EPD
Environmental Product Declaration

06/03/2023 rev 1

nicos

EPD: WHAT IS IT & WHAT IT MEANS

- Type III Declaration from an accredited Third Party Body
- *Take a picture of energy consumptions and environmental impacts of a specific productive reality*
- Quantification and verification of production environmental impacts for a specific article in a specific production plant with specifics rules for data elaboration
- International standard ISO 14025 + EN 15804:2012 + A2:2019
- 5 years validity: **2023-2028**
- **NICOS' EPD**
  - Bathtubs (S16/F16/B16) produced in the Prata di Pordenone plant
  - Basins and white shower trays produced in the Portobuffolè plant

WHAT THIS STUDY ENTAILS

1. LCA – Life Cycle Assessment
    - For NICOS from cradle to gate
    - Raw materials analysis, transformation process, auxiliaries materials, waste, electrical and fossil energy used
    - Primary (from Nicos) and secondary (tabulated) data
2. LCIA – Life Cycle Impact Assessment
    - Environmental impact analysis from different production phases
    - Impact related to the planet available energy resources, effect on the ecosystem, human health and safety

WHICH PHASES HAVE BEEN STUDIED

PRODUCTION PHASE			CONSTRUCTION PHASE		USE PHASE							END OF LIFE PHASE				RESOURCE RECOVERY PHASE
Supply of raw materials	Transport	Manufacturing	Transport	Construction - installation	Use	Maintenance	Repair	Replacement	Renovation	Energy consumption during use	Water consumption during use	De-construction, demolition	Transport	Waste treatment	Disposal	Potential for reuse - recovery - recycling
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
X	X	X	MND	X	MND	MND	MND	MND	MND	MND	MND	X	X	X	X	X

When a module is considered in the analysis, it is marked with an "X" in the last line.
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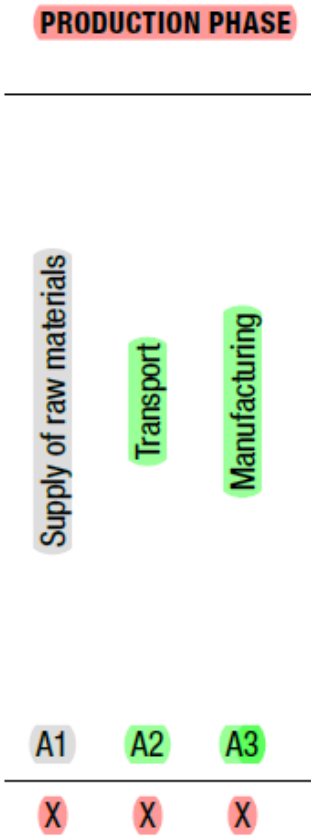
WHICH PHASES HAVE BEEN STUDIED



A1: secondary data

A2, A3: primary data

With detail on

- quantities (kg) of raw materials,
- km distance from suppliers,
- raw materials packaging,
- energy consumption of direct and indirect processes
- scraps and waste quantities
- auxiliaries materials (kg) (ex. Abrasive paper, engine oil, …)
- packaging (kg) quantities
- km distance from packaging suppliers
- …

RESULTS –

PORTOBUFFOLE' PLANT (UP1)

WHITE WASHBASINS Results for 1 kilogram (kg) of product

IMPACT CATEGORIES	U.M.	PRODUCTION PHASE			INSTALLATION PHASE	END OF LIFE				MODULE D	TOTAL
		A1	A2	A3	A5	C1	C2	C3	C4	D	
GWP-total	kg CO_2 eq	1,54E+00	4,85E-02	3,12E-01	3,44E-03	0,00E+00	3,34E-03	4,00E-03	0,00E+00	-6,72E-03	1,91E+00
GWP-fossil	kg CO_2 eq	1,53E+00	4,84E-02	4,82E-01	3,44E-03	0,00E+00	3,33E-03	4,00E-03	0,00E+00	-6,62E-03	2,07E+00
GWP-biogenic	kg CO_2 eq	1,06E-02	2,39E-05	-1,71E-01	0,00E+00	0,00E+00	1,78E-06	1,11E-06	0,00E+00	-8,60E-05	-1,61E-01
GWP-luluc	kg CO_2 eq	5,80E-04	2,08E-05	6,29E-04	2,94E-06	0,00E+00	1,17E-06	3,15E-07	0,00E+00	-8,76E-06	1,23E-03
ODP	kg CFC11 eq	1,93E-07	1,07E-08	3,32E-08	2,76E-10	0,00E+00	7,57E-10	8,64E-10	0,00E+00	-6,00E-10	2,39E-07
AP	mol H+ eq	7,20E-03	1,94E-04	8,98E-04	1,34E-05	0,00E+00	1,36E-05	4,19E-05	0,00E+00	-4,31E-05	8,37E-03
EP-freshwater	kg P eq	3,83E-04	4,13E-06	5,20E-05	8,41E-07	0,00E+00	2,44E-07	1,44E-07	0,00E+00	-4,06E-06	4,41E-04
EP-marine	kg N eq	1,17E-03	5,62E-05	3,28E-04	4,28E-06	0,00E+00	4,09E-06	1,85E-05	0,00E+00	-9,77E-06	1,58E-03
EP-terrestrial	mol N eq	1,25E-02	6,15E-04	2,29E-03	3,89E-05	0,00E+00	4,47E-05	2,03E-04	0,00E+00	-1,18E-04	1,57E-02
POCP	kg NMVOC eq	7,44E-03	1,89E-04	7,92E-04	1,16E-05	0,00E+00	1,37E-05	5,57E-05	0,00E+00	-2,99E-05	8,50E-03
ADP-minerals & metals**	kg Sb eq	1,43E-05	1,74E-06	8,49E-06	4,19E-08	0,00E+00	9,02E-08	6,14E-09	0,00E+00	-7,07E-07	2,47E-05
ADP-fossil**	MJ	3,53E+01	7,20E-01	2,55E+00	3,86E-02	0,00E+00	5,03E-02	5,51E-02	0,00E+00	-9,64E-02	3,87E+01
WDP	m^3 depriv.	5,60E-01	2,21E-03	-9,80E-02***	4,88E-04	0,00E+00	1,40E-04	7,38E-05	0,00E+00	-1,13E-02	4,65E-01

** Disclaimer: The results of this environmental impact indicator should be used with caution as the uncertainties of these results are high or as experience with the indicator is limited.
*** The negative value is given by the contribution of emissions to water present within the dataset relating to the treatment and purification of waste water.

Which are the most impactful phases of our process. Sometimes it is not possible to improve because the process is not directly dependent on Nicos

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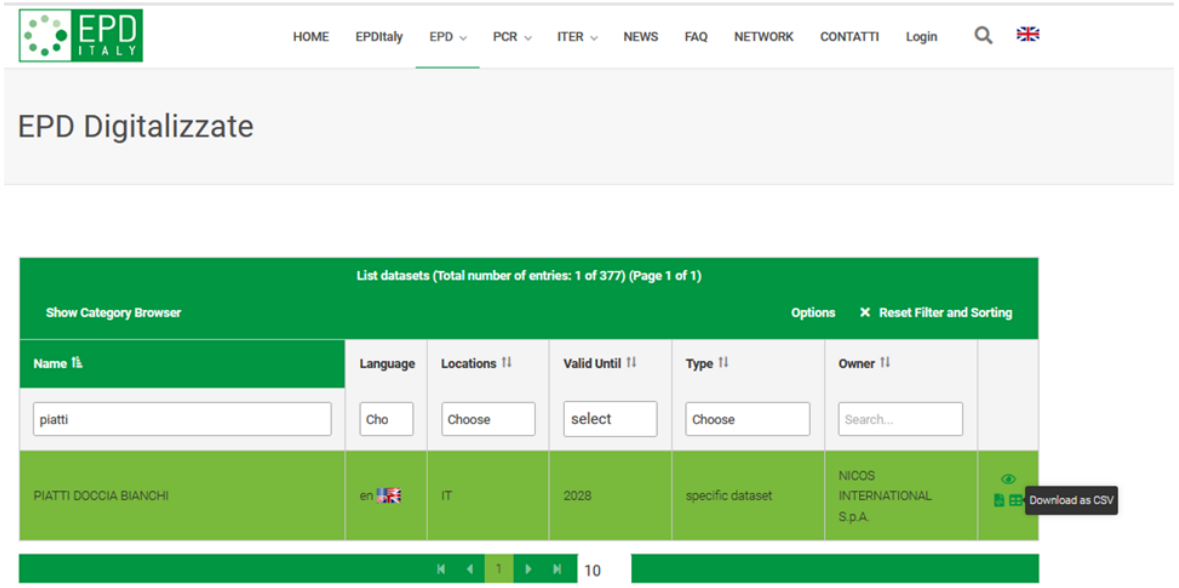
RESULTS – where to find them 1

Link EPD Italy
https://www.epditaly.it/ricerca-epd/

link digitalized EPD – .csv file download
https://www.epditaly.it/epd-digitalizzate/



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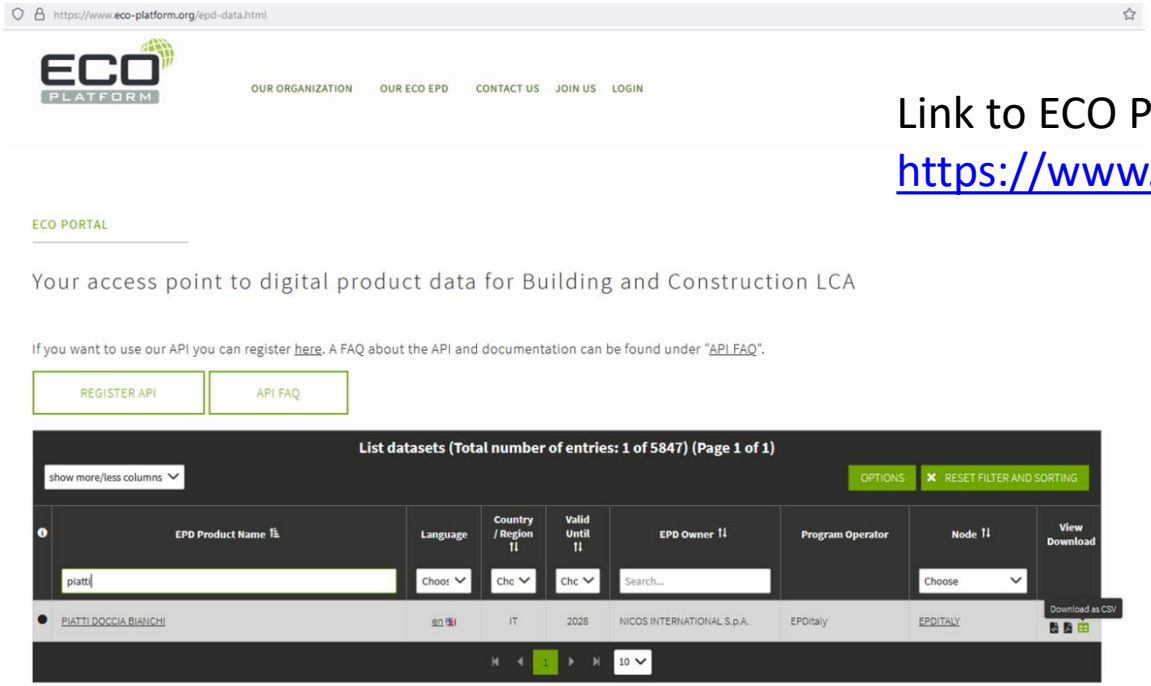
RESULTS – where to find them 2



Link to ECO Platform
https://www.eco-platform.org/epd-data.html

Soon they will also be available on SPOT from UL; on SPOT you can also find the GreenGuard and ECV certificates

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RESULTS – how customers can use them

Our customers need our EPD study to proceed with their EPD study

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X	X	X	MND	X	MND	MND	MND	MND	MND	MND	MND	X	X	X	X	X

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From the links seen above customers can download the .csv files of the impact already processed related to the production phases considered

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Competitor's EPD

On the web you can find a huge quantity of EPD from competitors

! It is not possible to compare different studies…

… if you want to compare, please pay attention to

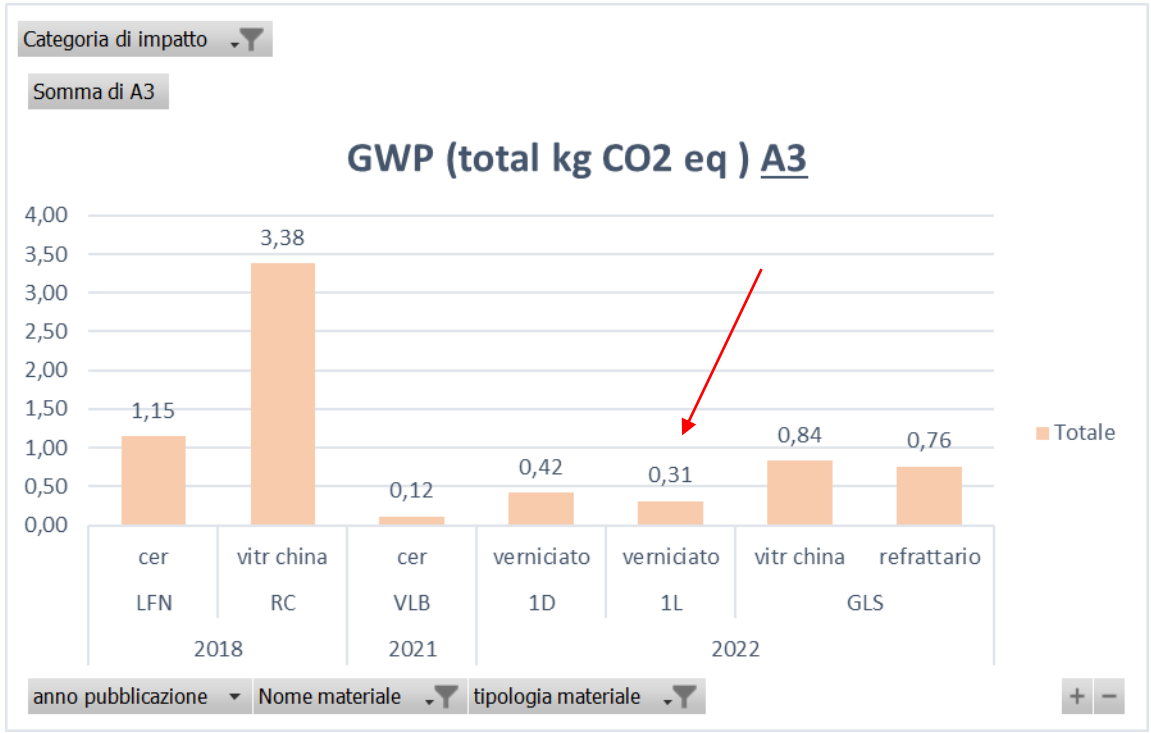
! Validity period

! Analysed phased in the study

! Chosen unit of measure (ex.: product quantity in kg or m^2)

«comparison»

Global Warming Potential total phase A3 (**production**)



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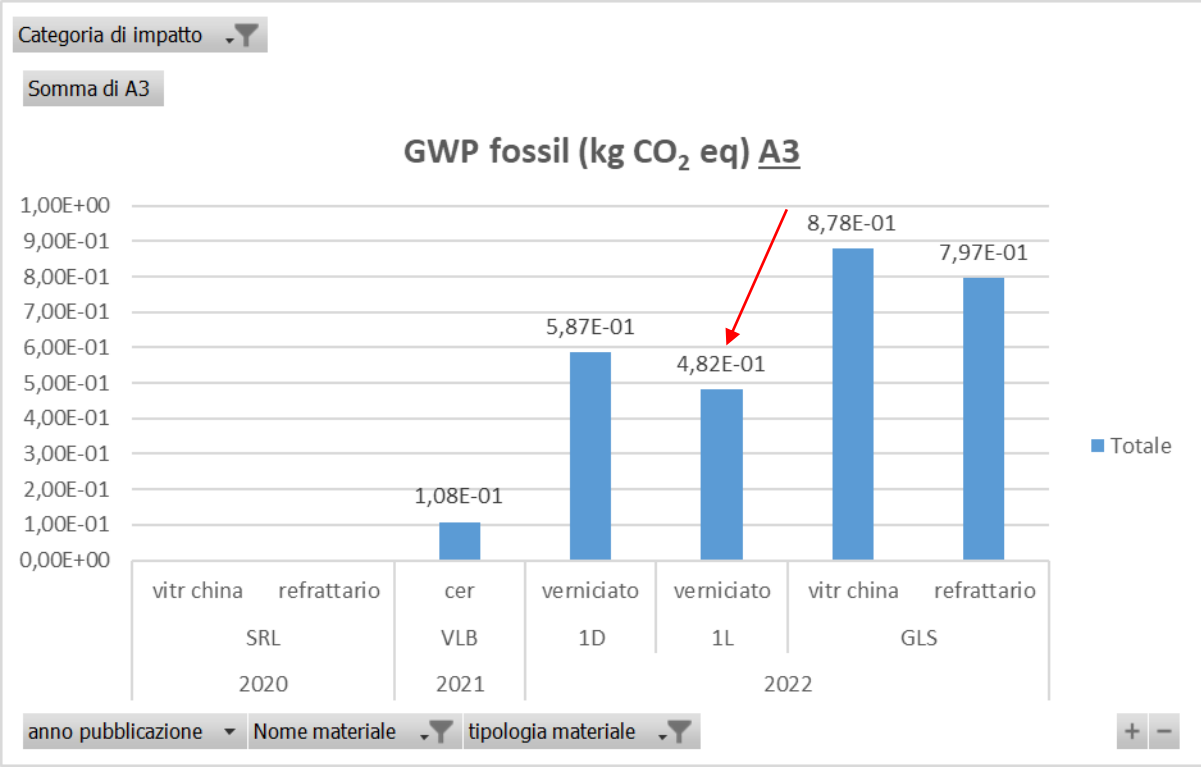
«comparison»

Global Warming Potential fossil phase A3 (**production**)



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Finals results

- The study conducted in the Nicos International production plants showed that the main component of the total GWP is linked to the procurement of raw materials (module A1) (85.8% for washbasins, 80% for shower trays in UP1 and 76.8 % for B16 tank, 78.6% for F16 tank and 79% for S16 tank in UP2) and in particular to the polyester resin. This phase is independent of Nicos as a tabulated value.

- The second main component in the total GWP is linked to phase A3 - Production and describes the transformation operations undergone by the raw materials to become the final object ready for sale. This phase contributes to the total impact in a much lesser way than the procurement of raw materials and specifically for 17.4% in white washbasins, 25.6% in shower trays, 22.8% in tubs B16, 24.6% in F16 tanks and 24% in S16 tanks.

- In module A1, linked to raw materials, the generation of electricity is also considered: this is modeled through the electrical "Residual mix" taken from the AIB publication (2021) and the process of generating electricity from photovoltaics from Ecoinvent 3.8 for the self-consumption. Subsequently, the A2 module was also analyzed in which the transport of suppliers to the Nicos International company sites and the A3 module linked to the production of the products are considered.

- For the analysed products, in module A2 - Transport, the largest component is given by the transport of raw materials (about 80.5% for washbasins, 77.7% for shower trays, 98.4% for bathtubs B16, 97.6% and 96.8% for tanks F16 and S16 respectively). In module A3 - Production, the "Climate change-Fossil" category should be noted for the packaging of the finished product for shower trays and emissions into the atmosphere for both sinks and various types of tubs. It is interesting to note that the phases strictly related to the Nicos production process have much less impact than the phases of procurement and transport of raw materials, which can be explained by considering the use of synthetic components; nevertheless, the study positively highlighted an impact of minimal significance as regards phase A3 linked to the production process and Nicos know-how.

ICMQ

CONVALIDA DELLA EPD
Validation of EPD

ATTESTATO N° **CERTIFICATE N°**

ICMQ – 23407EPD

Si convalida che la seguente Dichiarazione Ambientale di Prodotto (DAP):
It validates that the follow Environmental Product Declaration (EPD):

Product EPD, Declaration "SANNIC01" del 17/01/2023

emessa da:
issued by:

NICOS INTERNATIONAL S.p.A.
Via Bastie, 44 - 31040 Portobruffolè (TV)

unità operativa:
operational unit:

Via Bastie, 44 - 31040 Portobruffolè (TV)
Via Sagree,18-22 - 33080 Prata di Pordenone (PN)

relativa ai seguenti prodotti:
relative to following products:

LAVABI BIANCHI, PIATTI DOCCIA BIANCHI, VASCA B16, VASCA F16 E VASCA S16
(White sinks, White shower trays, B16 Bathtub, F16 Bathtub and S16)
(UN CPC 36)

è conforme ai seguenti documenti:
is in compliance with the following document:

Regolamento EPDItaly rev. 5.2 del 16/01/2022
PCR ICMQ-001/15 rev. 3 del 02/12/2019

L'uso e la validità del presente attestato sono soggetti al rispetto del Regolamento ICMQ per la convalida della Dichiarazione Ambientale di Prodotto
Use and validity of this reference are subject to ICMQ rules for EPD validation

La validità del presente attestato è subordinata alla sua verifica periodica.
Validity of this attestation is subject to its periodic verification.

ACCREDIA
DAP N° 012H

PRIMA EMISSIONE	EMISSIONE CORRENTE	SCADENZA
First issue	*Current issue*	*Expiry*
19/01/2023	*19/01/2023*	*17/01/2028*

IL PRESIDENTE E DIRETTORE GENERALE
ING. LORENZO ORSENIGO

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ENVIRONMENTAL PRODUCT DECLARATION

PRODUCT NAME	PLANTS
Lavabi **Piatti doccia** **Vasca B16** **Vasca F16** **Vasca S16**	**NICOS INTERNATIONAL S.p.A.** **Via Bastie, 44 - 31040 Portobuffolè, Treviso (TV) Italy** **Via Sagree, 20 - 33080 Prata di Pordenone (PN) Italy**

in accordance with ISO 14025 and EN 15804:2012+A2:2019

Program Operator	EPDItaly
Publisher	EPDItaly

Declaration Number	SANNIC01
Registration Number	EPDITALY0371

Issue Date	17/01/2023
Valid to	17/01/2028