



TLJ
#1



Peer workshop

**Interreg
Europe**



Co-funded by
the European Union

INERTWASTE

Valorization of stone wool via by-product

Miguel Angel París

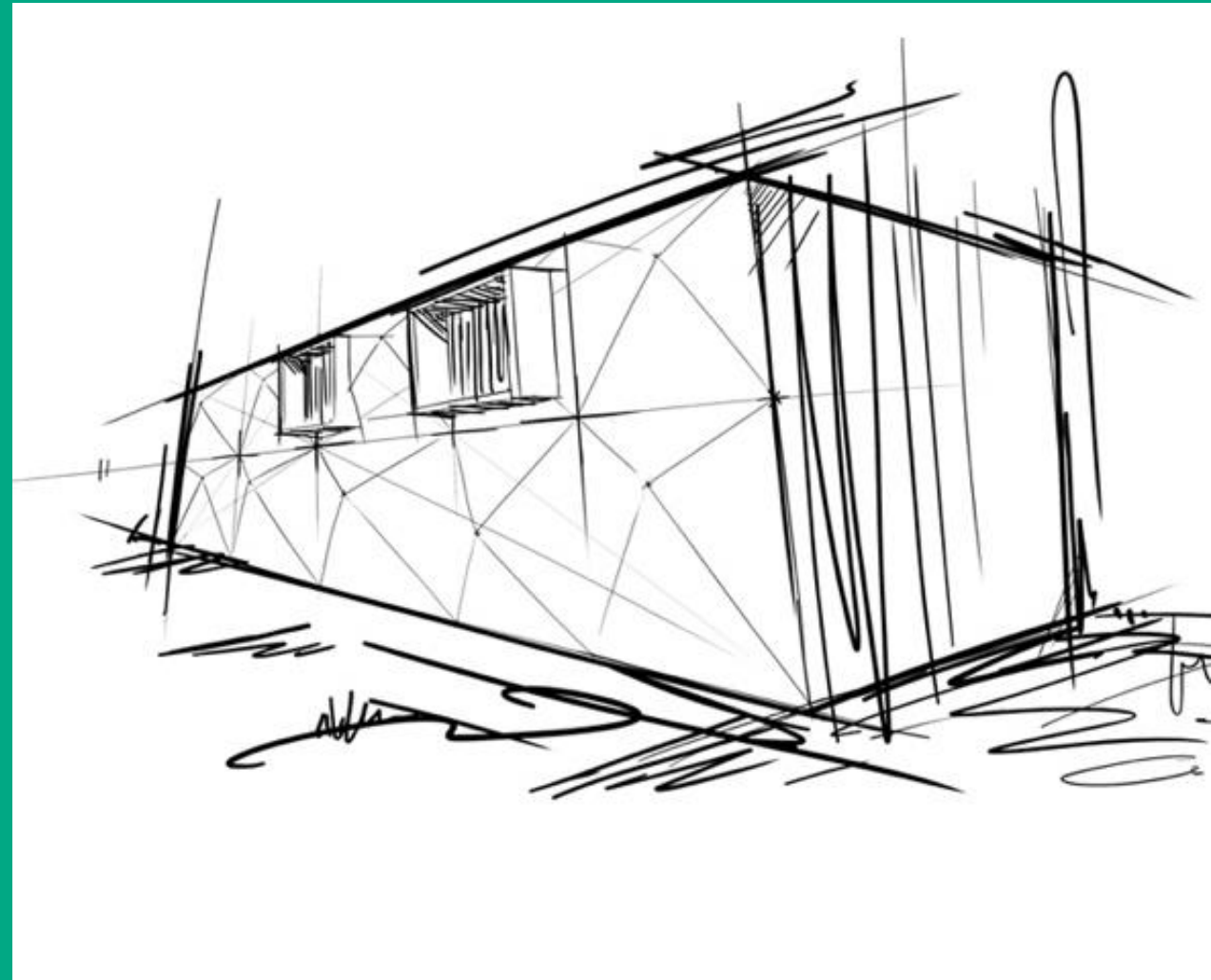
Sustainability manager. ROCKWOOL Spain

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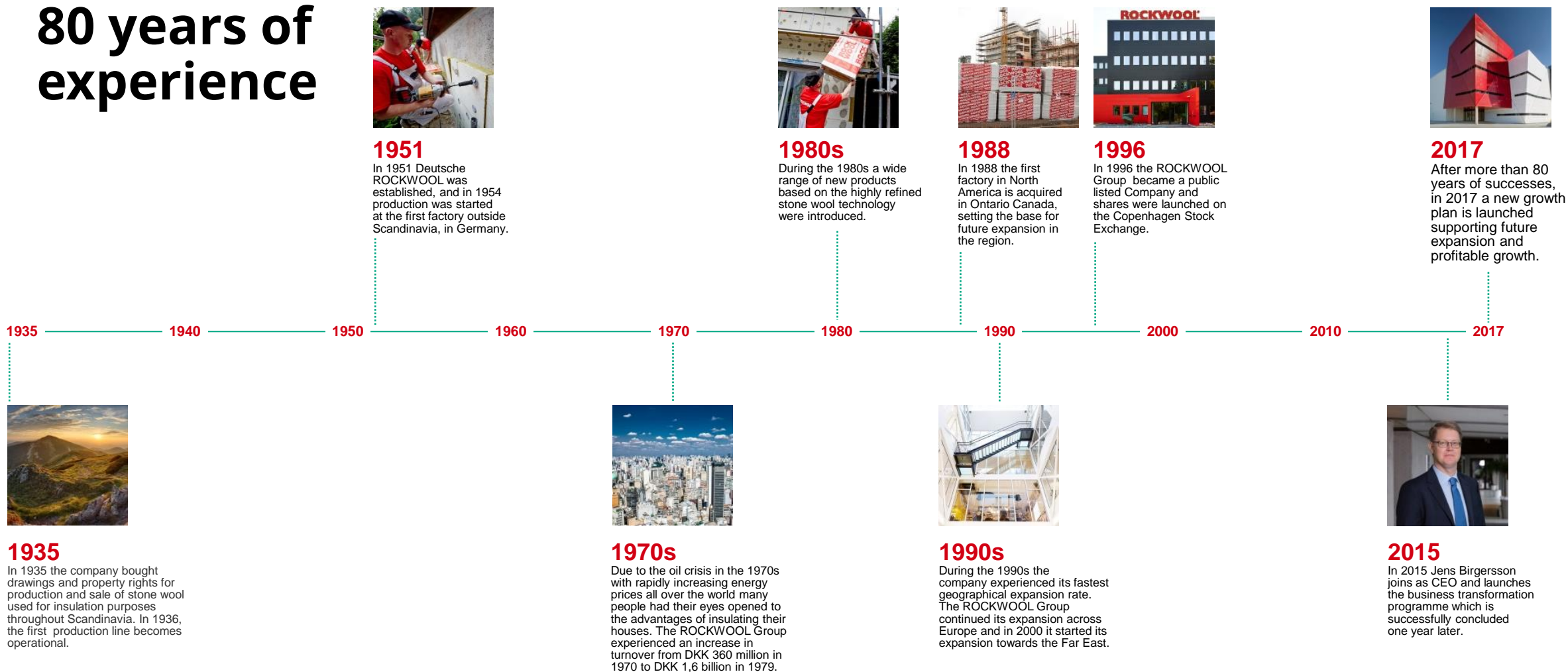
07 JULY 2021 | Location



This is ROCKWOOL



A company with more than 80 years of experience



World leader with local presence

We create sustainable solutions to protect life, assets, and the environment today and tomorrow.

- ▲ Stone wool factory
- ▲ Other factory
- ▲ Sales office / administration

- Austria
- Belarus
- Belgium
- Bulgaria
- Canada
- China
- Croatia
- Czech Republic
- Denmark
- Germany
- Estonia
- Finland
- France
- Hungary
- India
- Italy
- Latvia
- Lithuania
- Malaysia
- Mexico
- Norway
- Philippines
- Poland
- Romania
- Russian Federation
- Singapore
- Slovakia
- Spain
- Sweden
- Switzerland
- Thailand
- The Netherlands
- Turkey
- Ukraine
- United Arab Emirates
- United Kingdom
- United States of America
- Vietnam



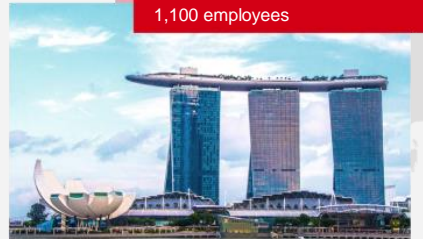
North America
 3 stone wool factories, 2 ceiling grid plants
 Main business areas: Insulation, acoustic ceilings and horticultural substrates
 1,000 employees



Europe
 16 stone wool factories, 3 ceiling tile plants, 1 ceiling grid plant, 1 facade panel plant, 2 wall systems components plants
 Main business areas: Insulation, acoustic ceilings, horticultural substrates, cladding boards, engineered fibres, and noise & vibration control
 7,100 employees



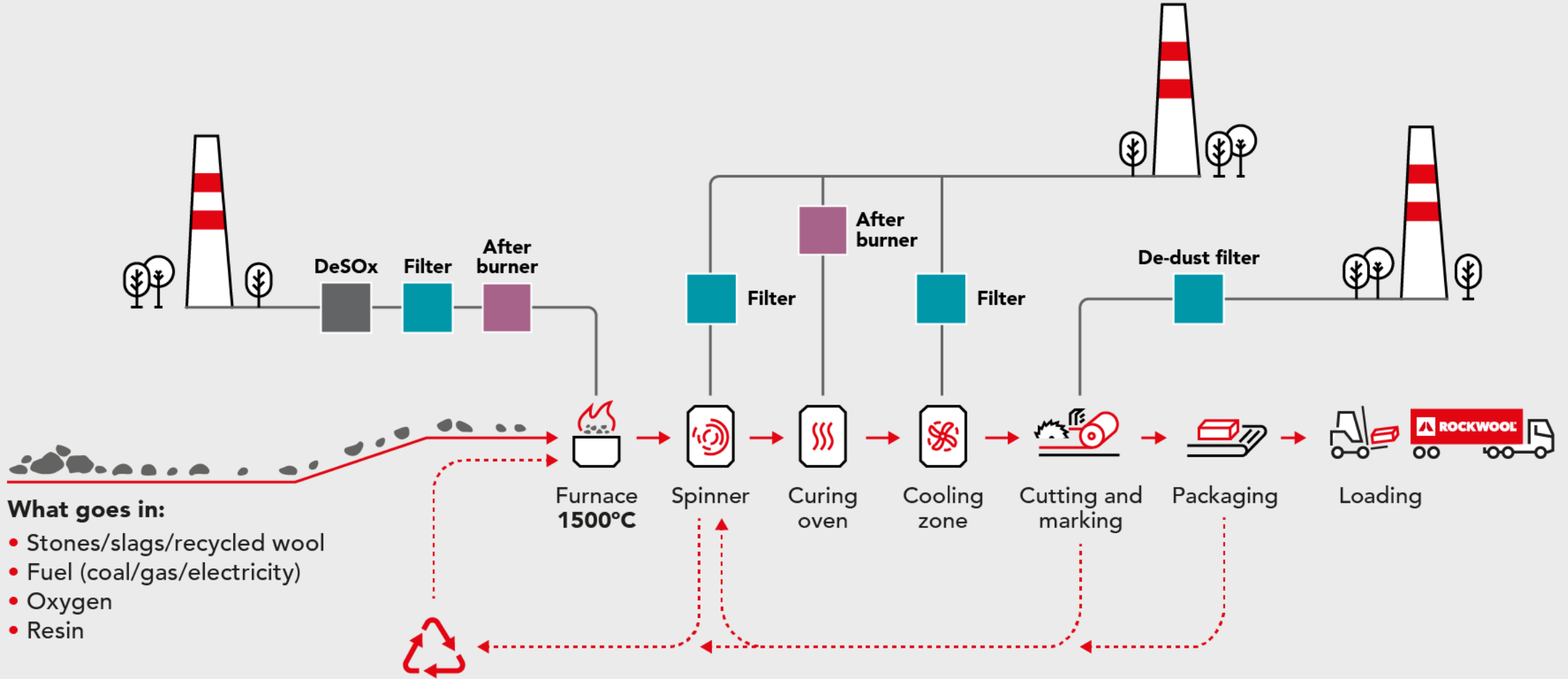
Russia
 4 stone wool factories, 1 ceiling tile plant
 Main business areas: Insulation, acoustic ceilings and horticultural substrates
 1,300 employees



Asia
 5 stone wool factories, 1 ceiling grid plant
 Main business areas: Insulation, mainly industrial & technical, and acoustic ceilings
 1,100 employees

Legend:

- Movement of raw materials and wool
- Exhaust from different parts of the production process
- ⋯→ Recycling of wool waste



What goes in:

- Stones/slags/recycled wool
- Fuel (coal/gas/electricity)
- Oxygen
- Resin

Recycling



*The above graphic is an illustrative representation only.



Technical insulation solutions for process industry, marine and offshore

- Reduces heat loss and CO₂ emissions for industrial insulation
- It has a positive carbon footprint



Firesafe insulation for all types of buildings including ROCKWOOL wall systems

- 97% of stone wool can be recycled after use
- It does not burn or emit high levels of toxic smoke in a fire
- Provides firefighters critical extra time to save lives by slowing the spread of fire
- Durable and resilient
- Easy to fit and retrofit
- It has a positive carbon footprint



Core solutions Customised stone wool solutions to industrial partners

- It does not burn or emit high levels of toxic smoke in a fire
- Makes air-conditioning less noisy





Special fibres fore.g.
automotive brakes

- Securing your vehicle
can come to a stop
- Fully sustainable products
throughout their life



Noise and vibration
control for rail traffic

- Protects against moisture
- Controls noise and vibration
in areas surrounding railways
- Possesses a high degree of
volume compressibility



Precision growing
for the horticultural
industry

- Supports the most
sustainable production of
fresh and healthy vegetables
- Multiplies yields and
saves water



Exterior cladding
for buildings

- Durable and resilient
- Easy to fit and retrofit



Acoustic ceiling
and wall solutions

- Reduces noise and echoes
- Creates a comfortable
indoor climate

The **7** strengths of stone



Fire-resilience

Withstand temperatures above 1000°C



Circularity

Reusable and recyclable material



Thermal properties

Save energy by maintaining optimum indoor temperature and climate



Robustness

Increased performance and greater stability with lower costs



Acoustic capabilities

Block, absorb or enhance sounds



Aesthetics

Match performance with aesthetics



Water properties

Engineered to repel or absorb water

Megatrends



CLIMATE CHANGE

30%

Of the world's final energy demand and CO2 emissions come from buildings



HEALTH & WELLBEING

90%

The amount of time people spend indoors on average



RESOURCE SCARCITY

~80m

New mouths to feed each year. We need more sustainable and efficient alternatives to traditional farming



SUSTAINABILITY & CIRCULARITY

1/3

Of global waste is produced by the construction sector. It also consumes 40% of global resources annually

Current situation

Circularity is one of the seven **strengths of the rock**.

Construction business generates lots of several wastes. One of them coming from the use of our products.

These wastes are usually sent to landfill.

ROCKWOOL gives customers the chance to return these wastes to the factory to be used as recycling.

This is called RockCycle.

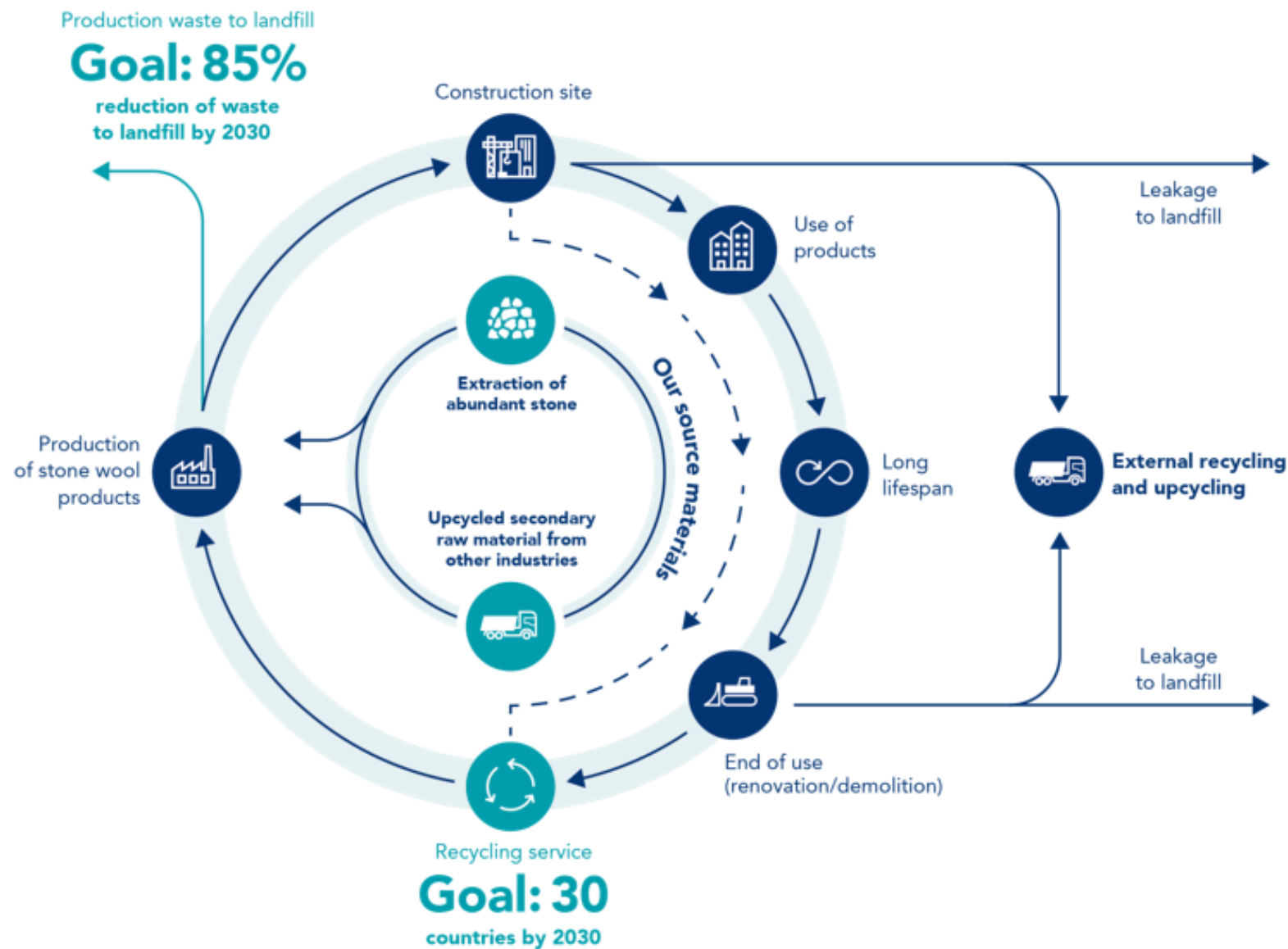


Circularity – the shape of the future

By recycling our own and other industries' waste, we minimise the waste going to landfill and reduce our use of virgin raw materials.

We make it easy for our customers to dismantle and recycle our products at the end of their useful lives.

Therewith, we are taking part in the global shift to a circular economy.



Origin of the waste managed



ROCKCYCLE Service

■ 1. You decide

En choisissant Rockcycle, vous vous engagez à trier sur votre chantier les déchets liés à la livraison et à l'utilisation de nos produits : les palettes, les emballages plastiques et les chutes de laine de roche.

■ 2. You order

Selon le volume de votre chantier, nous déterminons ensemble le nombre de Big Bags nécessaires et d'enlèvements à organiser.

■ 3. You install and sort waste

Au démarrage du chantier, vous informez vos équipes des consignes de tri et indiquez le numéro d'assistance Rockcycle. Vous veillez au respect du tri lors du remplissage des Big Bags et au regroupement des palettes, conformément aux fiches de consignes.

■ 6. We recycle and value

Rockwool s'engage à recycler l'intégralité des déchets collectés.

■ 5. We collect and transport

La collecte s'effectue sous 5 jours ouvrés, directement sur votre chantier. Vous assurez le chargement des marchandises dans le camion.

■ 4. You inform us

Vous informez votre contact Rockwool en faxant ou en scannant votre demande d'enlèvement. Vous indiquez le nombre de Big Bags remplis, les piles de palettes à enlever et la date d'enlèvement souhaitée.

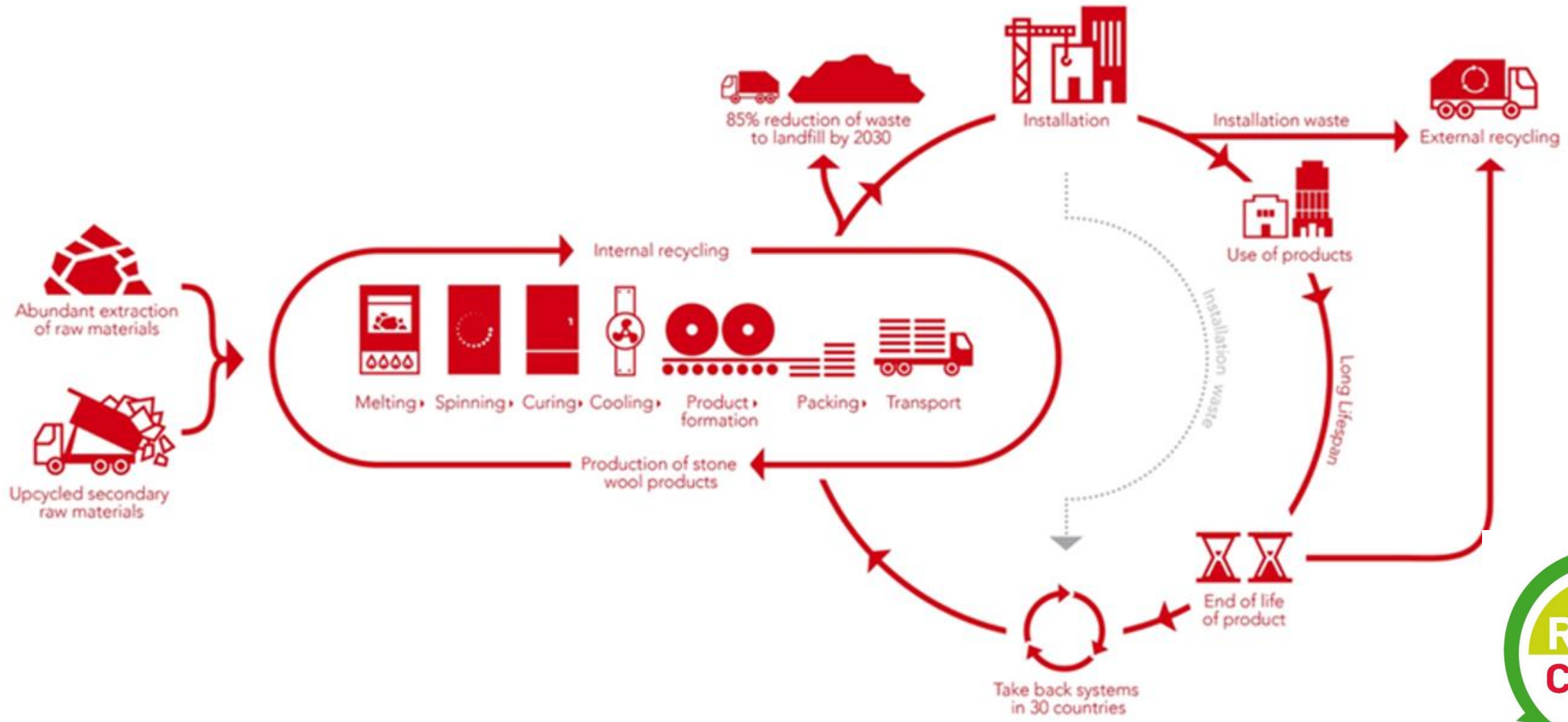


**ROCK
CYCLE**



**ROCK
CYCLE**

Material flows - overall



A positive impact for all

Everything we produce helps combat climate change, grow the circular economy or safeguard citizens' wellbeing.

ROCKWOOL solutions

Positive societal impact

Combatting climate change



ROCKWOOL insulation is one of the most cost-effective climate solutions.



Energy efficiency contributes 40 percent of emission reductions to achieve the Paris Agreement's ambitions¹.



Our pioneering Rockflow offers new types of urban water management solutions.



Communities will need better defences against urban flooding.

Growing the circular economy



Grodan's solutions enable increased yields with less water, land and fertilisers.



As our population grows, we need to feed more people using fewer resources.



Our circular business model helps us turn waste into new raw materials.



Embracing circularity minimises resource consumption and waste to landfill.

Safeguarding citizens' wellbeing



Our products support healthier schools, hospitals and other buildings.



In an increasingly urban world, people need quiet places to live, learn, work and recover.



Our insulation withstands temperatures greater than 1000°C.



Improves building resilience and helps keep people safer inc

¹ Calculation conducted by Material Economics, 2018 based on IPCC AR5 Database, 2018.



Legislation

Past:

- Complex process
- Managed by the Ministry (central government)
- Long decision process (processing time between 1 and 4 years, depending the waste)

FECHA 13 de septiembre de 2022

ASUNTO INFORME FAVORABLE relativo a la solicitud de declaración de subproducto de las astillas, recortes, serrín, virutas, restos de tronco, corteza y curros (recortes y restos de madera virgen) para su uso en la fabricación de tableros de partículas y de fibras.

INFORME DE LA COMISIÓN DE COORDINACIÓN EN MATERIA DE RESIDUOS RELATIVO A LA SOLICITUD DE DECLARACIÓN DE SUBPRODUCTO DE LAS ASTILLAS, RECORTES, SERRÍN, RESTOS DE TRONCO, CORTEZA Y CURROS (RECORTES Y RESTOS DE MADERA VIRGEN) PARA SU USO EN LA FABRICACIÓN DE TABLEROS DE PARTÍCULAS Y DE FIBRAS, SOLICITADA POR LA UNIÓN EMPRESARIAL DE LA MADERA Y MUEBLE DE ESPAÑA (UNEMADERA) (empresa productora) Y LA ASOCIACIÓN NACIONAL DE FABRICANTES DE TABLEROS (ANFTA) (empresa receptora)

Fecha de entrada de la solicitud

13 de Diciembre de 2018

FECHA 01 de Febrero de 2022

ASUNTO INFORME DESFAVORABLE relativo a la solicitud de declaración de subproducto de los restos de láminas de PVC para la fabricación de granza reciclada de PVC para su uso posterior.

INFORME DE LA COMISIÓN DE COORDINACIÓN EN MATERIA DE RESIDUOS RELATIVO A LA DECLARACIÓN DE SUBPRODUCTO DE LOS RESTOS DE LÁMINAS DE PVC PARA LA FABRICACIÓN DE GRANZA RECICLADA DE PVC PARA SU USO POSTERIOR, SOLICITADO POR BENECKE KALIKO S.A.U. (PRODUCTOR) y SERNAPLAS S.L. (RECEPTOR).

Fecha de entrada de la solicitud:

26 de marzo de 2019



Legislation

Current situation:

- Process more simple
- Managed by Local Authorities (Navarra government). Easier communication
- Shorter decision process (in our case 7 months' time, considering summer period in the middle)

This is thanks to “law 7/2022, released in April, on waste and contaminated soils for a circular economy” (transposition of the EU Directive 2018/851).

This law has incorporated concepts as **by-product**, very extended at EU level.

From this law, one of the main articles is number 4, where:

- It is fixed when a substance can be considered as by-product instead of waste.
- Local authorities are competent to evaluate and approve this kind of re-classif



Process

After publication of this law, process has become more simple. However, external support has been needed to prepare all the documents required to present to Authorities.

The documentation needed for this reclassification process can be resumed in the next points.

- A full description of the production process
- Scheme of the production process and origin of the by-product
- Definition of prior conditioning for use of by-product
- How transportation, reception, storage and handling of the by-product is done
- Analysis and technical description of the by-product
- An SDS of the material



Success

Fluid communication with Authorities:

- Simple submission process
- Questions regarding the recycling process answered by mail (avoiding the usual communication tools with other agencies, much more formal). This kind of communication helps the process to go faster



RESOLUCIÓN 411E/2023, de 2 de noviembre el Director del Servicio de Economía Circular y Cambio Climático.

OBJETO:	Consideración como subproducto de recortes la lana de roca de obras de construcción para su reintroducción en el proceso de fabricación de lana de roca
REFERENCIA:	Código Expediente: 0001-0019-2023-000003
UNIDAD GESTORA:	Dirección General de Medio Ambiente Servicio de Economía Circular y Cambio Climático Sección de Residuos C/ González Tablas, 9 - 31005 Pamplona Teléfono: 848-421490 Correo electrónico: residuos@navarra.es

EXPEDIENTE	
Consideración como subproducto	
Solicitante:	ROCKWOOL PENINSULAR SA
NIF/CIF/NIE/DNI:	A31644578
Localidad:	Caparroso
Domicilio:	Industrial, Ctra Zaragoza N-121, Km. 53,5
Nº de Centro:	3106500825
Fecha Solicitud:	27/03/2023

Opportunities

It helps Architects and Construction companies to get any of the several certifications for sustainable construction:

- **BREEAM.** (*Building Research Establishment Environmental Assessment Method*). Created in UK by BRE (Building Research Establishment) during the 80s. It is an international evaluation system regarding the degree of environmental sustainability in both new and existing constructions
- **LEED.** (*Leadership in Energy and Environmental Design*). Created in United States, developed by US Green Building Council and implemented in 1993. It is a sustainable building certification system that encourages construction using ecological, sustainable and high energy efficiency criteria.
- **Green certificate** (*Evaluation of efficiency of building sites*). Created by Green Building Council Spain association (GBCE) to promote a more sustainable market in construction



Real example



Housing promotion called San Andrés Homes, in Mondragón (Guipuzcoa, Spain), is a clear example of this circularity process.

According to Green Building Council Spain's Circular Economy report, 15% of the materials in a construction site in Spain become a waste. In this case, all the waste coming from ROCKWOOL products has been returned to factory to be used as a recycling.

Challenges

Focused in wool waste:

- Next step is to ask for the same classification for the Stone wool waste coming from industrial manufacturers (sandwich panel producers or fire doors producers)

Focused in wastes coming from ROCKWOOL production process:

- Most of the wastes from our process are recycled in the same process. However, there are few that we are not able to reintroduce into the process, and they are sent to landfill. We are exploring joint ventures with other companies to use this waste as a raw material in its production process. If this waste could be considered as by-product, this would help its Management because external company would not need to prepare an IPPC and become a waste handler, reducing costs and administrative workload.



Challenges

If you are interested in how ROCKWOOL promotes sustainability, you can visit our webpage:

[Sustainable Business \(rockwool.com\)](https://www.rockwool.com)

And you can read more about our initiative RockCycle here:

[Rockcycle[®] \(rockwool.com\)](https://www.rockwool.com)



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The strengths of stone



Thank you!

www.interregeurope.eu/ACRONYM