

## EFTA SURVEILLANCE AUTHORITY DECISION

Of 25 July 2017

not to raise objections to an aid scheme for hydrogen refuelling stations in Akershus  
(Norway)

The EFTA Surveillance Authority (“the Authority”),

Having regard to:

the Agreement on the European Economic Area (“the EEA Agreement”), in particular to Article 61,

Protocol 26 to the EEA Agreement,

the Agreement between the EFTA States on the Establishment of a Surveillance Authority and a Court of Justice (“the Surveillance and Court Agreement”), in particular to Article 24,

Protocol 3 to the Surveillance and Court Agreement (“Protocol 3”), in particular to Article 1(3) of Part I and Article 4(3) of Part II,

Whereas:

### I. FACTS

#### 1 Procedure

- (1) By letter dated 16 June 2017, the Norwegian authorities notified an aid scheme for operating aid to hydrogen refuelling stations (“the scheme”), pursuant to Article 1(3) of Part I of Protocol 3.<sup>1</sup>

#### 2 Background

- (2) The purpose of the scheme is to support the green shift from traditional fossil fuel combustion engines to an environmentally friendly alternative.
- (3) Hydrogen has a high energy density and can be produced without carbon dioxide emission, when produced from renewable energy sources. The technology for hydrogen driven motors is furthermore developed to a point where hydrogen cars can fulfil practical

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<sup>1</sup> Document No 861502.

needs. A number of hydrogen-fuelled passenger cars and buses are already in circulation throughout the world. The Akershus County Council (“ACC”) has decided to use public funds to improve the virtually non-existent offering of roadside hydrogen refuelling stations in Akershus, Norway.

- (4) The ACC will implement two separate measures to strengthen the market for hydrogen refuelling stations in Akershus:
- 1) Investment aid granted pursuant to Article 56 of *Commission Regulation (EU) No 651/2014 of 17 June 2014 declaring certain categories of aid compatible with the internal market in application of Articles 107 and 108 of the Treaty*<sup>2</sup> (“GBER”);<sup>3</sup> and
  - 2) the notified operating aid scheme, which this decision is concerned with.

### 3 Description of the measure

#### 3.1 The notified aid scheme

- (5) The notified measure is an operating aid scheme which will support the roadside sale of hydrogen from hydrogen refuelling stations to end users in the County of Akershus.
- (6) The limited use of hydrogen today means that it is not possible to cover the operating costs of refuelling stations through sales income. Prospective vendors are consequently deterred from entering the market, while the few existing providers might be forced to close down operations without operating support.
- (7) The Norwegian authorities submitted two reports made by SINTEF<sup>4</sup> concerning possible aid measures to hydrogen refuelling stations. The first report “National framework conditions and the potential for the hydrogen commitment in Norway”<sup>5</sup> (“SINTEF Report I”), distinguishes between several scenarios reflecting different estimates of the expected increase in the number of hydrogen vehicles on the roads.
- (8) The second report was tailored to address what form of operating aid measure would be the most appropriate to support the objectives of the scheme at the current stage of market development, and in the light of the specific conditions in Norway and Akershus (“SINTEF Report II”).<sup>6</sup>

#### 3.2 Administration, budget and duration

- (9) The scheme will be administered by the ACC.
- (10) The budget of the scheme is NOK 5 million per year. The scheme will operate for a maximum of five years calculated from the date of the Authority’s approval.

<sup>2</sup> Commission Regulation (EU) No 651/2014 of 17 June 2014 declaring certain categories of aid compatible with the internal market in application of Articles 107 and 108 of the Treaty (OJ L 187, 26.6.2014, p. 1), referred to at point 1j of Annex XV to the EEA Agreement, see Joint Committee Decision No 152/2014, published in OJ L 342, 27.11.2014, p. 63 and EEA Supplement No 71, 27.11.2014, p. 61.

<sup>3</sup> See GBER information sheet 15/2017/INFR, published on the Authority’s website. Available at: <http://www.eftasurv.int/media/esa-docs/physical/GBER-15-2017-INFR.pdf>.

<sup>4</sup> SINTEF is a broad, multidisciplinary research organisation with international expertise in the fields of technology, the natural sciences, medicine and the social sciences.

<sup>5</sup> *Nasjonale rammebetingelser og potensial for hydrogensatsingen* (Document No 861520).

<sup>6</sup> *Utredning om beregning av støtte til drift av fyllestasjoner for hydrogen* (Document No 861508).

### 3.3 Beneficiaries, criteria for eligibility, aid instrument and eligible costs

- (11) The eligible beneficiaries are operators of new and existing hydrogen fuelling stations. All forms of hydrogen stations are eligible for aid under the scheme and the aid amount will not depend on the type of station operated.<sup>7</sup>
- (12) The eligible costs are the operating costs directly associated with the making available of hydrogen. The aid will cover a funding gap consisting of the costs, or a share of the costs, which are not covered by operating profits. The maximum aid amount will be NOK 1 million per year, per station, for a period limited to three years.
- (13) Eligible for the maximum amount of aid are hydrogen stations with a capacity of 200 kg per day. Stations with a capacity exceeding this level will not receive more aid than stations with 200 kg capacity per day. The aid amount will be reduced proportionally for stations with a lower capacity than 200 kg per day.
- (14) The aid is allocated in open procedures. Applications for aid under the scheme will be assessed on the basis of predetermined criteria. The criteria for allocation of the aid will be based on a combination of abilities (technical and financial), location (in order to ensure a rational hydrogen network) and the extent to which the business plan substantiates that the facility will be operated in an environmentally sound and economically rational manner. Beneficiaries are to offer the hydrogen to end users at market prices and on an open and non-discriminatory basis.
- (15) In order to provide complete assurance that no beneficiary receives more aid than strictly necessary, the ACC will implement a claw-back mechanism. This mechanism is designed to prevent overcompensation in case of unexpected market developments. Profits exceeding 10% within the period in which the beneficiary is eligible for the aid will be required to be paid back by the beneficiary.<sup>8</sup>

### 3.4 Calculation of the aid

- (16) The Norwegian authorities have designed the scheme on the basis of the SINTEF Report II which assesses the appropriate means to implement the objective of the scheme. The SINTEF Report II follows the general approach to establishing the appropriate level of aid, namely to provide minimum coverage of the net extra costs necessary to meet the objectives of the scheme.
- (17) The SINTEF Report II assesses the market outlook on the basis of reasoned assumptions on the demand side. It distinguishes between several scenarios reflecting different estimates of the expected increase in the number of hydrogen vehicles on the roads.<sup>9</sup> The medium scenario, demonstrated in the table below, is described as realistic.

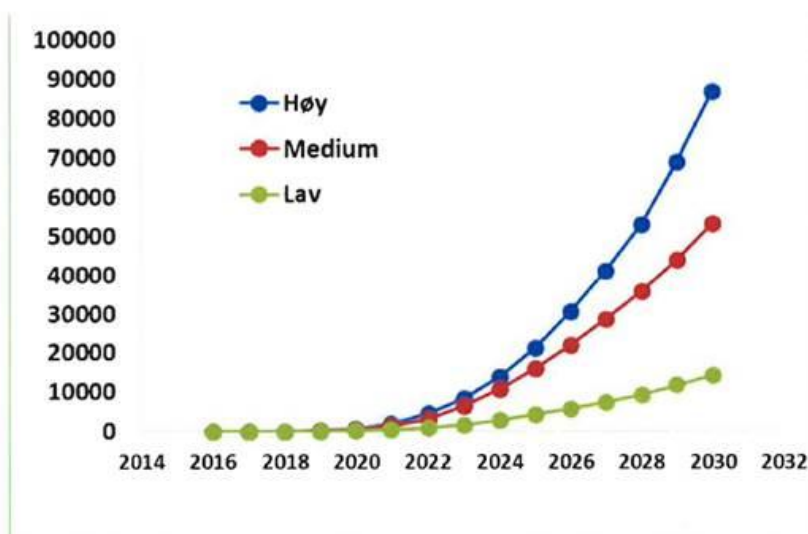
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<sup>7</sup> The Norwegian authorities named as examples of different types of business models: local production of hydrogen at each station, centralised internal production within the fuel retailer company, partnering with industry players producing hydrogen as a by-product and negotiating deals with commercial vendors of hydrogen.

<sup>8</sup> For further details, see chapter II, section 3.5.

<sup>9</sup> The estimates in the report is based on the analyses made in the previous report: *SINTEF Report I* (Document No 861520).

The estimated numbers of passenger cars is presented in the following table:



Figur 1: Illustrasjon av antall hydrogenbiler i de tre ulike scenariene: høy, medium og lav. Tallene er basert på Tomasgard et al. 2016.

- (18) The SINTEF Report II distinguishes between respectively the cost of stations producing hydrogen by means of on-site electrolyses and stations storing hydrogen delivered from remote production facilities.<sup>10</sup> The estimated fixed operating costs for stations based on internal electrolyses production are NOK 1.5 million, and are NOK 1 million for stations run on hydrogen delivered in tanks.
- (19) In order to obtain coverage for the fixed operating costs, the stations getting hydrogen delivered must achieve a capacity utilisation of 37% while the station relying on internal electrolysis production must achieve a level of utilisation of 55%. These figures are based on estimates of taxi drivers using hydrogen vehicles to a certain extent, the so-called “taxi strategy”.<sup>11</sup> The extent to which the switch to hydrogen vehicles is observed amongst taxi drivers will affect the likely results of operations of hydrogen stations.
- (20) The report as well as the Norwegian authorities’ own estimates expect very limited capacity utilisation in the start-up phase. The Norwegian authorities’ own estimates expect utilisation to range between 3% and 13% in the period 2017 to 2019, and not to exceed 50% until in 2022. The yearly operations of the stations will only reach break-even in the third year. As the accumulated losses from the two first years of operations will be significant, these losses will however not be recouped until in the sixth year.<sup>12</sup>
- (21) While the stations should be able to operate profitably in relatively few years, the picture is different with respect to the case for making an investment decision to operate stations. It will take a long time until the stations have recouped the yearly operating losses incurred in the initial phase. Furthermore, the picture is worse if the taxi strategy fails. The uncertainty with respect to future market development will naturally be taken into account

<sup>10</sup> The *SINTEF Report II* (Document No 861508), section 3.2.

<sup>11</sup> The “taxi-strategy” refers to plans to incentivise taxi drivers in Oslo and Akershus to use hydrogen vehicles. See section 3.1 in the *SINTEF Report II* (Document No 861508).

<sup>12</sup> The estimates in the report vary between different types of stations. These estimates apply to stations storing hydrogen delivered from remote production facilities. For stations producing hydrogen by means of on-site electrolysis are expected to achieve break-even result in their fourth year and the running fixed costs will not be recouped until the ninth year of operations. See *SINTEF Report I* (Document No 861520) and *SINTEF Report II* (Document No 861508), p. 14–15.

when prospective entrants assess the extent to which it is rational to open and operate hydrogen refuelling stations.

### 3.5 National legal basis

- (22) The national legal basis for the scheme is as follows:
- the ACC's Hydrogen Strategy for 2014–2025, adopted on 17 March 2014,<sup>13</sup>
  - the Action Plan for Akershus 2015–2016,<sup>14</sup> and
  - the Guidelines for the scheme adopted by ACC.

## 4 Existing measures

- (23) In order to stimulate the demand for zero emissions vehicles (“ZEVs”), the Norwegian authorities have granted several incentives, including the exemption from vehicle registration tax, reduced annual road tax and a zero VAT rating. In an attempt to internalise negative externalities from emissions, Norway has also implemented different taxes on mineral products, such as the CO<sub>2</sub> tax, the sulphur tax, the basic tax and the auto diesel/fuel tax.<sup>15</sup>
- (24) At the local level, in addition to the GBER measure referred to in paragraph (4) above, the ACC has implemented two small measures aimed at prospective owners of hydrogen vehicles. The eligible beneficiaries under the first measure are municipalities in Akershus, while the eligible beneficiaries under the second measure are taxi drivers in Akershus.<sup>16</sup>
- (25) The Norwegian authorities have in place a programme for alternative fuels infrastructure, *inter alia* hydrogen refuelling infrastructure for vehicles.<sup>17</sup> The programme is managed by Enova SF (“Enova”), a state enterprise fully owned by the Norwegian state.
- (26) At the present stage, there are effectively no functioning support schemes reflecting a long-term commitment to the roadside supply of hydrogen in Akershus. Enova has only to a very limited extent granted support for hydrogen stations.

## 5 Market conditions

- (27) Currently, the number of hydrogen cars on Norwegian roads is very limited. The number of refuelling stations is limited to six and the Norwegian authorities do not expect additional stations without public support. All but one of the existing stations are pilot stations with a very low capacity, and all stations have been established with the help of public funds. The stations have received support under different initiatives. There are

<sup>13</sup> Document No 861518.

<sup>14</sup> Document No 861522.

<sup>15</sup> The existing measures are summarised in the Authority's Decision No 150/15/COL on the State aid measures in favour of electric vehicles, available at: <http://www.eftasurv.int/media/decisions/150-15-COL.pdf>.

<sup>16</sup> A maximum of ten new hydrogen cars can be supported with up to 100.000 NOK of the investment costs under each of the measures. With respect to the beneficiaries that are to be regarded as undertakings, support is granted on the basis of the Commission Regulation (EU) No 1407/2013 of 18 December 2013, referred to at point 1ea of Annex XV to the EEA Agreement, see Joint Committee Decision No 98/2014 (OJ L 310, 30.10.2014, p. 65-66 and EEA Supplement No 63, 30.10.2014 p. 56) (“the *de minimis* Regulation). See further information: [http://www.akershus.no/ansvarsomrader/tilskudd-oe-stotteordninger/?article\\_id=204383](http://www.akershus.no/ansvarsomrader/tilskudd-oe-stotteordninger/?article_id=204383) and [http://www.akershus.no/Ansvarsomrader/Tilskudd-oe-stotteordninger/?article\\_id=204462](http://www.akershus.no/Ansvarsomrader/Tilskudd-oe-stotteordninger/?article_id=204462)

<sup>17</sup> The Authority's Decision No 336/15/COL of 16 September 2015 on raising no objections to the programme for alternative fuels infrastructure, available at: <http://www.eftasurv.int/media/esa-docs/physical/336-15-COL.pdf>

currently no aid schemes in place encompassing operating aid to hydrogen stations in Norway.

- (28) Five of the existing stations are situated in the capital region of Oslo/Akershus, while one is situated in Porsgrunn. Porsgrunn is situated 120 km west of Oslo. Besides the stations mentioned in this decision, the closest hydrogen refuelling station is in Sweden. However, according to the Norwegian authorities, it is unlikely that consumers will drive across the border to fill their vehicles with hydrogen, due to the driving distances involved. The station established in Kjørboveien in Sandvika, in Norway, is the only commercial scale station. The investment costs for this station was financed with 50% by the owner of the station, 30% by Enova and 20% by the ACC. The station incurs vast operating losses due to the virtually non-existent customer base. In addition to this, a station is planned in Trondheim and two others in Bergen. A foodstuff distribution company has furthermore committed to establishing a hydrogen facility to serve some of its vehicles used in the distribution of foodstuffs in Mid-Norway. This project will be eligible to receive public support under the aid scheme managed by Enova.<sup>18</sup> As the customer base is very limited, there are no serious efforts from private players to invest in hydrogen stations on their own accord.
- (29) The Norwegian authorities expect that in the first phase of the introduction of hydrogen in the region, it is most likely that vehicles for professional use, such as taxis and fleets of vehicles used by public and private businesses that are most suited for fuel cell technology, will benefit from the scheme. The market for private individual car owners is expected to increase when an infrastructure of refuelling stations is available also outside the region, enabling driving over longer distances.
- (30) Hydrogen technology is particularly apt for heavier, high polluting vehicles, for which traditional battery technology is less adequate. Thus, facilitating the emergence of hydrogen technology will produce an additional environmental benefit, by allowing consumers, which would otherwise rely on fossil fuel technologies, to switch to a ZEV alternatives.<sup>19</sup> Therefore, inducing a minimum level of operational roadside hydrogen stations in Akershus can be expected to result in a net increase in the use of ZEVs, compared to the situation where electric cars are the only alternative technology that is practically available.
- (31) The existing measures<sup>20</sup> have successfully raised demand for ZEVs, particularly electric vehicles, and to a certain extent also for hybrid low emissions vehicles. However, according to the Norwegian authorities, the measures are not in themselves capable leading to a more widespread use of hydrogen vehicles.

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<sup>18</sup> The Authority's Decision No 336/15/COL of 16 September 2015 raising no objections to the programme for alternative fuels infrastructure, available at:

<http://www.eftasurv.int/media/esa-docs/physical/336-15-COL.pdf>

<sup>19</sup> SINTEF Report I (Document No 861520).

<sup>20</sup> See chapter I.4 above.

## II. ASSESSMENT

### 1 The presence of state aid

(32) Article 61(1) of the EEA Agreement reads as follows:

*“Save as otherwise provided in this Agreement, any aid granted by EC Member States, EFTA States or through State resources in any form whatsoever which distorts or threatens to distort competition by favouring certain undertakings or the production of certain goods shall, in so far as it affects trade between Contracting Parties, be incompatible with the functioning of this Agreement.”*

(33) This implies that a measure constitutes state aid within the meaning of Article 61(1) of the EEA Agreement if the following conditions are cumulatively fulfilled: the measure (i) is granted by the State or through state resources; (ii) confers a selective economic advantage on the beneficiary; (iii) is liable to affect trade between Contracting Parties and to distort competition.

#### 1.1 Presence of state resources

(34) The aid measure must be granted by the State or through state resources. The State, for the purpose of Article 61(1) of the EEA Agreement, covers all bodies of the state administration, including regional and local authorities.<sup>21</sup>

(35) The grants disbursed under the scheme are administered by the ACC. The Authority thus concludes that the notified aid scheme is granted by the State or through State resources within the meaning of Article 61(1) of the EEA Agreement.

#### 1.2 Favouring certain undertakings or the production of certain goods

(36) Firstly, the aid measure must confer on beneficiaries advantages that relieve them of charges that are normally borne from their budgets. Secondly, the aid measure must be selective in that it favours *“certain undertakings or the production of certain goods”*.

(37) The aid measure compensates the beneficiaries of costs that they would normally have to bear to operate a hydrogen refuelling station. The owners of the refuelling stations are therefore the direct beneficiaries of the aid. The Authority further considers this advantage to be selective as it is only limited to a number of undertakings, i.e. undertakings that operate hydrogen fuelling stations.

(38) The measure can also stimulate the demand for vehicles powered by hydrogen fuel as well as the sale of relevant refuelling equipment, compared to a reference situation in which no aid would be granted. It follows that the measure may also indirectly favour manufacturers, importers and dealers of these vehicles and this equipment. However, the Authority considers these potential indirect advantages to be purely incidental and a consequence of the aid measure, which supports the green shift from traditional fossil fuel combustion engines to environmentally friendly alternatives.

#### 1.3 Distortion of competition and effect on trade between Contracting Parties

(39) The aid measure must be liable to distort competition and to affect trade between the Contracting Parties to the EEA Agreement.

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<sup>21</sup> Judgment in *Germany v Commission*, Case C-248/84, EU:C:1987:437, paragraph 17.

- (40) The mere fact that a measure strengthens the position of an undertaking compared to other undertakings competing in intra-EEA trade is sufficient in order to conclude that the measure is liable to distort competition between undertakings established in other EEA States and thereby to have an effect on trade.<sup>22</sup> In order to categorise a public measure as state aid, it is not necessary that the aid has a real effect on trade between the Contracting Parties and that competition is actually distorted. It suffices that the aid is liable to affect such trade and to distort competition.<sup>23</sup>
- (41) Undertakings operating hydrogen fuelling stations are active in a sector that is open to EEA-wide competition. Furthermore, aid under the scheme might potentially be granted to large undertakings. These undertaking could potentially be operating in the market, or a related market, within the EEA.
- (42) The Authority notes that the market for hydrogen vehicles, and therefore refuelling stations, is currently not considerable in size. However, the purpose of the scheme is to support the emergence of a network of hydrogen refuelling stations and thereby support a functional market for the roadside supply of hydrogen.
- (43) In light of the above, the Authority concludes that the measure is liable to distort competition and to affect trade between the Contracting Parties to the EEA Agreement.

#### **1.4 Conclusion on the presence of state aid**

- (44) The notified measure constitutes state aid within the meaning of Article 61(1) of the EEA Agreement.

### **2 Procedural requirements**

- (45) Pursuant to Article 1(3) of Part I of Protocol 3: “*The EFTA Surveillance Authority shall be informed, in sufficient time to enable it to submit its comments, of any plans to grant or alter aid. .... The State concerned shall not put its proposed measures into effect until the procedure has resulted in a final decision.*”
- (46) By letter dated 16 June 2017, the Norwegian authorities notified the aid measure. The Norwegian authorities have not let the scheme enter into force yet and therefore have complied with the obligations under Article 1(3) of Part I of Protocol 3.

### **3 Compatibility of the aid**

- (47) The Authority can declare state aid compatible with the functioning of the EEA Agreement, under its Article 61(3)(c), provided that certain compatibility conditions are fulfilled.
- (48) The Authority concurs with the view of the Norwegian authorities that the Authority’s Guidelines on State aid for environmental protection and energy 2014–2020<sup>24</sup> (“the EEAG”) are not directly applicable to the measure as the financing of environmental protection measures relating to road transport infrastructure is excluded from the guidelines.

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<sup>22</sup> Case E-6/98 *Norway v ESA* [1998] EFTA Ct. Rep. 76, paragraph 59; judgment in *Philip Morris v Commission*, C-730/79, EU:C:1980:209, paragraph 11.

<sup>23</sup> Judgment in *Eventech*, C-518/13, EU:C:2015:9, paragraph 65.

<sup>24</sup> The Authority’s Guidelines on State aid for environmental protection and energy 2014-2020, adopted by Decision No 301/14/COL, OJ L 131, 28.5.2015, p. 1 and EEA Supplement No 30, 28.5.2015, p. 1.



- (49) The Authority will therefore assess the notified measure directly under Article 61(3)(c) of the EEA Agreement, based on the following common assessment principles:
- contribution to a well-defined objective of common interest;
  - need for state intervention;
  - appropriateness of state aid as a policy instrument;
  - existence of an incentive effect;
  - proportionality of the aid amount (aid limited to minimum necessary);
  - avoidance of undue negative effects on competition and trade; and
  - transparency.
- (50) The Authority notes that the Norwegian authorities looked to the EEAG when designing the scheme as it has an environmental objective. Given that the EEAG apply the common assessment principles set out above, they can provide guidance for the Authority's assessment. However, the Authority is not bound by the EEAG in the present case as the measure falls outside their scope of application.<sup>25</sup>

### 3.1 Objective of common interest

- (51) State aid must aim at a well-defined objective of common interest that has been recognised by the Contracting Parties as being in their common interest. Environmental protection, including the reduction of climate gas emissions, is recognised as an objective of common interest within the EEA.<sup>26</sup>
- (52) The Alternative Fuels Directive has underlined the importance of alternative fuels infrastructure in the attempt to reduce the use of fossil fuels in the transport sector.<sup>27</sup> Without a significant increase in the market uptake of alternative fuels, the targets of the Europe 2020 strategy and the climate goals for 2050 cannot be achieved.<sup>28</sup>
- (53) The Authority therefore concludes that the scheme for operating aid to hydrogen refuelling stations contributes to a well-defined objective of common interest.

### 3.2 Need for state intervention

- (54) In order to assess whether state aid is effective to achieve the identified objective of common interest, it is necessary first to analyse and define the problem that needs to be addressed. State aid should be targeted towards situations where aid can bring a material improvement that the market alone cannot deliver.
- (55) The usage and supply of hydrogen vehicles is hampered by the lack of refuelling stations offering hydrogen fuel. It is unattractive for consumers to invest in hydrogen cars as long

<sup>25</sup> See above paragraph 43.

<sup>26</sup> See the Authority's Decision No 336/15/COL of 16 September 2015 on raising no objections to the programme for alternative fuels infrastructure, paragraph 82, available at: <http://www.eftasurv.int/media/esa-docs/physical/336-15-COL.pdf>

Further, the EEAG recognises as its aim the increase in the level of environmental protection compared to the level that would be achieved in the absence of the aid. The EEAG also make reference to the Europe 2020 strategy, which sets "*targets and objectives for sustainable growth to support the shift towards a resource-efficient, competitive low-carbon economy*".

<sup>27</sup> Directive 2014/94/EU on the deployment of alternative fuels infrastructure "the Alternative Fuels Directive".

<sup>28</sup> See white Paper "Roadmap to a single European Transport Area - Towards a competitive and Resource Efficient Transport System", COM/2011/0144.

as the necessary refuelling points are not in place. At the same time, it is unattractive for commercial undertakings to establish hydrogen stations when the customer base is not developed. This feedback loop means that the use of hydrogen vehicles is likely to remain stable at virtually non-existent level without state intervention. This in turn discourages vehicle producers from investing in hydrogen technology, thereby reducing innovation in the market for hydrogen vehicles.<sup>29</sup>

- (56) The limited use of hydrogen today means that it is not possible to cover the operating costs of refuelling stations through sales income. Prospective vendors are consequently deterred from entering the market while the few existing providers might be forced to close down operations without operating support.
- (57) The lack of refuelling infrastructure, and the inability of market forces to fill this gap, represents a fundamental barrier to the development of alternative fuels in the transport sector.<sup>30</sup> The state intervention is therefore justified by a persisting market failure, where it is not commercially attractive to establish and operate hydrogen stations compared with facilities offering fossil fuels.
- (58) On the basis of these considerations, the Authority concludes that there is a clear and well identified need for state intervention.

### 3.3 Appropriateness of state aid

- (59) The proposed aid measure must be an appropriate instrument to address the identified objective of common interest. An aid measure is not compatible with the functioning of the EEA Agreement if the same positive contribution to the common objective is achievable through other less distortive policy instruments or other less distortive types of aid instruments.
- (60) The combination of a lack of hydrogen stations and a low number of hydrogen cars on the roads is self-reinforcing, deterring consumers from investing in hydrogen vehicles and commercial vendors from establishing and operating hydrogen stations. The prospects for operators recovering the costs associated with pre-commercial market entry are diminished by the likelihood of competitors launching hydrogen stations once the consumer base is more certain.<sup>31</sup> In addition, expected economies of scale and technological developments in the markets for equipment for hydrogen stations and the hydrogen market as such, suggests that later market entrants will incur lower costs.
- (61) According to the information provided by the Norwegian authorities, in such an environment, other policy instruments than direct state aid to prospective operators of hydrogen stations are incapable of generating the requisite migration from fossil fuel vehicles to hydrogen vehicles.<sup>32</sup> Other forms of state aid, including in particular repayable

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<sup>29</sup> In this regard, the Norwegian authorities have provided two reports concluding that the dynamics hampering private investment in hydrogen stations warrants public intervention in the form of both investment and operation aid. *SINTEF Report I* (Document No 861520), and *Joint Agency Staff Report on Assembly Bill 8 California* (Document No 861510).

<sup>30</sup> See European Commission Staff Working Document - impact assessment accompanying the document "Proposal for a Directive on the deployment of alternative fuels infrastructure", SWD/2013/05.

<sup>31</sup> See *Joint Agency Staff Report on Assembly Bill 8 California* (Document No 861510). It was remarked that "Continued public investment is required in the near term until business cases exist for nonsubsidized station development", cf. p. 93 following.

<sup>32</sup> As an example of demand side measures, the Norwegian authorities refer to the VAT exemption approved by the Authority's Decision No 150/15/COL, available at: <http://www.eftasurv.int/media/decisions/150-15-COL.pdf>

advances, tax credits, equity instruments and state guarantees, are insufficient given the non-recoupable losses that will be incurred in the introductory phase.

- (62) The Authority notes that investment aid is generally preferable to and less distortive than operating aid. However, as is also noted in the EEAG,<sup>33</sup> operating aid may in certain circumstances be necessary as a tool to pursue an objective of common interest. For the reasons set out above, the Authority considers that in the present case, operating aid is appropriate to address the identified market failure.
- (63) Operating aid schemes can in principle be formulated in a number of ways. The Norwegian authorities concluded that the selected form of operating aid was more likely to reach the objective of the scheme than a scheme consisting of, for example, feed-in-tariffs.<sup>34</sup> The Norwegian authorities have demonstrated that the form of operating aid under the scheme provides the minimum level of support necessary to make it justifiable to enter and remain in the market in the pre-commercial phase, but maintains the market entrants' incentives to compete on the merits. Against this background, the Authority concludes that the notified aid measure is an appropriate instrument to address the identified market failure.

### 3.4 Incentive effect

- (64) State aid is only compatible with the functioning of the EEA Agreement if it has an incentive effect. An incentive effect occurs when the aid induces the beneficiary to change its behaviour to further the identified objective of common interest, a change in behaviour which it would not undertake without the aid. This entails that the aid cannot subsidise the costs of an activity that an undertaking would anyhow incur, nor compensate for the normal business risks of an economic activity.
- (65) According to the information provided by the Norwegian authorities, at the present stage of market development, there is no business case for establishing and operating new hydrogen stations in the absence of aid. By inducing an increased number of operational hydrogen stations, the scheme will change the market behaviour in a manner consistent with the objectives of the scheme. Moreover, the operating aid will not alleviate normal business risks, as the aid will only reduce operating losses that rational market players would otherwise not have accrued.
- (66) Both new and existing operations will be eligible for aid under the notified scheme. There are currently six roadside hydrogen stations established in Norway, all of which have received public support. The pre-commercial character of the activity of supplying roadside hydrogen in Akershus further entails that the existing operators incur operating losses. These losses will persist for several years to come.
- (67) In a scenario where running a refuelling infrastructure results in significant operating losses, it can be commercially rational to close down operations until the prospects for operating profitably have improved. According to the Norwegian authorities, this is the case even if there are indications that more favourable market conditions may materialise in the foreseeable future. Hence, it is likely that, without operating aid, operators of existing hydrogen stations in Akershus will close down operations until a broader

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<sup>33</sup> Paragraph 42 of the EEAG states that for operating aid, the Contracting Party must demonstrate that the aid is appropriate to achieve the objective of the scheme to which the aid is targeted. To demonstrate that the aid is appropriate, the Contracting Party may calculate the aid amount *ex ante* as a fixed sum covering the expected additional costs over a given period, to incentivise undertakings to minimise their costs and develop their business in a more efficient manner over time.

<sup>34</sup> See *SINTEF Report II* (Document No 861508).

customer basis is in place. Existing stations could even close down permanently.<sup>35</sup> This indicates that operating aid to existing stations will also have an incentive effect.

- (68) The incentive effect will be assessed for each individual grant of aid under the scheme. The aid under the scheme will be made public in an open and transparent procedure, applying transparent and non-discriminatory criteria. All applicants will be required to provide a description of the project and the amount needed to carry it out. Applicants will further be required to make a budget clearly identifying the eligible costs on the basis of reasoned projections. Applicants will be required to establish and explain a counterfactual scenario setting out their likely course of conduct in the absence of the aid. Large undertakings must additionally submit documentary evidence in support of the counterfactual scenario.
- (69) Based on the above, the Authority concludes that there are sufficient safeguards in place to ensure that aid disbursed under the scheme has the necessary incentive effect.

### 3.5 Proportionality

- (70) State aid is proportionate if the aid amount per beneficiary is limited to the minimum needed to achieve the identified objective of common interest. As a general principle, aid will be considered to be limited to the minimum necessary if the aid corresponds to the net extra cost necessary to meet the objective, compared to the counterfactual scenario in the absence of the aid.
- (71) Based on the SINTEF Report II and estimates of the Norwegian authorities,<sup>36</sup> a maximum amount of operating aid of NOK 1 million per year, limited to three years, is considered necessary to achieve the objectives of the scheme. Such an aid amount is also precautionary, as the available calculations indicate that the operators might incur losses from operations even if receiving such an amount. The amount of the aid will be further reduced for smaller stations.
- (72) In order to provide complete assurance that no beneficiary receives more aid than strictly necessary, the Norwegian authorities will implement a control and adjustment mechanism. This mechanism is designed to prevent overcompensation in case of unexpected market developments. The Norwegian authorities do not, however, expect any station to achieve results bordering on the limitation in the relevant period.
- (73) The Norwegian authorities will require the beneficiaries to keep separate accounts for each station benefitting under the scheme, transparently identifying all relevant cost and income pertaining to the hydrogen station operation. In the event that it is discovered that a station has received more aid than necessary in the relevant period, the Norwegian authorities will have in place a claw back mechanism.
- (74) Based on the above, the Authority concludes that the measure ensures that any aid granted under the scheme is proportionate.

### 3.6 Avoidance of undue negative effects on competition and trade

- (75) For state aid to be compatible with the functioning of the EEA Agreement, the negative effects of the aid measure in terms of distortions of competition and impact on trade

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<sup>35</sup> See *SINTEF Report II* (Document No 861508) p. 18. SINTEF more generally notes that closing down operative stations appear rational in the current stage of the market development.

<sup>36</sup> See above paragraphs 16 to 21 in Part I of this decision.

between Contracting Parties must be limited and outweighed by the positive effects in terms of contribution to the objective of common interest.

- (76) In relation to the direct beneficiaries, i.e. undertakings receiving aid to operate the hydrogen refuelling stations, the Authority notes that the provision of roadside hydrogen fuel is in a pre-commercial phase and the displacement of commercial offers is therefore unlikely.
- (77) Furthermore, the Authority notes that there are hydrogen refuelling stations in other EEA states, including in Sweden. However, due to the driving distances involved, it is highly unlikely that consumers will drive across the border to fill their vehicles with hydrogen. In this respect, the notified measure will – if at all – only have a very limited effect on trade.
- (78) The Authority considers that the notified measure may improve the market position of the direct beneficiaries, including by providing them with a first-mover advantage on the market for hydrogen refuelling stations in Norway. However, the beneficiaries under the scheme will be selected on the basis of a transparent process incorporating objective assessment criteria. The scheme is thus open to all interested parties (including operators from other EEA States) and is not tailored to any particular undertaking. Furthermore, the budget of the scheme is rather low and the duration of the scheme is limited to maximum of five years. Each hydrogen station can only receive aid for a period of three years. On this basis, the Authority considers that the effects on competition and trade in relation to the direct beneficiaries are limited.
- (79) Regarding the potential indirect beneficiaries of the aid scheme, the Authority notes that operators of the refuelling stations have to guarantee public access to all users in order to be eligible for aid. Furthermore, all projects are obliged to use the most common technological standards in order to allow the highest number of users to be able to benefit from the infrastructure. There is therefore no discrimination between the users or other indirect beneficiaries<sup>37</sup> of the hydrogen refuelling infrastructure. The Authority considers that any benefits obtained by these indirect beneficiaries is necessary for achieving the objective pursued by the scheme.<sup>38</sup>
- (80) The Authority further notes that hydrogen vehicles are in many ways comparable to fossil fuel vehicles in terms of functionality. The proposed measure will not counteract existing measures promoting a shift to ZEVs, but ensure that these measures become equally effective with respect to hydrogen vehicles as they presently are with respect to electric vehicles. According to the Norwegian authorities, hydrogen technology is largely an alternative for customers who would otherwise rely on fossil fuels, rather than a competitor to electric vehicles. Hydrogen engines provide sufficient torque for heavy vehicles such as SUVs without the need for a very heavy and expensive battery package. The driving range is stable irrespective of weather conditions and refuelling only takes a couple of minutes. Hydrogen vehicles are therefore a viable alternative for professional drivers that use vehicles extensively throughout the day, and which might not be able to use electric vehicles.<sup>39</sup>

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<sup>37</sup> Such as the manufacturers, importers and dealers of vehicles and equipment for hydrogen fuel.

<sup>38</sup> See e.g. EEAG para. 85: “Aid for environmental purposes will by its nature, tend to favour environmentally friendly products and technologies at the expense of other, more polluting ones and that effect of the aid will, in principle, not be viewed as an undue distortion of competition, since it is inherently linked to the very objective of the aid, that is to say making the economy greener.”

<sup>39</sup> See the *SINTEF Report I* (Document No 861520), section 4.4.

- (81) The benefits accruing to the direct beneficiaries and indirect beneficiaries are necessary to achieve the environmental objectives of the scheme. On the basis of the above, the Authority concludes that the aid scheme does not entail undue distortions of competition and trade, and considers that the overall balancing exercise has a positive outcome.

### **3.7 Transparency**

- (82) The Norwegian authorities have committed to publish information about the aid granted in accordance with the general transparency requirements.

## **4 Conclusion**

- (83) The Authority considers that the scheme for operating aid to hydrogen refuelling stations constitutes state aid with the meaning of Article 61(1) of the EEA Agreement. This aid is compatible with the functioning of the EEA Agreement.

Has adopted this decision:

### *Article 1*

Not to raise objections to the scheme for operating aid to hydrogen refuelling stations in the County of Akershus, on the grounds that it is compatible with the functioning of the EEA Agreement, pursuant to its Article 61(3)(c).

### *Article 2*

The implementation of the measure is authorised accordingly.

### *Article 3*

This Decision is addressed to the Kingdom of Norway.

### *Article 4*

Only the English language version of this decision is authentic.

Done in Marstrand, Sweden, on 25 July 2017

*For the EFTA Surveillance Authority*

Sven Erik Svedman  
President

For Carsten Zatschler  
Director

*This document has been electronically signed by Sven Erik Svedman, Catherine Howdle.*