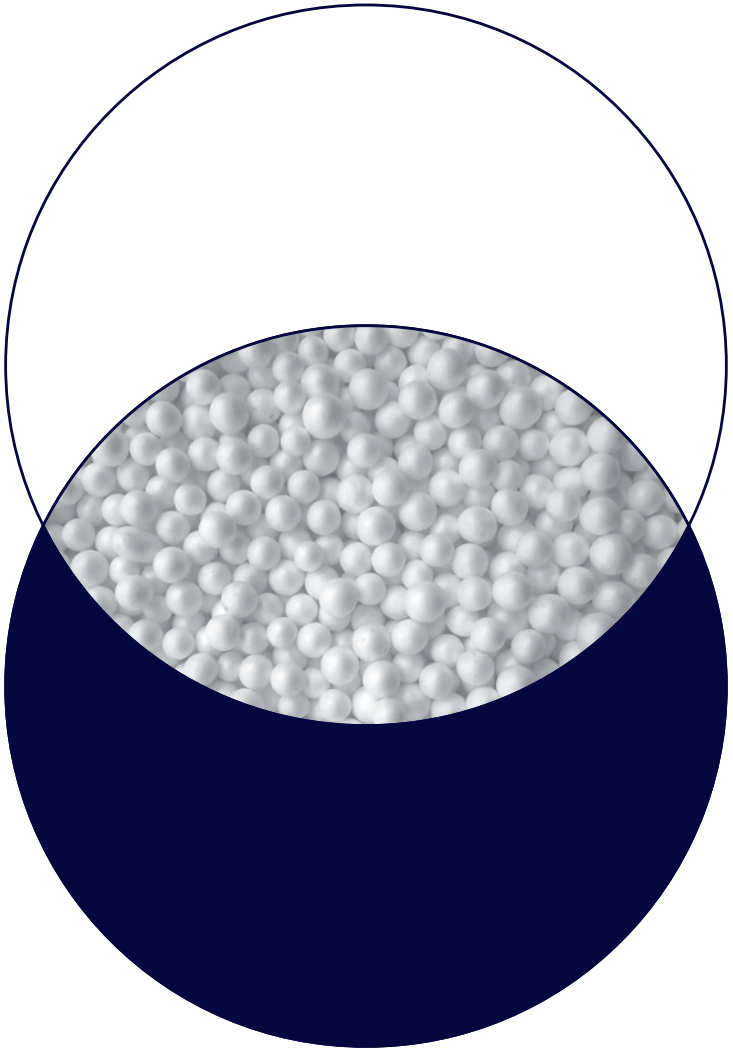
The six **Engagements** of EPS

eumeps

The voice of the
European EPS Industry



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The 6 Engagements of EPS

Find out below the
6 benefits EPS
brings to the table.

From reducing bills and protecting ecosystems in insulation, to ensuring your food is delivered fresh and your white goods, in perfect conditions, EPS is making a difference.

Energy Efficiency

Resource Efficiency &
Waste Prevention

Cost Efficiency

Recyclability & Circularity

Health Benefits

Sustainability

FOREWORD

EPS: A Hidden Champion

Expanded Polystyrene (EPS) is an efficient insulation material and a packaging mainstay, but it is so much more: an enabler of Europe's sustainability. As policymakers or industry experts, you lead the way in pursuing Europe's environmental goals. EPS is here ready to support you to contribute to your efforts as a unique opportunity to enhance energy efficiency, reduce costs, and support a circular economy. Imagine a Europe where homes are better insulated, emissions are reduced, and packaging keeps products safe with minimal environmental impact. That is the future we can build together.

We invite you to explore the full potential of EPS and its role in supporting Europe's sustainability efforts. Watch Jürgen Lang, Director General of EUMEPS, as he shares his insight on the matter. Scan the QR code below or visit our website to learn how EPS can contribute to your initiatives and decision-making.

Scan the QR code to watch the video

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Energy Efficiency

Towards a More Energy Efficient Europe

Current environmental challenges demand prompt and decisive action. Based on the latest available statistics, transport accounts for 29% of annual energy use in Europe, followed closely by **residential buildings**, which represent 28%.

This reality invites such ambitious initiatives as the European Green Deal and the Renovation Wave to build a world in which our lifestyle and environmental preservation are aligned. EUMEPS, as a source of scientific and legal expertise in the field, places expanded polystyrene (EPS) as a core component in achieving an energy-efficient Europe.

The Contribution of EPS

In Insulation:

EPS insulation is known for its very high insulating performance.
With the help of EPS insulation, energy consumption and costs for heating in winter and cooling in summer can be reduced.

Heat pumps and other heating systems, such as the use of geothermal energy or the effective use of energy concepts in large cities, such as neighbourhood solutions, are supported by EPS-insulated buildings.
Its incorporation in tandem with EPS insulation, however, ensures an exponential improvement in the energy efficiency of buildings.

In Packaging:

The lightweight and superior thermal insulation properties of EPS ensure the preservation of sensitive and perishable goods, such as food and medical essentials. As a packaging material, it maintains a stable temperature for up to 72 hours, improving the efficiency of import and export.

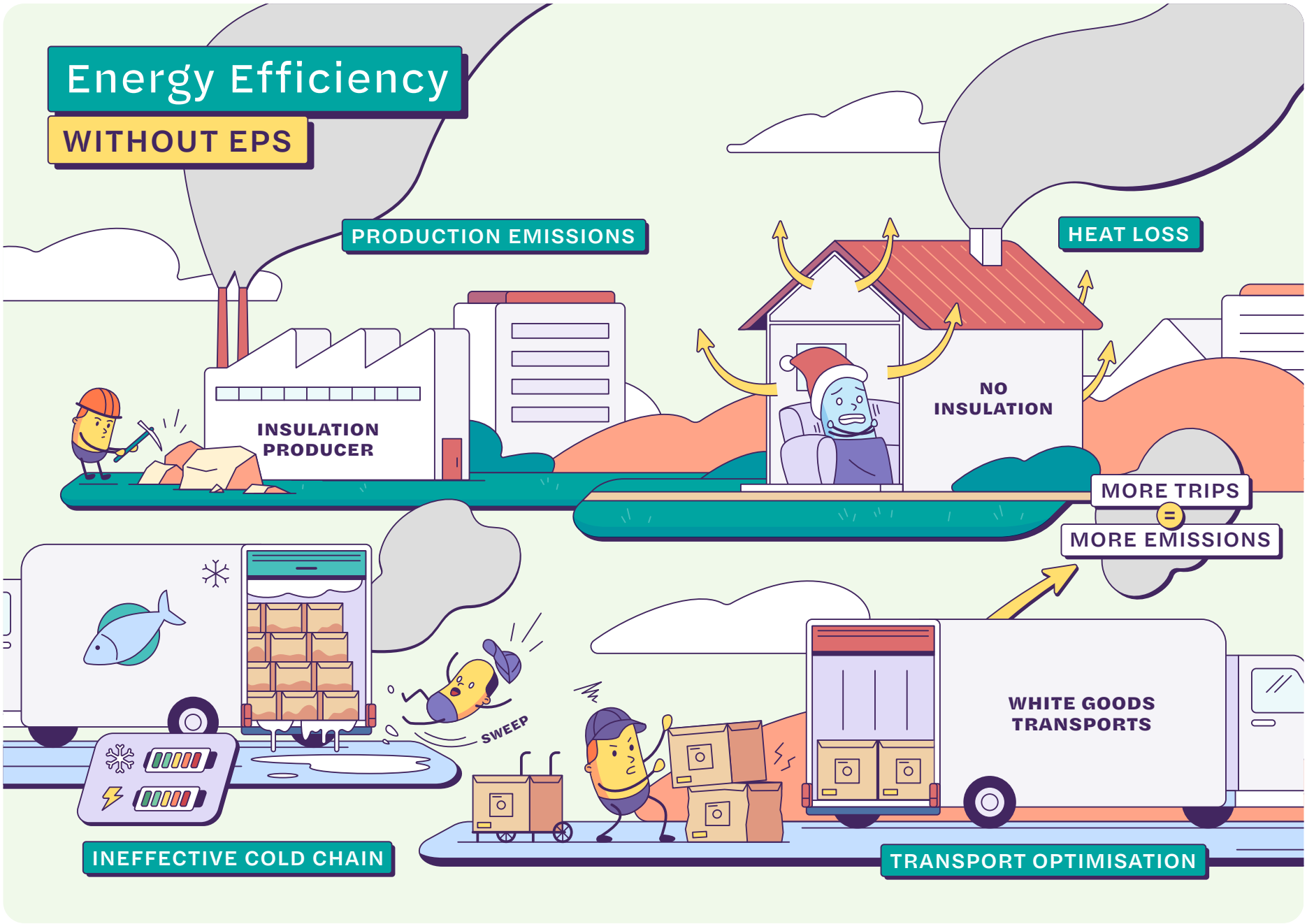
As an example, thanks to these properties, we are able to reduce the reliance on Transport Refrigeration Units (TRUs) with high energy consumption, which individually represent a high-cost opportunity on our environmental budget. As every contribution helps in this collective endeavour to better our planet's climate, EPS packaging is doing its indispensable part.

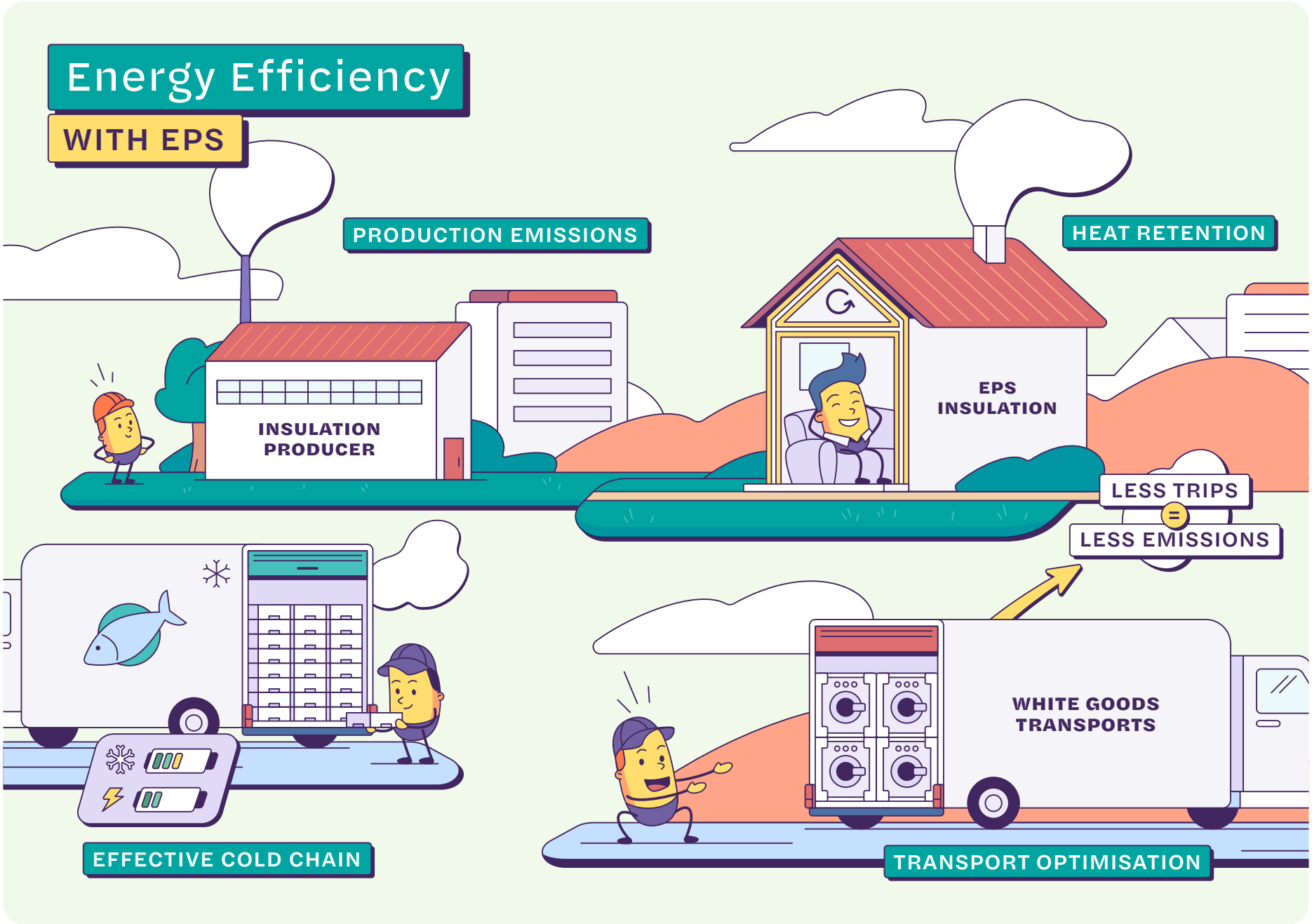
EUMEPS Engagement

EUMEPS bridges the gap between the EPS industry and policymakers by providing critical legislative and technical knowledge.

Through accurate, up-to-date information and advocating for sustainable and practical regulations, EUMEPS ensures that EPS continues to be recognised for its essential benefits in insulation and packaging.

This, in turn, enables informed decision-making that supports environmental goals and industry growth.


Energy Efficiency
WITHOUT EPS
PRODUCTION EMISSIONS
HEAT LOSS
INSULATION PRODUCER
NO INSULATION
MORE TRIPS
=
MORE EMISSIONS
SWEEP
WHITE GOODS TRANSPORTS
INEFFECTIVE COLD CHAIN
TRANSPORT OPTIMISATION


Energy Efficiency
WITH EPS
PRODUCTION EMISSIONS
INSULATION PRODUCER
HEAT RETENTION
EPS INSULATION
LESS TRIPS
=
LESS EMISSIONS
EFFECTIVE COLD CHAIN
WHITE GOODS TRANSPORTS
TRANSPORT OPTIMISATION

2 Resource Efficiency & Waste Prevention

Smart Resource Usage and Waste Prevention

In our collective journey towards circularity, smart resource allocation and usage are of utmost importance. Expanded Polystyrene (EPS) represents a potent enabler in this domain.

The production process of EPS involves expanding small raw beads up to 40 times their original volume using steam and air. This transformation creates a lightweight yet durable material, which is then moulded into insulation boards or blocks. The resulting EPS products are easy to handle on site and contribute to efficient logistics in the construction phase, thanks to their low weight and stackable format.

The Contribution of EPS

In Insulation:

Approximately 75% of EPS produced in Europe serves the construction sector, as it offers outstanding insulation performance along with resistance to moisture and great durability.

These properties ensure that a building insulated with EPS requires no replacement across its lifecycle. The development of EPS containing graphite (Gray EPS) further boosts the thermal retention factor of EPS insulation by an impressive 30%. This makes EPS and building insulation go hand in hand to ensure the resource efficiency of homes and buildings, enabling EU climate objectives.

In Packaging:

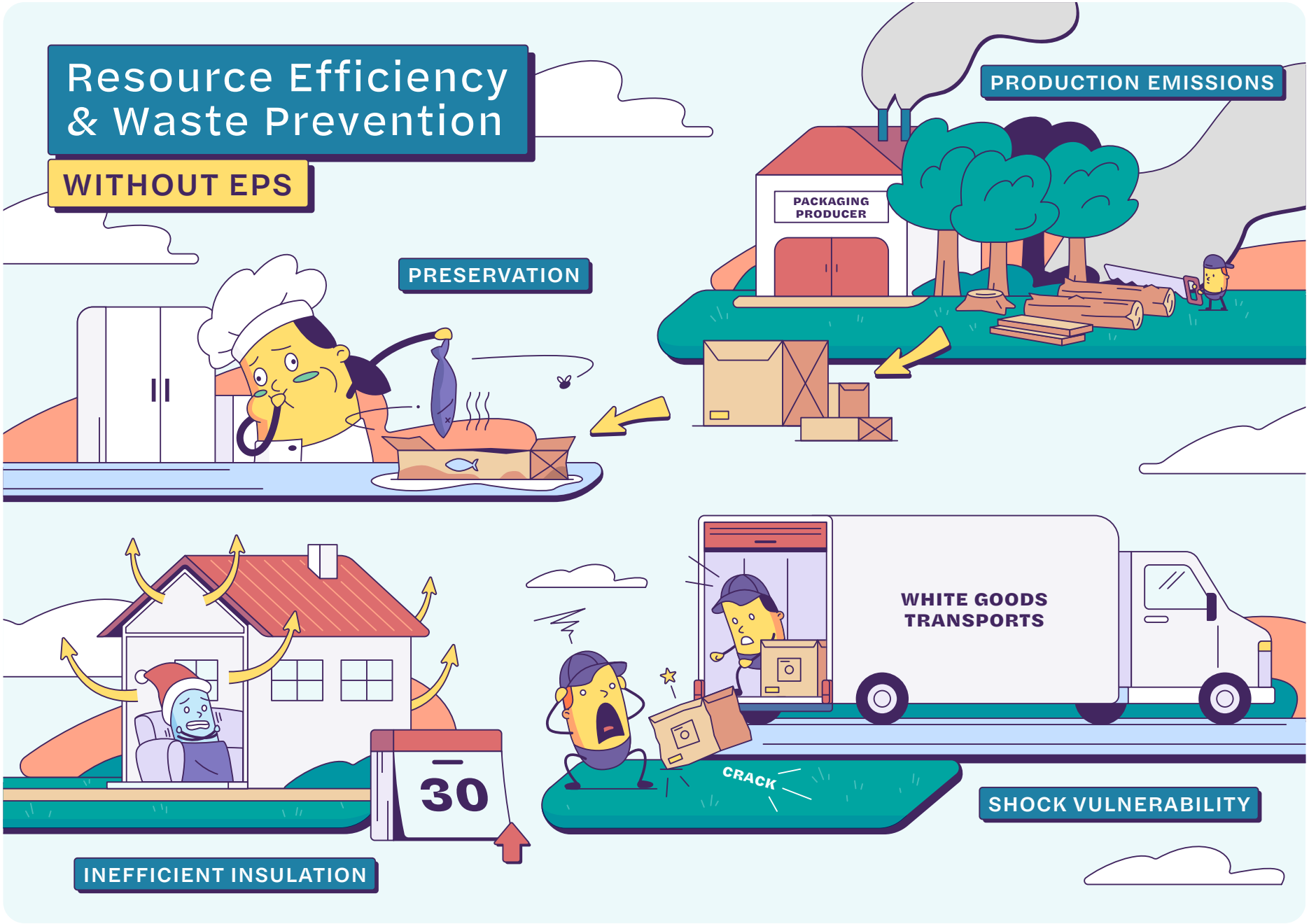
EPS packaging is recognised for many properties, but notably its great shock absorption and mouldability. These offer a great edge in the transportation of fragile goods such as electronics or household appliances.

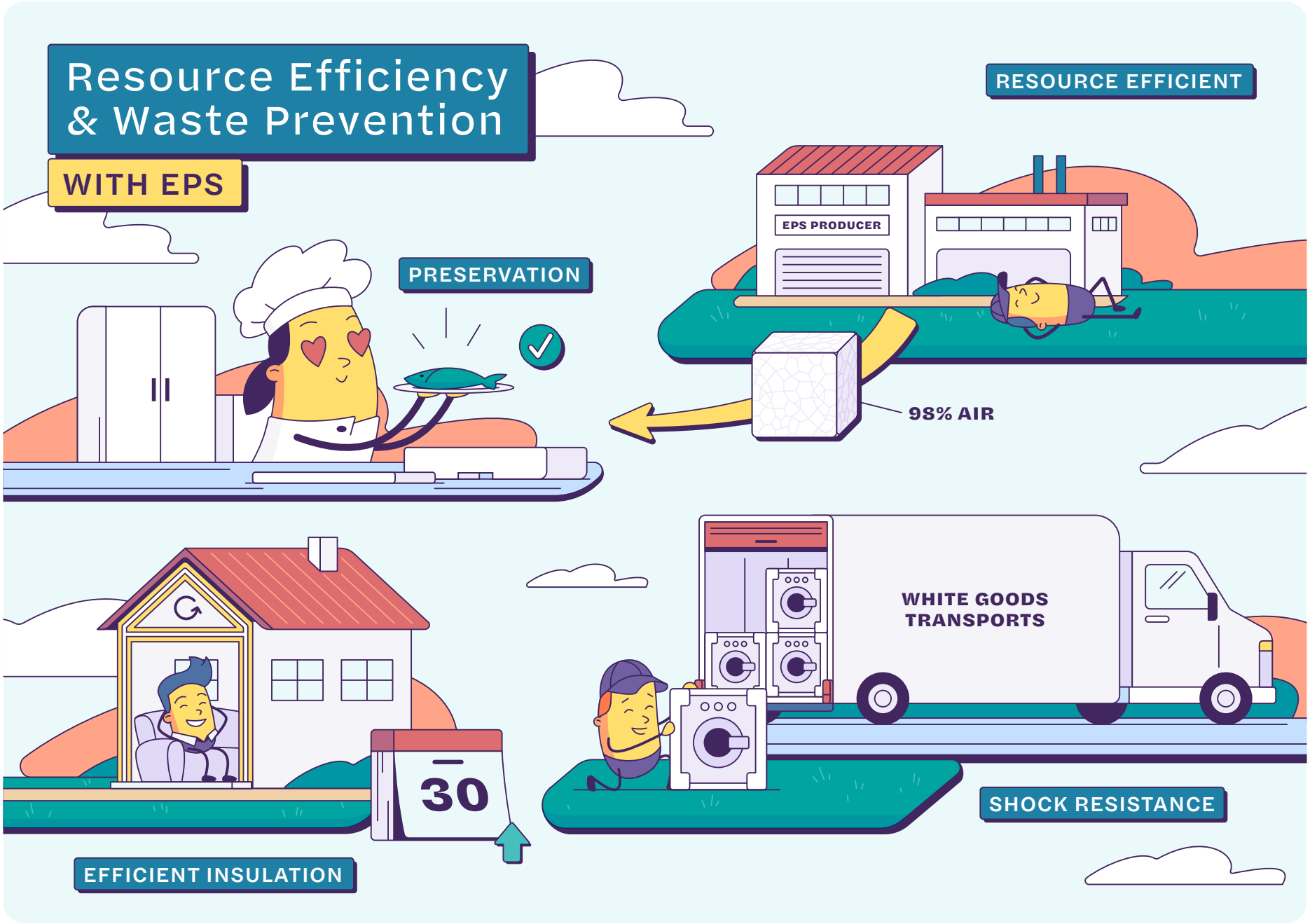
By casing these goods in cushioning packaging, the risk of damage is minimised, ensuring fewer returns and greater efficiency across the entire value chain. Fish boxes are another emblematic application of EPS packaging, embraced by the fishing industry at large. Beyond the thermal insulation they provide, EPS fish boxes can be recycled many times, boosting resource efficiency and reducing waste.

EUMEPS Engagement

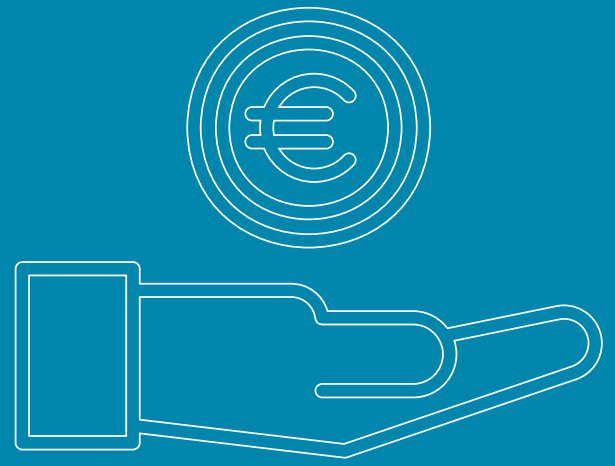
Our commitment to resource efficiency and waste prevention is embodied in EPS and its applications in both insulation and packaging. We ensure EPS is allowed to shine through its beneficial properties by offering a strong framework of technical knowledge and legislative advice to policymakers.

Thus, we can ensure a comprehensive journey towards fulfilling European climate objectives.


Resource Efficiency & Waste Prevention
WITHOUT EPS
PRESERVATION
PRODUCTION EMISSIONS
PACKAGING PRODUCER
WHITE GOODS TRANSPORTS
CRACK
SHOCK VULNERABILITY
30
INEFFICIENT INSULATION


Resource Efficiency
& Waste Prevention
WITH EPS
RESOURCE EFFICIENT
EPS PRODUCER
PRESERVATION
98% AIR
WHITE GOODS
TRANSPORTS
30
SHOCK RESISTANCE
EFFICIENT INSULATION

3



Cost Efficiency

Ensuring Insulation is Accessible to Every Part of Society

Current environmental objectives of the European Commission, represented by the Green Deal, are very ambitious. They pose a real challenge in combining energy efficiency with affordability.

To make Europe climate-neutral by 2050, the EU must not leave its most vulnerable member states and citizens behind. Expanded Polystyrene (EPS) provides a direct solution, as the only insulation material affordable to every part of society.

The Contribution of EPS

In Insulation:

The production method and chemical structure of EPS ensure a large quantity of insulation boards can be produced from a limited input of raw material. EPS beads are expanded by a factor of 40, before being moulded into their destined shape.

This efficiency in production alongside its ready availability is one of the factors that ensures EPS remains affordable. Its durability and longevity also further ensure that once EPS insulation is in place, there is no need for maintenance or replacement. This is due to the moisture and fungus resistance of EPS, which ensures a consistent insulation performance across its lifecycle. After the initial investment pays off, no further insulation-related costs occur during the lifetime of the building.

In Packaging:

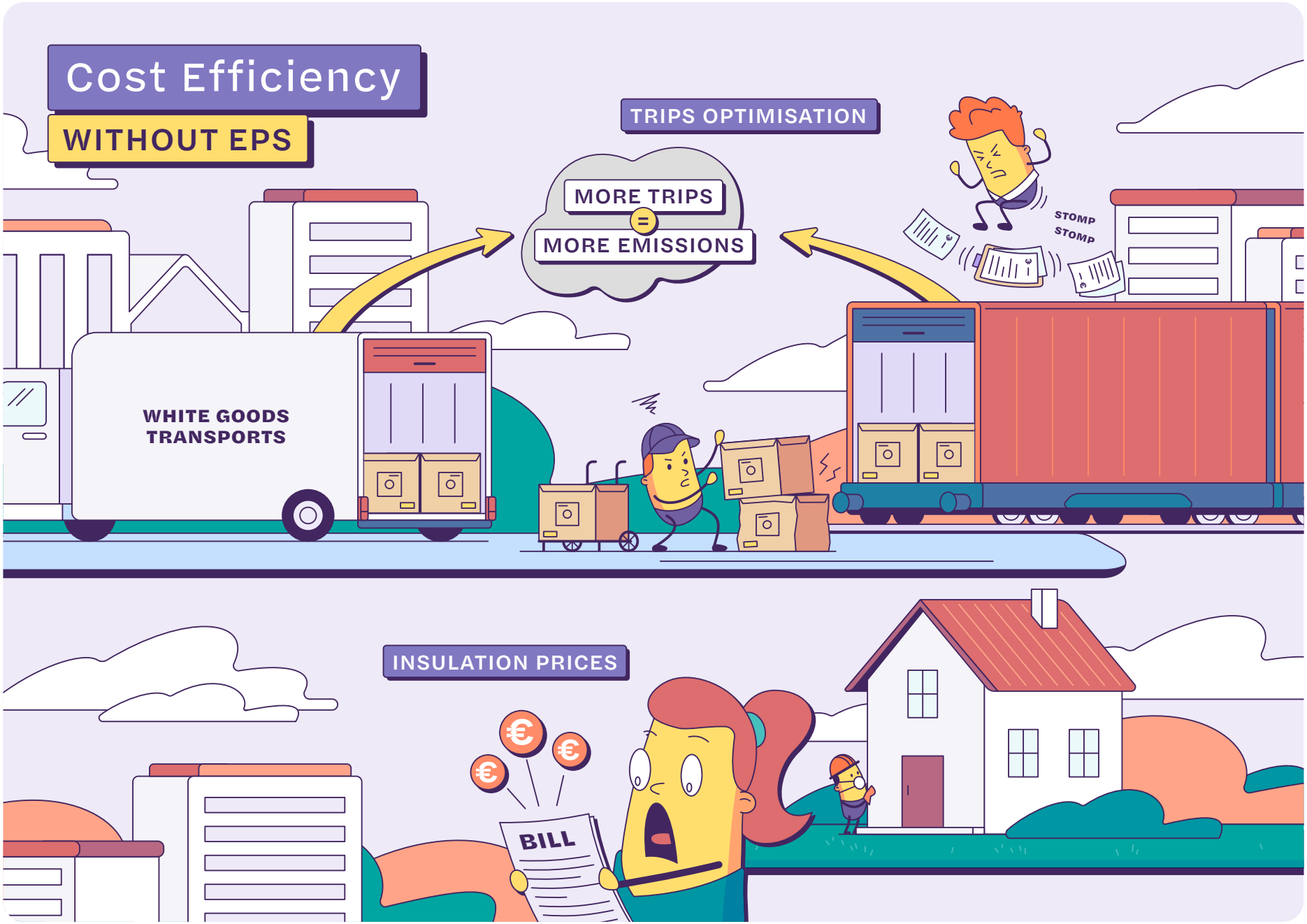
The light weight nature of EPS represents a great asset in cost efficiency, as its weight is negligible in comparison to the total weight of shipments. This serves to reduce shipping fees and ensures business can allocate their resources more efficiently.

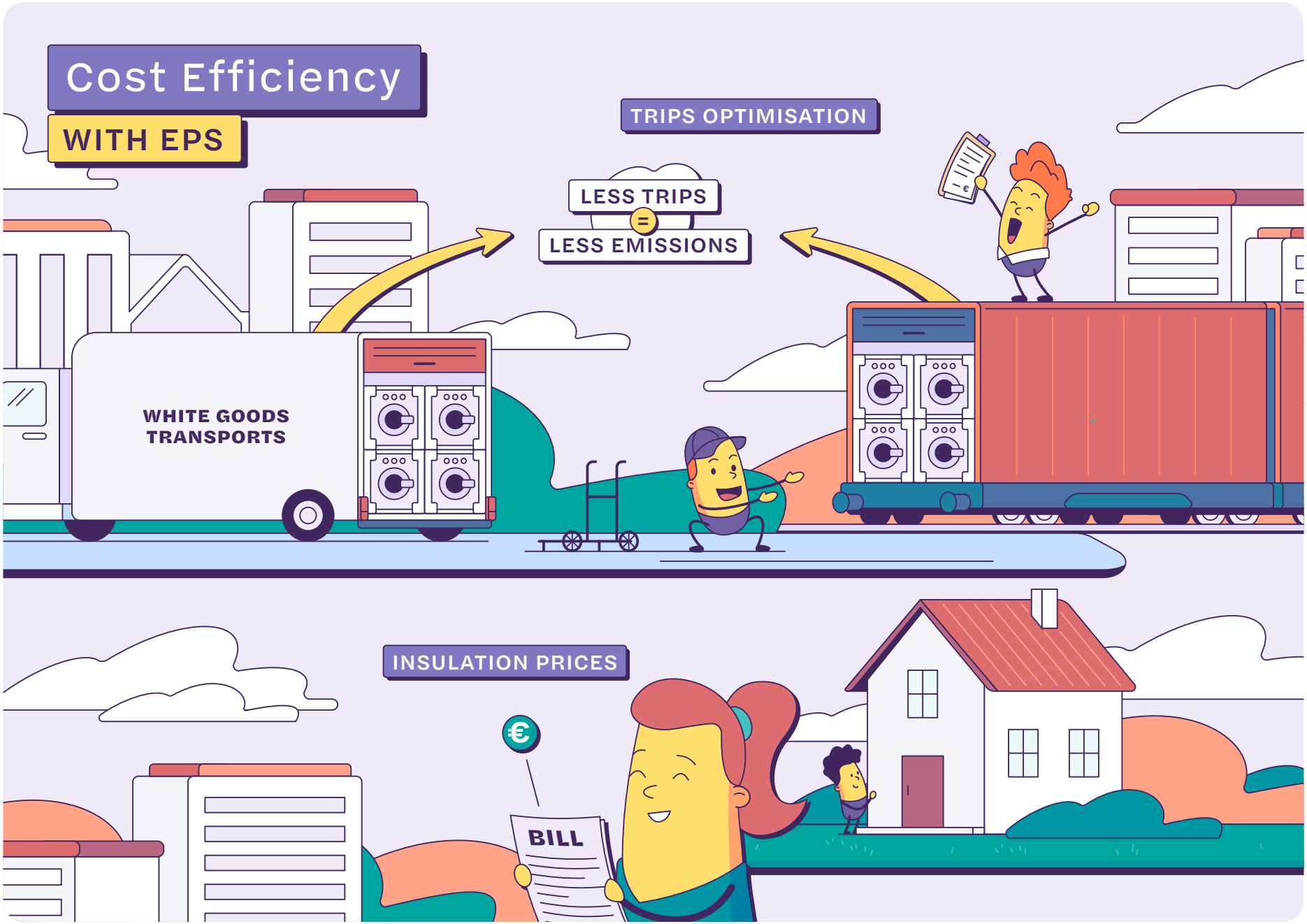
Damaged products and returns also represent a significant extra cost on shipping. The strong shock absorption of EPS helps alleviate this risk and reduces the number of steps across the value chain, resulting in greater cost efficiency.

EUMEPS Engagement

If we truly want to achieve a climate-neutral Europe by 2050, we cannot disregard the most vulnerable members of society.

EUMEPS stands as an enabler towards this great collective goal, as a source of technical knowledge and legislative advice in all things related to EPS. By collaborating with policymakers, we can ensure vulnerable communities are not left behind and maintain the highest standards of ecological responsibility.


Cost Efficiency
WITHOUT EPS
TRIPS OPTIMISATION
MORE TRIPS
=
MORE EMISSIONS
STOMP
STOMP
WHITE GOODS
TRANSPORTS
INSULATION PRICES
BILL


Cost Efficiency
WITH EPS
TRIPS OPTIMISATION
LESS TRIPS
=
LESS EMISSIONS
WHITE GOODS
TRANSPORTS
INSULATION PRICES
€
BILL

4 Recyclability & Circularity

100% Recyclable by design

The latest statistics show that European recycling rates hover around an average of 50%, broken down into different categories, but notably 64% of total packaging waste. With an average growth of its recycling rate of 4 % per year, EPS can play a significant role in improving these figures.

EPS is 100% recyclable and already widely recycled. However, the EPS industry is committed to further boosting there cycling rates of our material. Various recycling methods, such as mechanical, physical and chemical, offer viable solutions to EPS waste, offering suitable technology for all waste streams, no matter how contaminated. As mechanical recycling technology offers the highest sustainability, separate collection is preferred to keep materials sorted. These efforts are assisted by ambitious platforms such as Reco Trace®, which enable a comprehensive tracking of recycling tonnage and use of plastic materials.

The Contribution of EPS

In Insulation:

EPS is highly adaptable and can be shaped to fit any application. In construction, boards are cut with a hot wire to match exact dimensions. This process generates clean off-cuts, which can be collected and recycled through mechanical recycling, a process that involves grinding the material and reintroducing it into new production, often mixed with virgin beads.

When off-cuts or used EPS are contaminated or contain substances that are no longer permitted today, mechanical recycling is no longer sufficient. In such cases, advanced solutions are used: dissolution (a form of physical recycling) enables the recovery of clean polystyrene, while chemical recycling breaks EPS down to its original monomer, allowing for the production of new virgin-quality material.

These complementary approaches help close the loop for EPS, ensuring that more material is retained in the production cycle, even when contamination or complex waste streams are involved.

In Packaging:

EPS packaging can be recycled several times throughout its lifecycle. Across numerous industries such as healthcare and research (for medicine and vaccines), fishing, agriculture (transport of seedlings and plants) and white goods. All have in common their active recycling of EPS on a large scale.

Once the packaging has served its purpose, it is collected, recycled and reintroduce into the economy.

This process follows rigorous guidelines. First off, the separate collection of EPS ensures it is not mixed with other waste and prevents contamination. Modern sorting facilities are designed to sort EPS out of mixed plastic house hold waste, for instance. Following its collection, the material is thoroughly cleaned to remove contaminants. It is often compacted at this stage for ease of transport. Finally, the material is either ground back into beads or put into an extruder where it is melted to be recycled. This ensures EPS always remains within the economy and stands as a shining example of circularity. Where possible, EPS packaging is also re-used, as is the case in food catering when hygienic requirements allow it.

EUMEPS Engagement

EUMEPS ensures the vital 100% recyclability of EPS is not swept aside by policy focused on other types of plastics.

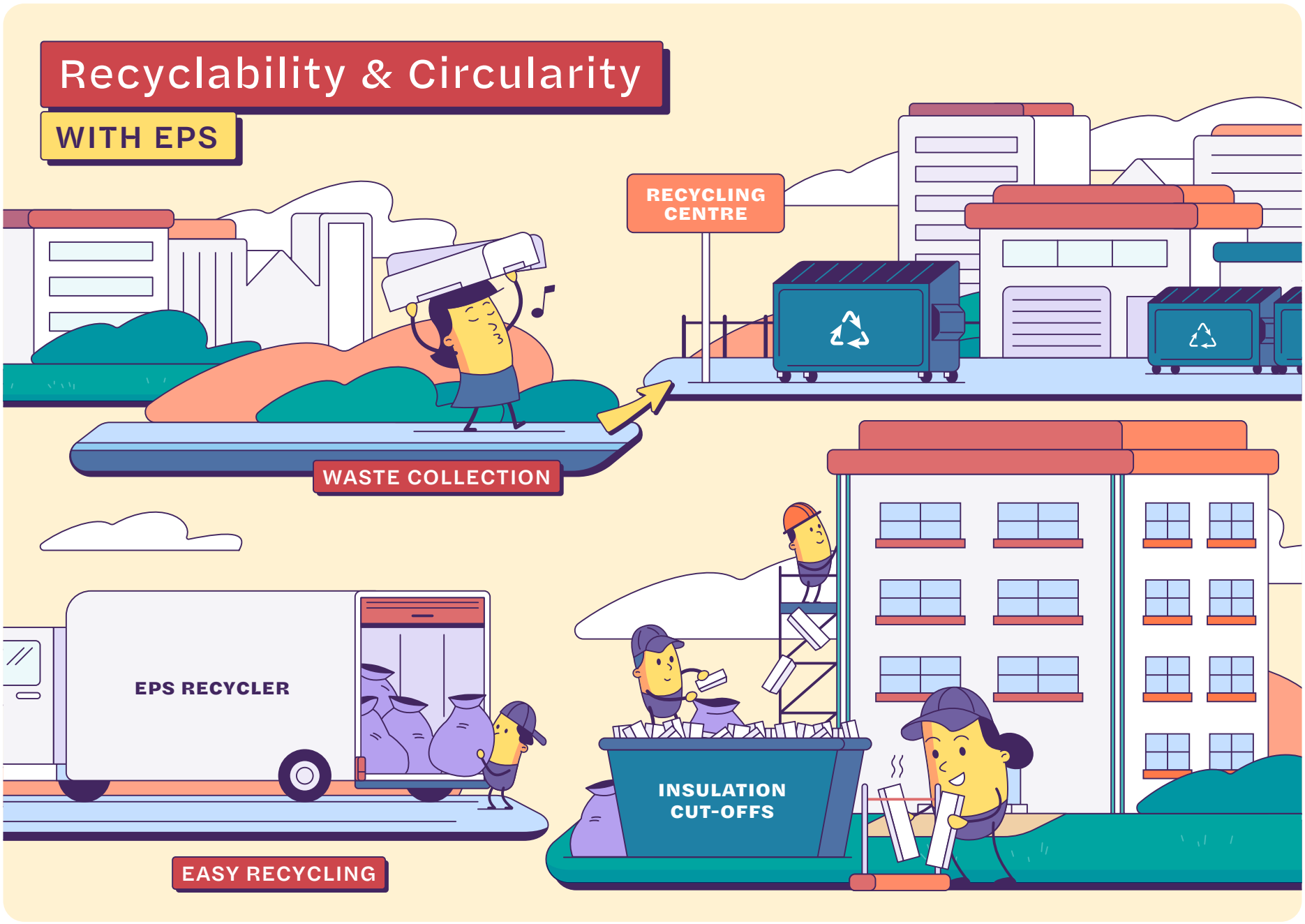
By advocating for enhanced waste collection strategies and partaking in efficient collaborative efforts such as Reco Trace®, EUMEPS provides technical and legislative guidance to policymakers. Thus, Europe can move towards greater circularity and environmental stewardship with EPS.

Recyclability & Circularity

WITHOUT EPS

Recyclability & Circularity

WITH EPS



5 Health Benefits

An Ally to Preserve the Things that Matter Most

Safety and health hold a significant place among Expanded Polystyrene's(EPS) many contributions to society.

From the transport of medical essentials in ideal conditions, to keeping you and your children safe, EPS provides the properties critical to keep disaster at bay. To disregard EPS is to turn away from efficient solutions at our disposal. EUMEPS therefore provides policymakers with the most up-to-date technical and legislative information, soEPS may continue to assist in our safety.

The Contribution of EPS

In Insulation:

EPS insulation contributes to healthier buildings in several ways. Its moisture resistance helps prevent mould growth, supporting good indoor air quality and reducing risks of respiratory problems. By maintaining stable indoor temperatures, EPS also creates more comfortable and hygienic living conditions, thus improving the well-being of inhabitants.

On construction sites, EPS supports the health and safety of workers. It is a lightweight material, which reduces physical strain and the risk of musculoskeletal disorders. Additionally, EPS does not release irritant dust when cut or installed, meaning no masks or specialised protection are needed. This makes it easier and safer to handle during both new builds and renovations.

EPS thus plays a dual role: protecting health in the home and safeguarding well-being at work.

In Packaging:

EPS Packaging is essential to the safe delivery of medical goods. Medicine, donor organs and vaccines are all temperature and shock-sensitive, and thus require extremely specific conditions for safe transportation.

As EPS offers great impact resistance, it provides critical protection in cycling helmets. Likewise, its 98% air composition grants it to buoyancy necessary to be used in life jackets at sea. These characteristics ensure that EPS is ideal in safeguarding the people that matter most from injuries.

As insulation, it is a valuable component for bee houses, offering the ideal thermal regulation required to maintain a perfect temperature year-round. Thus, EPS is also an important contributor to preserving our biodiversity

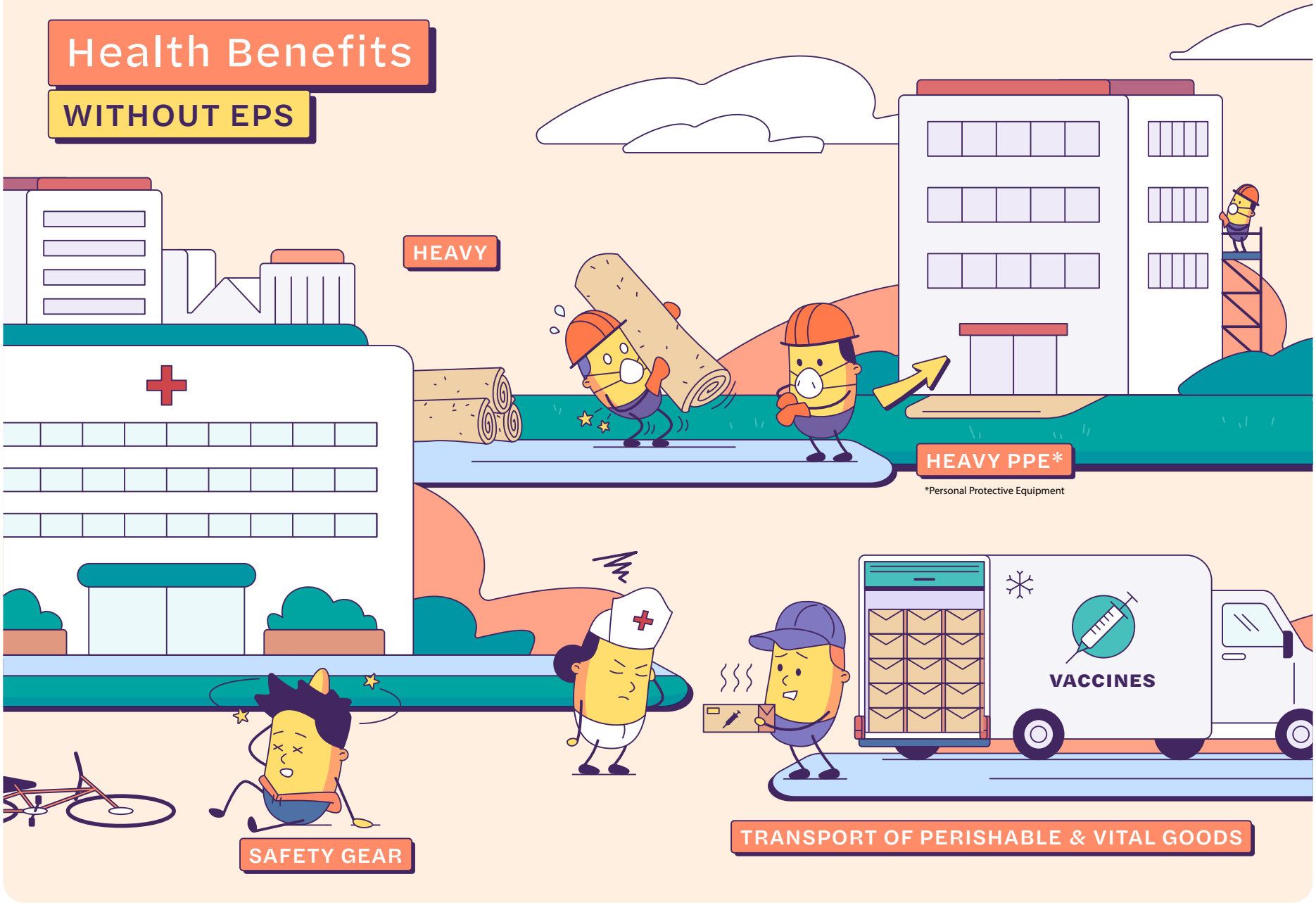
EUMEPS Engagement

EUMEPS offers a vital advisory role, ensuring that EPS continues its essential contributions to society in safety, health, and insulation.

By offering updated technical and legislative guidance, EUMEPS champions EPS's use in preserving medical essentials during transport and providing energy efficient homes.

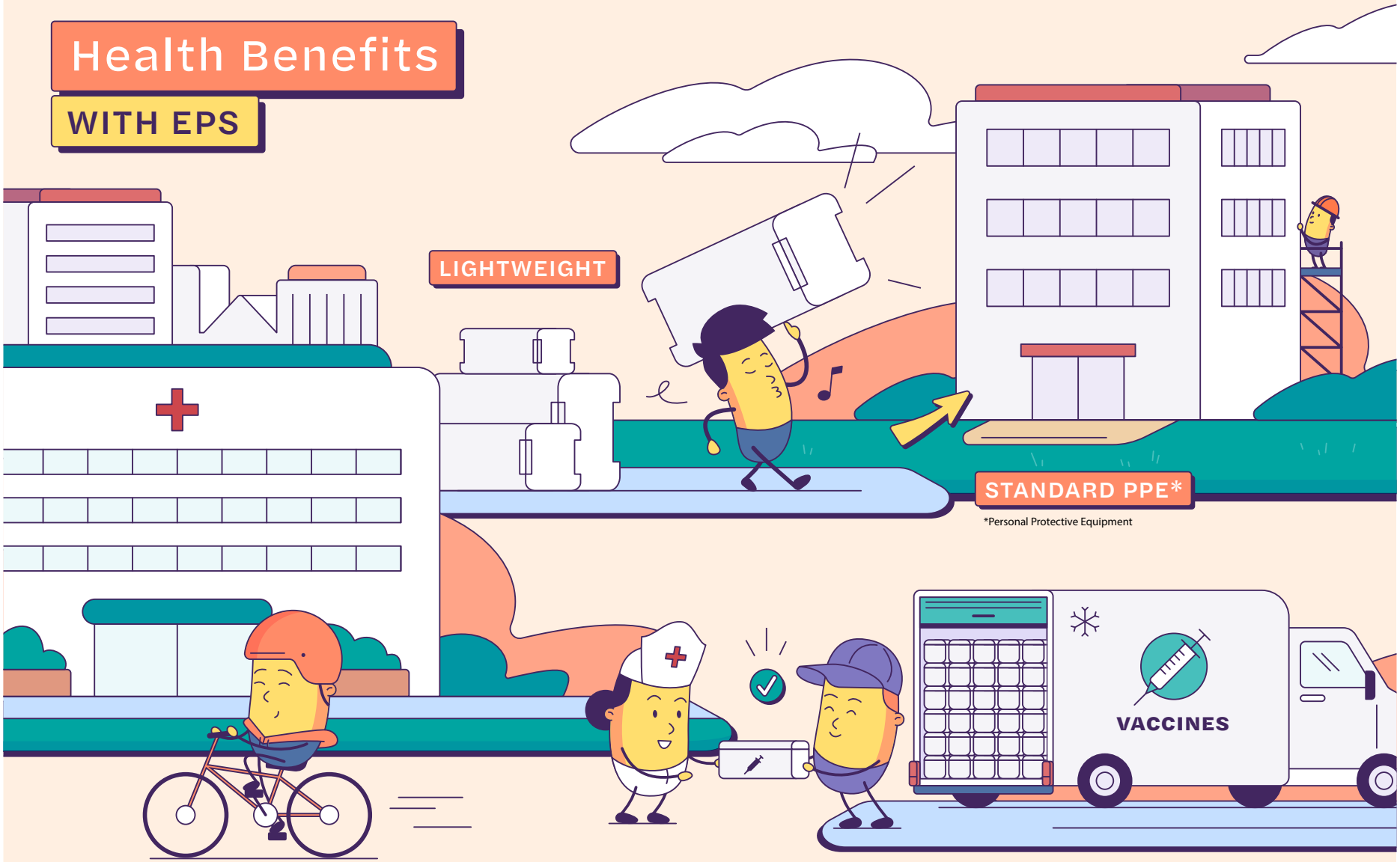
Health Benefits

WITHOUT EPS

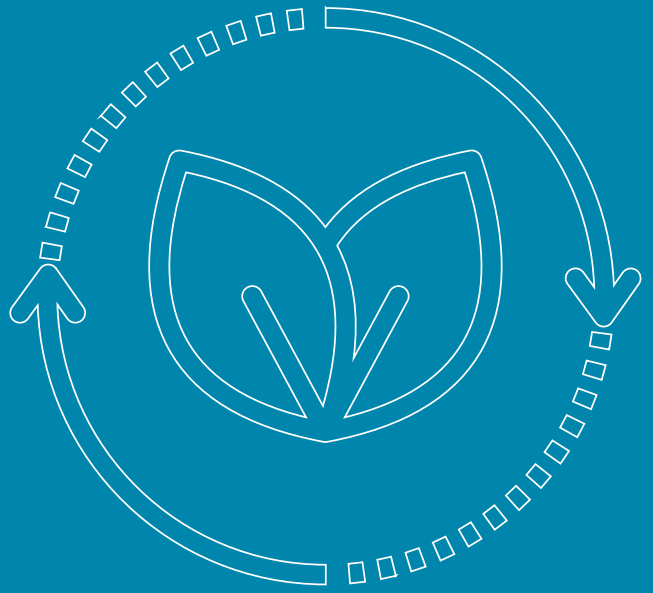


Health Benefits

WITH EPS



6 Sustainability



Contributing to a More Sustainable World

Through the many applications of Expanded Polystyrene (EPS) mentioned previously, our material plays an undeniable role in building a more sustainable future. Without these contributions, current European climatic targets may become unachievable in the fields of insulation and goods transportation.

By engaging with key players in both the industry and policymaking sphere, EUMEPS is committed to the continued development of EPS as an environmental solution to reduce our carbon footprint.

The Contribution of EPS

In Insulation:

Allying energy efficiency and affordability, EPS insulation entails a significant reduction in the energy consumption of buildings.

Especially if its natural thermal retention properties are applied in conjunction with efficient heating methods, such as heat pumps. Heat pumps operate most efficiently at low flow temperatures, which are only achievable when heat loss is minimised, and that requires high-performing insulation. Without proper insulation, heat pumps or other modern heating systems consume more electricity, undermining both their economic and environmental benefits. Studies have shown that the heating energy savings provided by EPS insulation offset the energy required for its production, transport and disposal in just a few months.

Over a standard 40-year service life, EPS insulation saves many times the amount of energy and CO_2 used in its manufacturing, making it a low-impact and high-return material from a lifecycle perspective.EPS façade insulation, furthermore, recoups the pure consumption of its raw material input within a single winter.

In Packaging:

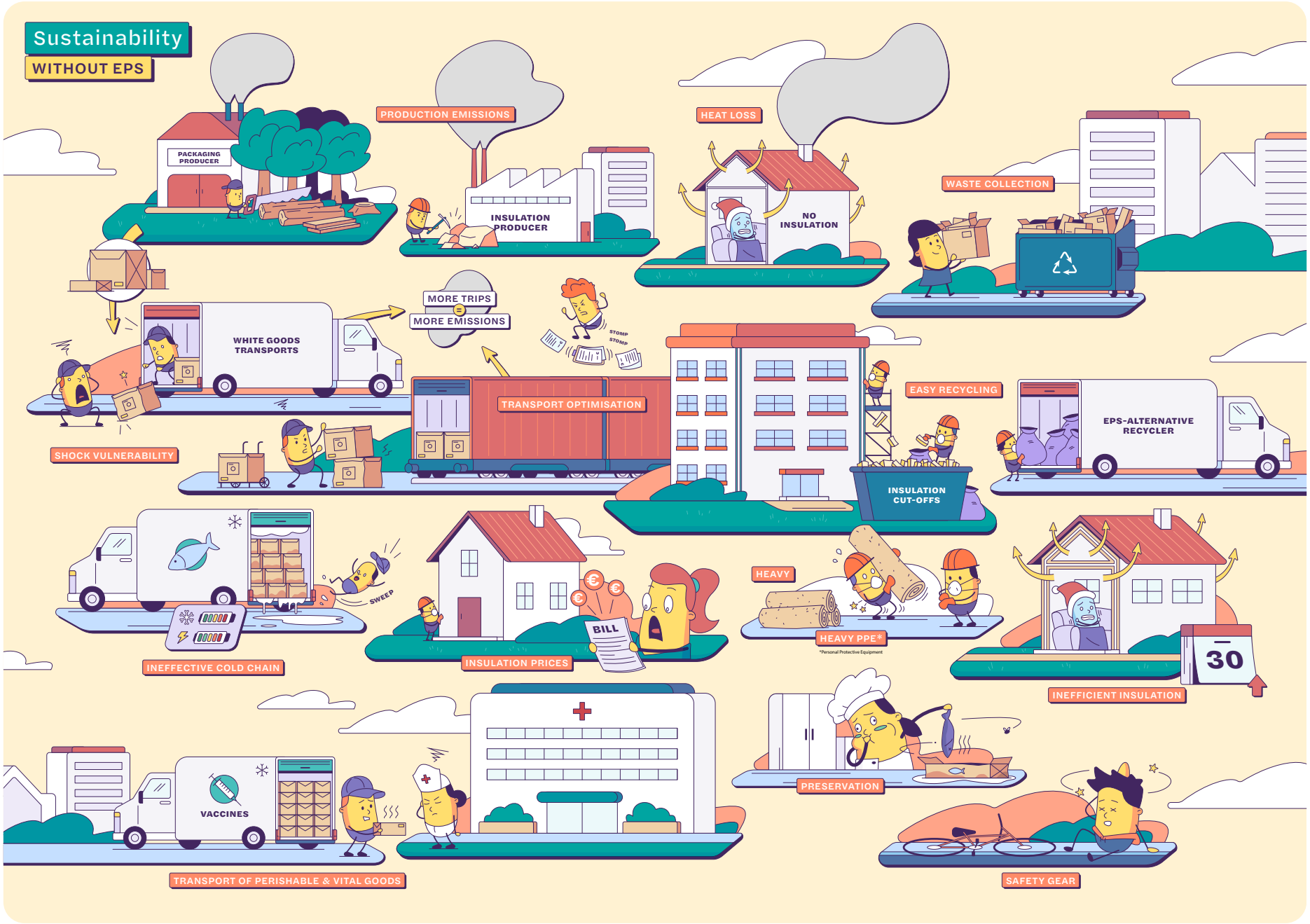
EPS packaging helps prevent food waste by offering great humidity resistance, unlike alternative packaging materials. As bacteria, mould and fungi are kept out by EPS, food is preserved, ensuring greater sustainability.

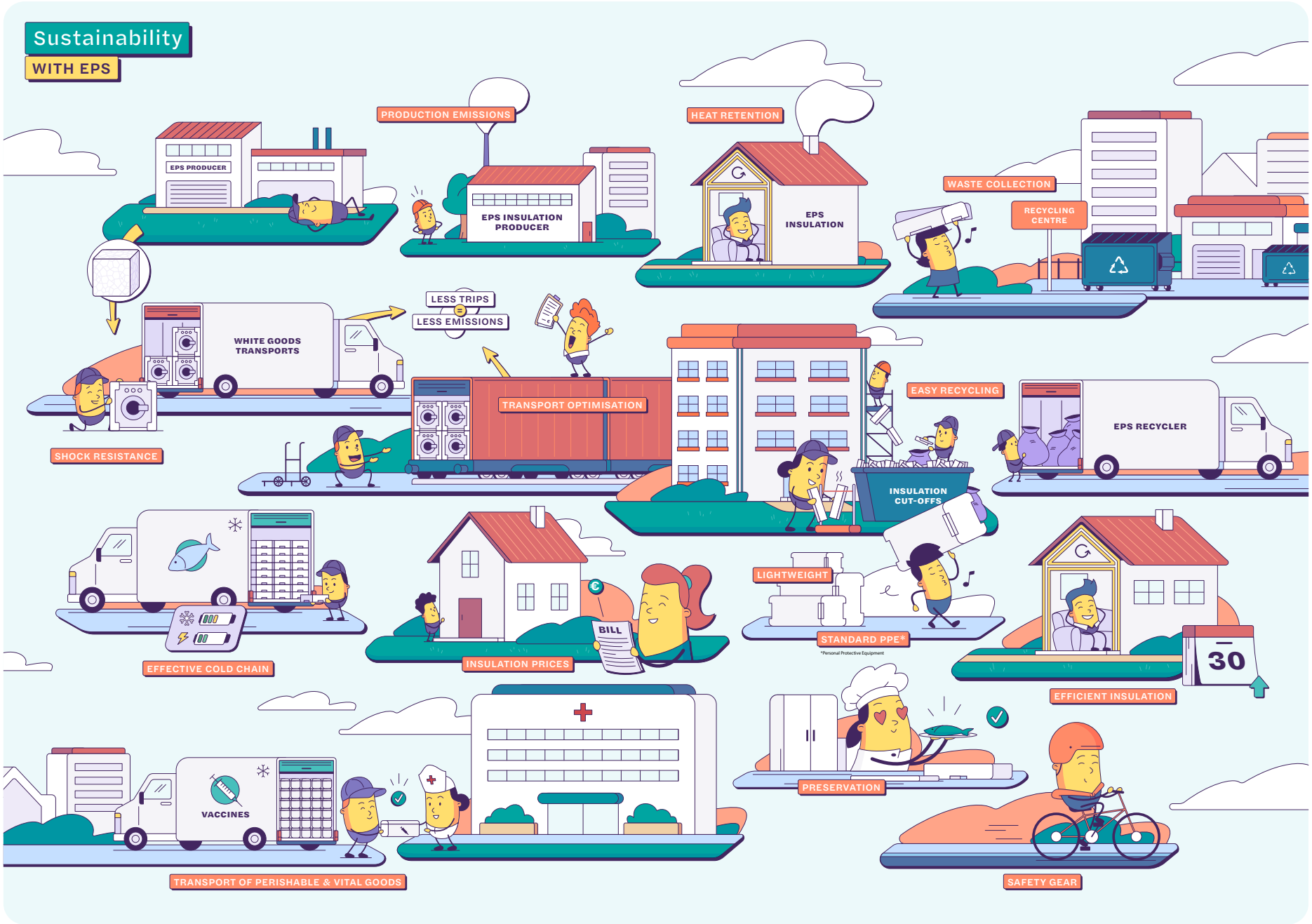
Likewise, the resource loss of returned goods is minimised with EPS packaging as its shock-absorbing properties reduce the risk of damaged white goods. These factors, once again, ensure less redundancy in our energy expenditures, and thus promotes greater sustainability and circularity.

EUMEPS Engagement

EUMEPS reinforces the EPS industry's drive towards sustainability and resource efficiency. Through concerted advocacy regarding technical and legislative knowledge on EPS, EUMEPS provides policymakers with the information to enable this drive to manifest.

By aligning every key player, we can strive towards achieving the ambitious goals set out by the European Commission and preserve our planet.


Sustainability
WITHOUT EPS
PACKAGING PRODUCER
PRODUCTION EMISSIONS
INSULATION PRODUCER
HEAT LOSS
NO INSULATION
WASTE COLLECTION
MORE TRIPS
=
MORE EMISSIONS
WHITE GOODS TRANSPORTS
STOMP
STOMP
TRANSPORT OPTIMISATION
SHOCK VULNERABILITY
EASY RECYCLING
EPS-ALTERNATIVE RECYCLER
INSULATION CUT-OFFS
SWEEP
INEFFECTIVE COLD CHAIN
BILL
INSULATION PRICES
HEAVY
HEAVY PPE*
*Personal Protective Equipment
30
INEFFICIENT INSULATION
VACCINES
TRANSPORT OF PERISHABLE & VITAL GOODS
PRESERVATION
SAFETY GEAR


Sustainability
WITH EPS
EPS PRODUCER
PRODUCTION EMISSIONS
EPS INSULATION PRODUCER
HEAT RETENTION
EPS INSULATION
WASTE COLLECTION
RECYCLING CENTRE
LESS TRIPS
LESS EMISSIONS
WHITE GOODS TRANSPORTS
TRANSPORT OPTIMISATION
SHOCK RESISTANCE
EASY RECYCLING
EPS RECYCLER
INSULATION CUT-OFFS
EFFECTIVE COLD CHAIN
INSULATION PRICES
BILL
LIGHTWEIGHT
STANDARD PPE*
*Personal Protective Equipment
30
EFFICIENT INSULATION
VACCINES
TRANSPORT OF PERISHABLE & VITAL GOODS
PRESERVATION
SAFETY GEAR

EUMEPS, the unified European voice of the Expanded Polystyrene (EPS) industry

Representing every link of the EPS value chain, from large companies to SMEs, we are committed to fulfilling European environmental objectives. Through our 23 national associations and numerous recycling initiatives, we strive to elevate the circularity of our industry.

As a contributor to making Europe climate-neutral and resource-efficient, we showcase EPS as the smart choice in packaging and insulation. Stand by us in building a more resilient and sustainable tomorrow.

Discover the online version

Scan the QR code

eumeps

The voice of the
European EPS Industry

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