The benefits of the PEP approach for the communication of environmental performance of HVAC equipment

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AGENDA



- France started producing EPDs for HVAC products in 2010
- Regulatory context : ErP/ESPR, EPBD
- Today's situation in Europe
- What are the stakes for products in HVAC sector
- What has been done by PEPecopassport
- How to achieve EU harmonisation



How France deals with EPDs (for more than 10 years)



PRODUCTS

Environnemental product data

HVAC products

(among others like EEE)

Via PEPecopasseport Since 2010

Rely on EN 50 693 standard

Construction products

(concrete blocks, beams, insulation...)

Via Inies Since 200

Rely on EN 15 804 standard

NEW BUILDINGS

RE2020 regulation

Mandatory since 2022

Building footprints:

Life cycle global warming potential (GWP)

From 2028 / 2030*

According to EN 15 978 standard





Disponible EPDs in France for Hvac Products



PRODUCTS

By « extrapolation » thanks to EN 50 693 Better suitable for Hvac products

569 EPDs (PEP) for HVAC

4 552 environmental déclarations at reference level

Work, time and money...

A lot of work has been done so far. A huge amount of money has also been invested by industrialists and Uniclima. On it's own, Uniclima has investided around **750** $k \in *$ just to create the conditions of PEPs development...





HVAC manufacturers already working with PEPecopasseport...



Acso

Aermec

Air Technologies

Aldes

Arbonia Kermi France

Ariston Group

Arkteos

Axenco

BDR Thermea Group

Brasseurs d'air

Carrier

Ciat

Clivet

Cordivari SRL

Daikin Applied Europe SPA

Daikin Europe NV

Danfos A/S

Delta Dore

Eurevia

France Air

GA SAS

GD Midea Heating & Ventilating equipement Co

Groupe Atlantic Synergy

Hestiia

HM Heizkorper GMBH heating Purmo Group LTD

Techno

Ibana

Intuis

Johnson Controls Hitachi

LFB (ex-Lennox)

LG Electronics

Lorefar SL

Mitsubishi Electric BV France

Muller intuitiv

MVN

Nibe Energy Systems France

SAS

Ouest Isole & Ventil

Panasonic

S&P France

Sabiana

Saftair Ventilation

Schneider Electric Industries

SAS

Solaronics

TFD SNC

Trane Technologies

Uniclima

Vaillant group

Ventiairsec

Viessmann France

VIM

Zehnder Group France



What are the environmental european stakes on new buildings?



PRODUCTS

Coming european régulations : ErP → ESPR

HVAC products

Construction products

* 2028 for buildings $S > 1000 \text{ m}^2$; 2030 for $S < 1000 \text{ m}^2$

NEW BUILDINGS

Coming european regulation: Energy performance of buildings directive (EPBD)

Building footprints:

- Zero emission new buildings
- Life cycle global warming potential (GWP)

From 2028 / 2030*

According to EN 15 978 standard



When will EU require EPDs for HVAC products?



Environmental Footprint

PRODUCTS

For HVAC products

Ecodesign energy related products (ErP)

Exple: lot ENER 01 – under review

2028 2030

Ecodesign for sustainable products regulation (ESPR)

ESPR already in force for electronics, furniture, textile, tyres...

NEW BUILDINGS

2028

2030

Energy performance of building directive (EPBD)

Which countries in europe are already asking environnemental data



to evaluate building footprints?





On going application on volontary bases



Current situation: several rules for EPDs in Europe – heat pumps example



Fnd-of-life

Refrigerant







	Publisher	c-PCR/PCR	Scope	FU/DU	RSL	Use stage	scenario	scenario
	IBU	Part B: Requirement s on the EPD for heat generators	Room heaters and combination heating appliances with a rated output of max. 70 kW (EU Regulation No. 811/2013	"1 heat exchanger" Extra rules apply for use stage	EN 15804 BBSR table (SL)	None defined	Not applicable	None
B	PEP	PSR-0013- ed3.0-EN- 2023-06-06	Thermodynamic generator with electric compression	FU: "1 kW of cooling or heating or heating or heating and hot water" DU: "To produce heating or cooling or heating and hot water"	Predefined (default scenarios)17 / 22 years	EN 16147 EN 14825	Leaks: define in all stage Refill: define + treatment scenario	EUROSTAT: For sales packaging (A5) EN50693 Annex G
	EPD Italy	PCR EPDItaly019 – HVAC Home Appliances	Air-conditioning machines (CPC 43912) Refrigerating and freezing equipment and heat pumps, except household type equipment (CPC 43913)	FU: general instructions & examples given DU: 1 HVAC home appliance	Predefined (20 years)	EN 14825	Leaks: use	None Module D: EN15804 for construction products & CFF for rest of products



Current situation: published EPDs for HVAC sector in europe



Number of HVAC EPD by main type III EPD program operators for UE market and EN standards (01 2025)

	EN 50693		EN 15804	
	EPD	By ref.	EPD	By ref.
PEP ecopassport®	569	4552	0	0
IBU	0	0	6	0
EPD International	7	0	43	0
EPD Italy	0	0	1	4
BRE (GB)	0	0	1	6
EPD Norge	0	0	313	0
Total	576	4552	364	10

In green: countries where PEP are produced





What are the stakes for HVAC products?

Prepare the coming EU regulations

- Consider what has been done by PEPecopassport
- Harmonise rules to do EPDs
- Work on standards that will be necessary for ErP / ESPR and EPBD





What has been achieved within PEPecopasseport



PEPecopassport rules:

- Product Category Rules (PCR): towards harmonization with EN 15 804 methodology
 - Current PCR ed4 mostly aligned with EN 15 804
 - PCR ed5 is being launched to integrate updates following new IEC 63 366 which will replace EN 50 693
- Product Specific Rules (PSR) for HVAC products: based on EU standards
 - They have been developed by Uniclima
 - They are based on EU standards (especially for the use phase with ErP parameters)
 - They include extrapolation rules (necessary for ranges of products)





What has been achieved within PEPecopasseport



12 PSR:

- PSR 2: specific rules for direct, visible, fixed electric heating appliances
- **PSR 4:** specific rules for individual, standalone devices for production of stored domestic hot water only
- **PSR 5**: specific rules for electrical switchgear and control gear Solutions
- **PSR 8:** specific rules for ventilation, air treatment, filtration and mechanical smoke and exhaust equipment
- PSR 9: specific rules for comfort terminal units (CTU)
- PSR 10: specific rules for uninterrupted power Systems (UPS)
- **PSR 11:** specific rules for hot water radiators or towel radiators
- **PSR 12:** specific rules for gas, fuel oil, or biomass boilers for heating only or heating and domestic hot water production
- PSR 13: specific rules for thermodynamic generators with electric compression for space heating and/or cooling the production of domestic hot water
- PSR 15: specific rules for wood heating system appliance for individual dwellings
- **PSR 16**: specific rules for storage tanks
- **PSR 17:** specific rules for thermal solar collectors

The above mentioned PSR are available to other PO, i.e. each PO can use them to support EPD making and registration within their program.



EN 50 693 versus EN 15 804 : main differences

	EN 50 693	EN 15 804
Type of product	EEE & HVAC	Construction product
Use phase	Mandatory	Optional
End of life	Recycled material at the beginning of the life	Recycled material at the end of the life
- Product range	Extrapolation rules	



How to achieve EU harmonisation? 1/3



Middle term: standardisation for the coming regulations

- Prepare standardisation mandates coming from ErP, EPBD &
 ESPR regulations; with European Commission
- Work in sectorial standardisation (ventilation, heat pump and air conditionning, boilers, radiators, ...)

Our goal: consider EN 50 693 next to or besides EN 15 804 for HVAC products



How to achieve EU harmonisation? 2/3



Short term: meanwhile, prepare the path towards harmonisation

- Mutual Recognition Agreement with other Program Operators (within Ecoplatform)
- Prepare the discussions: with EU associations & manufacturers
 - Explain the interest of EN 50 693 / IEC 63 366 standard
 - Start the discussions about harmonisation on the base of PSRs

To avoid loss of time and loss of money: don't start from scratch! Reuse the existing work an adapt it if necessary!



How to achieve EU harmonisation? 3/3



To help in the discussion, Uniclima has written a detailed note with:

- Specifities of PEPecopassport approach
- How much work has been achieved
- Comparison between EN 50 693 and EN 15 804 including pro/con



THANK YOU FOR YOUR ATTENTION



Ensemble, au cœur d'un **génie climatique durable**

