

## EVIA Position on the proposal for a revised Renewable Energy Directive

EVIA, the European Ventilation Industry Association, welcomes the revision proposals for the Renewable Energy and Energy Efficiency Directives as part of the Fit for 55 legislative package.

In light of the concerted effort required to reduce emissions by at least 55% by 2030 and to subsequently attain climate neutrality by 2050, EVIA considers that an integrated approach towards buildings, drawing on the synergies between these key pieces of legislation, is imperative. This is especially the case when it comes to recovery of heat and cold, which offers a large, untapped potential for energy savings and thus decarbonisation.

Both the Renewable Energy Directive (RED) and the Energy Efficiency Directive (EED) have a role to play in this. We therefore recommend that ventilation heat recovery is promoted in the proposal for the RED along the lines described in this paper.

### **Recognize ventilation heat and cold recovery as waste energy equivalent to renewable energy and contributing towards the RED targets**

The recovery of heat and cold from indoor air in buildings merits to be one of the main available paths to reduce the carbon footprint of the building sector. Statistically, less than 5%<sup>1</sup> of buildings in the EU are equipped with ventilation energy recovery systems. Thus, recognising and promoting the potential of this simple measure would tap into an enormous potential and contribute significantly to reaching the EU's climate goals, since approximately 40% of the heating demand in European buildings is caused by thermal losses (i.e. through window-airing) and ventilation<sup>2</sup>. **EVIA would like to highlight that waste heat and cold recovery, better called energy recovery, in ventilation systems should therefore be considered for reaching the proposed objective of a renewable energy share in buildings and the annual target for the renewable energy share in heating and cooling.**

EVIA welcomes the Commission's efforts to mainstream renewable energy in heating and cooling and in the building sector at large, as part of the revision of the RED. Making the 1.1% target (1.5% with the use of waste heat and cold) binding, to increase the renewable share in heating and cooling, is a necessary change to make the decarbonisation of the sector happen. However, the crucial contribution of recovered energy through ventilation, to significantly reduce buildings' heating and cooling needs, is not sufficiently recognized in the text of the proposal and should be explicitly included to attain the renewable heating and cooling target.

The ventilation industry is also particularly delighted to see the proposed objective of 49% of renewable energy use in buildings by 2030. However, with the urgency of kickstarting the decarbonisation of the building stock now, this target should not be indicative but compulsory. Considering that around 40% of the EU's final energy consumption occurs in the building sector, we would also encourage to raise this target further and supplement it with intermediary milestones and targets aiming for a building sector that is fully powered by renewable energy and recovered waste energy by 2050. Being considered for attaining the heating and cooling target, energy recovery from ventilation systems should similarly also be eligible to be counted towards the achievement of the renewable energy use in buildings objective.

---

<sup>1</sup> [Review study on the Ecodesign and Energy Regulations on ventilation units ENTR Lot 6 \(2020\)](#): Phase 1.1 and phase 1.2, Final Report, Task 2 Markets, fig. 2 Residential and fig. 3 Non-residential

<sup>2</sup> [Average EU heat balance for space heating \(VHK 2014\)](#)

Promoting energy recovery from ventilation would bring a substantial energy benefit. Indeed, ventilation energy recovery is renewing itself through the operation of ventilation and only needs a limited initial energy input from another TBS of the building. It makes the best use of energy sources (heating or cooling) already available in the building, the majority of it being recovered in the heat/cold recovery device. In a similar way to a heat pump, ventilation energy recovery uses electricity through its fans and takes advantage of the exhaust air energy to pre-heat or pre-cool the supply air flow. The energy source is present in the indoor air and recovered through the operation of the ventilation system. While ventilation energy recovery will not suffice to cover the whole heating or cooling demand of a building, it can nevertheless contribute a significant part, up to 50% in a modern building<sup>3</sup>.

In highly efficient Nearly Zero Energy Buildings (NZEB), the power demand for ventilation is one of the most important parts of the energy consumption. The most effective device to renew the use of the available heat or cold is heat recovery in ventilation units (using heat recovery systems or heat pumps). **From a regulatory and technical point of view, it would be inefficient to blow this energy to the ambient and then to incentivize and promote the generation of the same amount of energy from ambient air through heat pumps to count it as renewable energy, whereas this energy was available indoors in the first place. Incidentally, the same reasoning applies to heat and cold recovered through ventilation systems.**

For this reason, continuing with the current approach is not in line with the Energy Efficiency First principle, which has rightfully been anchored and strengthened in the revised EED proposal. **As the Commission has specified in the accompanying Recommendation and Guidelines on Energy Efficiency First<sup>4</sup>, energy efficiency should be considered as the “first fuel”, as a source of energy in its own right, in which investments should be prioritized ahead of other more complex or costly energy sources (“save before you build”). Ventilation energy recovery is fully in line with this principle but needs to be properly recognized to fulfill this potential.**

In addition, efficient ventilation systems and solutions bring other benefits that are critical, such as ensuring adequate Indoor Air Quality (IAQ) in air-tight buildings (e.g. by removing indoor pollutants and barring the entry of outdoor air particulates to the building). Ensuring the implementation of well-functioning ventilation systems both in new and renovated buildings, therefore helps to guarantee an adequate IAQ, and is also a critical step to optimise the energy consumption of buildings as it limits thermal losses to a minimum and, as explained above, usefully recovers available energy which would otherwise be wasted.

**EVIA therefore calls upon decision makers to put in place an adequate regulatory framework for heat and cold recovery from air, recognizing it as a waste energy technology in the revised Renewable Energy Directive (RED) and accounting for the renewable part of the energy recovered by Heat Recovery Ventilation units (HRV).**

\*\*\*

### About EVIA

The European Ventilation Industry Association (EVIA)'s mission is to represent the views and interests of the ventilation industry and serve as a platform between all the relevant European stakeholders involved in the ventilation sector, such as decision-makers at the EU level as well as our partners in EU Member States. Our membership is composed of more than 40 member companies and 6 national associations across Europe, realising an annual turnover of over 7 billion euros and employing more than 45,000 people in Europe.

EVIA aims to promote highly energy efficient ventilation applications across Europe, with high consideration for health and comfort aspects. Fresh and good indoor air quality is a critical element of comfort and contributes to keeping people healthy in buildings.

---

<sup>3</sup> [Hamburgisches Weltwirtschaftsinstitut & Shell Deutschland: Shell Hauswärmestudie 2011.](#)

<sup>4</sup> [European Commission Recommendation on Energy Efficiency First: from principles to practice](#)

**ANNEX: Amendments to the Proposal for a DIRECTIVE OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL amending Directive (EU) 2018/2001 of the European Parliament and of the Council, Regulation (EU) 2018/1999 of the European Parliament and of the Council and Directive 98/70/EC of the European Parliament and of the Council as regards the promotion of energy from renewable sources, and repealing Council Directive (EU) 2015/652**

---

**Proposal for a directive  
Article 15a – paragraph 1**

*Text proposed by the Commission*

1. In order to promote the production and use of renewable energy in the building sector, Member States shall set an indicative target for the share of renewables in final energy consumption in their buildings sector in 2030 that is consistent with an indicative target of at least a 49 % share of energy from renewable sources in the buildings sector in the Union’s final consumption of energy in 2030. The national target shall be expressed in terms of share of national final energy consumption and calculated in accordance with the methodology set out in Article 7. Member States shall include their target in the updated integrated national energy and climate plans submitted pursuant to Article 14 of Regulation (EU) 2018/1999 as well as information on how they plan to achieve it.

*Amendment*

1. In order to promote the production and use of renewable energy in the building sector, Member States shall set a **binding** target for the share of renewables in final energy consumption in their buildings sector in 2030 that is consistent with an indicative target of at least a 49 % share of energy from renewable sources in the buildings sector in the Union’s final consumption of energy in 2030. The national target shall be expressed in terms of share of national final energy consumption and calculated in accordance with the methodology set out in Article 7. Member States shall include their target in the updated integrated national energy and climate plans submitted pursuant to Article 14 of Regulation (EU) 2018/1999 as well as information on how they plan to achieve it.

---

**Proposal for a directive  
Article 15a – paragraph 2**

*Text proposed by the Commission*

2. Member States shall introduce measures in their building regulations and codes and, where applicable, in their support schemes, to increase the share of electricity and heating and cooling from renewable sources in the building stock, including national measures relating to substantial increases in renewables self-consumption, renewable energy communities and local energy storage, in combination with energy efficiency

*Amendment*

2. Member States shall introduce measures in their building regulations and codes and, where applicable, in their support schemes, to increase the share of electricity and heating and cooling from renewable, **and waste heat and cold recovery** sources in the building stock, including national measures relating to substantial increases in renewables self-consumption, renewable energy communities and local energy storage, in combination with

improvements relating to cogeneration and passive, nearly zero-energy and zero energy buildings.

To achieve the indicative share of renewables set out in paragraph 1, Member States shall, in their building regulations and codes and, where applicable, in their support schemes or by other means with equivalent effect, require the use of minimum levels of energy from renewable sources in buildings, in line with the provisions of Directive 2010/31/EU. Member States shall allow those minimum levels to be fulfilled, among others, through efficient district heating and cooling.

energy efficiency improvements relating to cogeneration and passive, nearly zero-energy and **zero emission buildings**.

To achieve the indicative share of renewables set out in paragraph 1, Member States shall, in their building regulations and codes and, where applicable, in their support schemes or by other means with equivalent effect, require the use of minimum levels of energy from renewable sources in buildings, in line with the provisions of Directive 2010/31/EU. Member States shall allow those minimum levels to be fulfilled, among others, through efficient district heating and cooling **or other waste heat and cold recovery solutions**.

**Proposal for a directive**  
**Article 15a – paragraph 4**

*Text proposed by the Commission*

4. In order to achieve the indicative share of renewable energy set out in paragraph 1, Member States shall promote the use of renewable heating and cooling systems and equipment. To that end, Member States shall use all appropriate measures, tools and incentives, including, among others, energy labels developed under Regulation (EU) 2017/1369 of the European Parliament and of the Council, energy performance certificates pursuant to Directive 2010/31/EU, or other appropriate certificates or standards developed at national or Union level, and shall ensure the provision of adequate information and advice on renewable, highly energy efficient alternatives as well as on financial instruments and incentives available to promote an increased replacement rate of old heating systems and an increased switch to solutions based on renewable energy.’;

*Amendment*

4. In order to achieve the indicative share of renewable energy set out in paragraph 1, Member States shall promote the use of renewable heating and cooling **and waste heat and cold recovery** systems and equipment. To that end, Member States shall use all appropriate measures, tools and incentives, including, among others, energy labels developed under Regulation (EU) 2017/1369 of the European Parliament and of the Council, energy performance certificates pursuant to Directive 2010/31/EU, **relevant technical screening criteria pursuant to Commission Delegated Regulation (EU) 2021/2139**, or other appropriate certificates or standards developed at national or Union level, and shall ensure the provision of adequate information and advice on renewable, highly energy efficient alternatives as well as on financial instruments and incentives available to promote an increased replacement rate of old heating **and cooling** systems and an increased switch to solutions based on renewable energy.’

### *Justification*

Considering that around 40% of the EU's final energy consumption occurs in the building sector, EVIA would encourage to make the target for the share of renewables in final energy consumption in the buildings sector binding, aiming for a building sector that is fully powered by renewable energy and recovered waste energy by 2050.

In addition, energy recovery from ventilation systems should also be eligible to be counted towards the achievement of the renewable energy use in buildings objective. Promoting energy recovery from ventilation would bring a substantial energy benefit. Indeed, ventilation energy recovery is renewing itself through the operation of ventilation and only needs a limited initial energy input from another TBS of the building. It makes the best use of energy sources (heating or cooling) already available in the building, the majority of it being recovered in the heat/cold recovery device. In a similar way to a heat pump, ventilation energy recovery uses electricity through its fans and takes advantage of the exhaust air energy to pre-heat or pre-cool the supply air flow. The energy source is present in the indoor air and recovered through the operation of the ventilation system. While ventilation energy recovery will not suffice to cover the whole heating or cooling demand of a building, it can nevertheless contribute a significant part, up to 50% in a modern building<sup>5</sup>.

In highly efficient Nearly Zero Energy Buildings (NZEB), the power demand for ventilation is one of the most important parts of the energy consumption. The most effective device to renew the use of the available heat or cold is heat recovery in ventilation units (using heat recovery systems or heat pumps). From a regulatory and technical point of view, it would be inefficient to blow this energy to the ambient and then to incentivize and promote the generation of the same amount of energy from ambient air through heat pumps to count it as renewable energy, whereas this energy was available indoors in the first place. Incidentally, the same reasoning applies to heat and cold recovered through ventilation systems.

---

#### **Proposal for a directive**

#### **Article 23 – paragraph 1**

##### *Text proposed by the Commission*

1. In order to promote the use of renewable energy in the heating and cooling sector, each Member State shall, increase the share of renewable energy in that sector by at least 1.1 percentage points as an annual average calculated for the periods 2021 to 2025 and 2026 to 2030, starting from the share of renewable energy in the heating and cooling sector in 2020, expressed in terms of national share of gross final energy consumption and

##### *Amendment*

1. In order to promote the use of renewable energy in the heating and cooling sector, each Member State shall, increase the share of renewable energy in that sector by at least **1.3** percentage points as an annual average calculated for the periods 2021 to 2025 and 2026 to 2030, starting from the share of renewable energy in the heating and cooling sector in 2020, expressed in terms of national share of gross final energy consumption and

---

<sup>5</sup> [Hamburgisches Weltwirtschaftsinstitut & Shell Deutschland: Shell Hauswärmestudie 2011.](#)

calculated in accordance with the methodology set out in Article 7.

calculated in accordance with the methodology set out in Article 7.

### *Justification*

Considering that around 40% of the EU’s final energy consumption occurs in the building sector, EVIA would encourage to increase the target for the share of renewable energy in the heating and cooling sector to at least the indicative 1.3% target that was provided in REDII.

#### **Proposal for a directive Article 23 – paragraph 1a**

##### *Text proposed by the Commission*

1a. Member States shall carry out an assessment of their potential of energy from renewable sources and of the use of waste heat and cold in the heating and cooling sector including, where appropriate, an analysis of areas suitable for their deployment at low ecological risk and of the potential for small-scale household projects. The assessment shall set out milestones and measures to increase renewables in heating and cooling and, where appropriate, the use of waste heat and cold through district heating and cooling with a view of establishing a long-term national strategy to decarbonise heating and cooling. The assessment shall be part of the integrated national energy and climate plans referred to in Articles 3 and 14 of Regulation (EU) 2018/1999, and shall accompany the comprehensive heating and cooling assessment required by Article 14(1) of Directive 2012/27/EU.’;

##### *Amendment*

1a. Member States shall carry out an assessment of their potential of energy from renewable sources and of the use of waste heat and cold **from all sources** in the heating and cooling sector including, where appropriate, an analysis of areas suitable for their deployment at low ecological risk and of the potential for small-scale household projects. The assessment shall set out milestones and measures to increase renewables in heating and cooling and, where appropriate, the use of waste heat and cold through district heating and cooling, **and in smaller-scale residential and non-residential on-site projects**, with a view of establishing a long-term national strategy to decarbonise heating and cooling. The assessment shall be part of the integrated national energy and climate plans referred to in Articles 3 and 14 of Regulation (EU) 2018/1999, and shall accompany the comprehensive heating and cooling assessment required by Article 14(1) of Directive 2012/27/EU.’;

#### **Proposal for a directive Article 23 – paragraph 4b**

##### *Text proposed by the Commission*

4b. direct mitigation measures such as the installation of highly efficient renewable heating and cooling systems in buildings, or

##### *Amendment*

4b. direct mitigation measures such as the installation of highly efficient renewable heating and cooling systems in buildings, or

the use of renewable energy or waste heat and cold in industrial heating and cooling processes;

the use of renewable energy or waste heat and cold ***on-site in buildings and in*** industrial heating and cooling processes;

**Proposal for a directive**  
**Article 2 – paragraph 9**

*Text proposed by the Commission*

‘waste heat and cold’ means heat or cold generated as by-product in industrial or power generation installations, or in tertiary sectors, which would be dissipated unused in air or water without access to a district heating or cooling system, where a cogeneration process has been used or will be used or where cogeneration is not feasible;

*Amendment*

‘waste heat and cold’ means ~~unavoidable~~ heat or cold generated, as ***unavoidable*** by-product in industrial or power generation installations, or in ***the building and*** tertiary sectors, which would be dissipated unused in air or water without access to a district heating or cooling system, where a cogeneration process has been used or will be used or where cogeneration is not feasible;

***Justification***

As the Commission has specified in the accompanying Recommendation and Guidelines on Energy Efficiency First<sup>6</sup>, energy efficiency should be considered as the “first fuel”, as a source of energy in its own right, in which investments should be prioritized ahead of other more complex or costly energy sources (“save before you build”).

The recovery of waste heat and cold through ventilation energy recovery or heat pumps is fully in line with this principle. Promoting energy recovery from ventilation would bring a substantial energy benefit. Indeed, ventilation energy recovery is renewing itself through the operation of ventilation and only needs a limited initial energy input from another TBS of the building. It makes the best use of energy sources (heating or cooling) already available in the building, the majority of it being recovered in the heat/cold recovery device. In a similar way to a heat pump, ventilation energy recovery uses electricity through its fans and takes advantage of the exhaust air energy to pre-heat or pre-cool the supply air flow. The energy source is present in the indoor air and recovered through the operation of the ventilation system. While ventilation energy recovery will not suffice to cover the whole heating or cooling demand of a building, it can nevertheless contribute a significant part, up to 50% in a modern building.

RED Article 23 should therefore also promote the installation of on-site energy recovery solutions, also where no district heating and cooling systems are present and the definition of waste heat in Article 2 should be amended accordingly.

<sup>6</sup> [European Commission Recommendation on Energy Efficiency First: from principles to practice](#)