POSITION PAPER

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Swedenergy, Swedish Windenergy and Swedish Gas Association's common position on hydrogen in the EU RED directive

Swedenergy, Swedish Windenergy and Swedish Gas Association are non-profit industry and special interest organisations for companies that supply, distribute, sell, and store energy.

Supporters of increased climate and renewables ambitions

We are a strong advocates for an increased use of renewable energy to achieve the increased ambition for 2030 of at least 55 percent CO2 reduction, as well as climate neutrality by 2050. For the power sector, our view is that the EU ETS is the most important tool to foster carbon dioxide neutrality and higher shares of renewable energy. While we welcome the increased overall ambition of the revised RED, we are **concerned about some aspects, including the treatment of renewable hydrogen** in the EU RED Directive.

Additionality

Swedish steel and chemical industries are already well underway to electrify and become carbon neutral using hydrogen produced from a fossil-free electricity mix. Despite good intentions from the legislator, the provisions on additionality in REDIII pose a concrete **threat to the growth of hydrogen production** in Sweden based on renewable electricity. The bigger the project, the harder it is to live up to additionality principles. Finding the 55 TWh additional renewable electricity with direct connection needed for the Hybrit fossil-free steel facility is in practice impossible, regardless of location in Europe.

There are also **difficulties with promoting sector integration** for example projects producing both hydrogen and electricity with connection to district heating using waste heat from electrolysis. The concept of additionality be especially challenging for countries with a high share of renewable electricity, which is why a threshold should be introduced that stipulates that for countries with a higher share of renewable electricity than 50 %, the additionality principle should not be applied. The only relevant criterion for renewable hydrogen is that it is produced from renewable sources. Other criteria regarding temporal and geographic location within a country is not relevant for increasing the share of renewable energy use.

Hydrogen from renewable sources, as for example electricity, biogas or biomass, is today not competitive with traditional hydrogen from fossil fuels, and consequently it is **important not to put too heavy administrative burdens** on the production of renewable hydrogen.

Swedenergy - Energiföretagen Sverige
101 53 Stockholm, Adress: Olof Palmes Gata 31
Phone: 08-677 25 00, E-mail: info@energiforetagen.se, www.energiforetagen.se
Org. nr: 802000-7590, Location: Stockholm

Target for industry

To avoid excessive administrative costs and suboptimization, we question the sub target for renewable energy in the industry sector. To support industry's energy transition, the directive should rather underpin positive developments, such as the use of fossil-free hydrogen. One potential spill-over threat stems from the delegated act corresponding to art 27 in REDII, whose requirements of additionality risk undermining current large-scale hydrogen-based electrification of industrial processes in Sweden.

If there is to be a target, it should be a general indicative target for renewables in industry. There is also no use of directing the target versus RFNBOS, in some cases it is more cost effective to use renewable electricity directly or other sources of renewable energy.

Definition of hydrogen

To avoid misinterpretations, a definition of renewable hydrogen needs to be included in REDIII. The definition should include hydrogen from all renewable non-fossil sources, as defined in REDII, such as wind, solar and geothermal energy, ambient energy, tide, wave and other ocean energy, hydropower, biomass, landfill gas, sewage treatment plant gas and biogas. This is also fully in line with the EU hydrogen strategy where renewable hydrogen is defined as "hydrogen produced through the electrolysis of water (in an electrolyser, powered by electricity), and with the electricity stemming from renewable sources. The full life-cycle greenhouse gas emissions of the production of renewable hydrogen are close to zero. Renewable hydrogen may also be produced through the reforming of biogas (instead of natural gas) or biochemical conversion of biomass, if in compliance with sustainability requirements."

Please note that it is important that also fuels derived from renewable hydrogen (according to our proposed definition) also shall be regarded renewable.

Amendments

Article 22a

Mainstreaming renewable energy in industry

Amendment 1

Proposal from the Commission	Proposal
Member States shall endeavour to increase the share of renewable sources in the amount of energy sources used for final energy and non-energy purposes in the industry sector by an indicative average minimum annual increase of 1.1 percentage points by 2030. Member States shall include the measures planned and taken to achieve such indicative increase in their integrated national energy and climate plans and progress reports submitted pursuant to Articles 3, 14 and 17 of Regulation (EU) 2018/1999. Member States shall ensure that the contribution of renewable fuels of non-biological origin used for final energy and non-energy purposes shall be 50 % of the hydrogen used for final energy and non-energy purposes in industry by 2030. For the calculation of that percentage, the following rules shall apply: (a) For the calculation of the denominator, the energy content of hydrogen for final energy and non-energy purposes shall be taken into account, excluding hydrogen used as intermediate products for the production of conventional transport fuels. (b) For the calculation of the numerator, the energy content of the renewable fuels of non-biological origin consumed in the industry sector for final energy and nonenergy purposes shall be taken into account, excluding renewable fuels of nonbiological origin used as intermediate products for the production of conventional transport fuels.	Alt 1. Delete the article Alt 2. Member States shall endeavour to increase the share of renewable sources in the amount of energy sources used for final energy and non-energy purposes in the industry sector by an indicative average minimum annual increase of 1.1 percentage points by 2030. Member States shall include the measures planned and taken to achieve such indicative increase in their integrated national energy and climate plans and progress reports submitted pursuant to Articles 3, 14 and 17 of Regulation (EU) 2018/1999. ~~Member States shall ensure that the contribution of renewable fuels of non-biological origin used for final energy and non-energy purposes shall be 50 % of the hydrogen used for final energy and non-energy purposes in industry by 2030. For the calculation of that percentage, the following rules shall apply: (a) For the calculation of the denominator, the energy content of hydrogen for final energy and non-energy purposes shall be taken into account, excluding hydrogen used as intermediate products for the production of conventional transport fuels. (b) For the calculation of the numerator, the energy content of the renewable fuels of~~

EN 37 EN (c) For the calculation of the numerator and the denominator, the values regarding the energy content of fuels set out in Annex III shall be used. 2. Member States shall ensure that industrial products that are labelled or claimed to be produced with renewable energy and renewable fuels of non-biological origin shall indicate the percentage of renewable energy used or renewable fuels of nonbiological origin used in the raw material acquisition and pre-processing, manufacturing and distribution stage, calculated on the basis of the methodologies laid down in Recommendation 2013/179/EU27 or, alternatively, ISO 14067:2018.’;	~~non-biological origin consumed in the industry sector for final energy and nonenergy purposes shall be taken into account, excluding renewable fuels of nonbiological origin used as intermediate products for the production of conventional transport fuels. EN 37 EN (c) For the calculation of the numerator and the denominator, the values regarding the energy content of fuels set out in Annex III shall be used.~~ 2. Member States shall ensure that industrial products that are labelled or claimed to be produced with renewable energy ~~and renewable fuels of non-biological origin~~ shall indicate the percentage of renewable energy used ~~or renewable fuels of nonbiological origin used~~ in the raw material acquisition and pre-processing, manufacturing and distribution stage, calculated on the basis of the methodologies laid down in Recommendation 2013/179/EU27 or, alternatively, ISO 14067:2018.’;

Justification

Alt 1. It is not necessary to introduce a sectoral target for industry. The existing targets in RED is sufficient and there is also a push for non-fossil energy in the industry through the EU Emission trading scheme that is contributing to transform the industry towards using more renewable sources of energy.

Alt 2. If there is to be a target, it should be a general target for renewables in industry. There is also no use of targeting RFNBOS, in some cases it is more cost effective to use renewable electricity directly.

Article 24

Amendment 2	
Proposal from the Commission	**Proposal**
Member States shall endeavour to increase the share of energy from renewable sources and from waste heat and cold in district heating and cooling by at least 2.1 percentage points as an annual average calculated for the period 2021 to 2025 and for the period 2026 to 2030, starting from the share of energy from renewable sources and from waste heat and cold in district heating and cooling in 2020, and shall lay down the measures necessary to that end. The share of renewable energy shall be expressed in terms of share of gross final energy consumption in district heating and cooling adjusted to normal average climatic conditions.	Member States shall endeavour to increase the share of energy from renewable sources**, including heat generated from electricity from renewable energy sources**, and from waste heat and cold in district heating and cooling by at least 21 percentage points [ ] by 2030, compared to the share of energy from renewable sources, **including heat generated from electricity from renewable energy sources**, and from waste heat and cold in district heating and cooling in 2020, and shall lay down the measures necessary to that end. The share of renewable energy shall be expressed in terms of share of gross final energy consumption in district heating and cooling adjusted to normal average climatic conditions.
Justification *A clarification is needed that also heat generated from renewable energy sources, such as heat from electrolysers, also is included. This is important to emphasize the system integration approach.*	

Article 27

Calculation rules with regard to the minimum shares of renewable energy in the transport sector

Amendment 3 (if DA is applied in a non favourable manner)

Proposal from the Commission	Proposal
'Calculation rules in the transport sector and with regard to renewable fuels of non-biological origin regardless of their end use';	'Calculation rules in the transport sector and with regard to renewable fuels of non-biological origin ~~regardless of their end use'~~;
Justification *There is no need to extend the detailed regulation from the delegated act outside the transport sector. In industry there are much bigger volumes and fewer actors so there is no problem of controlling the production of hydrogen.*	

Article 27

Calculation rules with regard to the minimum shares of renewable energy in the transport sector

Amendment 4	
Proposal from the Commission	**Proposal**
Text in RED II : For the purposes of this paragraph, where electricity is used for the production of renewable liquid and gaseous transport fuels of non-biological origin, either directly or for the production of intermediate products, the average share of electricity from renewable sources in the country of production, as measured two years before the year in question, shall be used to determine the share of renewable energy.	For the purposes of this paragraph, where electricity is used for the production of renewable liquid and gaseous transport fuels of non-biological origin, either directly or for the production of intermediate products, the average share of electricity from renewable sources in the country of production, as measured two years before the year in question, shall be used to determine the share of renewable energy. Alt 1.If the production of RFNBOS is connected to the grid in a country that has a higher share than 50% renewable electricity in their national grid alt national energy mix and evidence can be provided that

---------- Electricity that has been taken from the grid may be counted as fully renewable provided that it is produced exclusively from renewable sources and the renewable properties and other appropriate criteria have been demonstrated, ensuring that the renewable properties of that electricity are claimed only once and only in one end-use sector.	the electricity concerned has been supplied via renewable sources to a share of x % this will be used to determine the share of renewable energy. Alt 2. Whereas, if the share of renewable electricity in the [national grid] alt [national energy mix] in the country of production is higher than 50%, higher shares than the average share of electricity from renewable sources as measures two years before the year in question, can be used to determine the share of renewable energy, if evidence can be provided that the electricity concerned has been supplied via renewable sources. ---------- Electricity that has been taken from the grid may be counted as fully renewable provided that it is produced exclusively from renewable sources and the renewable properties ~~and other appropriate criteria~~ have been demonstrated, ensuring that the renewable properties of that electricity are claimed only once and only in one end-use sector.
Justification *The rules on additionality is a concrete threat to the growth of hydrogen production based on renewable electricity. The bigger project the harder it is to live up to additionality principles because of logistic problems – it is for example unrealistic to build around 55 TWh new additional renewable electricity with direct connection to fossil frees steel facilities in northern part of Sweden. There are also difficulties with promoting sector integration for example projects producing both hydrogen and electricity with connection to district heating using waste heat from electrolysis. Especially this concept will be troublesome for countries with a high share of renewable electricity therefore a threshold should be introduced that specifies that countries with a higher share of renewable electricity than 50 % the additionality principle should not be applied. The only relevant criteria for renewable hydrogen is that it is produced from renewable sources. Other criteria regarding temporal and geographic location within a country is not relevant for increasing the renewable share of energy use.*	

Article 27

Calculation rules with regard to the minimum shares of renewable energy in the transport sector

Amendment 5	
Proposal from the Commission	**Proposal**
Text in RED II: By 31 December 2021, the Commission shall adopt a delegated act in accordance with Article 35 to supplement this Directive by establishing a Union methodology setting out detailed rules by which economic operators are to comply with the requirements laid down in the fifth and sixth subparagraphs of this paragraph.	By ~~31 December 2021~~ x month 202x, the ~~Commission~~ Council shall adopt a ~~delegated~~ implementing act in accordance with Article 35 to supplement this Directive by establishing a Union methodology setting out detailed rules by which economic operators are to comply with the requirements laid down in the fifth and sixth subparagraphs of this paragraph.
Justification *The calculation rules for renewable hydrogen, as well as the proposed sub-targets in the transport and industry sectors, change the meaning of the directive , and cannot be considered to be just technical changes. Instead, they considerably affect the Member States' possibilities to achieve the targets, while also impacting the market. Accordingly, the must these rules and criteria should be set by the Council in codecision/be subject to larget Member State influence in an implementing committee procedure.*	

Preamble 90 (RED EU 2018/2001)

Amendment 6	
Proposal from the Commission	**Proposal**
Renewable liquid and gaseous transport fuels of non-biological origin are important to increase the share of renewable energy in sectors that are expected to rely on liquid fuels in the long term. To ensure that renewable fuels of non-biological origin contribute to greenhouse gas reduction, the electricity used for the fuel production should be of renewable origin. The Commission should	Alt 1. Delete the Preamble Alt 2. Renewable liquid and gaseous transport fuels of non-biological origin are important to increase the share of renewable energy in sectors that are expected to rely on liquid fuels in the long term. To ensure that renewable fuels of non-biological origin contribute to greenhouse gas reduction, the electricity used for the fuel production should be of renewable origin. ~~The Commission should~~

develop, by means of delegated acts, a reliable Union methodology to be applied where such electricity is taken from the grid. That methodology should ensure that there is a temporal and geographical correlation between the electricity production unit with which the producer has a bilateral renewables power purchase agreement and the fuel production. For example, renewable fuels of non-biological origin cannot be counted as fully renewable if they are produced when the contracted renewable generation unit is not generating electricity. Another example is the case of electricity grid congestion, where fuels can be counted as fully renewable only when both the electricity generation and the fuel production plants 21.12.2018 EN Official Journal of the European Union L 328/95 are located on the same side in respect of the congestion. Furthermore, there should be an element of additionality, meaning that the fuel producer is adding to the renewable deployment or to the financing of renewable energy.	~~develop, by means of delegated acts, a~~ A reliable ~~Union~~ methodology is to be applied where such electricity is taken from the grid. That methodology should ensure that ~~there is a temporal and geographical correlation between~~ the electricity production unit used to produce hydrogen is of renewable origin in a way that prevent doublecounting, using for example guarantees of origin. ~~with which the producer has a bilateral renewables power purchase agreement and the fuel production. For example, renewable fuels of non-biological origin cannot be counted as fully renewable if they are produced when the contracted renewable generation unit is not generating electricity. Another example is the case of electricity grid congestion, where fuels can be counted as fully renewable only when both the electricity generation and the fuel production plants 21.12.2018 EN Official Journal of the European Union L 328/95 are located on the same side in respect of the congestion. Furthermore, there should be an element of additionality, meaning that the fuel producer is adding to the renewable deployment or to the financing of renewable energy.~~
Justification *Hydrogen from renewable sources for example electricity is not competitive with traditional hydrogen from fossil* ***fossil fuels, and consequently it is important not to put too heavy administrative burdens*** *on the production of renewable hydrogen.*	

Article 2
Definitions

Amendment 6	
Proposal from the Commission	**Proposal**
None	*New definition* ‘renewable hydrogen’ means liquid or gaseous hydrogen where the energy content is derived from renewable sources, including biomass if in

	compliance with sustainability criteria set out in Article 29 of Directive (EU) 2018/2001 of the European Parliament and of the Council.

Justification

*The **definition should include hydrogen from all renewable non-fossil sources**, as defined in REDII, such as wind, solar and geothermal energy, ambient energy, tide, wave and other ocean energy, hydropower, biomass, landfill gas, sewage treatment plant gas and biogas. This is also fully in line with the EU hydrogen strategy where renewable hydrogen is defined as "hydrogen produced through the electrolysis of water (in an electrolyser, powered by electricity), and with the electricity stemming from renewable sources. The full life-cycle greenhouse gas emissions of the production of renewable hydrogen are close to zero. Renewable hydrogen may also be produced through the reforming of biogas (instead of natural gas) or biochemical conversion of biomass, if in compliance with sustainability requirements."*

Please note that it is important that also fuels derived from renewable hydrogen (according to our proposed definition) also shall be regarded renewable.

For more information

Lars Andersson
Senior Adviser Hydrogen
lars.andersson@swedenergy.se
+46 (0)70 111 27 02

Sara Emanuelsson
acting Head of Brussels Office
sara.emanuelsson@swedenergy.se
+46 (0)70 164 44 45

Anna Wallentin
Head of department market
Anna.wallentin@energigas.se
+46 (0) 70 260 77 26

Lina Kinning
Senior Adviser Offshore Wind/EU-policy
lina.kinning@svenskvindenergi.org
+46 (0)70 190 86 53