ecoenel.ce@enel.com []/enelce ww.eneldistribuicao.com.br coend

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### Ecoenel: 10 years changing waste materials into opportunities



### Ecoelce and Ecoampla have become Ecoenel

Coelce and Ampla electric companies, present in Ceará and Rio de Janeiro states, respectively, were renamed as Enel Distribuição Ceará and Enel Distribuição Rio in November 2016. The change is part of the new identity and global positioning of Enel, which has extended its corporate brand to all the group's companies in Brazil. With this change, Ecoampla and Ecoelce have become Ecoenel, marking another milestone in the sustainability program that celebrated its 10th anniversary in 2016.

Enel is an electric company present in more than 30 countries in four continents. It uses the ongoing internal changes to keep its global relevance and make the most of the opportunities that such transitions may create. The strategy also involves promoting synergies between Enel's subsidiaries and the adoption of one brand, particularly in markets such as Latin America, where the group's portfolio includes assests that have different names and visual identities. By doing this, the company shows a more modern, flexible, responsible and global image.

The impact on Rio and Ceará states is highly significant. Enel Distribuição Ceará provides services to almost 4 million clients in 184 municipalities, and Enel Distribuição Rio is present in 66 municipalities, having more than 3 million clients.

### EDITORIAL

"We have gathered more than just prizes throughout the project. We were part of something that was built collectively, with stories of cooperation and stronger citizenship."

> Enel is present in more than 30 countries, showing a clear commitment to help people face some of the world's greatest challenges. This business vision is strongly based on sustainability, which is a fundamental aspect of our corporate culture. We place environmental, social and economic sustainability at the center of all our practices and decisions in order to create shared value, both for the external stakeholders and for the company itself.

The Ecoenel project, of which we have been proud for the last 10 years, is an example of such commitment. This is a simple initiative undertaken by Enel do Brasil, and which brings together innovation and sustainability to help face a global challenge: proper disposal of recyclable waste materials. Through discounts in the electricity bills issued by Enel distributors in the country, any client can become an agent of transformation, contributing to recycling and bringing a straightforward return to Enel, thus perfectly creating shared value.

In 2008, the Ecoenel program was one of the winners of the World Business and Development Awards (WBDA) given by ONU.

But we have gathered more than just prizes throughout the project. We were part of something that was built collectively, with stories of cooperation and stronger citizenship, as you will be able to see in the following pages. We have not written this story alone. We would then like to thank each partner in the project, and mainly the citizens who believed in transformation achieved by sustainable actions.

Ecoenel is ready to face the coming decades in order to continue contributing to the rational use of natural resources and to a better future for the next generations.

No ZA.

Carlo Zorzoli | Country Manager from Enel Brasil





Recycling waste materials as an action of energy efficiency

Recicla Fortaleza and the positive granting of credit

Ecocidadão, a

Ecocidadão, a clean city and everyone's duty

Wholesaler Assaí from a sustainable perspective

**52** 

Recognizing the relationship waste x energy

> Tech the envi awa

Technology at the service of environmental awareness

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Photo: Arquivo Enel



### Environmental awareness: The product of a promising future

From the second half of the 20th century to the 2000's, attitudes that combine economic growth with collaboration for social development gave way to a new insight. That was the start of social and economic sustainability.

At the beginning of the 1970s, more attention was given to caring for the planet throughout the globe. Due to the ongoing oil crisis at the time, the environmental issues began to receive more attention from several social and economic sectors.

The preservation of the environment and the rational use

### E OS OITO

1 0





of natural resources by part of the civil society and companies in general became important points for discussion in the following years. However, in the 2000s, this environmental awareness became an essential tool to help build a sustainable world. Due to challenges in the several social and economic sectors, the topic became a parameter for the large business groups in the world.

The set of goals established at the world conferences held throughout the 1990s helped to produce a document used as a parameter for actions against poverty in the world. The document, the Millennium Development Goals (MDG), was adopted by the member states of the United Nations Organisation (UNO).

Attention must also be given to the outcome document of the United Nations Conference on Sustainable Development (Rio+20), which establishes, in an intergovernmental process considered inclusive and transparent, the Sustainable Development Goals. Like the Millennium Development Goals, the latter sets its goals with focus on strengthening sustainability. These goals were recorded in a document entitled Transforming our World: The 2030 Agenda for Sustainable Development.

The Agenda is a plan of action for people, the planet and prosperity, whose starting point is to make peace and freedom stronger. It also acknowledges the eradication of poverty in all its forms and dimensions as the major global challenge.

### 8 WAYS TO CHANGE THE WORLD

















### UMA AMPLA REFORMA, DUAS GRANDES CONQUISTAS.





A sede do Sebrae/CE conquistou o Selo Procel de Eficiência Energética para Edificações, recebendo classificação "A" na avaliação, e a certificação internacional LEED - Leadership in Energy and Environmental Design. Ambos resultam de uma ampla reforma que propiciou a melhoria do atendimento, uso inteligente dos recursos de maneira sustentável e mais conforto para clientes e colaboradores. Empresário, venha ao SEBRAE conhecer soluções em eficiência energética que podem beneficiar sua empresa.



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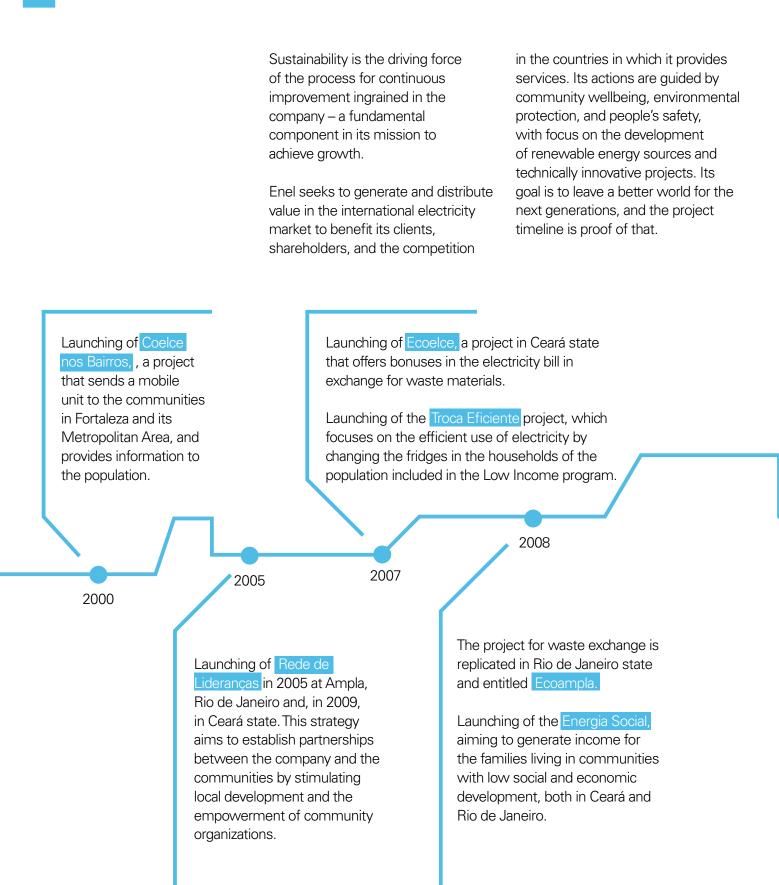
in Ceará

Corporate sustainability means a set of concrete actions aiming at society's sustainable development. This is the relevance of the recycling process.

Recycling has become extremely relevant to companies in the electricity sector such as Enel Distribuição Ceará and Enel Distribuição Rio, since the waste materials collected are properly disposed of and returned to the chain of production by means of an efficient process that saves energy and natural resources. Brazil is the third in the list of countries (behind China and the United States) that produce the most waste, with a daily production of about 250 thousand tons. While 30% of such waste could be reused, only 3% of that amount is actually recycled.

Although the number of Brazilian municipalities that have implemented recycling programs has increased from 81 to more than 900 in the last decade, this figure falls short of 20% of all our cities. According to studies conducted by SINDIVERDE-CE (Syndicate of Domestic and Industrial Solid Waste Recycling Companies in Ceará state), R\$ 200 million could be generated in Ceará state with increased recycling of domestic and industrial waste. With this in mind, the National Policy on Solid Waste (PNRS) aims to update and give the necessary support for advances in environmental, social and economic challenges resulting from improper handling of solid waste in Brazil.

### Enel and the focus on sustainability



Launching of the Luz Solidária project, which offers up to 40% subsidies to household customers for them to have their old household appliances (fridges, freezers and air conditioners) substituted with energy-efficient appliances having the Procel Energy-Saving Seal. The clients may choose to donate part of the discount to social projects supported by Enel, and the companies will collect the old appliances for recycling.

The Consciência Ampla platform was launched in 2009, comprising all the projects aimed at education about conscious consumption and at income generation and local development, as well as culture and entertainment projects.

#### Rede de Lideranças Comunitárias,

developed by Enel Distribuição Ceará and Enel Distribuição Rio, identifies community leaders in areas of greater social complexity within the companies' concession areas. The leaders' diagnosis includes social cartography and focus groups. The company establishes a permanent channel of direct communication with these publics in order to find solutions to improve the quality of the services provided. The Ampla and Coelce companies become Enel Distribuição Brasil and the Ecoelce and Ecoampla programs are renamed as

Ecoenel.

2011

2009

### Launching of the

Nave Planeta Futuro

educational platform, a project for environmental education through a modern equipment developed to promote environmental awareness among students in the public schools (municipal and state government funded schools). 2016



Faça a coleta seletiva e troque seu lixo por desconto na conta de energia.

Estação de coleta: Rua Ulisses Bezerra, 1300, Cidade dos Funcionários.

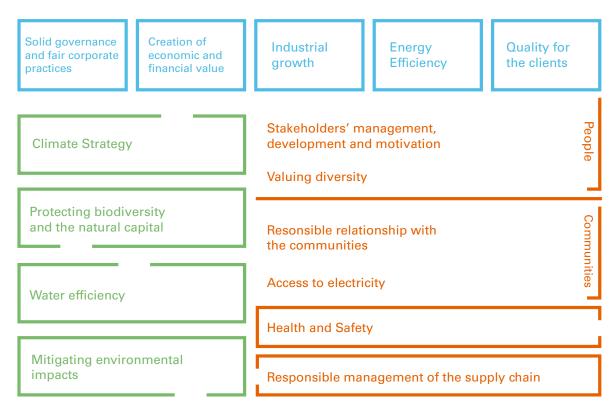




### Guidelines for the Enel Group Sustainability Plan

In order to reinforce its previous commitment to contributing to society and ensuring business continuity, Enel no Brasil has created the Sustainability committee, therefore aligning with a global structure. With focus on the entire value chain, the group understands sustainability as a drive for decision-making and identification of innovative solutions for the operating activities and business development. Considering the new concepts related to Corporate Social Responsibility (CSR), the Enel Group has been working to innovate and improve the processes for planning and monitoring activities and projects in social and environmental reports.

### Guidelines for the ENEL group sustainability plan





Sustainability. A tool for a better future



### 10 years of social and environmental responsibility

One of the most awarded sustainability programs in the electricity sector in the world was created ten years ago with the aim to strengthen the relationship with its clients and reach a noble and emerging goal: the proper disposal of recyclable waste.

Yes, business sustainability is one of the greatest tools to help build a better world. This awareness was raised when business sustainability started to comprise the organizations' commitment to environmental issues and, mainly, when they included the citizens in the positive changes in society. And what are we talking about? Well, we are talking about initiatives capable of changing habits and the world, such as the Ecoenel.

Ecoelce (now Ecoenel), one of the most awarded sustainability initiatives in the electricity sector in the world, was created in the Enel Brasil Energy Efficiency program. Enel Brasil is one of the five biggest companies in the electricity sector. It is in charge of the generation, distribution, conversion, and transmission of electric power in Ceará, Rio de Janeiro, Goiás and Rio Grande do Sul states. Launched in January 2007, based on the Research and Development Programs of the Electricity Sector, under the regulation of the Brazilian Electricity Regulatory Agency (ANEEL) and the Federal Law 9.991/2000, the Ecoenel connects clients aiming at a noble goal: the proper disposal of recyclable waste. This goal resulted from a research conducted by the old Coelce, now Enel, with the University of Fortaleza (Unifor) in 2006. With this study, the company noticed a strong connection between the purchasing power of the population and the volume of solid waste improperly disposed of.

In that year, more than 41,000 tons of solid waste were generated per month in Fortaleza. Of this total, more than 36% could have been recycled in Ceará. However, only 3,000 tons were sent to the recycling companies. In the capital of Ceará state alone, about 12,000 tons of waste that could have been recycled were disposed of in the environment every month.







Participants and beneficiaries of the Ecoenel Program over the last years of the project. Source: Enel Archive





**rio é muito simples** ator e o número da unidade consumidula do consumidora das motore a**utora**) Neja abaixo o número da unidade consumidora ambiente e as instituiçõe utades desempenhadas por cada uma delas. O meio ambiente



Initially, the clients would have to take the waste materials to the company to have them exchanged for bonuses in the electricity bill. The bonus program continues, but the exchange has been tranferred to the collection points. The alternative to use bonuses in the electricity bill is a positive factor for the control and transparency of the project, since it eliminates the circulation of money. A system has been developed to identify each client and the transaction is done online. In each collection point, there is a workstation with a web interface connected to a registration machine, and the identification cards for the program users.

The client receives a card. Each collection point has a machine to identify the clients and to calculate the weight and value of the waste materials. All this data is transmitted so the clients registered in the program receive a bonus matching the amount of waste materials. The work at the collection points is based on agreements made with waste collection and recycling companies. They are responsible for receiving the waste material and for its proper disposal.

In October 2006, a pilot program was run with the collaborators of the company in Ceará state. It was officially launched on January 17, 2007, in the communities in the following neighborhoods: Curió, Sítio São João and Dias Macêdo, located in the outskirts of Fortaleza.

### **Community leadership**

Community leaderships are an important link in this phase of the project, once they bridge the gap between the population and the electricity distribution company, guiding the selective collection in the neighborhoods. The Association of Residents of São Bernardo neighborhood has the highest number of clients having zero energy cost in their electricity bills in the program. The Empreendimentos de Transformação de Recicláveis (EMTRE) recycling company provides services to about 80 families in its permanent collection point in Rodolfo Teófilo, in Fortaleza.

The assossiation itself is in charge of the management at the collection point, including selling the material and transferring to Ecoenel the amount of money equivalent to the clients' bonuses. **Ecoenel Ceará** 

125 collection points 30

municipalities

Ecoenel Rio de Janeiro

collection points

**11** municipalities

### Ecopontos

The first permanent collection point was set up at a gas station located on the Washington Soares Avenue, in Fortaleza, following the original project. The collection point exchanged recyclable waste for bonuses in the electricity bill of the registered clients, besides collecting, organizing and sending the materials received to the recycling industry.

After setting up this first collection point, the distributor realized the need to expand the project. The population acknowledged the strength of the program and the company worked in the expansion of the initiative. Today, it is present all over the state, with 125 permanent and mobile collection points. Altogether, there are about 112 communities serviced in 30 municipalities in Ceará state.

Aiming to provide service to poor communities, a network of mobile units was created in 2012 in partnership with several community associations.

Responding to a mobilization effort, the residents bring their recyclable waste once a month, on a specific day, for the exchange at the Ecoenel mobile trucks. These trucks run daily around different communities in Ceará, making the collection as established in a calender designed specifically to meet the clients' needs.

Following the same model, the Ecoenel mobile unit runs the selective collection in the condominiums in Niterói, Rio de Janeiro, through the "Econdomínios". Since selective collection in residential buildings is a great challenge to urban cleansing, this type of action is essential both for proper waste disposal and for fostering new values in our society.

# JUNTOS PARA Abraçar A Natureza

Para o RioMar, cuidar do planeta é natural. É por isso que recebemos o selo AQUA de alta qualidade ambiental, reforçando nosso compromisso de cultivar cada vez mais o amor pelo meio ambiente.



Redução de 34,6% no consumo de energia.

água potável. Todos os resíduos

com potencial de

para cooperativas.

reciclagem são doados

Redução de 59%

no consumo de

Manutenção do entorno da Lagoa do Papicu.



COMPROMISSO SOCIOAMBIENTAL



2.500 árvores

no entorno do

Shopping.

nativas plantadas





"Whenever I had to throw something away, I kept thinking about the long waste route and how that would increase pollution in the planet, without proper waste disposal, and wondered what I could do to change this situation." **Raquel Pessoa** | Nutritionist

Photo: Enel Archive

Raquel Pessoa is one of these people. The nutritionist has always cared about environmental issues. "As a citizen, I didn't feel comfortable whenever I had to throw something away. I kept thinking about the long waste route and wondered what I could do to change this situation."

She first found out about the Waste Exchange Program in 2015. "The news brought me hope. Something was changing," she says.

Raquel is an example of how sustainability projects create engagement and expand themselves beyond the commercial expectation. She has a blog on nutrition and conscious consumption, and she motivates her readers and patients to do selective collection and composting. But she is not the only one engaged with the cause. Professor and pedagoguepsychologist, Patrícia Trigo, is another example in this decision-making process. She has been collaborating with the initiative for seven years, and since the beginning, she has made an effort to motivate her son.

"People thought it was funny to see little Gustavo carrying the plastic bags for recycling," she remembers, highlighting that some space in her house was set aside to keep the waste before it was taken to the Ecoenel point in their neighborhood.

"It is close to our house, so we can quickly take the materials there. We are warmly welcomed by the team every time we go there," says Patrícia.

Access with the QR Code and learn about other stories:



### An environmental management model

The initiative by Coelce, now Enel Distribuição Ceará, was not restricted to the state. Motivated by the same sense of optimization of sustainability practices, Ampla electricity distributor, now Enel Distribuição Rio, launched the Ecoampla program in March 2008, also renamed as Ecoenel in 2016.



Photo: Enel Archive

Following the example of the Program in Ceará, Enel Distribuição Rio maintains its sustainability program for the exchange of waste for bonuses in the clients' electricity bills through the Ecoenel Rio de Janeiro.

The program has been set up in the municipalities located in the area of concession of the electricity distributor, and all the material collected at the program ecopontos is sent to the recycling industry, which ensures an environmentally proper final disposal.

The project, which nowadays has 74 permanent and mobile points in 11 municipalities, established partnerships with wholesaler Assaí and soft drink manufacturer Pakera, with collection points set up inside the facilities of the two

#### organizations.

And thanks to a positive feedback, partnerships have been established with several prefectures that had envisaged an opportunity to motivate the citizens to adopt selective collection through the program.

The development of these actions help us realize how the Enel Brasil Energy Efficiency Programs are launched in society beyond its corporate reach.

They exceed the limits of financial problem solution for clients of the Ecoenel Rio de Janeiro and Ceará, and effectively contribute to a genuine change of culture and attitudes in their lifestyles. The agents of the system interact in a systematic way and receive mutual benefits. This, in turn, ensures the program sustainability and its contribution to environmental preservation based on the universal norms of the Millennium Goals and the Sustainable Development Goals, which excell for strengthening sustainability, universal peace and freedom.

### The Ecoenel in practice

The Ecoenel System was designed on an independent platform. It has a unilateral communication function with the base of customer billing for Enel Distribuição Rio and Ceará. Besides that, it has a web interface that allows viewing information for the control and management of the collection points, volume of waste dealt with, registered clients, and the total bonuses received by the consumer units participating in the program.

### Iniciatives derived from the program

Besides exercisings sustainable practices and contributing to changing people's thinking and position, Ecoenel has been reaping the rewards in the last ten years. Ecoenel has been reaping the rewards over the last ten years. By this we mean the projects derived from the positive actions taken by the program in Ceará and Rio de Janeiro. One of these initiatives is the Bonus Donation.

Following the logic of bonus granting on the electricity bill, the clients may donate their bonuses to a natural person, families, or companies that are partners in the projects.

Since it is the client who chooses the number of the consumer unit to be registered on the card, they can take the waste materials to the collection point and have them credited in any account they choose. Both in Ceará and Rio de Janeiro, institutions such as the APAE -Association of Parents and Friends of Exceptional People, the IPREDE - Institute of Early Childhood in Fortaleza, the APADA – Association of Parents and Friends of People with Hearing Impairment in Niterói, among many others, may benefit from bonuses donated by the clients participating in the Ecoenel.

Through the Milk Bank initiative, the Ecoenel collects glass containers from its collection points and donates them to the Milk Banks at the Albert Sabin Children's Hospital in Ceará and Antônio Pedro University Hospital in Niterói, Rio de Janeiro.

According to Odailton Arruda, in charge of the Ecoenel program, the collection of glass containers is a response to a request made by the hospitals' milk banks, which find themselves extremely in need of this kind of material to store the milk donated by volunteer mothers.

Erandy Cordeiro, the chief coordinator for the Milk Bank in Ceará, says that coffee and mayonnaise glass containers sized 50g to 100g are preferable. She explains that these shapes are ideal for the collection and pasteurisation of human milk.



Photo: Enel Archive

### Self service

Following its entrepreneurial perspective, Enel is using another innovative equipment in the country.

The system consists of a self-service machine for the collection of recyclable waste with financial return for the client through a bonus on their electricity bill.

The service is controlled by an online management system and will be provided in schools, governmental agencies, shopping malls and supermarkets, thus expanding Enel's customer service channels.

The machines are controlled by the program coordination. The client takes the waste materials to the Ecoenel self-service machine, types in the electricity consumer unit, or donates the bonuses to another person or institution already registered. All of this in an automated way.

### **Prizes**

In addition to prize winning, what defines the company of the future is the effective attitude to build a better world. From this perspective, over the past ten years, the program has won the recognition of the public and of various institutions around the world as a sustainable company

### 1st place

in the Integration with Society category

> O Brasil que inova Monitor Group (Exame Magazine)

2007

Chosen as one of the **25 greatest** Brazilian innovations in the last decade

2008

World Business and Development Awards (WBDA)



### One of the ten winners

2007

FIEC Prize for Environmental

Performance

of the United Nations Organization (UNO) award, among the world's 20 most relevant ones 2015

Iniciativa Incluir (PNUD Brasil)

### Selected as a model

and as one of the best practices of sustainable, inclusive and innovative business in Brazil

### 2015

EducaRES Certificate



### As recognition

for the collaboration with the Solid Waste Management policy

2012 ODM Brasil Prize 2012

### One of the three finalists

for the prize that encourages actions for compliance with the Millennium Development Goals

### Chosen by PNUD Brasil

as one of the main projects aligned with the principals of the Global Compact 2015

A benchmark for inclusive business in Latin America

2010



### **Chico Mendes Award for the Environment**

2010

VI Premios Europeos de Medio Ambiente



Reflections on social and environmental thought



## Ecoenel and the solid waste policy ideal

By Albert Gradvohl | Professor of Environmental Management at the University of Fortaleza

We are collectively celebrating Ecoenel's 10th anniversary. A project that was a success thanks to the commitment of a team that adopts sustainable methods. Although there have been different laws regulating the environmental issues since the 1980s, only recently has there been an effort to define a policy to deal with the issue of urban waste in Brazil.

I am talking about Law 12.305/10, which proposes a Public Policy on the issue of solid waste to the states and municipalities. Based on a macro National Public Policy, it enables the planning of activities in a systematic way, with participation of the public and private sectors. It ensures lower environmental impact regarding waste disposal in our society, and a fair economic result for the business segment in charge of the collection, the treatment and the final disposal of waste materials. At the Brazilian urban centers, waste materials have different facets. For some, it is a subsidy for the culture of waste. For others, it is speculative gold, such as the open dumpsites.

Contrary to all that, the Ecoenel considerably reduced waste disposal in the environment in 10 years' time. The result is the strong influence on the population regarding their environmental awareness.

**32,624tons** of waste removed from the environment 236,914 people influenced



It has enabled an increase in the monthly income of these families, expanding the granting of bonuses and promoting our clients' monthly electricity saving.

We are witnessing a proactive behavior, whose new culture goes against profit at any cost. The environment is seen as everyone's right, supported by the National Environmental Policy, stated by Federal Law 6.938. However, the public and private sectors have not been paying the environmental cost. In Brazil, this cost has been paid by society, considering the high prices paid by each prefecture for the collection and transportation, and in many cases with no proper waste disposal.

Waste collection in the cities has hardly improved. Collection is still carried out door to door, with waste all mixed up, scarcely reaching hardto-access areas inhabited by lowincome groups. This is a state government duty and the population has the right to demand a state-mandate regulation based on the public policy tools, aiming to reach the objectives established by the National Policy on Solid Waste (PNRS).

This legal mechanism has defined solid waste as an economic good with social value, generating income and promoting citizenship. Its principle is the possibility to reach agreements with different sectors for urban cleansing focused on a new culture of integrated management, where waste must be revaluated and not deposited in landfills.

R\$ 5,255,737 in bonuses on the electricity bill

### 134,129,606кш/h

of electricity saved with the recycling carried out by Ecoenel

### The time for recycling has come

By Sabetai Calderoni | Doctor of Science from the University of São Paulo - USP

Waste management has been considerably delayed in Brazil, and the trials for advancement have been indefinitely postponed.

After two decades of debates, the National Policy on Solid Waste (PNRS) was finally promulgated in 2010. Bringing great hope of progress, the policy enforced the closure of dumpsites all over the country in four years' time, prohibited the disposal of untreated waste, aiming at maximum possible recycling, and demanded that all the municipalities devised Waste Management plans as a condition to obtain funds for this sector. August 2014 marked the end of the four years' time allowed by the PNRS for the municipalities to close the dumpsites. Of the 5,565 municipalities in the country, 3,344 did not observe the law, according to ABRELPE – Brazilian Association of Public Cleansing and Waste Management Companies. Of the 34 dumpsites in the country, 20 are still working, including the Lixão da Estrutural, the biggest of all, located 15km from Brasília,the country's capital.

The Federal Government allowed the prefectures to postpone the closure of dumpsites and the compliance with the PNRS guidelines for a period of four to six years. But why ask the Federal Government to grant such a long delay in meeting the requirement to close dumpsites? Most mayors claimed they lacked the financial resources.



Prefectures mistakenly think that a dumpsite can be substituted with a landfill. The main PNRS guideline is to do intensive recycling and use the landfill as a last resort. According to the World Bank, recycling could increase Brazil's GDP by billions of dollars and result in savings of millions of GWh/year.

A city with 100 thousand residents pays and receives millions/year for landfills. The recycling centers may add value to these raw materials, producing various utensils. The investments are low, the profits, substantial. Due to scant action on the part of the municipalities, the private sector has planned to promote selective collection and recycling. Initiatives such as the Ecoenel Program are a source of inspiration for other organizations. As a result, recycling advances, although not in the necessary speed. We need to act. The world has understood that the time for recycling has come.

# The Green Bill and CO2 compensation

By Sérgio Araújo | Environmental Specialist - Enel





At a time when the world population has been worried about global warming resulting from emissions of Greenhouse Gases – GHG, waste generation contaminating the soil and the water table, and the uncontrolled use of natural resources, the Green Bill Program was created with the aim to minimize such causes of pollution. The idea is to motivate the population to compensate for their CO2 emission by recycling waste through the Ecoenel Program, and reduce the use of natural resources, preserving them for the future generations.

Besides making their clients aware that the consumption of electricity is a source of CO2 emission, the program measures the emissions of this gas, which results from the use of electricity and the burning of fossil fuels to produce plastic, glass, paper and metal.



As per the methodology used, recycling a certain material allows it to be reintroduced in the production chain, eliminating some activities that would be necessary to obtain the same input from a virgin raw material extracted from nature. This production process results in saving electricity, fossil fuels and natural resources. The model proposes a connection between the production and the recycling of each type of material, and the decline in CO2 emissions, becoming a basis for the implementation and operational stage of the Green Bill Program.

It will also signal the amount of recycling that should be done by the client to "compensate" for their carbon emission resulting from their use of electricity, and the environmental "value" for the recycling of each waste material regarding CO2 emissions. This way, Enel manages to increase the scope of its main program – the Ecoenel – launching the concept of a "Green Bill" client. The Green Bill also aids companies in their effort to comply with the guidelines established by the National Policy on Solid Waste (PNRS), since it allows the recyclable solid waste generated in these companies to be tracked, while it also allows compensating for the emissions resulting from the CO2 emission inventory, through the GHG Procol Brasil methodology.



### Recycling of waste materials as an action of energy efficiency

By **Máximo Luiz Pompermayer** | Superintendent of Research and Development and Energy Efficiency ANEEL

It is well known and easily understood that recycling means reusing materials to produce new objects or packaging. Besides preventing these materials from being thrown in the environment, it also prevents new natural resouces from being used in the process. Therefore, recycling brings double benefit to the environment.

Recycling also brings important benefits from a social point of view, such as job offer and income for communities with low-purchasing power. And this is not just about waste collection and their delivery at recycling points. People's knowledge, creativity and talent may help add value to the recycled material.

There are several social projects aimed at transforming "waste" into products with market value. However, a lot of recyclable material can still be seen on the streets, grounds, canals, rivers and sanitary landfills in many cities in the country, which justifies Enel's pioneering initiative and the support of several other electric companies.

Another important aspect of recycling is the fact that it is also energy efficient, since, when using recycled materials to manufacture other products, there is saving of energy in the production of such material. This was the logic used by Coelce, now Enel Distribuição Ceará, to create a methodology for the analysis of whether waste recycling would be energy efficient, which was carried out through a research and development (R&D) project regulated by ANEEL.

Among the possible ways to motivate recycling as an action of energy efficiency, option was made for creating a system where waste is exchanged for bonuses on the electricity bill. Although it is quite low, the rebate on the bill means a lot to millions of low-purchasing consumers all over the country at the end of the month.

This is definitely a noble, intelligent and innovative initiative, integrating R&D and energy efficiency actions and resources, in compliance with Law 9.991/2000 and its regulations. Throughout these long ten years of experience, several technologies, systems and arrangements have been tested, making this a very common practice for various electricity distribution concessionaires. Π

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Enel's pioneering initiative, the viability of the adopted mechanisms and, most of all, the benefits brought by the projects launched in various regions and cities in Brazil, have been recognized by ANEEL, by several electric companies, and even by international agencies. May they be an example and motivation for new energy efficiency projects and actions!

# Ecoenel



ce@enel.com /enelce



enel



Outros

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# Business sustainability as a principle

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## Recicla Fortaleza and the positive generation of credit



Launched on April 30, 2016, the Recicla Fortaleza program is the result of a partnership between the Prefecture of Fortaleza, through the The Municipal Secretariat for Conservation and Public Service (SCSP), Enel Distribuição Ceará and the Ceará State Syndicate of Passenger Transportation Companies (Sindiônibus).

The project offers discounts on the electricity bill and credit on the Bilhete Único (bus fare card) in exchange for recyclable waste. The program has more than 1,249 people registered and, today, more than 5,000 people receive the benefit. In the next phase, the credits will be used on the water bill. In the first month, the program granted R\$ 6,945.26 in discounts on the electricity bill, with a total benefit of R\$ 51,589.79 on the electricity bill and the Bilhete Único.

This represents a growth of 642% in benefits. This is the result of about 308.7 tons of recyclable material delivered at the ecopontos as part of the Recicla Fortaleza program.

It is easy to have access to the benefits.



Find the Ecoponto closest to you



Register using the Coelce bill or the Bilhete Único



Photo: Prefeitura de Fortaleza

An average of 39.2 tons of recyclable material have been delivered at the 16 ecopontos in the last nine months. Pruning leftovers added to a total volume of about more than 5,000 m<sup>3</sup>, and more than 3,767 liters of cooking oil was collected at all the ecopontos in this period. By the end of 2016, the Prefecture of Fortaleza will have set up 25 ecopontos in the city.

The ecopontos are an adequate place for clients to dispose, free of charge, of small amounts of rubble, pruning leftovers, old furniture and upholstery, tires, cooking oil, cardboard, plastic, glass, metal, cell phones and electrical appliances. About 1,683 tons of material were delivered from November 28, 2015, when the first ecoponto was set up in Bairro de Fátima (Regional IV), until August 29, 2016.

Of this totak, small amounts of rubble from residential construction accounted for about 1,330 tons, while the recyclable materials, that is, plastic, glass, metal, paper and cardboard, accounted for about 353.4 tons. Fortaleza now has 17 ecopontos in the following neighborhoods: Aracapé, Barra do Ceará, Bairro de Fátima, Cidade 2000, Cidade dos Funcionários, Conjunto Ceará, Conjunto Esperança, Edson Queiroz, Jangurussu, José Walter, Parque Dois Irmãos, Praia do Futuro, São João do Tauape, Serrinha, Varjota, Vila Peri and Vila Velha.



The Recicla Fortaleza card is handed in to yo





Make sure you receive the Bonus

# Entre na Rota da Reciclagem Você Também!

Longa Gentaria Barra D'Acèncaria D'Acèncaria D'Acèncaria D'Acèncar

A Tetra Pak criou o portal Rota da Reciclagem para que os consumidores possam saber onde descartar corretamentos as embalagens longa vida e outros materiais recicláveis. De uma forma simples e rápida, o portal mostra no mapa a localização dos pontos de descarte mais próximos do internauta.

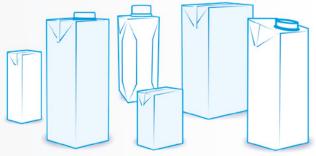
A Tetra Pak, em parceria com a Ecoenel, disponibiliza todos os pontos de coleta cadastrados no programa de troca de recicláveis por desconto na conta de energia elétrica.

Então lembre-se: quer saber o jeito mais fácil e rápido de destinar seus recicláveis?

#### Acesse: www.rotadareciclagem.com.br

#### As embalagens são totalmente recicláveis!

As caixinhas da Tetra Pak são compostas de papel, plástico e alumínio. Após a reciclagem, o papel é transformado em caixas de papelão enquanto o plástico e o alumínio podem dar origem a telhas, chapas e outros produtos plásticos.





#### Cada caixinha conta para ajudar o meio ambiente e a cidadania!

Fazendo a coleta seletiva das embalagens da Tetra Pak, você contribui para reduzir o volume de material destinado aos aterros sanitários e ainda ajuda a fomentar uma cadeia que promove a geração de renda, trabalho e cidadania a milhares de catadores.

A Tetra Pak quer saber como você está ajudando a reciclar as embalagens longa vida. Marque com #cadacaixinhaconta nas redes sociais e compartilhe!



www.facebook.com/rotadareciclagem

PROTEGA Tetra Pak® QUE É BONN

falecom.meioambiente@tetrapak.com

# Materials that generate credit at the Recicla Fortaleza

Materials that generate credit on the electricity bill: glass, metal, paper, plastic and others, as explained below:

#### GLASS

Glass containers for soluble coffee, mayonnaise and bottles of beer, soft drinks and distilled spirits.

#### PAPER

Cardboard, newspapers, books, notebooks, white paper and mixed paper.

#### METAL

Different types of iron, screws, beer and soft drink cans, stainless steel, antimony, car and motorcycle batteries, lead and bronze.

#### PLASTIC

Soft drink bottles (PET), plastic film, PVC, hoses, bags, and bleach, margarine and detergent packaging.

#### **OTHER**

Cooking oil and Tetra Pak packaging (milk, fruit juice and chocolate milk).

# Materials that DO NOT generate credit at the Recicla Fortaleza

Close attention here. Although these might be accepted at the ecopontos, they do not generate credit at the Recicla Fortaleza:

- Small building site rubble;
- Ceramic or porcelain;
- Furniture;
- Upholstery;
- Wood;
- Pruning leftovers;
- Batteries;
- Cell phones;
- Electrical appliances;
- Dirty or synthetic paper;
- Egg cartons;
- Powder soap packaging;
- Aluminized packaging;
- Tires.

### Ecopontos Recicla Fortaleza

#### Regional I Barra do Ceará

On the corner of Rua Graça Aranha and Rua Wilcar Bastos Cavalcante **Vila Velha** 

Rua Jasmim, S/N

#### Regional II São João do Tauape

Avenida Visconde do Rio Branco, S/N (next to Parque Rio Branco) **Varjota** 

On the corner of Avenida Antônio Justa and Rua Meruoca **Cidade 2000** 

On the corner of Rua Giselda Cysne and Rua Sólon Carvalho **Praia do Futuro** 

On the corner of Rua José Aureliano Câmara and Avenida Dioguinho

#### Regional V Conjunto Esperança

On the corner of Avenida Penetração Norte-Sul and Rua do Canal

#### Conjunto Ceará

On the corner of Avenida Ministro Albuquerque Lima and Rua 721

#### José Walter

*On the corner of Avenida B and Rua 33* 

#### Aracapé

On the corner of Rua Miguel de Aragão and Rua Nossa Senhora Aparecida

#### Regional IV Bairro de Fátima

On the corner of Avenida Luciano Carneiro and Avenida Eduardo Girão **Vila Peri** 

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On the corner of Rua Antônio Costa Mendes and Travessa Augusto Ribeiro

#### Serrinha

On the corner of Rua Freire Alemão and Rua Inácio Parente

#### Regional VI Edson Queiroz

*On the corner of Rua Hill de Moraes and Rua Vereador José Batista Barbosa* 

#### Cidade dos Funcionários

On the corner of Rua Dr. José Plutarco and Rua Professor Aluísio Barros Leal

#### Jangurussu

On the corner of Avenida Castelo de Castro and Rua Gergelim

**Parque Dois Irmãos** On the corner of Rua H and Rua K

#### Ecoenel 2017

# CLIN and Ecoenel Rio de Janeiro Partnership

CLIN – the Municipal Urban Cleansing Company of Niterói started the pilot program of its Waste Selective Collection in 1991. In 1997, the infrastructure became larger, which allowed for the expansion and improvement of the door-to-door collection system.

The program consists of collecting recyclable solid waste (paper, plastic, glass and metal) and providing their proper disposal without causing environmental damage. Based on the 3R's, "Reduce, Reuse and Recycle", the program has been developing educational activities.

The system works by sectors all over the city, from Monday to Friday, during working hours.

In order to participate, the client must register through a call center. They will then receive all the instructions about the process of selective waste sorting, besides informative material. The waste collected in Niterói is donated to two cooperatives of waste collectors (one in Morro do Céu, and the other on Rua Padre Anchieta - Coopcanit).

As more people have joined the program, the collection system has created the PEVs – Voluntary Delivery Points - in various neighborhoods.

CLIN has been a partner in the Ecoenel Program in Rio de Janeiro state since 2008, setting up about 15 ecopontos for collection, which is carried out in permanent points and through mobile collection points in parks of Niterói. Today, around 4.5 % of all the waste produced in the city is recycled.

### **Ecoenel Ecopontos in** partnership with CLIN:

Largo do Marrão R. Américo Oberlaender, 581, Largo do Marrão Mondays, 8am-2pm

Inea Av. Feliciano Sodré, s/n, Centro | Mondays, 2pm-4pm (every 15 days)

Bairro de Fátima: R. Andrade Pinto s/n, Bairro de Fátima | Mondays, 2pm-4pm (every 15 days)

Praça do Ingá: Pç. Paulo César Tinoco, Ingá | Tuesdays, 8am-2pm (every 15 days)

Engenhoca Av. Professor João Brasil, s/n, Engenhoca | Monday to Friday, 8am-12 midday and 1pm-4pm

São Francisco Pc. Dom Orione Rua General Rondon, São Francisco Fridays, 8am-2pm

Largo da Batalha R. Leonor da Glória, s/n, Largo da Batalha | Monday to Friday, 8am-12 midday and 1pm-4pm

Horto do Barreto R. Dr. Luis Palmier. 135, Barreto | Monday to Friday, 8am-12 midday and 1pm-4pm

Jurujuba Av. Carlos Ermelindo Marins, s/n | Wednesdays, 8am-2pm

Grael Av. Carlos Ermelindo Marins, 195, Charitas | Wednesdays, 8am-4pm

Maceió R. Professor Lira, s/n, Maceió |Tuesdays, 8am-2pm (every 15 days)

Cafubá R. On the corner of R. Dr. Walter Madeira, s/n (Antiga R. 32 and Av. Raul de Oliveira Rodrigues), Piratininga Monday to Friday, 8am-12 midday and 1pm-4pm

Itaipu R. O, s/n (Campo Belo – beside the sewage pumping station), Itaipu | Monday to Friday, 8am-12 midday and 1pm-4pm

Icaraí R. On the corner of R. Jornalista Irineu Marinho, 466 and Av. Ary Parreiras, Icaraí | Monday to Friday, 8am-12 midday and 1pm-4pm

Santa Bárbara Pc.de Esporte João Saldanha, Av. Des Nestor Rodrigues Pelegrino, Santa Bárbara | Thursdays, 8am-3pm



### Ecocidadão, a clean city and everyone's duty By Grupo Marguise

Everybody watched the scenery filled with different and colorful objects on the school's sport court. Another presentation of the musical sketch,"I am an Ecocitizen", developed for the "Ecocidadão nas Escolas" project, was about to start. The main character, Captain Ecocidadão, goes on stage, dressed in a superhero costume that looks like the garbage collectors' uniform. His mission: to transmit the message that we all need to do our part to live in harmony in a clean city.

In 2015, the initiative reached 38 thousand children aged between 6 and 12, and 520 teachers of public (government-funded) and private schools of Fortaleza in four months. Grupo Bagaceira, one of the most awarded theater groups of Ceará state, wrote the script. Besides watching the musical sketch, the children also received interactive magazines, with curiosities and games. Advertiser Clarisse Ilgenfritz wrote the text, and Xico Gomes created the illustration. Vini Fernandes, manager of communications and marketing at the Grupo Marquise, says that the project aims to raise children's awareness, helping them become multipliers of the concepts of environmental education addressed in the magazine and in the musical sketch. "Children bring home what they have learned, and start demanding that parents, family members and friends change their attitudes...This is what we want," she explains.

The actions presented at schools are part of the Ecocidadão Program (Ecocitizen Program), which aims at environmental awareness, and which has been conducted by Ecofor since 2010. Its objective is to make the population aware of proper solid waste disposal and of ways to reduce litter, mainly in the largest waste generating zones and in the neighborhoods presenting the most litter. The initiative includes actions such as putting up prohibition signs in the communities served, doorto-door environmental education, meetings with community leaders, implementation of the community cleaner, the graffiti project, and the International Coastal Clean-up Day.



Photo: Marquise

### Transformation now: illegal dumping sites turned into vertical gardens

As a pilot action of the program, Grupo Marquise and Ecofor Ambiental have been transforming illegal dumping sites in the city into vertical gardens. Up to now, three gardens have been planted, all of them in the Barra do Ceará neighborhood.

The transformation occurs in parallel with actions aimed at raising environmental awareness in the popuation in order to prevent the problem from happening again.

Hugo Nery, general manager of Environmental Services Operations for Grupo Marquise, believes that if each citizen took care of their street properly, we would not have a macro environmental problem today. "Unfortunately, it is still very common for us to see people dumping waste in places showing a prohibition sign, which end up becoming an illegal dumping site," says Nery.

The three gardens were planted in the following addresses in Barra do Ceará: Rua Flor do Lírio (on the corner of Rua Tulipa st); Rua Araken, 860; Rua Adolfo Sales (on the corner of Cel. de Carvalgo Av). Other gardens will be planted this year in the Jangurussu neighborhood.

### Wholesaler Assaí from a sustainability persperctive

By **Maurício Marumo** | Architect – Planning and Construction and **Fábio Lavezo** | Sustainability Coordinator

Embrancing several fronts for creating a culture of sustainability, the company develops programs that contribute to environmental sustainability and the rational use of natural resources. At Assaí, sustainability is built on five axes: Value Chain Transformation, Civil Society Engagement, Environmental Impact Management, Valuing Our People, Conscious Offer and Consumption.

Since 2014, six stores have been converting organic waste into compost as part of the Food Waste Reduction Program. Aiming to minimize environmental impacts, the action has resulted in reusing 40% of the waste produced in the stores as compost.

One of the positive impacts is the reduction of waste sent to landfills. Besides minimizing the environmental impact on the final destination, the processed waste is reused as organic fertilizer.

#### In October 2016, the initiative started to be implemented in other 18 stores. Now, 1/4 of the Assaí stores have a composting program, and the aim is to implement the program in their

Recycling Stations are among the programs for direct reduction of environmental impact. They are present in São Paulo, Rio de Janeiro and Ceará states.

other shops in Brazil.

The partnership with Enel started in 2012 in Rio de Janeiro, with the setting up of the collection point at the Assaí in São Gonçalo, in the Alcântara neighborhood. Later, in 2015, the partnership was expanded to Ceará at the Juazeiro do Norte, Caucaia, Sobral and Fortaleza stores, in the Parangaba neighborhood. Altogether, more than 1,256 tons of waste were collected, which meant a bonus of about R\$ 197,251 on the customers' electricity bills.

# Sustainability expanded to the sectors

The Assaí Planning and Construction department seeks solutions aligned with the environmental norms when setting up stores and carrying out operating activities.

Over the past years, the entire air-conditioning system of the company has been updated to comply with the international environmental norms and reduce CFC emission. The projects for airconditioners and food refrigeration in the stores use a mixture of water and glycol, which reduce the use of H2O and electricity. Since 2013, the stores have had natural lighting in the sales, storage and parking areas. In 2015, the lighting system was changed for more quality inside and outside our stores. These studies take into consideration energy saving and less maintenance regarding use of the work force and risk of workplace accidents.

# Recognizing the relationship waste x energy

By Algra Econsult

In their research, Algra Econsult have developed a certification for Reverse Logistics applied to Energy Efficiency, with the aim to optimize solid waste management. Developed and developing countries have been discussing business sustainability using a multidisciplinary approach, both from a macro and micro perspective. For that reason, since 2003, Algra Econsult has been researching and implementing, together with Enel, projects, products and processes with a focus on the intersection of reverse logistics and energy consumption with the aim to optimize all kinds of resources.

Based on the review of relevant. comprehensive and holistic themes, from the point of view of Corporate Social Responsability, a cross-sectional study was carried out to test indicators seen as sustainable regarding integrated solid waste management. In this context, the study aimed to develop and validate a scale to measure the variables that define a concept of Reverse Logistics applied to the electricity bill in the companies, without breaking the current market rules, regardless of the branch of activity.



# Waste production and energy efficiency

The scientific study made it possible to present and establish indicators that parameterize the level of environmental performance by relating the management of waste produced by the company to its energy efficiency, regardless of the economic activity. The research has therefore led to the creation of an environmental certification as an annual performance award, whose innovation lies in the relationship waste x energy, which differs from other certificates existing in the global market.

The analysis is based on the same theoretical and investigative approach, which originated Ecoelce in 2003, today Ecoenel, added to the current record of indicators, in addition to norms, resolutions and legislation, which served as a basis for public policies in the field of solid waste management. After the program reached its full development, Algra Econsult and Enel started testing a new model, specifically adequate to large quantity generators, whose pilot, initially tested at Mercadinhos São Luiz, achieved an outstanding result.

It is easy to notice that the model adopted broadened the scope of Ecoenel, becoming a reverse logistics tool that ensures greater environmental control regarding waste management, added to a financial revaluation over a certain period of time, which originated the Reverse Energy Certificate.

### A AVSI Brasil

(Associação Voluntários para o Serviço Internacional - Brasil) é uma organização não governamental, sem fins lucrativos, que atua no Brasil há mais de 30 anos.



Nossa missão é **desenvolver pessoas** por meio de programas nos âmbitos social, econômico, ambiental, cultural, educativo e formativo.



Atualmente, estamos presentes em seis estados brasileiros: Bahia, Ceará, Minas Gerais, Pernambuco, Rio de Janeiro e Rio Grande do Norte.



Em parceria com a Concessionária ENEL, atuamos em **projetos socioambientais** que desenvolvem o tema de uso racional e seguro da energia elétrica.



O projeto ECOENEL recolhe Resíduos Sólidos Urbanos recicláveis e os converte em bônus na conta de energia, com o objetivo de reduzir os impactos ambientais relacionados com o descarte incorreto de RSU, fomentando a cadeia da reciclagem e promovendo a educação ambiental.







### The Reverse Energy Certificate

Officially launched during the Eco Experience Seminar in Fortaleza, the Reverse Energy Certificate is the only environmental certificate presenting a cross-sectional study of indicators for Energy Efficiency and Reverse Logistics of Solid Waste Produced by Largy Quantity Generators.

The indicators are monitored in the electricity bill of the respective companies over a certain period, enabling performance assessment. The model was based on scientific study. It was researched and tested for two years by the Ecoenel system, which, in turn, became a reverse logistics operations management tool. Among the results reached by the companies, we highlight compliance with law 12.305/10, environmental performance regarding the practice of waste reverse logistics, cost minimization and risk reduction during collection procedures, treatment and final disposal.



Gerenciamento Total de Resíduos

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# Criteria for certification

The methodology for validation of the scales is based on the relationship between the quantitative and qualitative variables obtained by the company during the period of assessment, since management indicators are needed for the assessment of the reactive and proactive behavior of the company.

The scale is composed of 51 variables regarding the Waste Program Policy established by Algra Econsult at the company being assessed, in addition to indicators of endocommunication, and indicators for the environmental aspects of Solid Waste produced by the company.

As for the quantitative indicators, the methodology assesses the projected and identified externalities, the Recyclability Index (R), and finally the Reverse Logistics Index reached in the period. All the externality indicators have a relationship with Ecoenel, regarded by ANEEL as an energy efficiency tool. As a result, this study managed to establish, in a pragmatic and innovative way, control indices for waste production and, consequently, for company waste. The results achieved by the first companies to receive the Reverse Energy Certificate in 2015 are as follows:

#### Criteria for receiving the Reverse Energy Certificate

Categoria	Тетро	Média de desempenho
A	> or = 2 years	Above 60%
B	>or = 1 year	Above 50% to 60%
C	< 1 year	from 20% to 50%

#### **Companies Certified in 2015**

ltem	Company	Category	Performance
01	MERCADINHOS SÃO LUIZ	А	73%
02	ACAL	Α	67%
03	IDEAL CLUBE	Α	62%
04	DAG/J.SLEIMAN & CIA.	в	51%
05	STAND SHOW	в	60%
06	UNIVERSIDADE DE FORTALEZA UNIFOR	в	73%
07	MARINA PARK	С	60%
08	TRIBUNAL DE JUSTIÇA DO CEARÁ	С	48%

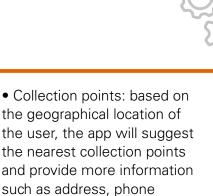
# Technology at the service of environmental awareness

By 3E Engenharia

One of reasons for the sucess of the Ecoenel project since its launching lies in the development of a personalized information system, customized to the specifities of the project. This ensured great reliability of the project performance, first regarding the consolidation of collection data at the ecopontos, but mainly by assuring the participants that the bonus would be credited in their electricity bills in exchange for the waste collected. Based on this model of trust between managers, partners and participants, the Ecoenel Management System has been through several development stages over these past 10 years. This has enabled them to reach a level of differentiation, incorporating resources for greater security of the transactional data and transparency to the participants regarding the generation of credit in exchange for recyclable waste, promoting stronger synergy between the project stakeholders.

<ul> <li>Panel for the follow-up of indicators;</li> <li>Optimization of operational processes;</li> <li>Producing automated reports to support decision making.</li> </ul>	Managers	Participants	<ul> <li>Practicality of checking the credits to be granted on the electricity bill;</li> <li>Special module for the transaction of large amounts of recyclable waste;</li> <li>Mobile app.</li> </ul>
<ul> <li>Special module for the follow-up of transactions at the ecopontos;</li> <li>Monitoring the volume of stored waste for logistics optimization.</li> </ul>	Partners	Society	<ul> <li>Reliable and easy-to-access information to monitor selective collection at the different locations;</li> <li>Proper disposal of recyclable waste in the recycling industry.</li> </ul>





To celebrate the project's 10th anniversary and its ongoing spiral of innovation, a mobile app compatible with Android and iOS is being launched. With the app, the project participants will have access to several services such as:

> • Price list: the user will have access to the price of each unit of waste delivered at the collection points;

number and opening and

closing times;



• Collection record: the app checks the project database directly and provides an online display of the last exchanges made by the user at any of the collection points. The participant can then follow their credit record in real-time.

# HÁ 10 ANOS EM AMPLO CRESCIMENTO.

Comemorar os 10 anos do Ecoenel é um grande orgulho para a 3E Engenharia, fazer parte desse projeto é um grande presente.

O grupo Enel destaca-se mundialmente com sua política socioambiental e tem hoje no projeto Ecoenel, nos estados do Ceará e Rio de Janeiro, a verdadeira demonstração do tripé da sustentabilidade nas suas vertentes social, ambiental e econômica.

A 3E Engenharia orgulha-se por fazer parte dessa iniciativa inovadora e que já gerou tantos bons frutos para a sociedade, desejamos que o Ecoenel possa continuar seu crescimento e trazer seus benefícios a um número ainda maior de pessoas.



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Access our portal through the QR code and learn more









