



CONAL GREEN ECONOMY REPORT -2020-

Highlights

Letter from the President

It is with profound satisfaction that I sign this edition of our Sustainability and Green Economy Report that recounts the events of 2020, a complicated but equally unique year. For almost 25 years, CONAI's activity has been to guarantee the recycling of materials from which packaging put on the market in Italy is made, placing our country among the best European performers in this field.

Speaking of 2020, one cannot fail to consider the crisis situation in which we were forced to operate as a result of the Covid-19 pandemic that changed the lives of each of us. So it is with pride that I can today say, with hindsight, that it is only thanks to the collaboration and vision of the system that the health crisis was not followed by one of an environmental nature. And for this we must undoubtedly give credit to the collaboration of all the players in the chain in which CONAI played a fundamental role, making it possible, thanks to the timely intervention of the Supply Chain Consortia and the active collaboration with central institutions and ANCI, to save natural resources and energy and generate new secondary raw materials, subsequently used for the production of new goods for daily use in place of other virgin raw materials.

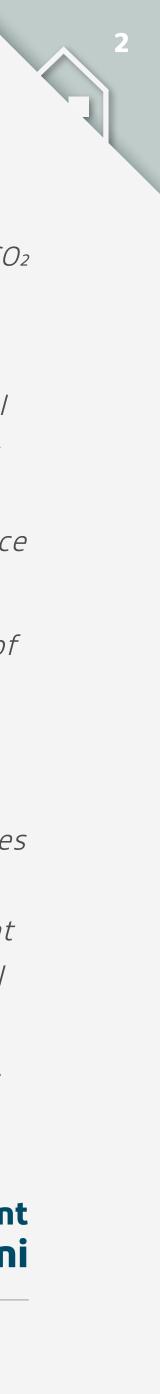
The 2020 data even set a record for our country, which brought 73% of the packaging materials put on the market to a second life, far exceeding the minimum recycling targets in force (55%) and, if we add recovery to recycling, i.e. the exploitation of packaging materials as an energy source, we reach 83.7% of the total amount of packaging waste recovered. Thus also contributing to reduce CO₂ emissions into the atmosphere; in 2020 alone, 4.4 million tonnes of CO₂ equivalent avoided thanks to the recycling of the consortium system.

2020 represents a year of significant innovations also linked to the evolution of the regulatory context and that led the Consortium to start a process of renewal in the transition towards the circular economy, involving the main stakeholders: institutions, companies, local authorities, citizens and supply chain consortia. Hence the decision to narrate 2020 precisely in relation to what CONAI put in place vis-à-vis each of these stakeholders.

As is now customary, in order to quantify the environmental and social effects of our efforts, we have the scientific tool, the Life Cycle Costing Tool, which allows us to calculate the direct and indirect effect of the efforts of the system.

Finally, we wanted to dedicate a specific analysis on the positive effects of ecodesign interventions, promoted by companies and narrated by CONAI as examples of good practice. Worthy of a final mention is the fact that the report is part of the commitment to transparency and involvement towards its stakeholders that is also the basis of the Consortium's EMAS Environmental Policy, and that is well reflected in the decision to adopt a reporting model consistent with GRI criteria and included in the wider context of the 2030 Sustainable Development Agenda.

> CONAI President Luca Ruini





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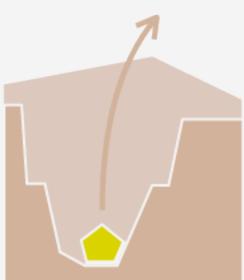


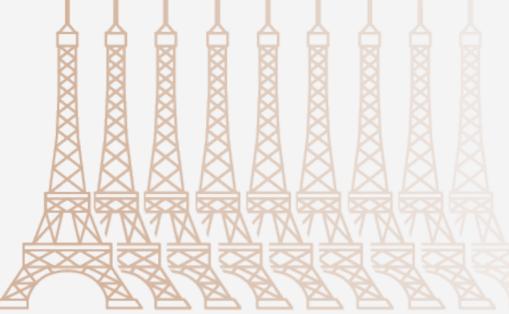


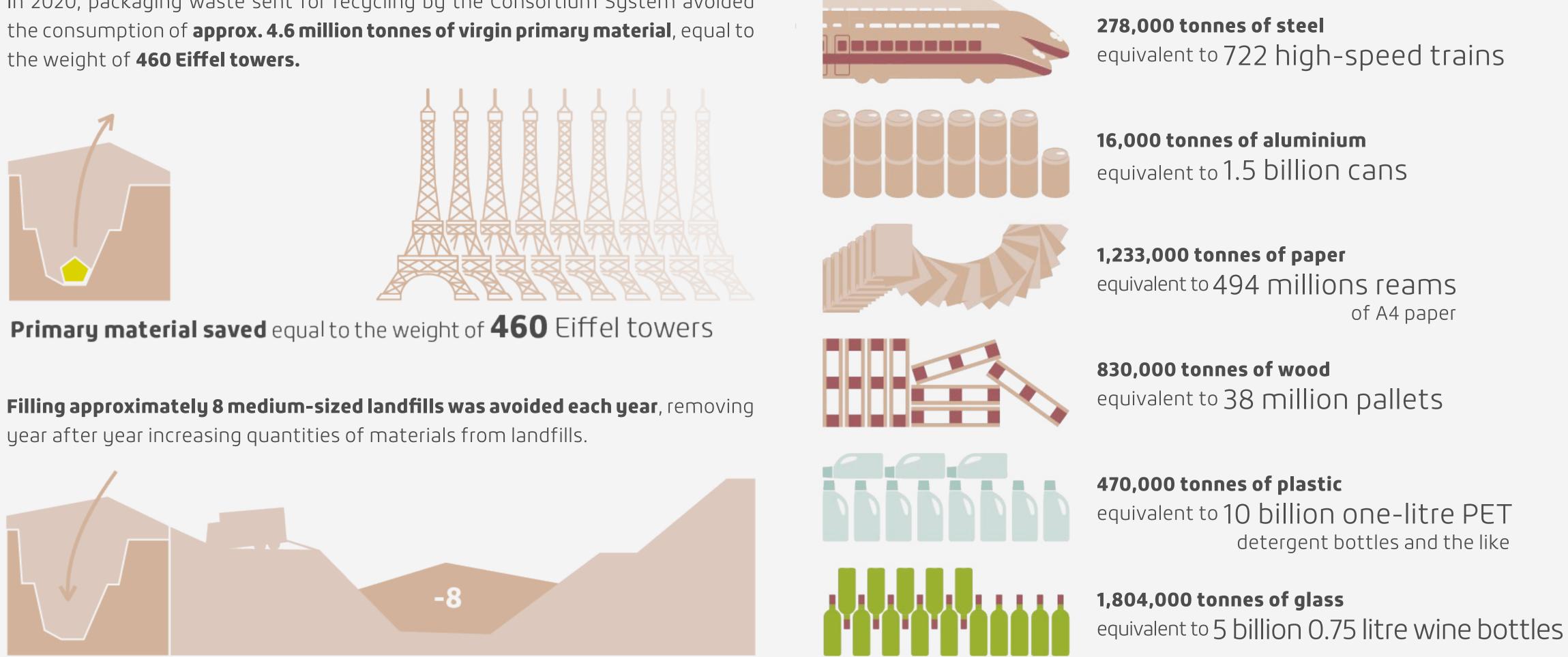


CONTRIBUTION OF THE CONSORTIUM SYSTEM TO THE CIRCULAR ECONOMY IN OUR COUNTRY: MATERIAL SAVINGS AND LANDFILLS AVOIDED

In 2020, packaging waste sent for recycling by the Consortium System avoided

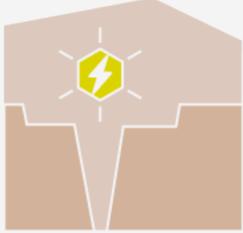


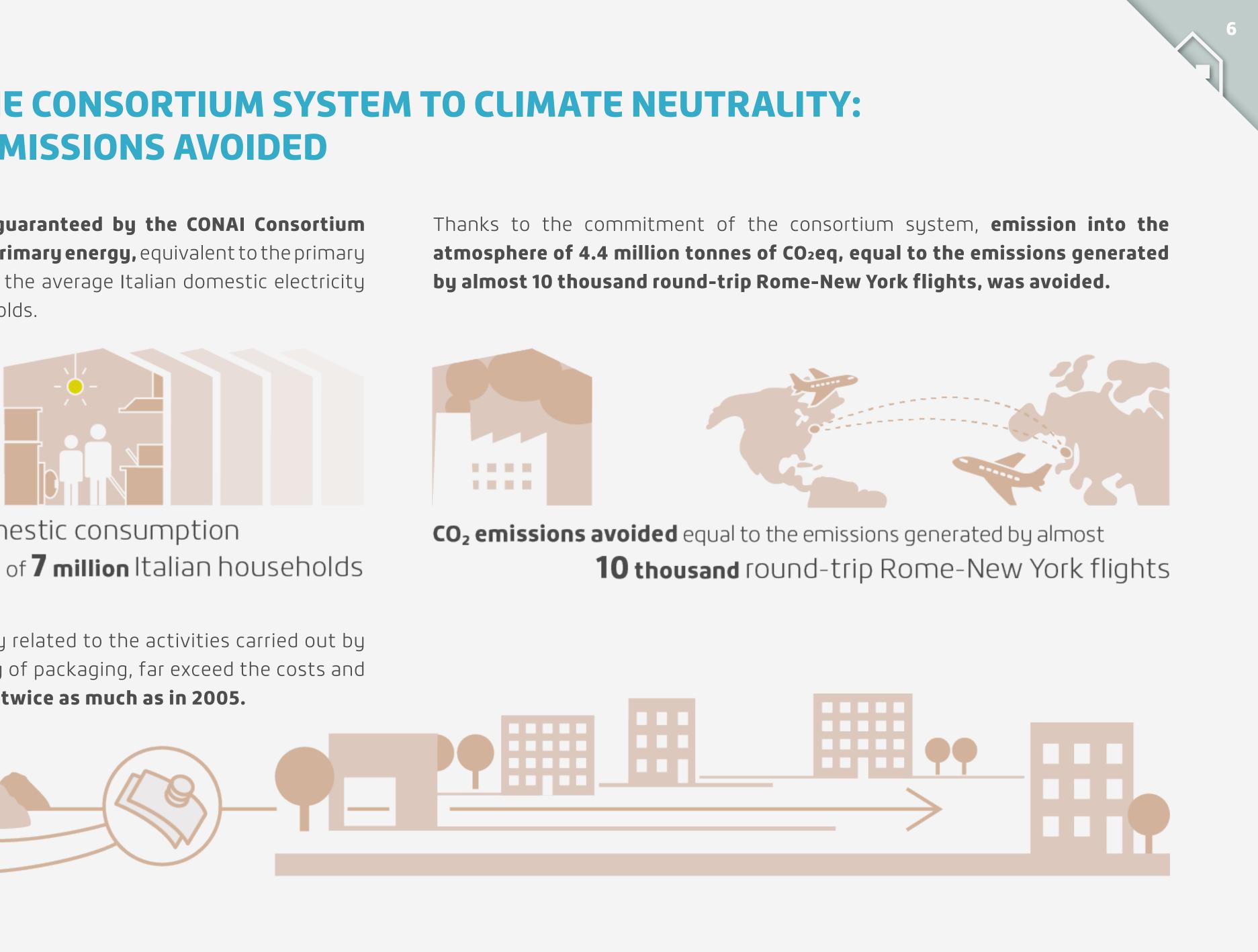


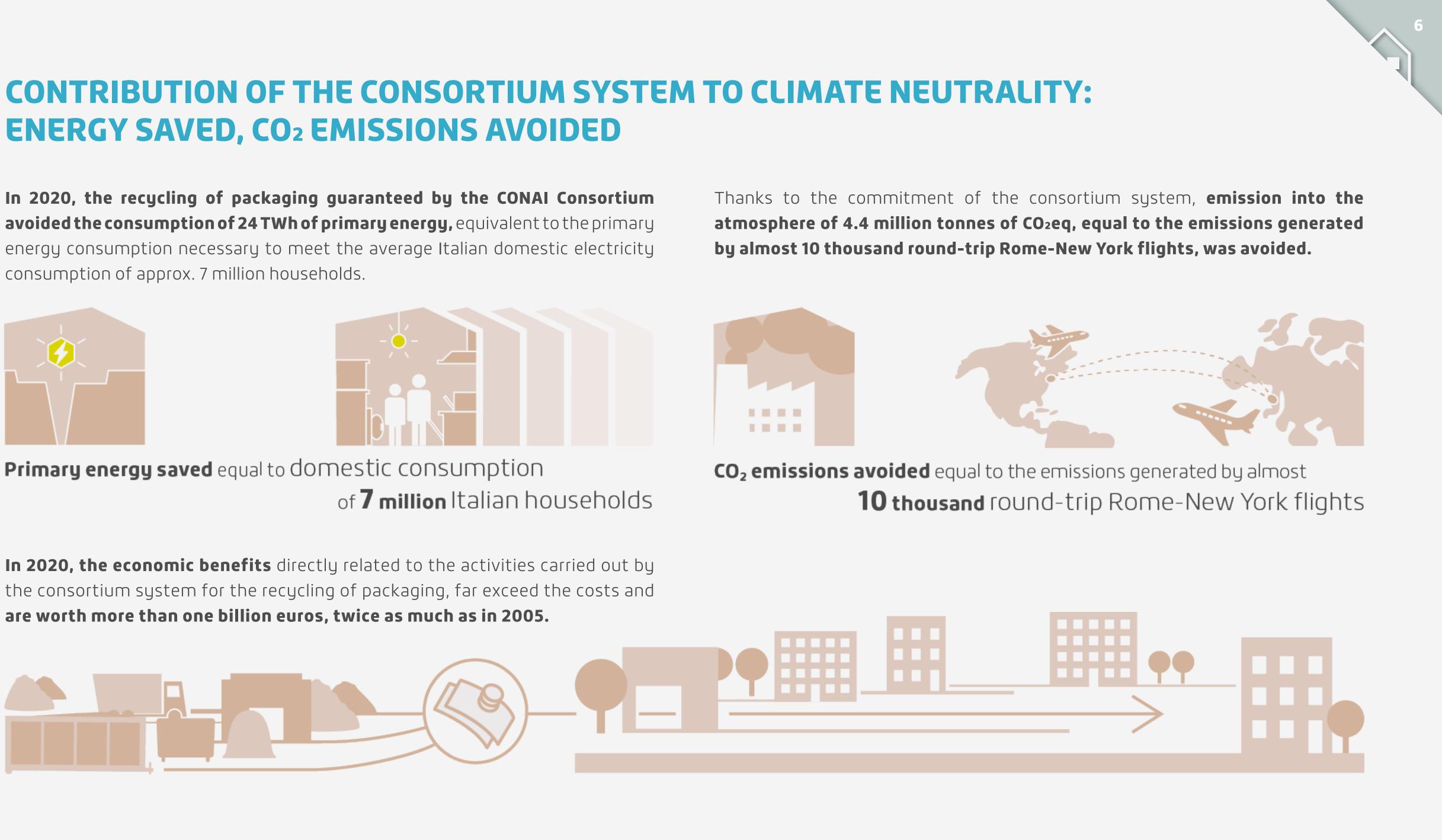




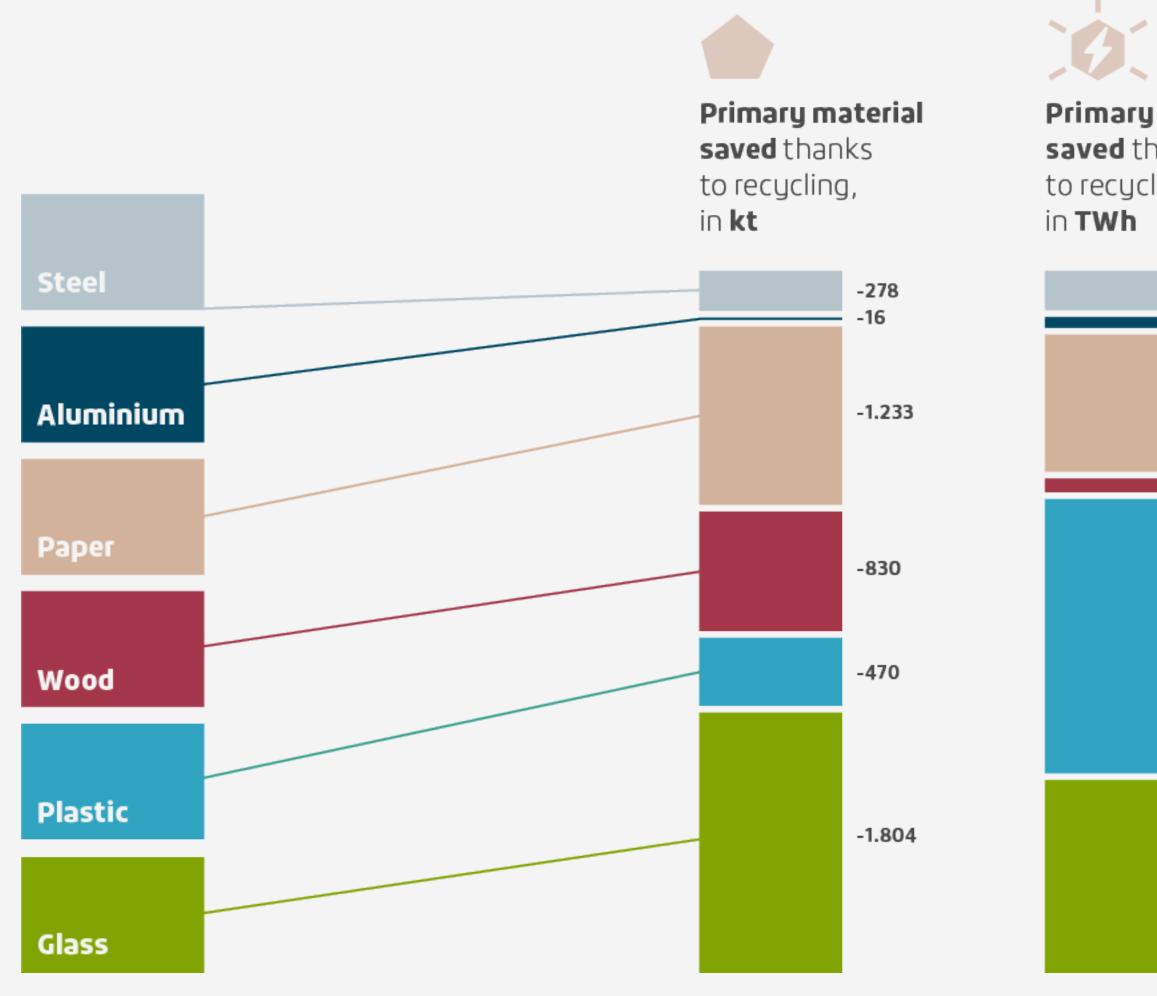
by almost 10 thousand round-trip Rome-New York flights, was avoided.



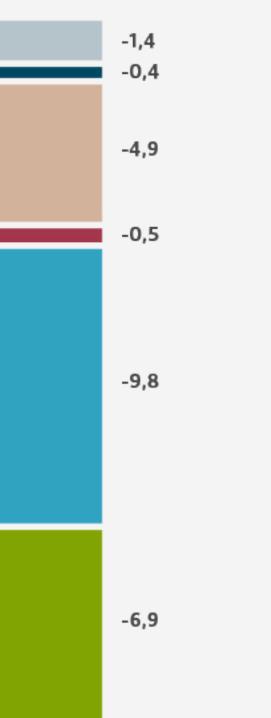




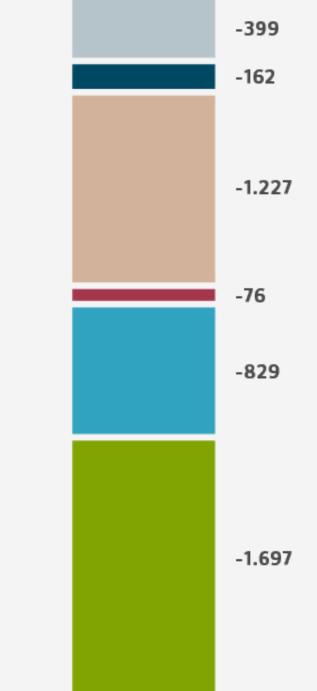
ENVIRONMENTAL AND ECONOMIC BENEFITS OF THE SIX SUPPLY CHAIN CONSORTIA MANAGEMENT IN 2020



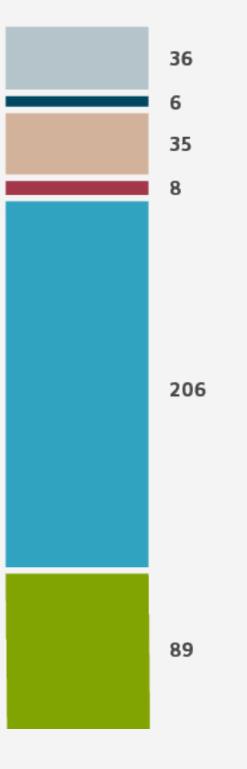
Primary energy saved thanks to recycling, in TWh



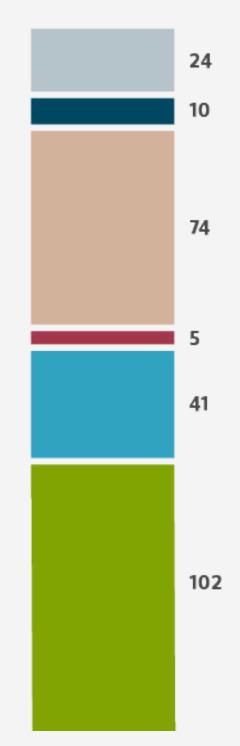




Economic value of the **materil** recovered thanks to recycling, in **€ M**



Economic value of the **CO**₂ avoided thanks to recycling, in **€ M**



Source: CONAI LCC Tool

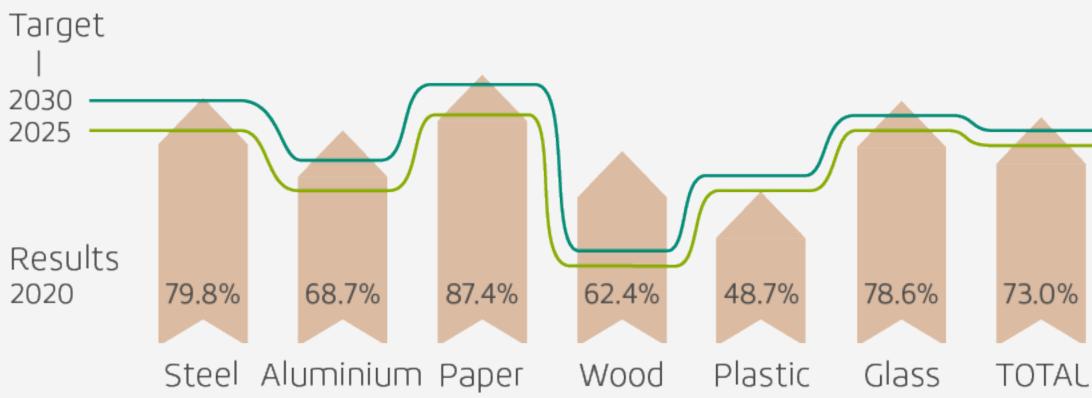


73% OF PACKAGING RECYCLED IN 2020, DESPITE THE PANDEMIC

More than 9 million tonnes of packaging was recycled in 2020, despite the pandemic causing the quantities put on the market to plummet.

THE ONSET OF A WASTE EMERGENCY WAS AVERTED THANKS TO THE EFFECTIVE COLLABORATION BETWEEN CONAI AND THE CONSORTIUM SYSTEM, NATIONAL AND LOCAL INSTITUTIONS **AND INDUSTRY OPERATORS.** Puton Sent Recycling the market for recycling rate 2020 2019 2019 2020 2020 2019 73% 13.7 **69.6**% 13.1 9.5 9.5 million tonnes +5.4% 87.4% 48.7% 73.0% 79.8% 68.7% 62.4% 78.6% -4,6% stable thanks to municipal

The CONAI supply chain continued, despite Covid. The packaging recycling rate in 2020 was 73%, exceeding the 2025 target of 65%. The collection of packaging waste from municipal collection never stopped, even during the most critical months of the emergency, thanks to the contribution of CONAI and the Supply Chain Consortia. Quantities put on the market decreased in 2020 (-4.6% compared to 2019), mainly due to the lack of packaging intended for the commercial and industrial sectors and the decrease in waste disposal from the hotel, bar and restaurant circuit. **CONAland the Supply Chain Consortia** on ceagain demonstrated **their subsidiarity** with respect to the market. A veritable added value for the entire recycling and packaging waste recovery chain. **CONAI**, after all, is the **entity guaranteeing** achievement of the recycling targets imposed by the European Union, which require reaching 65% by 2025.







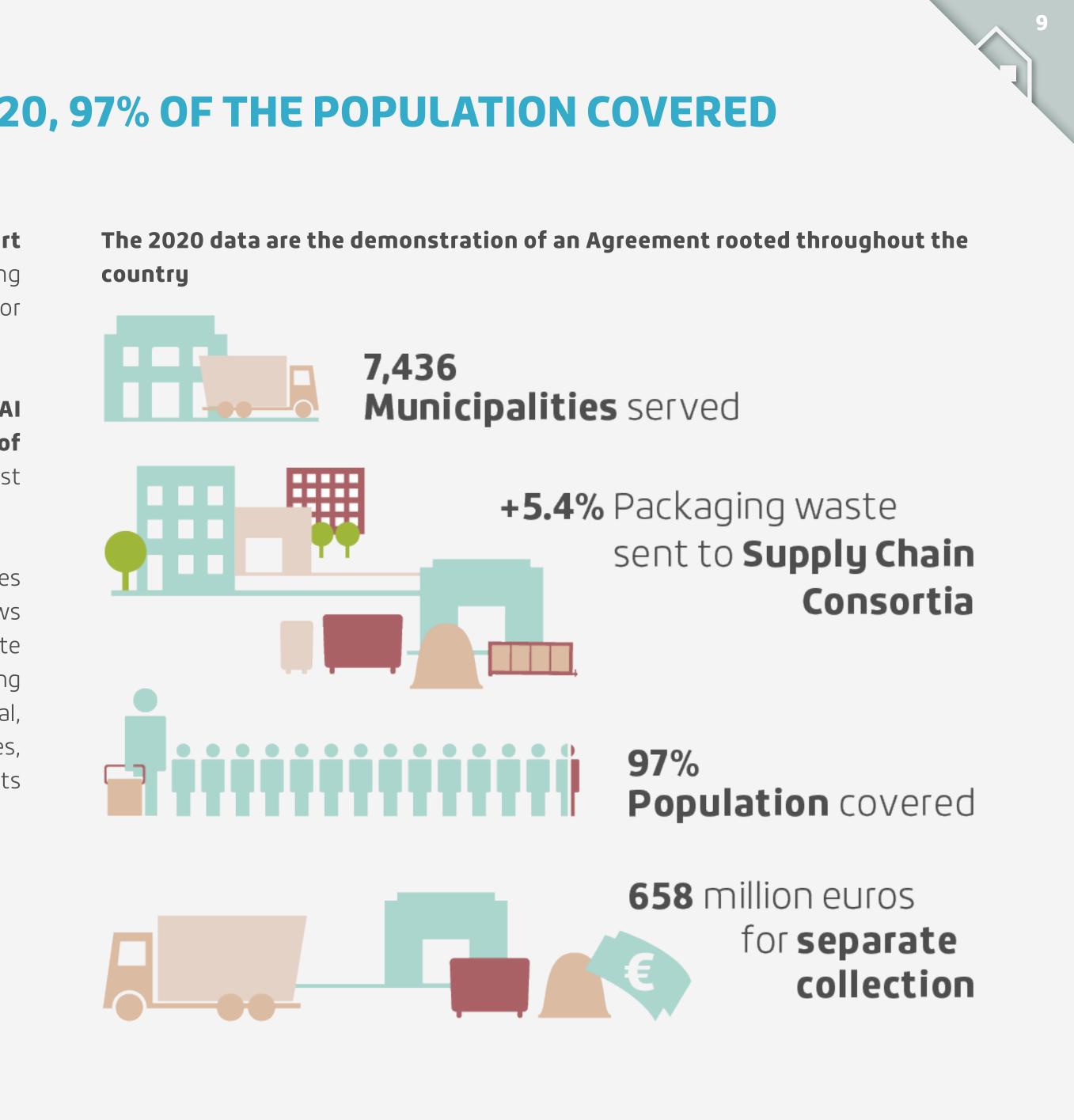


ANCI CONAI AGREEMENT RENEWED: IN 2020, 97% OF THE POPULATION COVERED AND €658 MILLION OF FEES DISBURSED

With the renewal of the ANCI-CONAI Framework Agreement, **CONAI's support for Italian municipalities was confirmed** in order to guarantee the recycling of packaging waste and the payment of fees for the higher charges incurred for separate collection.

The collaboration with Municipalities that began years ago with the ANCI-CONAI agreement has been the driving force behind the growth in separate collection of municipal waste, aimed at separating and recycling other parts, first and foremost organic waste, with significant positive environmental and economic effects.

The Agreement between CONAI and the National Association of Italian Municipalities (ANCI), provided for by art. 224 of Legislative Decree 152/2006, is voluntary and allows municipalities to sign an agreement that commits them to carry out the separate collection of packaging waste and to deliver the 6 materials to the competent packaging supply chain Consortia. The Consortia, in turn, guarantee acceptance of the material, its processing and subsequent sending for recycling, as well as payment of the fees, linked to the quantity and quality of the material delivered, to cover the higher costs of separate collection.



FOUNDATION OF BIOREPACK, THE FIRST EPR CONSORTIUM FOR BIODEGRADABLE AND COMPOSTABLE PLASTIC IN EUROPE

At the end of 2020, **BIOREPACK**, the "National Consortium for the organic recycling of biodegradable and compostable plastic packaging" joined the CONAI system.

That of Italy thus becomes **the first extended producer responsibility system in Europe to have a Consortium dedicated to the recovery of bioplastic packaging under its umbrella.**

CONAI facilitated the operational start-up of the new Consortium.

In 2019, according to surveys by the Italian Packaging Institute, **more than 75,000 tonnes of bioplastic packaging** were put on the market: 85% shopping bags, 12% film and ultralight bags for fruit and vegetables, 3% plates, glasses, film, containers, closures. In 2020, there was a decline of approx. 2%, primarily due to a decline in shopping bags (approx. -1%)





The contribution of CONAI and the consortia to the ecological transition



CONTRIBUTION OF CONALAND THE CONSORTIA: MATERIAL SAVED



SAVINGOFOVER55MILLIONTONNESOFPRIMARY **MATERIAL GENERATED IN 16 YEARS**

Using the **LCC Tool**, it is possible to measure the quantity of materials, deriving from virgin raw materials, saved thanks to

the use of secondary raw materials obtained from waste sent for recycling by the various CONAI supply chains. Thanks to the increase in quantities of packaging waste sent for recycling by the Consortium System, primary material saved has increased over time, from approx. 2.5 million tonnes of materials saved in 2005 to over 4.6 million tonnes in 2020, and generating a cumulative saving over the entire period of over 55 million tonnes of primary material.

RAW MATERIAL SAVED Consolidated 2005/2020: **55 M t** 2020: **4.6 M t**



Primary material saved thanks to consortium management recycling from 2005 to 2020



CONTRIBUTION OF CONALAND THE CONSORTIA: ENERGY SAVED

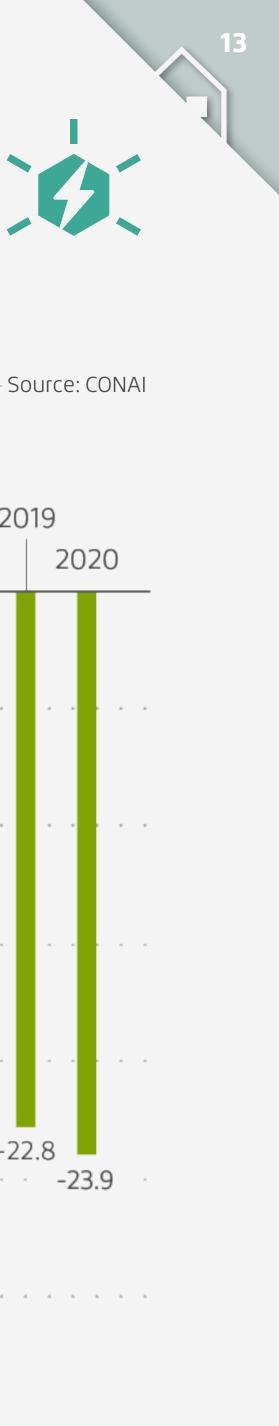


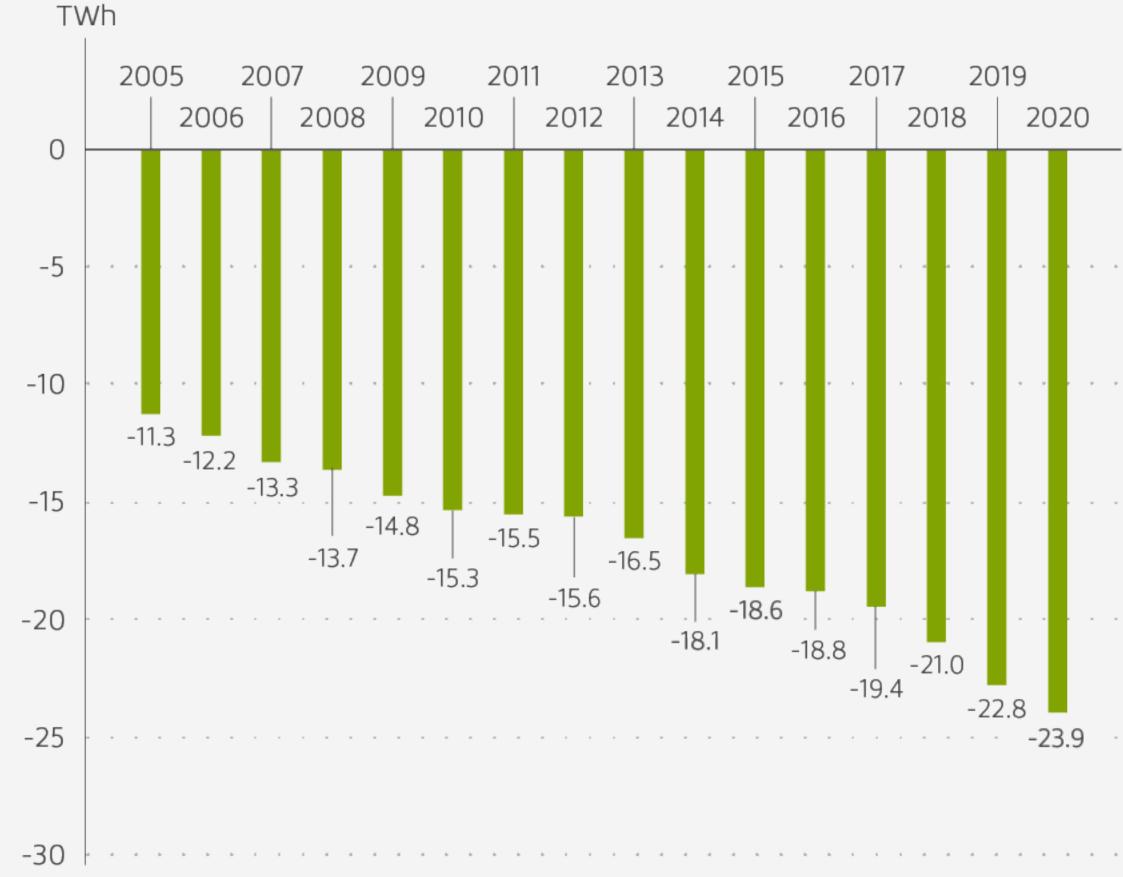
Primary energy saved thanks to consortium management recycling **COMPARED TO 2005, THE ENERGY SAVINGS** from 2005 to 2020 RESULTINGFROMPACKAGINGRECYCLINGMANAGED **BY THE CONAL SYSTEM MORE THAN DOUBLED.**

The primary energy saved through recycling corresponds to the amount of energy from fossil sources that has not been consumed

thanks to the use of secondary raw material to create a good, instead of materials derived from virgin raw material. Overall, between 2005 and 2020, packaging recycling by the CONAI supply chain allowed Italy to avoid the consumption of approx. **270 TWh** of primary energy, recording a constantly growing trend, even during the economic slowdown and partial reduction of the quantities of packaging waste put on the market.

PRIMARY ENERGY SAVED Consolidated 2005/2020: **270 TWh** 2020: 23.9 TWh





CONTRIBUTION OF CONAI AND THE CONSORTIA: GREENHOUSE GAS EMISSIONS AVOIDED

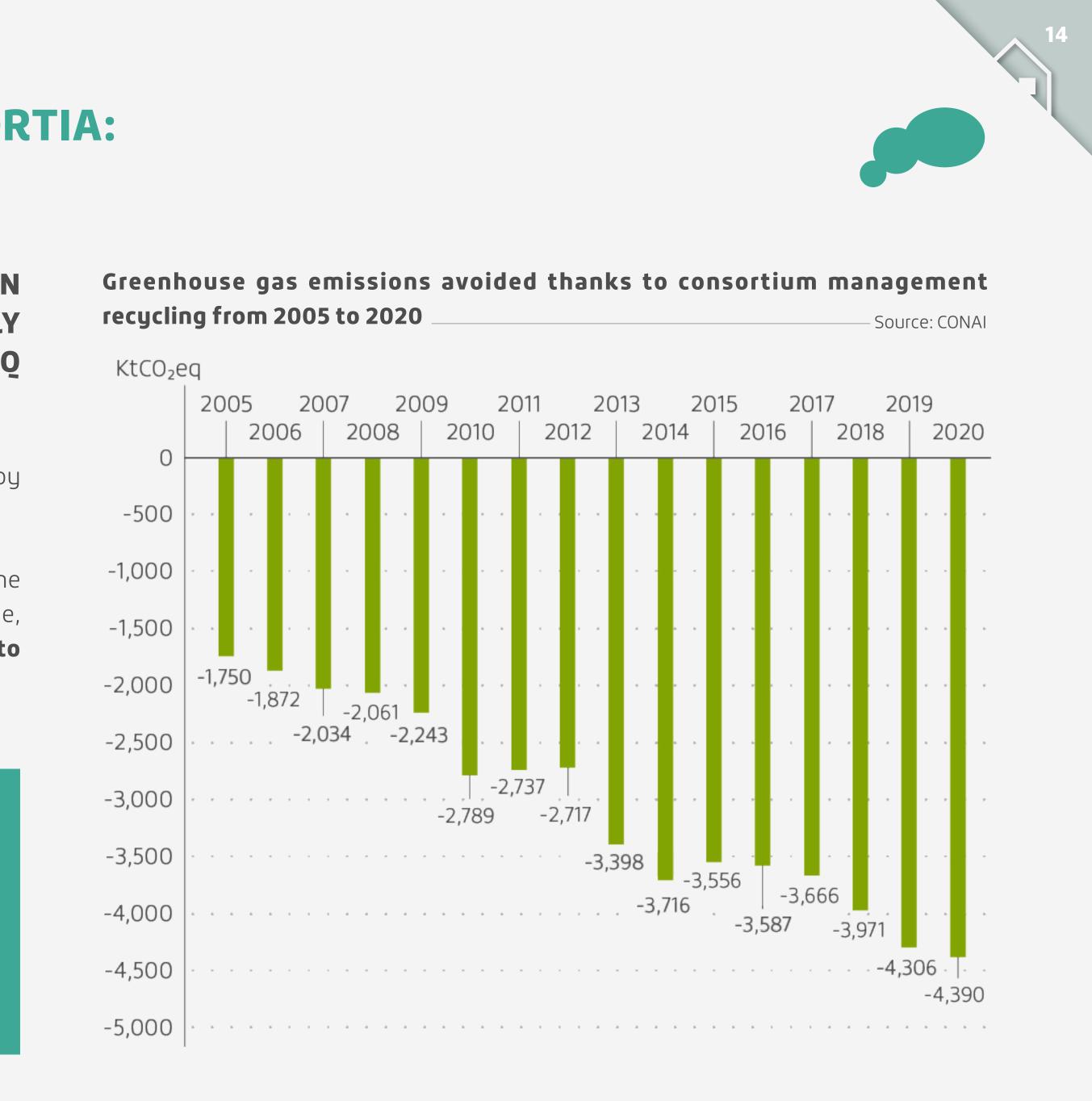


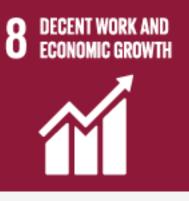
EMISSIONS AVOIDED IN 2020 HAVE MORE THAN DOUBLED SINCE 2005 AND CUMULATIVELY AMOUNT TO OVER 48 MILLION TONNES OF CO₂EQ IN 16 YEARS

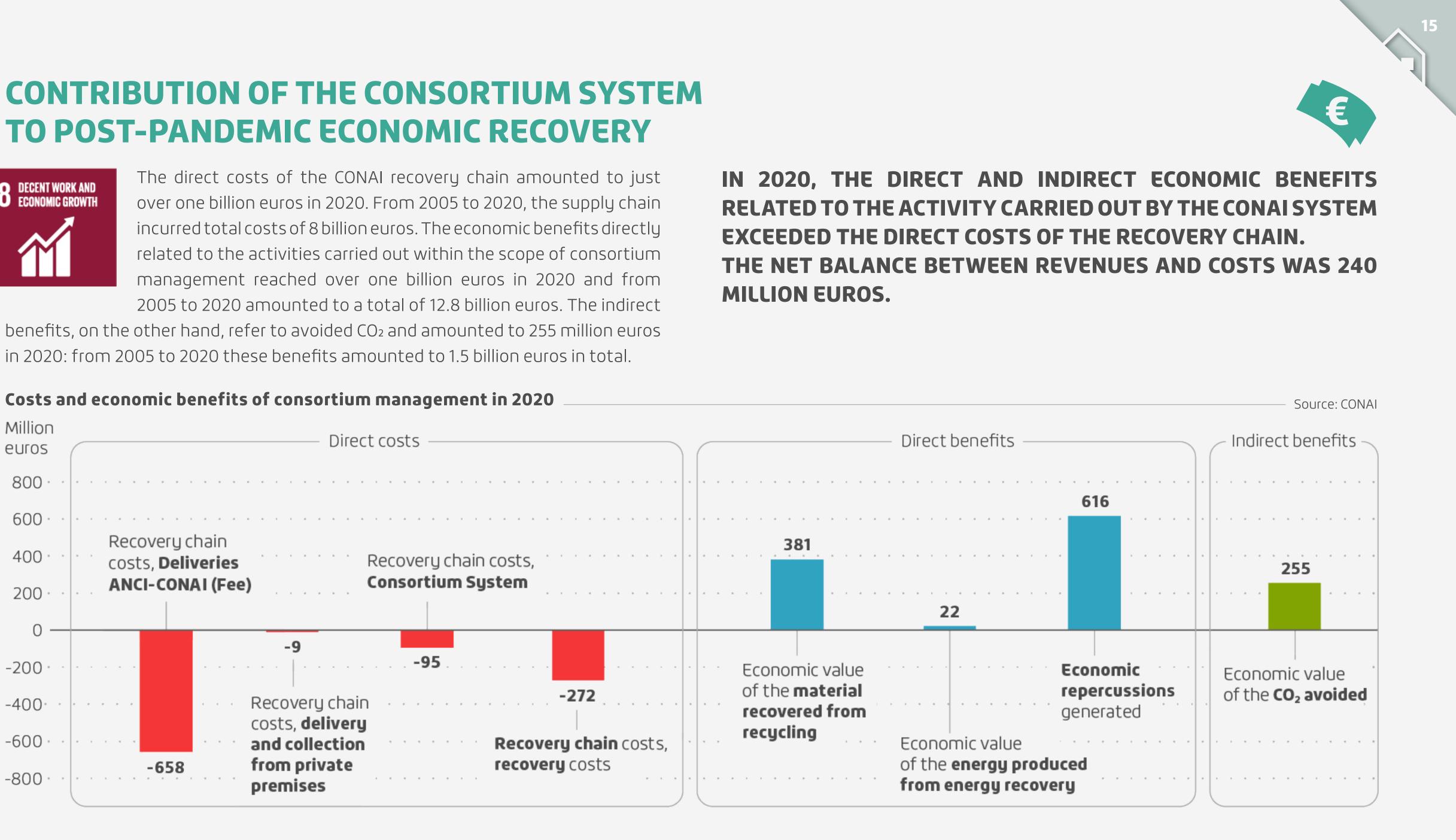
In 2020, the activities for preparing the recycling of packaging waste managed by the CONAI system involved energy consumption of 1.4 TWh.

This consumption and transport of the material from the delivery platforms to the recycling plant, generated emissions of 580 thousand tCO₂eq. At the same time, **thanks to the recycling of packaging** ensured by the CONAI chain, **emission into the atmosphere of more than 4 million tons of CO₂eq was avoided.**

GREENHOUSE GAS EMISSIONS AVOIDED Consolidated 2005/2020: **48.8 M t** 2020: **4.4 M t**





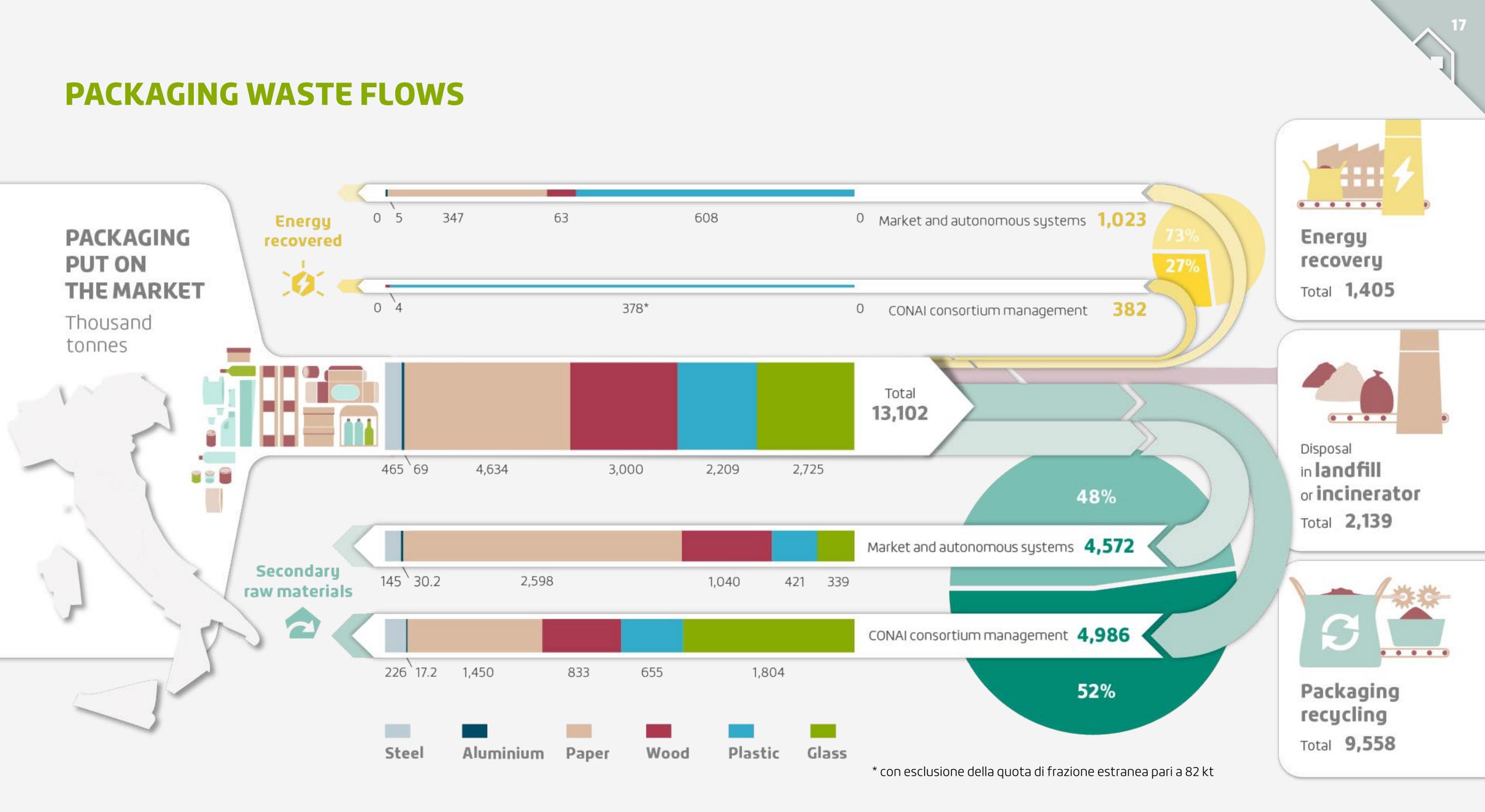






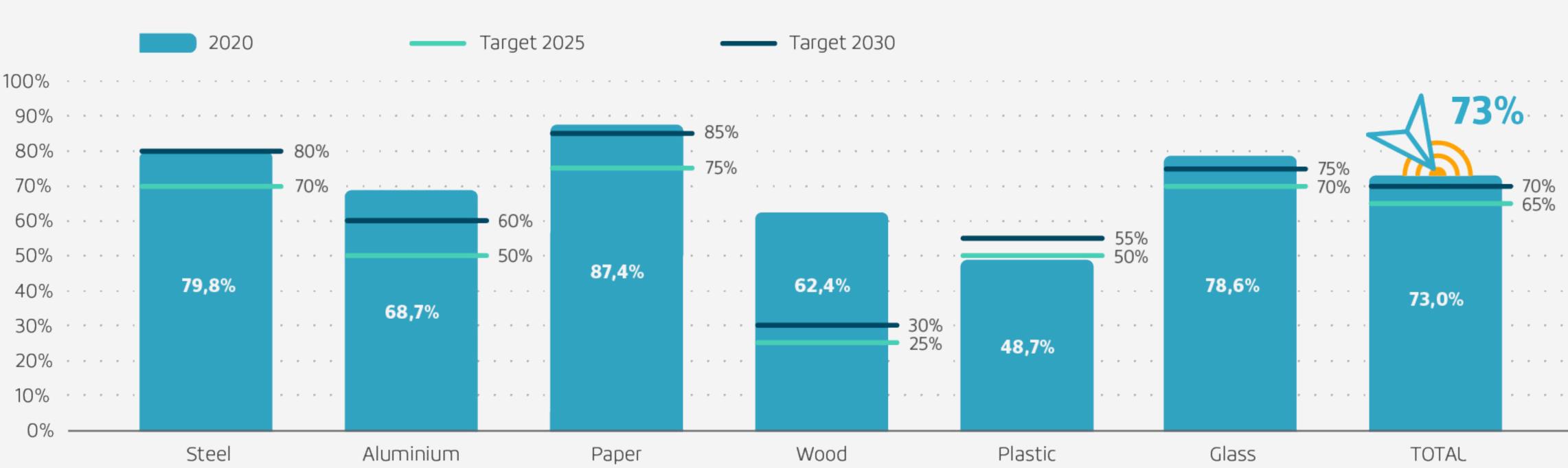






ITALY'S PERFORMANCE AND NEW RECYCLING TARGETS

In 2020, it was confirmed that the new targets for recycling of packaging waste had already been achieved at the national level. Only plastic recovery lagged slightly behind, 48.7% against a target of 50% by 2025. With more than 9.5 million tonnes collected and sent for recycling out of the total of 13 million put on the market, equal to 73%, in 2020 Italy reached and exceeded by as much as 8 percentage points the 2025 target of 65% recycling of postconsumption packaging, and by 3 percentage points the 2030 target.



Recycling rates of packaging waste by supply chain in 2020 in relation to the 2025 and 2030 European targets

of the total d exceeded g of post-



- companies and associations
- local area and citizens
- institutions
- supply chain consortia and EPR systems



CONALFOR COMPANIES AND ASSOCIATIONS: PREVENTION IS THE PRIORITY

The European directives and new targets impose a quality quantum leap for companies; what could be Conai's contribution?

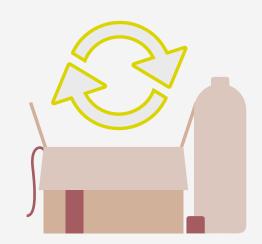
CONAI has historically collaborated with public bodies, municipalities and companies specialised in the recovery and recycling of materials, playing a fundamental role in obtaining very positive data on packaging recycling: this has allowed CONAI's structure to acquire extensive experience on the needs and problems of the supply chain, which must be made available to companies in order to guide their packaging design and choice processes.

We are in the right direction to meet the challenges posed by Decree 116/2020

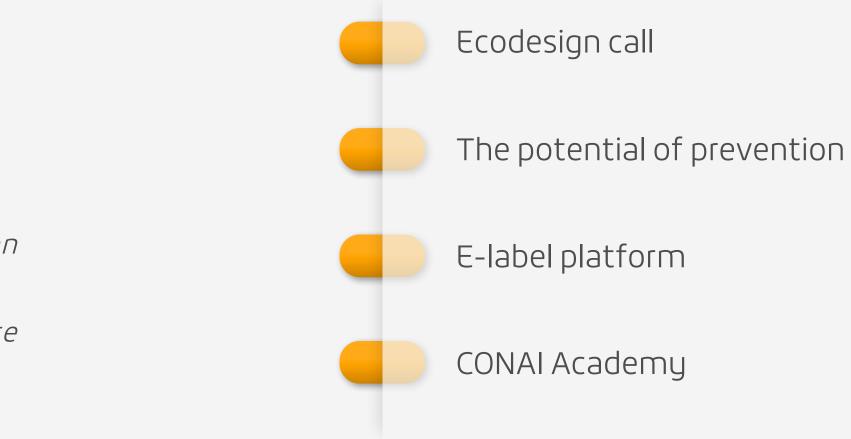
IItalian Legislative Decree 116 requires a great effort on the part of companies in updating their packaging, generating many doubts due to uncertainties in the interpretation of the reference legislation: thanks to the expertise acquired, CONAI immediately established itself as a technical interface between the Ministry and companies, developing agile tools such as the Guidelines, organising several Webinars, and continuously updating the FAQs on its website to try to offer as many answers as possible to the questions of companies. What was new and very positive was the active involvement of Companies in the development of the Guidelines and subsequent tools. CONAI intends to continue to develop and consolidate this role of technical support and guidance to companies with further initiatives in terms of specialised training, new tools and technical discussion.

Franco Mutti industrial Director of the Parmalat Group

CONAI Board Member and Coordinator of the CONAI Prevention Working Group



CONAIPROMOTES ACTIONS AIMED AT INCREASING THE RECYCLABILITY AND **REUSABILITY OF PACKAGING THROUGH NUMEROUS PREVENTION INITIATIVES INCLUDING**



Other resources on:

https://www.conai.org/en/prevention-and-eco-design/





CONAL FOR COMPANIES AND ASSOCIATIONS: PREVENTION IS THE PRIORITY

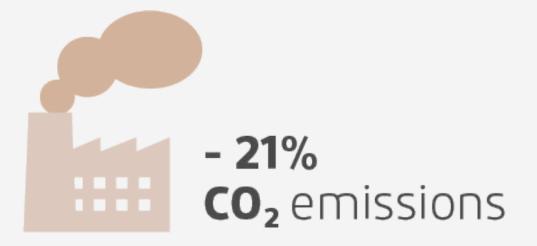


CONAI ECODESIGN CALL

The "CONAI call for the ecodesign of packaging in the circular economy – Promoting the environmental sustainability of packaging", with the patronage of the Ministry of Ecological Transition (MITE), is an initiative which, since 2014, annually makes an award to the most innovative and eco-sustainable packaging

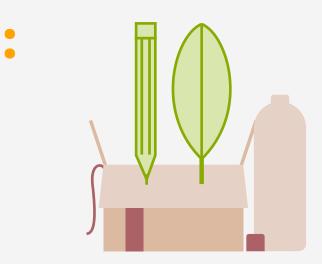
solutions implemented by companies. Since 2014, an increasing number of companies received an award from CONAI as part of the Eco-Design Call for having invested in the environmental sustainability of their packaging by adopting one or more ecodesign levers. In 2020, CONAI made awards to 160 cases, out of 289 submitted, with total prize money of 500,000 euros, of which 40,000 euros in incentives for the most virtuous cases of circular innovation. Increasing the number of recycling facilitation intervention cases to 44 (from 9 in 2019) demonstrates the increasing attention paid by companies to packaging recyclability.

Average environmental benefits of the 2020 Call cases

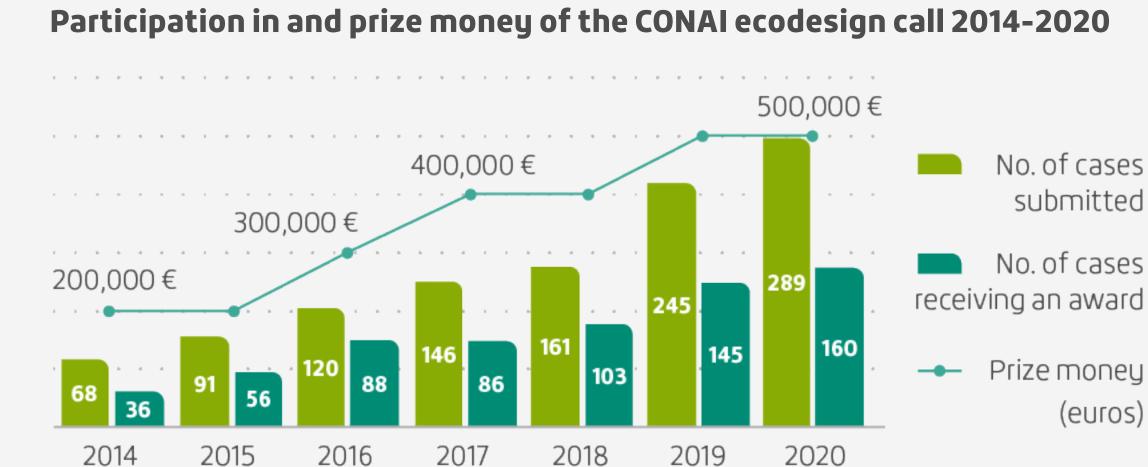




- 19%



IMPORTANT OBSERVATORY HOW AN ΟΝ **COMPANIES ARE PROMOTING THE ECO-DESIGN OF PACKAGING**

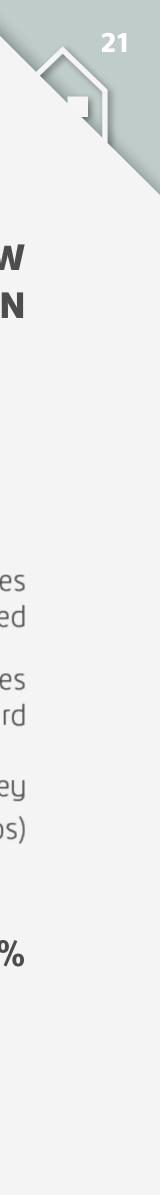


SATISFACTORY RESULTS GIVEN THE 2020 CONTEXT: +18% **APPLICATIONS COMPARED TO THE PREVIOUS YEAR**





- 18% **Energy** consumption



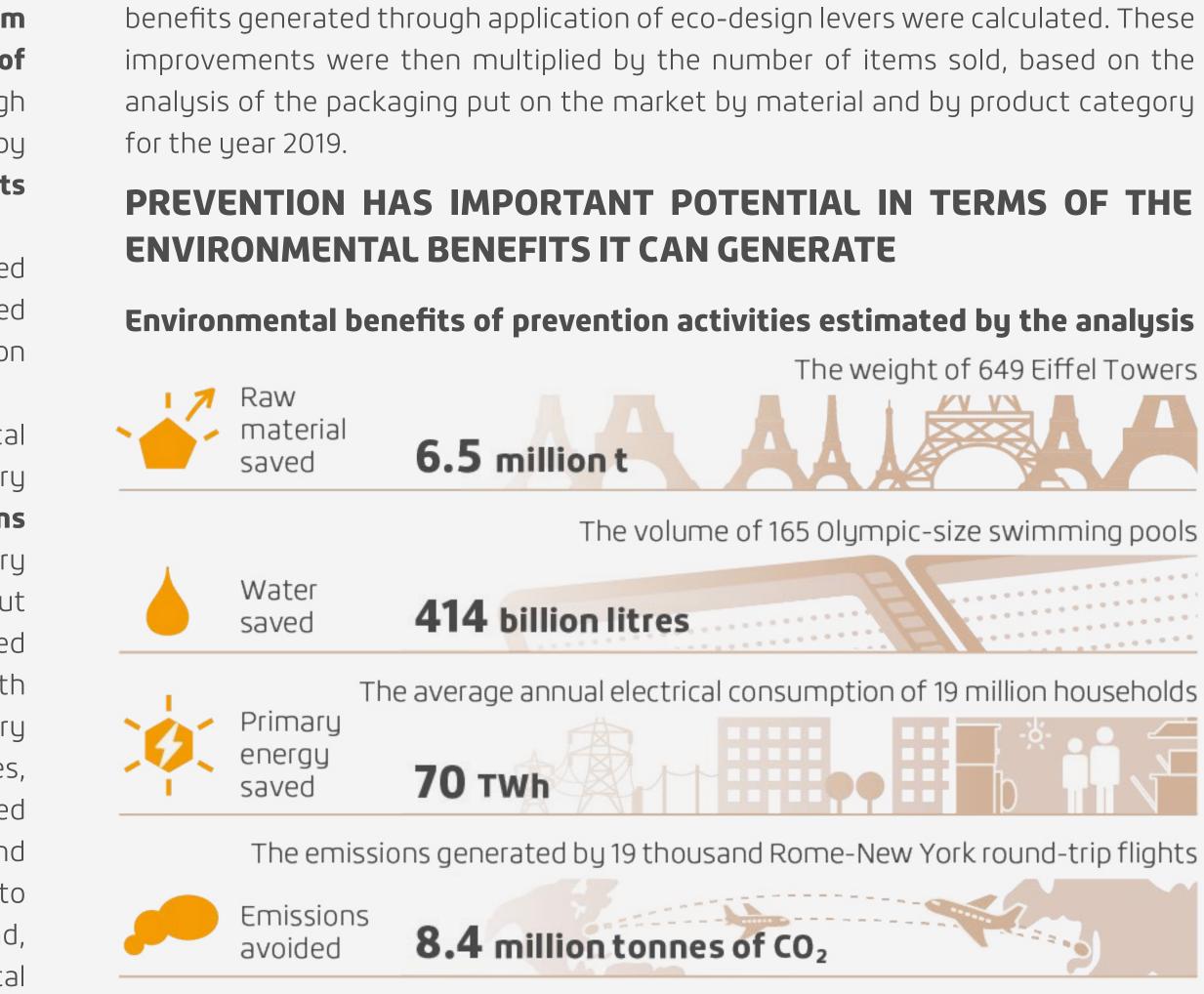
CONAL FOR COMPANIES AND ASSOCIATIONS: PREVENTION IS THE PRIORITY

THE POTENTIAL OF PREVENTION

For several years now, CONAI has been promoting the **Eco Tool used by consortium** member companies to participate in the CONAI eco-design call, the functioning of which is validated by the third party certification body DNV. The Eco Tool, through a simplified LCA analysis, allows the **effects of prevention actions** implemented by companies on their packaging to be calculated, calculating the environmental benefits in terms of energy and water savings and reduction of CO₂ emissions.

From the now extensive database of the CONAI Eco Tool, data and information collected from the latest editions of the "CONAIEco-design Call" have been extracted and processed in order to estimate the potential environmental benefits related to the dissemination of best practices implemented by packaging producers and users in Italy.

The analysis was based on a sample of over 240 cases, representative of a "typical basket" of products usually found in the shopping carts of Italians, including primary and secondary/tertiary packaging, on which approx. 270 eco-design interventions were carried out. Most of the time, prevention measures concerned primary packaging, such as bottles, detergent bottles, biscuit bags and cosmetic cases, but also caps and closures and labels; in other cases, eco-design measures concerned the entire packaging system, for example by working on optimising logistics, with repercussions also on the savings of materials used for the production of secondary and tertiary packaging used to transport and handle goods (e.g. pallets, boxes, displays and palletisation film). As a basic hypothesis of the analysis, it was assumed that all the packaging of products belonging to the typical basket identified and put on the market in Italy has been subjected to re-design interventions similar to those of the case studies mapped through the "CONAI Eco-design Call". To this end, for each type of packaging considered in the basket, the average environmental



Source: Conai and Foundation for Sustainable Development estimate on data from Call, Italian Packaging Institute and LCC Tool





CONALFOR COMPANIES AND ASSOCIATIONS: PREVENTION IS THE PRIORITY



DESIGN FOR RECYCLING, DESIGN FOR RECYCLING GUIDELINES AND ECOD TOOL

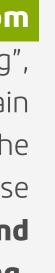
Design for Recycling is the web platform **progettarericiclo.com** on which the "Guidelines to facilitate the recycling of packaging", implemented by CONAI with the support of packaging supply chain consortia and leading Italian design universities, are available. The

purpose of these documents is to provide effective design guidance in order to increase packaging traceability. During 2020, the **Guidelines for the design of plastic and** aluminium packaging were joined by those for paper and cardboard packaging.

PREVENTION DOSSIER

Since 2001, every three years, CONAI publishes the Prevention Dossier: over 500 best practice cases of eco-sustainable packaging implemented by more than 280 innovative companies.





In addition, the **EcoD Tool**, an eco-design tool to perform the **environmental** assessment of packaging and simulate improvement actions, was made available.





CONAL FOR COMPANIES AND ASSOCIATIONS: PREVENTION IS THE PRIORITY





THE CONAI LABEL PLATFORM

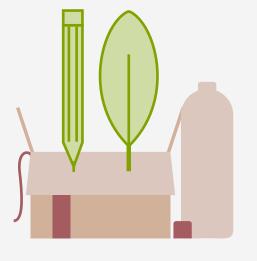
Legislative Decree 116 of 2020 introduced **mandatory** environmental labelling for packaging.

In order to answer the many questions raised by companies, CONAI has developed the **conailabel** platform dedicated to this topic, which brings together the tools developed to support companies. The Guidelines on mandatory environmental labeling are available on the platform.

The Guidelines for voluntary environmental labelling, currently in public consultation, are also available.

Also available to companies is the **e-label tool**, the tool to help companies identify the information they need to correctly construct their environmental label.





909 REQUESTS MANAGED THROUGH THE EMAIL ADDRESS EPACK@CONAI.ORG IN 2020, ESPECIALLY **ON QUESTIONS RELATED TO THE NEW MANDATORY** ENVIRONMENTAL LABELING FOR **PACKAGING**, **EFFECTIVE 26 SEPTEMBER 2020.**







CONAI FOR COMPANIES AND ASSOCIATIONS: PREVENTION IS THE PRIORITY



TRAINING AND INFORMATION: CONAI ACADEMY FOUNDED

CONAI Academy is a new **digital environment** for implementin **webinars**, with the aim of establishing a dialogue with stakeholders companies and trade associations, promoting the Consortium activities through bottom-up communication and supporting it

stakeholders through continuous interaction. Through the scheduling of Webinar and the development of its Academy, CONAI has had the opportunity to promot its activities, exploit its know-how consisting of research, experts and material produced over time, and create a community that supports a greater dialogue wit



| ng | all direct or indirect stakeholders. A database of over 9,700 companies has been bui |
|-----|--|
| S, | with the goal of creating a true community of companies. |
| l'S | |
| ts | The webinars have focussed in particular on the guidelines for environmenta |
| ٢S | labelling of packaging, sharing with the companies involved tools and possib |
| te | responses to the new legal obligations on environmental labels. |
| ls | |
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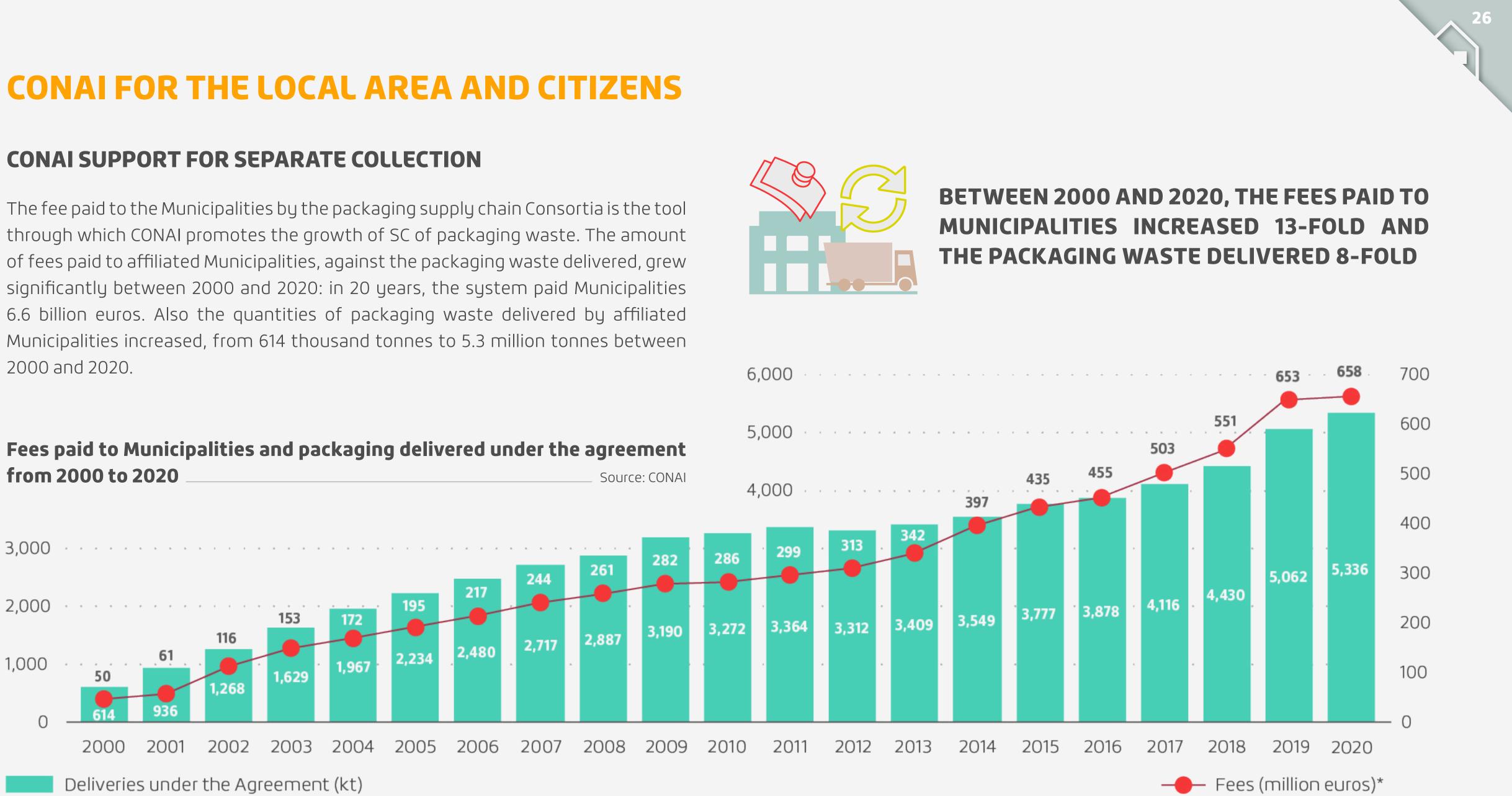


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* net of costs for collection from private premises

CONAL FOR THE LOCAL AREA AND CITIZENS

CONAI'S COMMITMENT TO THE LOCAL AREA

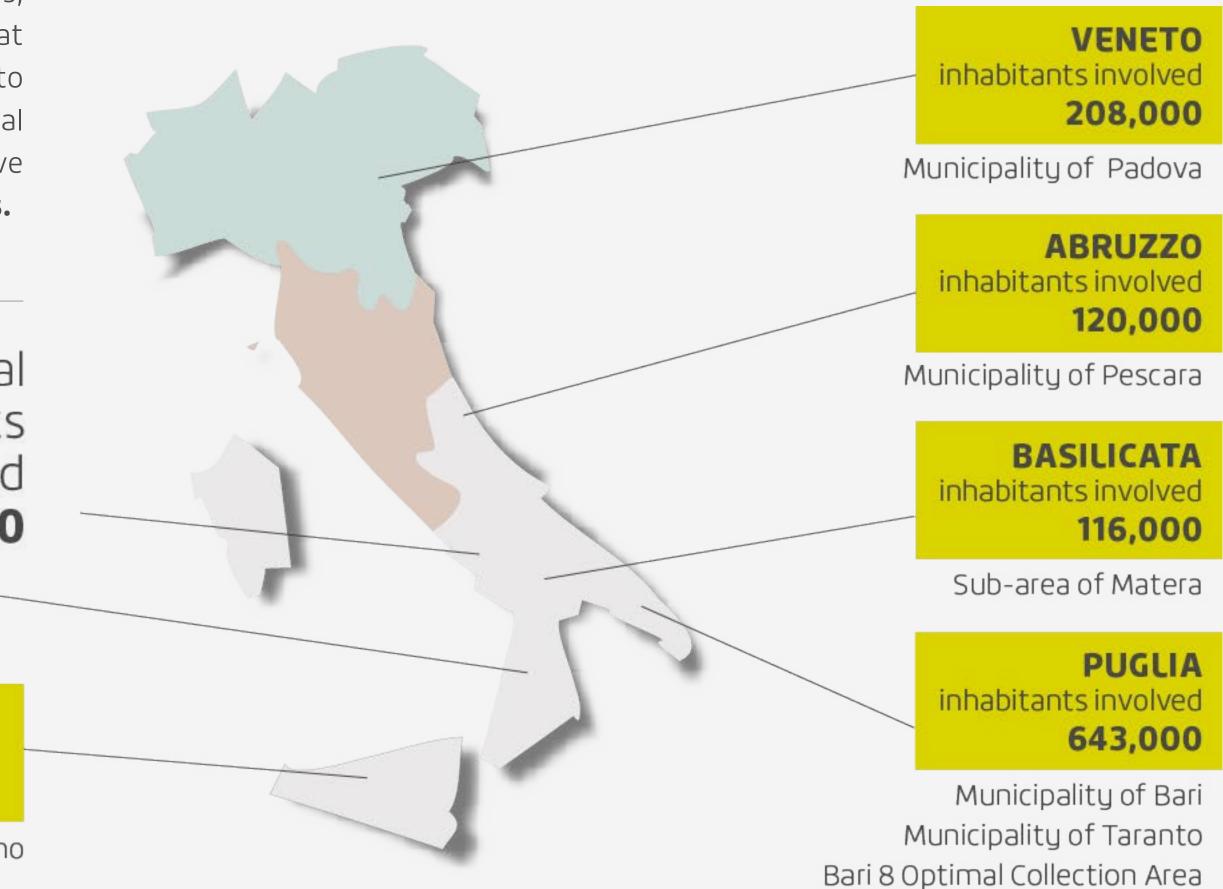
In 2020, the Consortium allocated 1.2 million euros in local projects, which involved more than 8 million citizens, with the aim of promoting and facilitating the development of packaging waste management or recycling-oriented systems, pursuing intervention policies that are consistent with the different situations that characterise the areas of the country. The available resources are thus allocated to individual local projects according to the requests for support coming from the local areas, which are verified before being accepted. Verifications which, since 2018, have been managed through the new Guidelines for Local and Experimental Projects.

Areas of intervention of CONAI local projects in 2020

| | CAMPANIA inhabitants involved 4,759,000 | | Tota inhabitants involved |
|--|--|---|--|
| | Municipality of Benevento EDA Caserta EDA Naples 1 | CALABRIA inhabitants involved 1,801,000 | 8,285,000 |
| | EDA Salerno EDA Naples 2 EDA Avellino EDA Benevento Casoria Ambiente | ATO di Catanzaro ATO di Vibo Valentia ATO 5 Metropolitan City ATO Cosenza Municipality of Cosenza Municipality of Reggio Calabria Municipality of Rende | SICILIA inhabitants involved 638,000 |
| | | | Municipality of Palermo |



1 BILLION EUROS INVESTED BY CONAI IN LOCAL PROJECTS TO SUPPORT AREAS IN LAGGING BEHIND: 80% OF THE EXPENDITURE FOR LOCAL PROJECTS INCURRED IN 2020





CONALFOR INSTITUTIONS

INFORMATION, TRAINING AND AWARENESS CAMPAIGNS

At the heart of CONAI's activities is raising public awareness towards the creation of an environmental culture and education focused on the importance of separate collection, recycling and recovery of packaging materials.

A role that derives directly from the legal provision, according to which CONAI is entrusted with the function of organising, in agreement with the Public Administrations, the information campaigns deemed necessary for achievement of the packaging recycling and recovery objectives, which are the responsibility of the consortium system.

Citizens play a key role in the recycling process; they are a fundamental player because without their collaboration in proper household waste separation, the entire material collection and recovery system cannot function properly. In 2020, Activity Plan adapted to the constraints introduced by the health emergency: events in digital format, transformed into webinars or streaming conferences.

Green Jobs 2020 with the University of Basilicata

Second online edition. **4 weeks** - from 22 June to 17 July 2020 - of specialised post graduate training on waste management were provided, with live streamin lectures of an hour and a half by qualified experts on environmental issues, final assessment tests and issue of certificates to the **80 participants**, recent graduate in engineering, science, technology and law between 25 and 30 years old, selecte through a Call.



| | Green Jobs 2021 with the University of Palermo |
|-----|--|
| st- | At the end of 2020, a collaboration was initiated with the University of Palermo |
| ng | to create another post-graduate training course that took place in the first |
| hal | half of 2021. |
| es | Definition of the ranking list for the 80 participants (313 applications received). |
| ed | Implementation of an on-line training course from 21 June to 16 July 2021. |
| | |



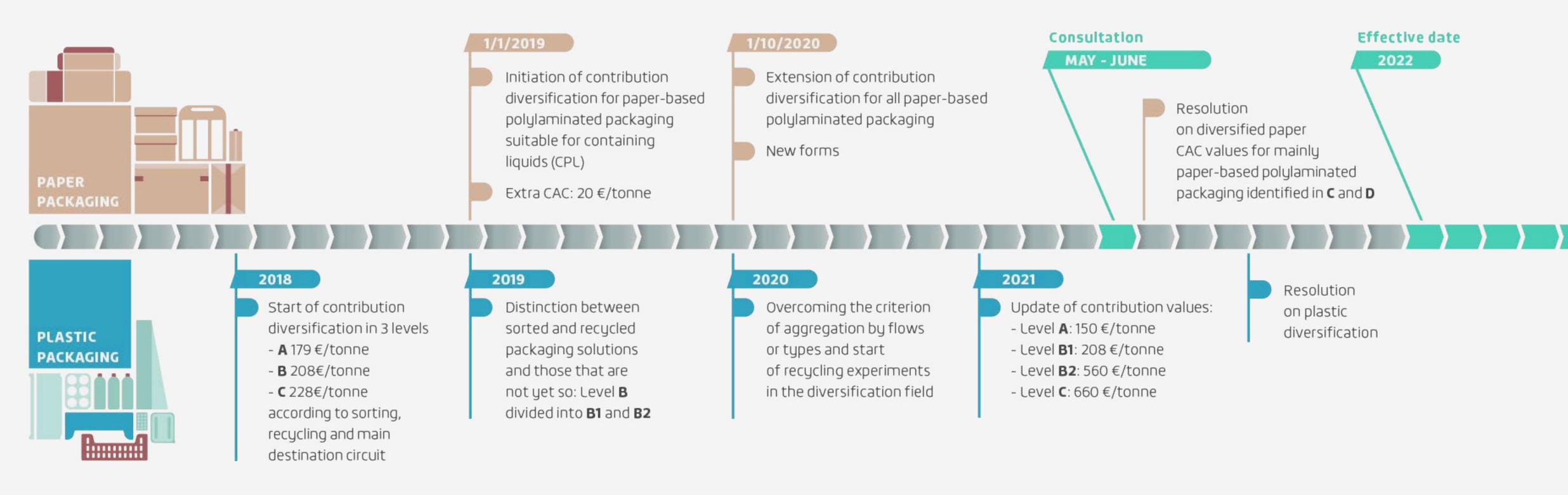




SUPPLY CHAIN CONSORTIA AND EPR SYSTEMS

CAC CONTRIBUTION DIVERSIFICATION

CONAI determines the value of the CAC, for each packaging material, envisaging modulation according to the reusability and recyclability of the packaging, ar manages it in the name and on behalf of the Supply Chain Consortia. In 2018, CONAI introduced a diversified Environmental Contribution for plast **packaging** which provides for different contribution values according to the criter of sortability, recyclability and the prevailing circuit of destination ("Household or "Commerce & Industry"). The levels and packaging types included in them a





| ing | subject to updating on the basis of changes in packaging characteristics, as we |
|------|--|
| Ind | as the technologies used in sorting and processing plants. |
| | As of 1 January 2019, a diversification also for paper packaging was introduced |
| tic | envisaging an additional contribution (an extra-CAC of 20 €/tonne) fo |
| eria | polylaminated packaging suitable for containing liquids and more difficult t |
| ld" | recycle, an additional contribution to create a dedicated recycling chain. |
| аге | |

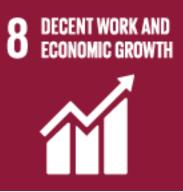




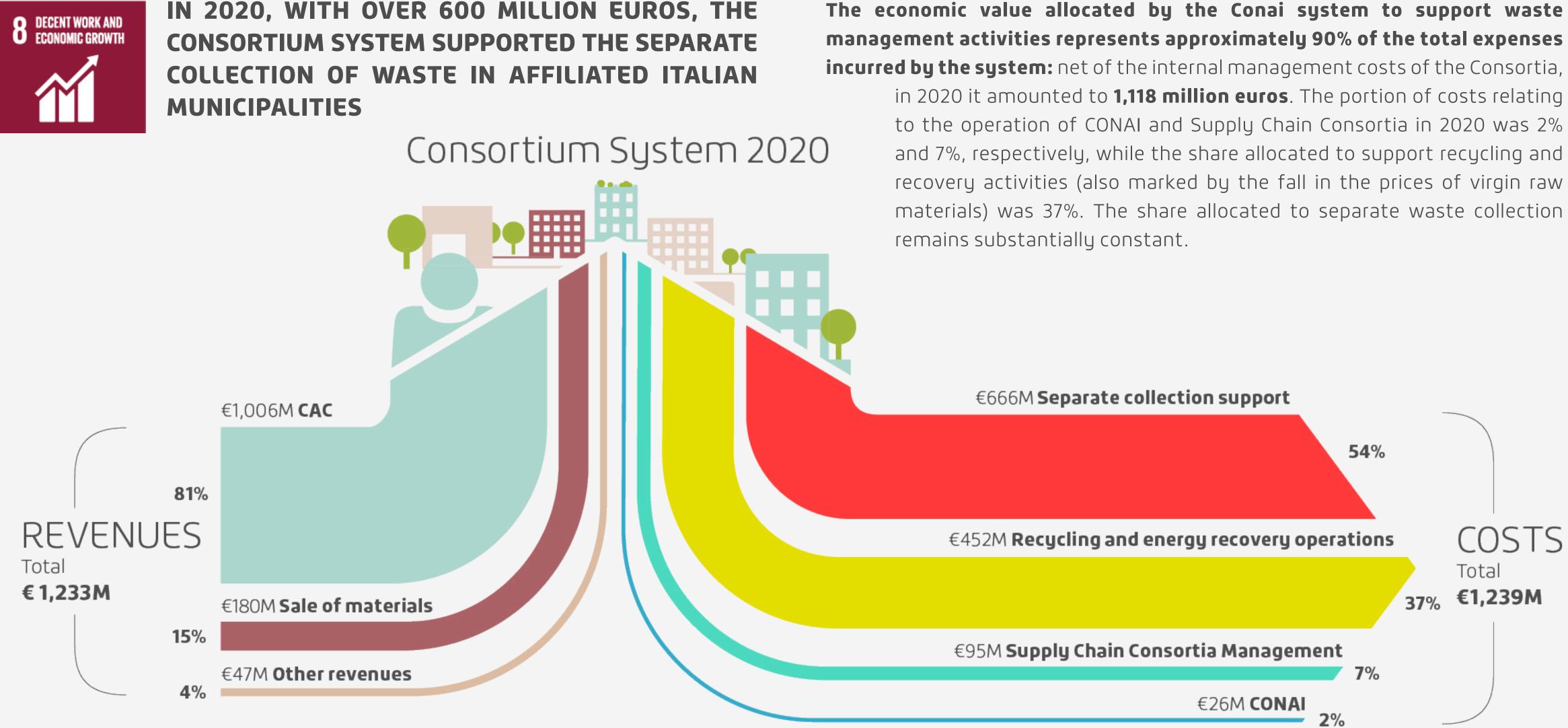




ECONOMIC FLOWS OF THE CONSORTIUM SYSTEM IN 2020



IN 2020, WITH OVER 600 MILLION EUROS, THE









MATERIALITY MATRIX for GRI



MATERIALITY MATRIX

The materiality matrix is a graphical representation of the issues of greatest interest to CONAI and its stakeholders. The further up and to the right side of the matrix you move, the higher the level of interest (significance) associated with the issues. It is the result of the involvement of 147 representatives of all categories of stakeholders in the system in a survey designed to identify the issues of greatest interest to them, through the allocation of a score between 0 and 6. The coordinates for positioning in the matrix were defined by allocating each issue an average score on the basis of the opinions expressed by stakeholders, then subjected to a prioritisation whose influencing factor was: the frequency with which stakeholders voted for the 5 issues that were the most significant for them among the 15 issues analysed. The analysis led to the identification of 14 issues: 8 concern environmental aspects related to the management of packaging waste and 6 concern socio-economic aspects related to the activities carried out by the Consortium System. The scope of analysis is the entire Consortium System for the management of packaging waste in Italy. All the issues of the matrix are dealt with in this report, with the

exception of "Monitoring and promotion of the flows and uses of secondary raw materials" and "Recovery, measurement and monitoring of the economic and employment performance of the supply chain", for which there is still insufficient data and information.



IMPORTANCE FOR CONAL

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