at their chargepoints.

OPSS have noted that the Regulations have achieved their objective of providing a common standard for alternative fuels infrastructure. Through their enforcement they have noted that connector types are standardised with only 2 models of EVs offering different connectors. However, geographic location data is not widely accurate or available. The upcoming Consumer Experience at Public Electric Vehicle Charge Point regulations will supersede this as these Regulations will require the location of each chargepoint to be accurate and laid publicly available. The Regulations are due to be laid the coming months.

Shore-side electricity for seagoing ships

According to the response received from the survey sent out the purpose of Directive 2014/94/EU sets out to establish common infrastructure requirements across the European Union. Many of the vessels also operate in EU ports. The setting of a common standard was, therefore, beneficial when determining specification. It should be noted that it may not necessarily be a Statutory Harbour Authority who may deploy shore side electricity. It is possible that a Terminal Operator who is not the Statutory Harbour Authority may implement shore power electricity. In this respect, the Schedule has appropriate wording, whereas Regulation 4 could be amended to reflect all eventualities. No unintended effects were reported in complying with the legislation.

Hydrogen

Given the nil response, we are not able to provide feedback on the effect on business, though at the time ISO 17268 was introduced, it was broadly similar and interoperable with the technical standard developed in the United States and used across Europe – SAE J2600 (therefore the move to ISO 17268 would be phased).

However, a respondent to the electric vehicles survey provided a comment on the hydrogen mobility element of AFIR 2017. They noted this had not driven long-term stability in private investment for hydrogen transport applications, and that government needed to go further with support for refuelling infrastructure. This feedback is not directly relevant to the ISO 17268 technical standard but nevertheless useful.

5a. Please provide a brief recap of the original assumptions about the costs and benefits of the regulation and its effects on business (e.g. as set out in the IA)

In the [RTA](#), it was recognised that calculating the financial impact of these requirements with any degree of accuracy is challenging. The RTA therefore took a combined qualitative and quantitative approach. The financial impact was seen to be limited as the majority of infrastructure operators already complied with the regulations before they came into effect. In situations where operators are not compliant, it was anticipated that the lead time given would result in the majority of non-compliant infrastructure being replaced before the enforcement deadline.

Two cases were specifically identified where the regulations would have a cost impact on business. In both cases, the most likely level of cost was anticipated to be minimal. The highest impact scenario estimated a total cost to business below £1m.

It was noted in the IA that local authorities owned a proportion of the non-compliant recharging infrastructure and so some of the cost would fall onto them rather than private businesses, which would further reduce the impact on business, but this proportion was unknown at the time of the IA.

The trade body representing the manufacturers of the equipment for shore side electricity supply indicated that all installations and available equipment already complies with the technical standard. Therefore, there is no additional cost imposed by this requirement.

As stated in the IA, on the subject of hydrogen supply for road transport, there was only one requirement which we were in a position to transpose (as agreed with the European Commission). This relates to the technical standard for hydrogen refuelling connectors. Following discussion with industry representatives, all connectors installed and on the market at the time of the IA already complied. There is no additional cost.

The provision requiring availability of geographic location data of recharging and refuelling infrastructure would not result in an additional imposed cost as this information is already freely available on the websites of infrastructure operators and other aggregation websites.

The benefits of compliance were seen to be an increased public utilisation rate at recharging and refuelling infrastructure. It was stated that the public would benefit from a degree of uncertainty around the functionality of recharging infrastructure and confidence that they will not encounter compatibility issues relating to the use of this infrastructure.

As set out in the original IA regarding shore side electricity supplies, the trade body representing the manufacturers of this equipment indicated that all installations and available equipment already complied with the technical standard stipulated by the Regulations. It was therefore expected that no additional cost burden would be imposed by this requirement.

5b. What have been the actual costs and benefits of the regulation and its effects on business?

Input from survey questions

Electric vehicles

One respondent made the point that standardised parts reduces the cost of EV production and will support EVs reaching price parity with ICE vehicles sooner rather than later. Two respondents cited the ad-hoc access requirement as a cost to their business. One respondent stated that developing guest access for the ad-hoc access provision cost around £40,000. The ad-hoc access provision was also referred to in terms of the time spent to develop a solution for this, which could have been spent on other projects. It is difficult to quantify the benefits in terms of an improved consumer experience and confidence in alternative fuels infrastructure.

However, another respondent suggested that the increased standardisation of EVs through these Regulations, particularly the standardisation of connector types, means that vehicles manufactured for the UK and EU can be equipped with common charging ports. These cost savings from common architecture translate into lower overall EV production cost, which is crucial for achieving price parity with internal combustion engine (ICE) vehicles.

Shore-side electricity for seagoing ships

According to the response received from the survey sent out, there have been no costs associated with this legislation at the port. The benefits are that there is a standard infrastructure across all ports although it is not possible to quantify costs.

Hydrogen

As above (question 4): given the nil response, we are not able to provide feedback on the costs/benefits and effect on businesses.

6. Assessment of risks or uncertainties in evidence base / Other issues to note

Surveys were sent out to industry stakeholders in each of the three central policy areas: EVs (including location data, connector types, intelligent metering and ad-hoc access), hydrogen vehicles (including location data and connector types) and shore-side electricity for maritime vessels (including technical standards). Due to the nascent state of the relevant parts of the maritime and hydrogen markets, we identified very low numbers of appropriate stakeholders. The EV market has developed considerably since 2017 when these Regulations came into effect. Many of the provisions regulating EV infrastructure were already complied with before the coming into force date and the market players have changed. Therefore, in all areas the responses received were minimal which has limited the evidence base for this PIR.

Electric vehicles

The survey asked respondents if the changes made to the Regulations at the time, following stakeholder engagement, mitigated any initial concerns. We did not receive any substantial evidence on this point. In order to maximise the response rate, we did not restrict respondents to those who were operating when the Regulations originally came into effect. Although the survey was sent over to over 40 stakeholders, we received only 5 responses.

Shore-side electricity for seagoing ships

After assessing the risks and uncertainties in the evidence base for shore-side electricity for seagoing ships, we determine that they are minimal. The ports this Regulation applies to is limited at present. We sent this survey to those currently affected by the Regulation and received responses from all.

Hydrogen

The survey sent to hydrogen stakeholders received no responses, so we have not been able to gather an evidence base from relevant organisations. The nil response may be expected for the following reasons: hydrogen refuelling infrastructure in the UK is limited and the hydrogen transport market is at a nascent stage, with many vehicles still operating in the research and development phase. This review addresses a regulation which is non-controversial, given standardisation across the industry and the nascency of the market. Therefore, stakeholders are not expected to have sufficiently strong opinions on compliance to feed into a survey.

7. Lessons for future Impact Assessments

There are no significant lessons for future IAs arising from this PIR and it does not seem as though the costs or benefits were substantially mis-estimated.

8. What next steps are proposed for the regulation (e.g. remain/renewal, amendment, removal or replacement)?

Electric vehicles

As stated in the RTA, real time charging information on refuelling and recharging infrastructure is not currently available and static data, such as geographic location data, that is available is often inaccurate and inconsistent. Government is addressing this through the upcoming Consumer Experience at Public Electric Vehicle Charge Point regulations. Government has committed to mandating a data standard for chargepoint operators to open both static and dynamic data, so that consumers can easily locate chargepoints that fit their needs.

Intelligent metering was considered during the development of the Consumer Experience at Public Electric Vehicle Charge Point regulations. Due to the lack of standards, and the time needed for development of standards for DC chargepoints, we do not propose to change regulations on MIR compliant meters. We will update guidance in 2023 to clarify current legislation.

Industry have coalesced around the connector types mandated in these Regulations. As stated earlier, OPSS have monitored the market and noted that there are only 2 EV models that do not use the connector types in AFIR and they can still charge at 95% of public chargepoints. The objective of providing a common standardised framework for infrastructure has been met and Government sees no need to amend this provision.

Ad-hoc access is important for consumers as it enables them to avoid setting up an account at every new chargepoint network they use. Consumers have consistently expressed frustration when they need to create an account for every chargepoint network to use their chargepoints. Industry have suggested that plug and charge should replace this but until plug and charge is available more widely, we want to ensure that consumers can turn up and charge without making an account. This is unlikely to change for the foreseeable future. Government has committed to mandating a contactless payment method at all existing rapid chargepoint and new chargepoints capable of delivering charge 8kW and above, as part of the upcoming Consumer Experience at Public Electric Vehicle Charge Point regulations. We have also committed to introducing payment roaming, which will enable consumers to pay across multiple chargepoint networks through one membership or app. These requirements will support ease of payment for consumers without the need to create a new account at every network.

Shore-side electricity for seagoing ships

It is anticipated that more shore-side electricity for seagoing ships will be installed as port begin to decarbonise further. The purpose of Directive 2014/94/EU sets out to establish common infrastructure requirements across the European Union. Many of the vessels also operate in EU ports. The setting of a common standard was, therefore, beneficial when determining specification for installing. Thus, the objective of providing a common standardised framework for infrastructure is still relevant and the government sees no need to amend this provision.

Hydrogen

Data accessibility:

Going forward, as the hydrogen vehicle market develops, we will work with data providers to ensure that location data (covering publicly accessible hydrogen refuelling stations) is made available to the public in an accurate and consistent manner. Currently there are a number of websites and mobile applications that make the locations of the hydrogen refuelling stations in the UK available.

ISO 17268:

The regulations require that from October 2017 all hydrogen refuelling connectors must comply with the ISO 17268 international technical standard. At the point that the original EU Directive was adopted, and at the point at which the UK transposed its requirements, the ISO standard was not agreed or ratified. All hydrogen stations in the UK that were operating prior to October 2017 used connectors compatible with the technical standard developed in the United States – SAE J2600. This standard is broadly similar to ISO 17268. ISO 17268 was published in February 2020, and given it is interoperable with the USA standard we have and will continue to allow connectors that comply with SAE J2600 to remain in use, alongside ISO 17268, for now.

Over time, given that the ISO 17268 technical standard has been adopted across Europe, it will be appropriate to move to this standard to ensure cross-border interoperability for hydrogen-fuelled cars with

hydrogen refuelling infrastructure internationally. We will work with hydrogen refuelling station operators to ensure that connectors compliant with ISO 17268 will be deployed in due course.

Sign-off for Post Implementation Review:

I have read the PIR and I am satisfied that it represents a fair and proportionate assessment of the impact of the policy.

Signed: Ollie Rea

Date: 11/01/2023

Evidence Base

Please provide additional evidence in subsequent sheets, as required.