



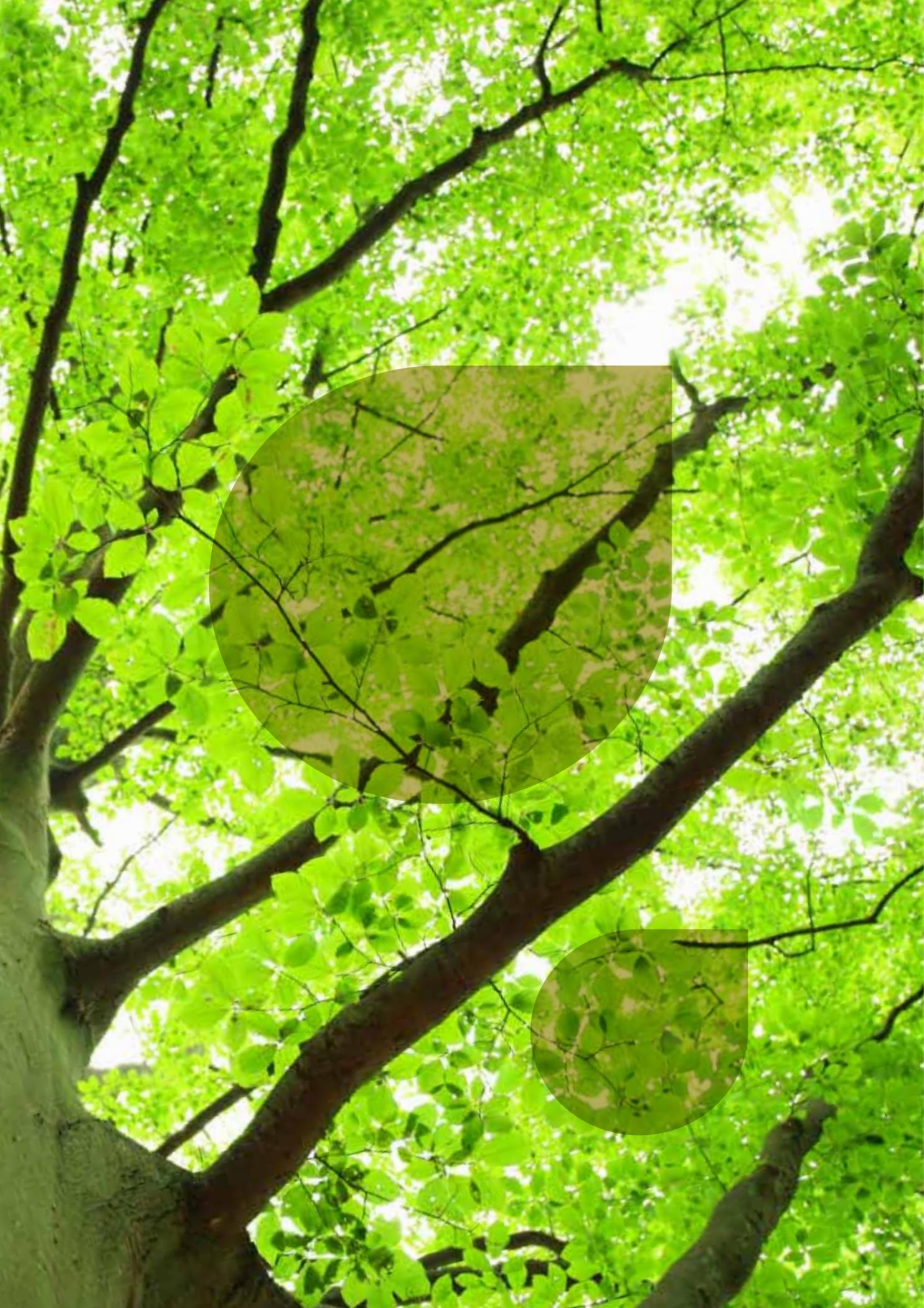
RIO DE JANEIRO ENVIRONMENTAL EXCHANGE OPERATIONAL REPORT 2011 – 2013





MISSION

TO PROMOTE THE USE OF MARKET
MECHANISMS TO FACILITATE
COMPLIANCE WITH SOCIAL AND
ENVIRONMENTAL LAWS

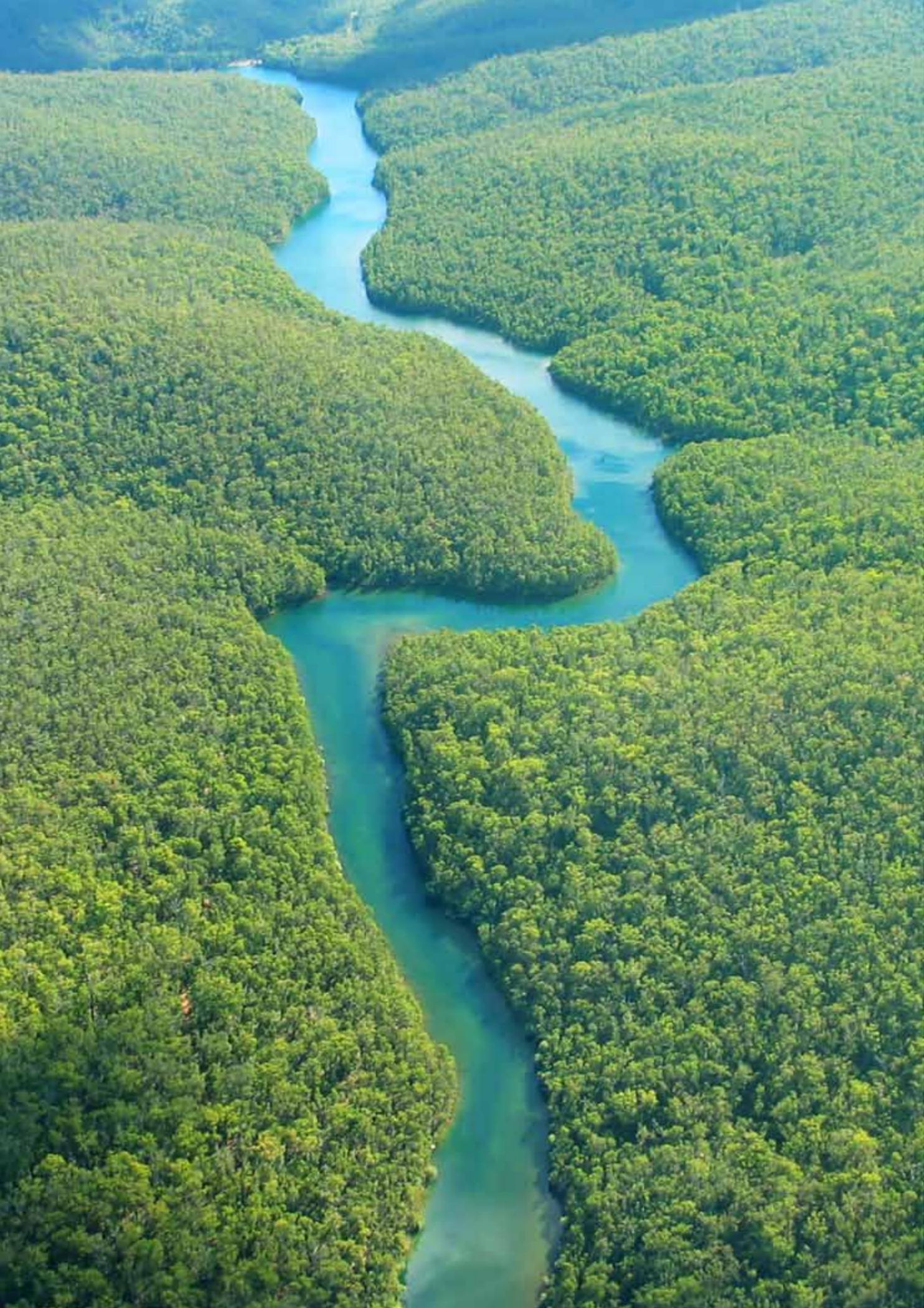


KEY INDICATORS

- Rural properties totalling more than 1.5 million hectares offering forest reserve credits and likely to be protected
- Forests offering credits located in 15 states and representing the main brazilian biomes
- Potential carbon storage of over 600 mt CO₂E
- More than 1600 participants with accounts in the exchange
- Partnership established with the national association of waste collectors (catadores)
- More than 100 waste collector cooperatives, located in 21 states and representing over 3000 waste collectors, registered to participate in the reverse logistics credits market
- Offers of reverse logistics credits derived from the effective recycling of over 5500 tonnes of solid waste per month
- Greenhouse gas emission reductions potential of 20 mt CO₂E per year
- Tyre disposal credits system developed and operational
- Greenhouse gas cap & trade simulation developed for the Businesses for Climate initiative

CONTENTS

3	INTRODUCTION
3	Message from the Directors
5	Comments from Board Members
6	Background
8	Public policies and sectors
10	FORESTS, AGRICULTURE AND LAND USE
11	The Forest Law and the need to maintain Forest Legal Reserves
13	Contracts for the development of Forest Reserve Credits for Future Delivery (CRAFs)
15	Consolidation of protected areas through Conservation Area Offsets
16	SOLID WASTE AND RECYCLING
17	The Solid Waste Legislation, 'reverse logistics' and recycling
18	Reverse Logistics Credits of packaging and the independent waste collectors
22	Tire Disposal Credits
24	GREENHOUSE GASES
25	Climate Change policies internationally
26	Rio de Janeiro's GHG cap & trade scheme
28	Emissions trading simulation for the Business for Climate Platform initiative
30	WATER AND EFFLUENTS
31	Cap & Trade system for industrial effluents
	BVTRADE
33	Trading platform: proprietary technology
35	BVTrade: leveraging private sector investment
36	INFORMATION DISSEMINATION
38	Conferences and workshops
38	Rio+20 Conference
39	National Environment Conference
41	BVRio Roadshow
42	Publications, videos and radio
43	Website and Social Media
44	Press coverage
46	PARTNERSHIPS
50	SUPPORTING THE CREATION OF A GREEN ECONOMY
51	Social Entrepreneurship Exchange
52	ASA Paragominas Environmental Services Agency
52	ASA do Simplicio Environmental Services Agency
53	Centro Rio+
54	PRIZES AND AWARDS
54	Katerva Awards
54	Yale ISTF Innovation Prize
57	GOVERNANCE AND MANAGEMENT
58	Board of Directors
59	Advisory Board
60	FINANCIAL SUMMARY
60	Sources of funding and support
61	Uses of financial resources



Message from the Directors



Pedro Moura Costa
President of BVRio



Mauricio Moura Costa
COO of BVRio and
President of BVTrade

Sustainable management of the environment poses some of the greatest challenges facing humanity today. Our current models of production and consumption are incompatible with global natural resource and production limits. Governments worldwide need to introduce policies that change these models and help redirect countries towards a more sustainable path.

Recent environmental laws and regulations in Brazil have the potential to be transformative. The National Solid Waste Legislation of 2010 and the Forest Law of 2012 are particularly important. Both of these laws involved years of negotiation between a wide range of stakeholders, and have the potential to significantly improve the issues that they address, notably the impacts of land use management in rural areas, and of waste management in urban centers.

In establishing broad policy objectives, these laws create enormous challenges as regards implementation. Both will impact the industrial and commercial sector, requiring behavioral changes and imposing compliance costs. At the same time, their enforcement is dependent on significant government effort and investment in capacity and infrastructure. If these difficulties are not overcome there is a risk that these laws may not be implemented to their full extent, discrediting the process and missing a unique opportunity. It is vital that innovative solutions are developed to assist and contribute to their implementation.

Command and control measures are essential for the enforcement of environmental public policies but, in these cases, will be insufficient to tackle the epic challenges ahead. Our vision is that changes of this magnitude will only be possible with the assistance of mechanisms that involve a much larger range of actors and stakeholders.

Market mechanisms have shown potential to facilitating the pursuit of environmental targets in an efficient and cost effective manner for an economy as a whole. The use of SO₂ credits for the control of acid rain in North America, for instance, resulted in a significant reduction of the estimated cost of compliance through command and control measures. Similarly, carbon markets were successful in mobilizing billions of dollars for greenhouse gas emission reduction measures, including the development of more than 10,000 projects worldwide, involving a wide range of technologies and innovation.

Equally important, these policies also resulted in the creation of a whole industry of service providers and entrepreneurs. Consultancies, technology providers, monitoring and certification companies, legal firms, accountancies, auditors, investment banks, rating agencies, data and information providers, brokers, and exchanges all had to assemble divisions specializing in the provision of services for these new sectors. In addition, as these sectors grew, some of these companies sought capital from stock markets, leading to a series of IPOs and bringing the environment to the attention of the financial sector and institutional investors. In less than 10 years, a dynamic green economy was formed around these environmental policies.

BVRio was created to replicate this phenomenon in Brazil, promoting environmental innovation and entrepreneurship. Its mission is to promote the use of market mechanisms to facilitate compliance with environmental legislation while supporting the implementation of public policies and the creation of a green economy at a national scale. Given the importance of these issues to society as a whole, BVRio was incorporated as a non-profit organization and structured to have the involvement of different segments of society and representatives from industry, NGOs, academia, public sector, and citizens, all dedicated to promoting the sustainable economic development in Brazil.

During its initial phase of operations, BVRio focused on establishing partnerships with a wide range of stakeholders to identify and prioritize the sectors in which to focus its efforts. After consultation with these stakeholders, it became clear that BVRio should aim at operating in both the rural and urban environments, as well as in the industrial sector. With regard to the land use sector, the current priority is to support compliance with the Brazilian Forest Law; in the urban environment, the focus is the implementation of the National Solid Waste Legislation; and with relation to the industrial sector, it is to assist the Rio de Janeiro government in creating a greenhouse gas (GHG) cap & trade system for the industries operating in the state.

During 2012 BVRio analyzed all the legislation relevant to these sectors, developed its own IT technology, established partnerships with the relevant organizations, and worked with the government agencies to develop rules and regulation related to these sectors. At the end of its first year, BVRio launched its trading platform, BVTrade, to support its first market: Forest Reserve Credits for compliance with the Brazilian Forest Law. Three months later, the exchange already had the participation of nearly 1000 participants and over 800,000 ha of rural properties offering credits throughout Brazil.

From the outset, however, it was recognized that BVRio would only fulfill its full potential if it can scale up its efforts. For this reason, BVTrade was structured as a commercial entity, able to attract private sector investment and leverage BVRio's efforts in the initial phase.

The achievements to date have much exceeded our expectations. Founded in October 2011, BVRio has established itself nationally as a respected institution in the various sectors it operates by the end of 2013. These achievements would not have been possible without the support and involvement of our staff, partners, board members, and funders, to whom we are very grateful. A period of rapid growth on strong foundations strengthens our determination to move forward. We aim to ensure that BVRio contributes actively and decisively to the transformations necessary to redirect Brazil towards a more sustainable future.

Pedro Moura Costa

Mauricio Moura Costa

Comments from Board Members



Rosa Lemos | Chair of the Board

BVRio's work is preparing the nation for the negotiation of its environmental services and assets. This will facilitate compliance with environmental laws, land use planning and management, and the valuation of the environment. With BVRio, we are entering the future.



Sergio Besserman | The arrival of BVRio on the stage, helping to

address a series of environmental impacts, was extremely important. Through the development of flexible market mechanisms they have the potential to accelerate and enhance the effectiveness of the transformation process required for re-directing our economy towards a sustainable development path.



Marina Grossi | BVRio is making environment markets a reality, enabling

the valuation of environmental services through a market approach. BVRio's initiative empowers the government, facilitating the implementation of public policies; the private sector, by enabling more precise and cost effective business strategies; and citizens, by providing real value to their environmental assets.



Walfredo Schindler | Environment and sustainability are important considerations

for society as a whole. Only through the use of innovative mechanisms will it be possible to leverage current initiatives and enable the efficient allocation of resources available. This is the huge challenge that BVRio is facing, through the development and promotion of market mechanisms. This pioneering work is of vital importance to the future of humanity. I am proud to contribute to this initiative.



Eduarda La Rocque | One of my main objectives when I was the Secretary

of Finance was to revitalize the financial services industry of Rio de Janeiro, with a focus on innovation and the social and environmental sectors. In this context, BVRio has played a pivotal role, demonstrating the efficiency of an innovative model for addressing these questions – one based on public-private-NGO partnerships.



Suzana Kahn | The development of market mechanisms and institutions

involved with a sustainable economy were among some of my priorities while Secretary for a Green Economy. BVRio was instrumental in initiating this process of developing a green economy here – an important legacy for Rio de Janeiro and Brazil.

Background

Bolsa Verde do Rio de Janeiro (BVRio – Rio de Janeiro Environmental Exchange) is a not-for-profit association created with the objective of developing market mechanisms to facilitate compliance with Brazilian environmental laws. This, in turn, will support the implementation of public policies, promote sustainable development, and the creation of a green economy in Brazil.

BVRio was originally developed in partnership with the Rio de Janeiro state and municipal Governments. More recently, it has established collaboration agreements with the Amazonian states of Pará, Amazonas, the municipality of Paragominas, and is discussing further collaborative partnerships with other states.

Launched in December 2011, BVRio focused during its first year of operations on establishing partnerships with a wide range of stakeholders from government, NGOs and industry, and identifying and prioritizing sectors in which to focus its efforts. After consultation with these stakeholders, it became clear that BVRio should aim at operating in both the rural and urban environments, as well as in the industrial sector: In the land use sector, it became clear that the current priority is to support compliance with the Brazilian Forest Law through the use of its mechanisms – Forest Legal Reserve Credits, offsetting of Legal Reserves through Consolidation of Conservation Areas, and Reforestation Credits.

In the urban environment, implementation of the National Solid Waste Legislation (PNRS) was identified as a priority. Additionally, a study was conducted to assess the feasibility of a cap & trade system of industrial effluents currently discharged in the Guanabara Bay;

In the industrial sector, BVRio has worked closely with the Rio de Janeiro State Government to create a greenhouse gas (GHG) cap & trade system for the industries



Pedro Moura Costa, Eduarda La Rocque (Rio de Janeiro Secretary of Finance) and Suzana Kahn (Rio de Janeiro Secretary of Green Economy) at BVRio's launch, 2011.

operating in the state. This system would serve as a pilot for a planned federal GHG cap & trade scheme to be developed at a later stage. In addition, BVRio has also partnered with the prestigious Fundação Getúlio Vargas (Centre for Sustainability Studies – GVCes) to support an emissions trading simulation for the Business for Climate Platform (Empresas pelo Clima).

Since its inception, BVRio also conducted intense consultation and information dissemination efforts to raise awareness and help promote its proposals. This was done by organizing working group discussions, participation in workshops, seminars, conferences, and meetings with stakeholders of different sectors and different regions

throughout the country, as well as through interviews and articles in different types of media outlets. BVRio was particularly active during the Rio+20 Conference in 2012, and the National Environment Conference in 2013.

At the end of 2013, BVRio was shortlisted as a 2013 Awards Nominee for the Katerva Awards (www.katerva.net) for new organizations promoting sustainability innovations. In February 2014 BVRio was voted the best initiative of the year by Katerva in the Economics Category – an important recognition for its work to date. BVRio was also shortlisted for the Yale ISTF Innovation Prize.

An essential component of the work of BVRio is to enable the transactions of environmental assets in a transparent and secure environment. For this reason the BVTrade trading platform (www.bvtrade.org) was developed and started operations at the end of 2012.

BVRio recognizes that for these markets to achieve their full potential will demand capital investment of a magnitude incompatible with the types of financial support that it can secure as a non-profit organization. For this reason, it

was decided that its trading activities should be conducted by BVTrade as a separate vehicle, structured in a way that it can leverage private sector capital to scale up the concepts initially developed by BVRio.

The main activities conducted by BVRio to date are:

- The modeling and development of market mechanisms to facilitate the implementation of public policies and legislations as well as to support the development of a green economy;
- Promotion of the concept of the use of market mechanisms as a means to facilitate compliance with social and environmental laws;
- Designing a trading platform that can support the commercialization of the market instruments developed by BVRio. A trading platform was developed and is today professionally operated by BVTrade.

These and others achievements are described in more detail in this report.

Public policies and sectors

After consultation with key stakeholders, it became clear that BVRio should operate in both the rural and urban environments, as well as at the industrial sector. The initial sectors identified as priorities for the development of market mechanisms were:

- The new Brazilian Forest Law and its offset mechanisms, namely Forest Legal Reserve Credits, Consolidation of Conservation Area Offsets, and Reforestation Credits*;
- National Solid Waste Legislation and the need to implement the reverse logistics of recyclable residues;
- National and state-level Climate Change Policies, focusing on the greenhouse gas (GHG) cap & trade system planned for Rio de Janeiro state, and in a GHG emissions trading simulation for the Business for Climate Platform (Empresas pelo Clima);
- Water resources: liquid effluent quota system for the Guanabara and Sepetiba Bay catchments.

In an initial phase, BVRio worked on the analysis of the legislative framework related to these sectors, and conducted consultations through a series of working group meetings with specialists and stakeholders from government, NGO, academia, and private sectors.

The subsequent work related to each of these sectors is described in the following sections.

* In Portuguese, 'Cotas de Reserva Ambiental', 'Compensação em Unidades de Conservação' and 'Créditos de Reposição Florestal', respectively.



FORESTS, AGRICULTURE AND LAND USE

The Forest Law and the need to maintain Forest Legal Reserves

The recently approved Brazilian Forest Law¹ requires that all rural properties in the country maintain a certain amount of land under native vegetation (called Forest Legal Reserves – Reserva Legal in Portuguese). The size of Forest Legal Reserves can vary from 20% to 80% of rural properties, according to the type of vegetation (biome) and the region in which the properties are located². With the support of the newly created Rural Environmental Registry system (Cadastro Ambiental Rural – CAR), a georeferenced digital registry connected to satellite images that enables monitoring and mapping of land use in rural properties, the government will now be able to enforce compliance with this legislation and require rural producers to fulfill their obligations.

According to IBGE (Brazilian Institute of Geography), there are more than 5 million rural properties in Brazil, all of which need to comply with this legislation. It is estimated, however, that about 4 million properties don't have sufficient area of Legal Reserve. After matching those with surplus and deficit, it is estimated that there is still a net Legal Reserve 'deficit' of around 16 to 30 million hectares³.

Those who do not have sufficient area of Legal Reserve can comply with the law in different ways. One option is to plant or regenerate areas within the rural property itself. However, this requires landowners to set aside areas currently used for other agricultural activities and engage in the expensive activity of forest restoration. Alternatively, the forest law also enables landowners to comply with this requirement through one of two offsetting mechanisms - Forest Reserve Credits (or CRAs, from the Portuguese 'Cotas de Reserva Ambiental') or Consolidation of Conservation Areas Offsets.

Forest Reserve Credits (CRAs) are instruments created by the Brazilian Forest Code to allow for Legal Reserve offsetting among rural properties. CRAs can be created in areas containing existing native vegetation or in areas that are in a process of recovery (unless the regeneration or restoration of the area is considered unfeasible or unlikely). Each CRA represents one hectare (1 ha) of forest legal reserve that is surplus to the amount required by law to be maintained in any given rural property. CRAs can be used to compensate for the lack of legal reserve in another rural property provided the latter is located in the same biome and in the same State where the CRAs are created.

The use of CRAs provides a streamlined mechanism for compliance with the Forest Law while also contributing to the conservation of biodiversity in existing areas of native vegetation. At the same time, the maintenance of these existing forest areas (and/or the regeneration of degraded forests) will result in vast amounts of carbon storage and sequestration.

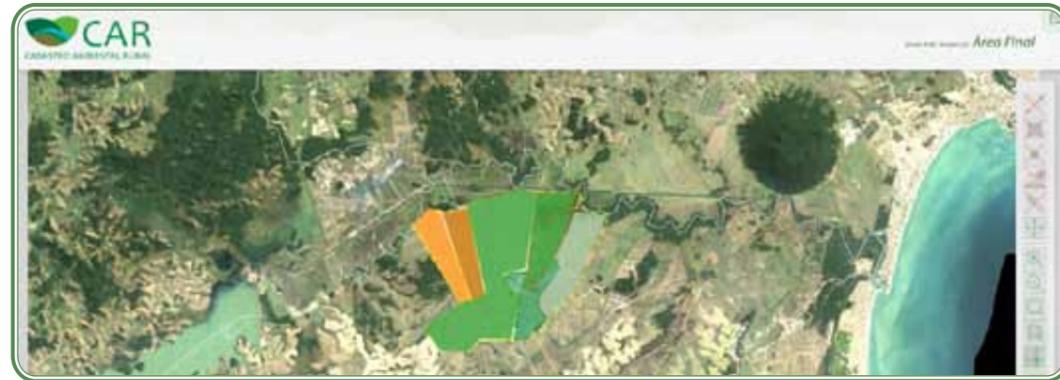
¹ Law n. 12.651 of May 25, 2012.

² Specifically, properties with forest cover located in the Amazon region need to hold 80% of legal reserve while properties in other biomes (Atlantic Forest, Cerrado, Pampa, Caatinga and Pantanal) need to keep only 20% of native vegetation. An exception is the case of properties containing Cerrado vegetation located in the Amazon region, which need to maintain 35% legal reserve.

³ See, for instance, Britaldo Silveira Soares Filho, 2013: "Impacto da Revisão do Código Florestal - Como viabilizar o grande desafio adiante", or Gerd Sparovek et al., 2011: "A revisão do Código Florestal Brasileiro, Novos Estudos 89", and "Código Florestal, Aplicação e cumprimento na prática", paper presented at the Conference 'Código Florestal, Estratégias para implantação e cumprimento, 2013'.

One of the prerequisites for the establishment of CRAs is that rural properties have been included in the Rural Environmental Registry (CAR). Indeed, adherence to the CAR is one of the main priorities of the federal government, because it provides the means to enforce the forest

legislation and sustainable land use management practices. Given that each Forest Reserve Credit transaction needs to be registered in the CAR registration of both the buyer and the seller, this market will help accelerate adherence to this important governmental program.



At the moment, however, there is no concerted effort to promote the use of this mechanism. There is no visibility of supply and demand trends and no transparency of price levels demanded for these credits. Potential sellers fear offering their credits for below-market prices and consequently refrain from creating these credits in the first place. Buyers are reluctant to commit to transactions that may prove to be above market prices.

BVRio aims to promote the use of this mechanism, providing liquidity and transparency to increase the level of compliance with the legal reserve obligations. At the end of 2012, BVRio launched its trading platform BVTrade (www.bvtrade.org) and initiated a market for Forest Reserve Credits. The response of the public was immediate, and three months later BVRio already had more than 800 participants and over 800,000 ha of rural properties offering Forest Reserve Credits, as well as initial purchase offers posted on the exchange.

BVRio's activities to promote the use of these mechanisms has included:

- submitting proposals and suggestions for the drafting of guidance, normatives and legislation for the implementation of the Forest Law at the state and federal levels;
- conducting an concerted awareness raising and information dissemination effort to promote the implementation of the Forest Law, the Rural Environmental Registry (CAR), and the use of the Law's offsetting mechanisms, among a wide range of stakeholders of the academic, NGO, public, private and agricultural sectors. This effort included participation in more than 150 conferences, seminars and workshops in more than 50 municipalities, including 15 state capitals as well as the publication of more than 130 articles and leaflets, radio and TV interviews, meetings, working groups, and social media;
- developing a trading platform and commercial models to incentivize parties to legalize their rural properties and include them in the Rural Environmental Registry system (see next section, about CRAFs).

Contracts for the development of Forest Reserve Credits for Future Delivery (CRAFs)

The use of CRAs provides a streamlined mechanism for compliance with the Forest Law while at the same time contributing to the conservation of biodiversity in existing areas of native vegetation.

Until the end of 2013, however, no CRAs had been issued by the government, which was still finalizing the infrastructure and control systems needed. Furthermore, many states in Brazil are not yet fully equipped to enable the issuance of CRAs, delaying the process of creation of these instruments in their jurisdictions. It also likely that initial volumes of CRAs issued will not be large enough to allow the development of an active market. To overcome this barrier, BVRio developed a contract to enable parties to transact CRAs prior to their creation, to be delivered at a future point in time.

Contracts for Development and Sale of Legal Reserve Credits (CRAFs) establish obligations between those with surplus of legal reserve (Sellers) and those who want to buy CRAs to comply with the requirements of the Forest Code (Buyers). CRAFs place upon Sellers the obligation to create CRAs and deliver them to Buyers after their creation. Payment occurs upon delivery of CRAs to Buyers at a price agreed between the parties at the outset.

Standard contracts will be used to establish the terms and conditions of the transaction (see CRAF model in BVRio's platform website – www.bvtrade.org, menu Documentos). The use of standardized contracts is expected to increase liquidity and facilitate the rise of a secondary market for CRAs. While most terms

and conditions are standardized, parties must define some key variables, as follows:

- Price (R\$/ha);
- Lot size (number of hectares);
- Lifetime of the CRAs (years)⁴.

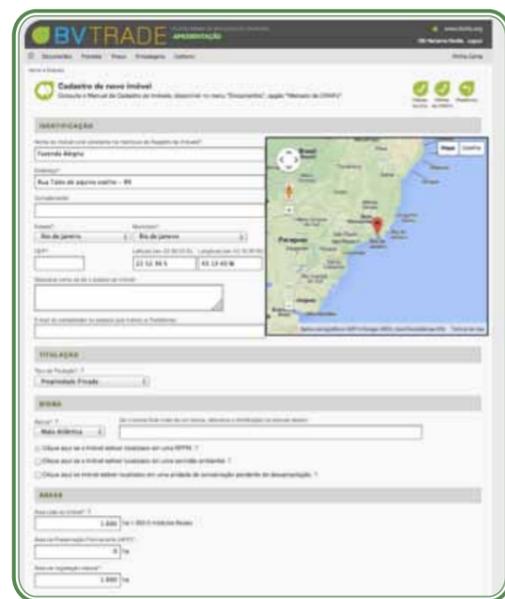
Contracts for future development and delivery were also used in the early days of the carbon markets created by the Clean Development Mechanism (CDM) of the Kyoto Protocol. Transactions were initiated long before all elements of the CDM architecture were in place and documented by Emission Reduction Purchase Agreements (ERPAs). The use of ERPAs allowed the development of an early market for carbon credits and provided a sense of urgency among regulatory agencies to finalize the infrastructure required for a more mature market. This, in turn, accelerated the engagement of parties in activities related to the reduction of greenhouse gas emissions. BVRio expects that the use of CRAFs will have a similar impact on the process of compliance with the requirements of the Brazilian Forest Code.

CRAFs can already be bought and sold in BVRio's trading platform, BVTrade. The platform also includes a registry of participants and of the rural properties that intend to sell CRAs, and a calculation module to automatically calculate the number of CRAs that a given rural property

⁴ The lifetime of CRAs can vary, determined by the party that creates them. They can be valid only for a finite timeframe, or in perpetuity.

can generate based on all the requirements of the Forest Law. Additionally, users can download all documentation needed as well as market rules and procedures, manuals and a video-tutorial about the participation in this market.

This market was launched in December 2012 and by the end of 2013 BVTrade counted with 1,600 participants and more than 1.5 million hectares of rural properties offering CRAs from the main biomes in Brazil. The carbon storage potential of the forests protected by the CRAs already listed in BVRio is estimated at around 600 Mt CO₂e.



BVRio believes that this market can contribute to the adoption of CRAs as a tool to promote the objectives of the Forest Law. In particular, the adoption of the Rural Registry System (CAR), and the large-scale compliance with the new Brazilian Forest Law.

Consolidation of protected areas through Conservation Area Offsets

The Brazilian Forest Law also includes another mechanism to facilitate compliance with the legal reserve requirement. Rural producers who do not have sufficient area of legal reserve can meet this requirement by assisting the government in consolidating Conservation Areas (“Conservation Area Offsets”).

Through this mechanism, rural producers who need to compensate for the lack of legal reserve on their farms pay the owners of land inside Conservation Areas to transfer land tenure to a government environment agency.

BVRio is currently developing a system to facilitate the use of this mechanism. This market will approximate buyers and sellers, and streamline the contractual and bureaucratic

processes involved in this type of transaction. Through its negotiation platform, BVTrade, landowners within Conservation Areas will be able to offer their land and enter into contractual agreements with rural producers that need to acquire forest legal reserves to meet the law. Following acceptance by the government environmental agency, the transaction is concluded based on the terms agreed at the outset.



SOLID WASTE AND RECYCLING

The Solid Waste Legislation, 'reverse logistics' and recycling

The National Solid Waste Legislation (PNRS⁵), announced in 2010, is intended to create solutions to the challenge of solid waste generation and disposal in Brazil. The law creates the concept of shared responsibilities for the collection and the responsible disposal of solid waste generated by a range of industrial and commercial sectors.

Producers and importers of certain types of product will need to ensure that these products are appropriately disposed of at the end of their lifetime. This will require the development of systems for the collection and recycling, re-use, or environmentally appropriate disposal of such products (referred to as the 'reverse logistics' of the original supply chain associated with these products). Producers and importers are aware of the difficulties and costs associated with having to develop and operate 'reverse logistics' systems to collect residues associated with their products. These companies are not equipped or specialized to deal with the solid waste returned.

To facilitate compliance with the obligations of the Solid Waste Legislation, BVRio is working on two systems of reverse logistics and recycling credits:

- For the packaging sector (e.g.. PET, aluminum cans, glass, paper, etc.), BVRio created a system of Reverse Logistics

Credits based on the collection and separation of packaging residues. This is being done in partnership with the National Movement of Waste Collectors (Movimento Nacional de Catadores de Resíduos, MNCR), an association that represents over 800,000 individual waste collectors organized through cooperatives;

- For the tire manufacturing and importing sector, BVRio developed a system of Tire Disposal Credits ("Créditos de Destinação Adequada de Pneus") to streamline the use of an existing system developed by IBAMA, the federal environmental agency that, among a much wider range of roles, is responsible for controlling the disposal of used tires.

The law creates reverse logistics obligations for producers and importers of batteries, electro-electronic products, fluorescent lamps, lubricant oils, and packaging of agricultural chemicals. BVRio will analyze these sectors and the opportunities they present.

⁵ Programa Nacional de Resíduos Sólidos, Law 12.305 of 2nd August 2010.

Reverse Logistics Credits of packaging and the independent waste collectors

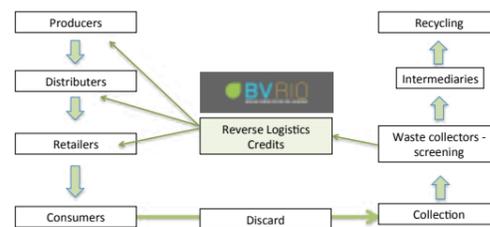
The Brazilian National Solid Waste Legislation, announced in 2010, creates the responsibility for the collection and the responsible disposal of solid waste (i.e., the “reverse logistics”) generated by a range of industrial and commercial sectors. In Brazil, however, less than 2% of the total waste is separated at the household level, making compliance with this law operationally challenging. At the same time, there are more than 800,000 independent waste collectors (“Catadores”) making a living of collecting recyclable materials in the streets, rubbish dumps and landfills of Brazil who could be engaged in the solution.

Recognizing this reality, the Solid Waste Legislation emphasizes the need for the involvement of Catadores in any policy adopted for addressing the solid waste challenges posed to these various industrial sectors affected by the law. At the same time, the involvement of Catadores in this sector has the potential to contribute to the social and economic inclusion of this large group in the production cycle.

In order to address this issue, BVRio (www.bvrio.org) created a Reverse Logistics Credits system in partnership with the National Movement of Waste Collectors (Movimento Nacional de Catadores de Resíduos, MNCR; see www.youtube.com/user/canalbvrio, section “BVRio in English and Spanish”).

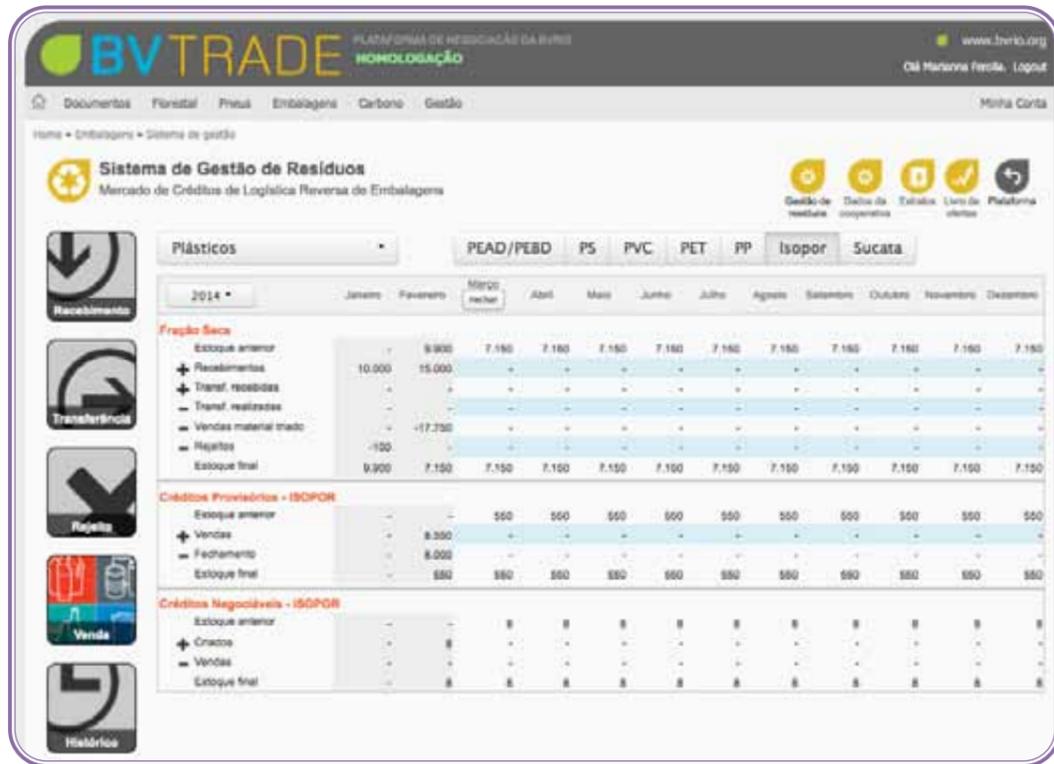
These Credits are issued and sold by Cooperatives of Catadores and purchased by companies that need to contribute to these activities to comply with the law (i.e., producers and/or importers of these products). For these companies, the use of Credits provides an efficient and cost effective solution to comply with the law. For the Catadores, the sale of credits would provide an important additional source of revenue, adding value to their activities and resulting in an important social impact. At the same time, the additional value generated by the sale of Credits would

make it worthwhile to collect waste materials with lower raw material value, widening the range of products currently collected (today, only products with high raw material value are collected, e.g., aluminum cans, whose recycling rate is already over 95%, only possible through the work of Catadores).



The sale of Reverse Logistics Credits does not affect the ability of the Catadores to sell the physical material to be recycled. Reverse Logistics Credits only represent the environmental service provided by Catadores, i.e., the collection, screening, and direction of solid waste to recycling and re-utilization in the productive cycle – in other words, the service of reverse logistics. In this way, in addition to the revenue generated through the sale of recyclable materials, Catadores can sell Reverse Logistics Credits to the companies that need this service to comply with the requirements of the National Solid Waste Legislation.





The process of creation of Reverse Logistics Credits requires Cooperatives of Catadores to demonstrate that they have conducted this environmental service effectively. Cooperatives need to submit to BVRio (through the BVTrade platform) all documentation related to the waste collection, screening, weighting, and sale of recyclable materials. The main document to be uploaded is the electronic receipt of each sale of recyclable material, as this is an official document linked to the Brazilian Tax & Revenue system. Credits are issued per each type of material screened and sold.

The use of Reverse Logistics Credits brings a series of benefits:

- Ease of compliance with the law, given that it is simpler and cost effective for companies to contribute to the reverse logistics of their products through the use of credits as opposed to having to create internal divisions to deal with this new activity. It is expected that the benefits of specialization, comparative advantages, economies

of scale, and trading would reduce the aggregate cost of compliance with the legislation among all parties involved;

- Increased transparency and credibility provided by the system, providing an important source of information to support the compilation of national solid waste and recycling inventories and the development and implementation of public policies;
- Creation of opportunities for social entrepreneurship and investment in a new economic activity related to the service industry of reverse logistics, creating jobs and supporting the waste collectors associations, adding value and increasing income levels for more than 800,000 low-income people;
- Additional value creation for waste materials, increasing the range of waste types collected and recycled in a socially and environmentally advantageous manner;
- Potential to reduce greenhouse gas emissions estimated at about 20 Mt CO₂e per year.

BVRio concluded the first phase of development of this system in August 2013. At the end of 2013, the system had more than 100 cooperatives registered in 21 states and representing over 3,000 Catadores offering Reverse Logistics Credits derived from the recycling of over 5,500 tonnes of solid waste per month.

For this market to work, however, it is important that the large consumer goods companies operating in Brazil adopt Reverse Logistics Credits as a means to complying with the Solid Waste Legislation. BVRio is now promoting this system among companies that are willing to adopt a socially and environmentally positive approach to meet the obligations created by this new law.



Pedro e Mauricio Moura Costa celebrate signature of collaboration agreement with the National Movement of Waste Collectors (Movimento Nacional de Catadores), represented here by oberto Rocha, Severino Lima and Luiz Henrique Silva,

Tire Disposal Credits

An obligation upon tire producers and importers to conduct reverse logistics for their products predates the National Solid Waste Legislation. According to CONAMA Resolution 416 of 30th September 2009, complemented by IBAMA's Normative Instruction N° 1, of 18th March 2010, producers and importers of tires must ensure that all tires sold in the country are disposed of in an environmentally appropriate way at the end of their life time. Additionally, retailers are obliged to receive and temporarily store used tires, and adopt procedures to track and record their final destination.

In order to comply with this legislation, producers and importers of tires need to arrange for the collection of used tires and engage companies that can give them an environmentally sound destination (e.g., recycling, production of rubberized tarmac, burning for fossil fuel substitution, etc.). The most common way of disposing of used tires is to have them shred and sent to the cement industry for co-firing, replacing fossil fuels. Producers and importers, however, have to organize themselves to contract these activities and monitor the activities of the subcontractors. The financial resources and management time required in this model can be onerous

for some companies. As a result, a significant proportion of companies do not meet their recycling obligations. According to the federal environmental agency IBAMA, more than 15% of companies did not meet their targets in 2011.

As a means to facilitate compliance with the law, BVRio developed a system of tradable credits based on the provision of services related to the environmentally acceptable disposal of tires ("Tire Disposal Credits") which can be purchased by companies to comply with the law.

BVRio's Tire Disposal Credits system includes four components:

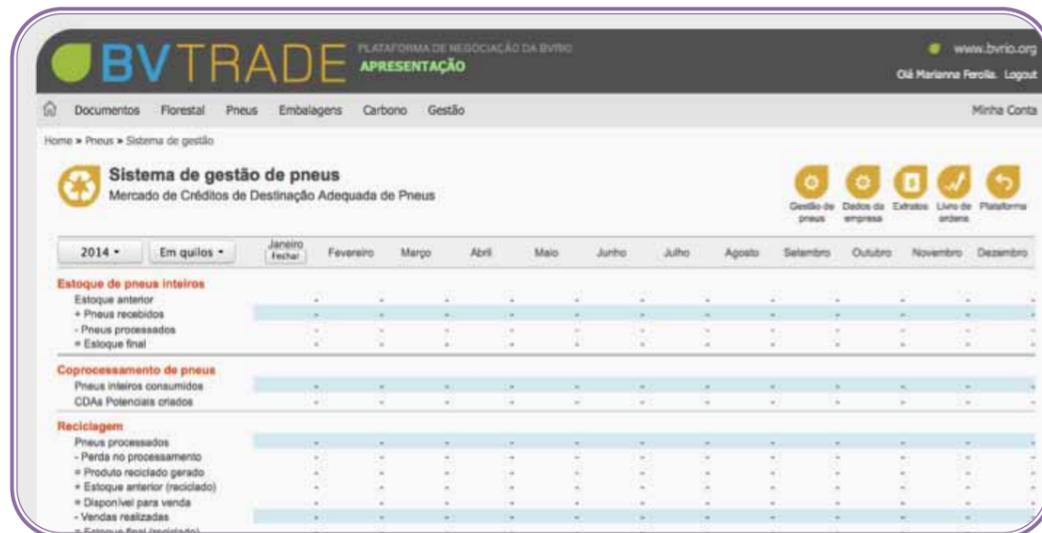
- a Production Cycle Management System (the "Management System") for the companies involved in the activities of tire disposal (the "Recycling Companies");
- a Registry of Tire Collection Points;
- a Trading Platform; and
- an Integrated Tire Collection and Management System.

The Management System is a tool to assist Recycling Companies with their operations. All data entered in the system are confidential but BVRio will periodically conduct random audits of the system. Based on these data, the Management System issues Tire Disposal Credits to Recycling Companies. Those can sell these Credits to tire producers or importers, through BVTrade's platform.

In addition to serving as an efficient management tool for Recycling Companies, the Management System adds credibility and integrity to the market, ensuring that only companies that maintain proper and auditable controls are allowed to negotiate Credits in the platform.

All data entered in the Management System are consolidated with the Integrated Management System. This Integrated System allows the tracking of tires from the Collection Points to their final destination, adding credibility to the Credits negotiated.

Together, these tools assist tire producers and importers to meet their legal obligations, and support government authorities in the surveillance and enforcement of the law.



GREENHOUSE GASES

Climate Change policies internationally

Concern about rising atmospheric concentrations of greenhouse gases (GHGs, including CO₂, CH₄, N₂O, CFCs, HFCs, PFCs, SF₆) and of their deleterious impacts on global climate has prompted the search for methods to reduce emissions in cost-effective ways. In order to address this issue, leaders of 190 countries met in the United Nations Conference on the Environment and Development in Rio de Janeiro in 1992, and created the United Nations Framework Convention on Climate Change (UNFCCC). Different climate change mitigation initiatives have come into being since this initial milestone.

This process gained additional strength when 170 countries drafted the Kyoto Protocol during a meeting of the UNFCCC in December 1997. The most important aspect of the Kyoto Protocol was the adoption of binding commitments by 37 industrialized countries and economies in transition (collectively called the Annex 1 countries) to reduce their GHG emissions. At the same time, the Kyoto Protocol also approved the use of flexibility mechanisms for facilitating the achievement of these GHG emission reduction targets. In particular, the Clean Development Mechanism, or CDM, which allows for the creation of Certified Emission Reduction (CER) credits in developing countries, and Joint Implementation (JI), which allows the creation of emissions reduction credits within Annex 1 countries.

Trading Scheme, or EU ETS, which began operations in January 2005. The EU ETS is a cap-and-trade system based on the allocation of limited amounts of emission rights (European Union Allowances, or EUAs). In order to allow companies to explore fully their comparative advantages, the EU ETS allows companies to trade surplus EUAs between themselves. In this way, companies that are successful in reducing their GHG emissions beyond their target generate a surplus allowances and can sell them to companies that do not meet their targets. In addition, companies are able to purchase carbon credits from CDM or JI projects. The EU ETS started operating in January 2005 and in 2011 this market traded over €120 billion of EUAs.

As a means to meet their Kyoto targets, the European Union created the EU Emissions

Product	Cap	Option	Size	Vol	Bar	Offer	Ask	High	Low	Last	Volume	EFF %	Settlement	Change
ECK EUA Daily Futures				5	14.57	14.63	30	14.75	14.44	14.50	1375	1025	14.42	0.18
ECK CER Daily Futures				2	1.315	1.331	10	1.338	1.328	1.326	10	0	1.332	0.34
ECK EUA Futures											500		14.47	
ECK EUA Futures	Dec10			2	14.72	14.75	30	14.84	14.54	14.74	10101	1008	14.59	0.18
ECK EUA Futures	Dec11			2	15.14	15.20	30	15.32	15.04	15.10	1231	453	15.01	0.09
ECK EUA Futures	Dec12			2	15.08	15.02	10	15.01	15.26	15.08	1231	1170	15.25	0.11
ECK EUA Futures	Dec13			10	17.00	17.06	10	16.90	16.94	17.29	40	380	16.93	0.05
ECK CER EUA Sw	Dec10			25	-1.88	-1.85	5	-1.80	-1.70	-1.87	87	0	-1.79	0.03
ECK CER EUA Sw	Dec11			10	-2.39	-2.35	20	-2.30	-2.40	-2.35	10	0	-2.41	0.00
ECK CER EUA Sw	Dec12			25	-3.28	-3.28	25	-3.15	-3.27	-3.27	47	0	-3.34	0.07
ECK EUA Sw	Dec10Dec13			10	-2.37	-2.32	10						-2.37	
ECK EUA Sw	Dec10Dec11			23	-0.45	-0.42	120	-0.41	-0.48	-0.45	841	0	-0.46	0.00
ECK EUA Sw	Dec10Dec12			100	-1.18	-1.16	40	-1.15	-1.19	-1.18	1020	0	-1.19	0.01
ECK EUA Sw	Dec10Dec13			7	-0.74	-0.72	20	-0.72	-0.70	-0.73	801	0	-0.74	0.01
ECK EUA Sw	Dec11Dec12			10	-1.94	-1.86	10	-1.91	-1.91	-1.91	2	0	-1.92	0.01
ECK EUA Sw	Dec12Dec13			22	-3.18	-3.18	24	-3.13	-3.18	-3.18	23	0	-3.19	0.00
ECK EUA Futures	Dec10F			10	13.04	13.03	5	13.33	13.06	13.03	534	172	13.03	0.18
ECK EUA Futures	Dec11F			20	13.74	13.81	1	13.80	13.60	13.74	170	81	13.70	0.14

Cotação de créditos de carbono na plataforma de negociações da ICE (Inter Continental Exchange).

Since then, GHG cap & trade systems have been developed by many countries, including New Zealand, Australia, Japan, as well as regional schemes such as the AB32 legislation in California, the Regional Greenhouse Gas Initiative (RGGI) in the northeast of US, and the Western Climate Initiative involving states or provinces in the US and Canada. Even though China still does not have any emission reduction obligations under the UNFCCC, it has recently developed cap & trade systems in seven provinces including, for instance, the one operated by the Shanghai Environment and Energy Exchange (see section on Partnerships in this report).

Climate policies in Brazil

Since the creation of the UNFCCC, Brazil has played an active role in international climate negotiations. In the context of the Kyoto Protocol, Brazil became one of the main countries hosting CDM projects. More recently, Brazil approved the National Climate Change Policy (Law 12.187 of 29 December 2009) which proposes the creation of a national GHG cap & trade system. Following that, in 2011 Brazil joined the World Bank's Partnership for Market Readiness to initiate measures to create its domestic carbon markets. And, given the magnitude of the GHG emissions from its land use sector, Brazil is also developing a national REDD (Reductions of Emissions from Deforestation and forest Degradation) policy.

Rio de Janeiro's GHG cap & trade scheme

Given the intention of the federal government to develop a national carbon market, the state of Rio de Janeiro decided to create its own state-level GHG cap & trade. The objective of the state government is to use this initiative as a pilot ahead of the national system to be launched by the federal government between 2017 and 2020.

In April 2010, the State Climate Change and Sustainable Development Policy was created through Law 5690. The law states the need to incentivize the industrial sector to increase the efficiency of its processes and equipment, as well as to conduct the recycling and re-use of materials, and the management of their GHG emissions. The law also requires that the state government promote a carbon market.

The decree associated with the implementation of this law (Decreto 43216) establishes an aggregate target of carbon intensity per GDP (tCO₂e/R\$) for the public sector, and demands that the carbon intensity of the public sector in 2030 must be lower than in 2005. Subsequently, the State Climate Change Plan was approved, establishing that a carbon market will be created to assist the industrial sector (electricity generation, chemical industry, oil and gas, cement, iron and steel, ceramics, pulp and paper, and other sectors with lower impact) to meet their emission reduction targets (though these are yet to be defined).

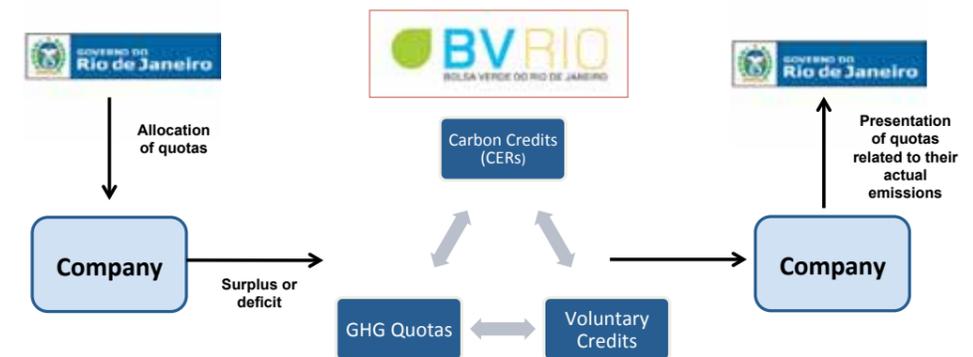
At the end of 2011 the state government started the development of this industrial GHG cap & trade system. During the first half of 2012 a series of activities were conducted, including technical and economic feasibility studies, development of rules and procedures to guide the participation of industry, guidelines for the management and operation

of the system, and a legal assessment of the regulatory framework needed for this system. The government is now conducting further consultation and discussions with industry to enable the establishment of GHG emission reduction targets.

BVRio has assisted the state government in all stages of development of this market, and has been asked to continue supporting the environmental agency in the creation and subsequent operation of this emissions trading scheme. In particular, the government expects

BVRio to develop the infrastructure needed to support the carbon markets associated with this system, including a registry system for GHG emission allowances, a trading platform, standardized contracts, auditing and verification procedures, and the rules for participation in these markets.

Given that the Rio de Janeiro Emission Trading Scheme is not yet operational, BVRio is currently testing its infrastructure to support a carbon market simulation for the Business for Climate Platform initiative (see next section).



Emissions trading simulation for the Business for Climate Platform initiative

The Brazilian federal government has assumed a legal commitment to reduce its emissions by at least 36% of its projected emissions for 2020. As a means to meeting this target, the Brazilian Climate Law proposes the creation of a national carbon market, including a GHG cap-&-trade system for the industrial sector. Most Brazilian companies, however, are still uncertain about the implications of adopting emissions caps. Furthermore, few companies have internal capacity to participate in an emissions trading scheme.

In order to assist companies in preparing for this reality and enabling them to positively engage in the consultations related to policy formulation, GVces (the Center for Sustainability Studies of the Getúlio Vargas Foundation <http://www.fgv.br/ces>) developed the Business for Climate Platform (EPC – Empresas pelo Clima), which comprises 40 companies, most of them leaders in their respective business sectors. All EPC companies publish corporate GHG emissions reports based on the GHG Protocol system managed by GVces since 2008 (see more at <http://www.ghgprotocolbrasil.com.br>).

The next step in this process is to conduct a GHG emissions trading simulation with the participation of these companies, utilizing realistic market rules and actual emissions data reported by these companies. The results of the simulation would be analyzed and reported to both industry and government, with a view to contributing to the efforts of creating a Brazilian cap & trade market for GHG emissions.

BVRio will provide all the infrastructure required for this simulation, including a trading platform, an auctions platform, and a registry of allowances, with user interfaces and access levels differentiated by types of participants (companies, government, market regulators, etc.), as well as contributing to the formulation of the market rules for this simulation. BVRio is a member of the advisory board of this initiative, together with representatives of GVces, Cambridge University (Program for Sustainability Leadership), Perspectives Climate Change, and the Environment Defense Fund (EDF).



WATER AND EFFLUENTS

Cap & Trade system for industrial effluents

One of the first activities conducted by BVRio was to analyze the feasibility of introducing cap & trade systems to control the discharge of industrial effluents. In the case of the Guanabara Bay in Rio de Janeiro, effluents are discharged by more than 5,000 sources which together release over 200,000 liters of extremely contaminated water per second, affecting the viability of this huge water body and generating negative social and environmental impacts.

For the Guanabara Bay, the former state environmental agency, FEEMA, established relative emission reduction targets for the most impacting industries operating in the region. The combination of these factors (a large number of point sources associated with emission reduction targets) suggested that a cap & trade system of effluent quotas could be used to improve efficiency and reduce overall costs of compliance with this legislation.

input provided by Graef Ambiental, Ecometrika, E2 Sócio Ambiental and a team of researchers of the Haas Business School (Berkeley University). In addition, the project benefited from the participation and contribution of the state environmental agency, INEA, which provided access to data and people.

This feasibility study was published in 2013⁶. The main conclusions are listed below:



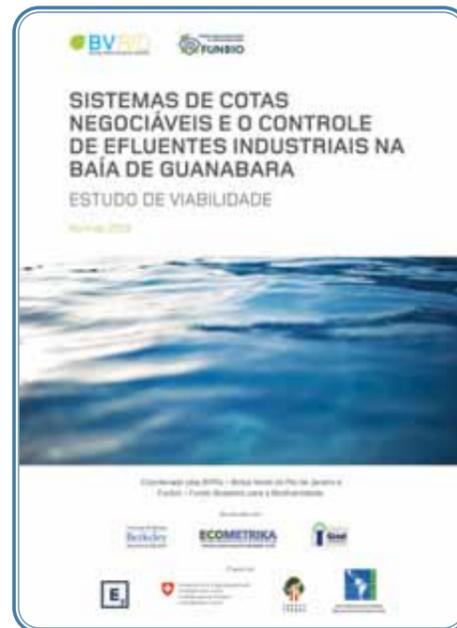
A feasibility study was conducted for this proposed system, financed by the Swiss Development and Cooperation Agency (SDC - as part of a larger project coordinated by Forest Trends - "Scaling Up Payment for Ecosystem Services to Meet the Global Water Crisis"), RED-Lac, and E2 Socio Ambiental. The study was coordinated by BVRio and Funbio (Brazilian Fund for Biodiversity) with

- The work conducted demonstrated the lack of comprehensive and credible data sets about industrial liquid effluents in the bay, as well as the failures in the command and control system. This is a major limitation to the development of any new effluent management scheme. It will be necessary to start a comprehensive and systematic process of collecting data of the right type to allow for the further analysis and development of a new management scheme, such as the one proposed in this study.
- In terms of data, another limitation regards the type of measurements currently conducted. Data monitored and reported by industry are based on concentration of pollutants in effluents, as opposed to total pollutant discharge. This poses a severe difficulty in terms of creating a fungible unit that can be traded among participants.

⁶ Available at www.bvrrio.org/site/index.php/biblioteca-bvrrio/publicacoes.

- At the same time, due to the low dispersion rate of pollutants in the system, emissions in one side of the bay cannot necessarily be compensated by reductions on another side, reducing their fungibility. This lack of fungibility is compounded by the fact that emissions are, in most cases, discharged into rivers leading to the Bay. Some rivers are at the limit of their capacity while others can accommodate a higher discharge of effluents. If trading was to be used, it may be necessary to begin the process with pilot systems focused on sub-catchments that can later be aggregated in a more comprehensive and complex system.
- Despite the lack of information about the abatement cost curve for industry operating in the Guanabara Bay, a model was developed based on data from another bay system. The results of this study demonstrate that there are significant differences in the abatement costs of different players, suggesting that the economic pre-conditions for a cap-and-trade system could be in place. Further studies will need to be conducted once data are acquired for the Guanabara Bay system.
- At the same time, it was found that the main cause of pollution in the Bay is raw sewage generated by low-income communities living in the surrounding municipalities and not connected to sewage collection systems. It was also found that the bulk

of the sewage is discharged into the rivers and streams that run into to the Bay, as opposed to into the Bay directly. This, in turn, leads to a situation whereby many industrial plants need to treat the water they collect before this can be used in industrial processes. And often, the water they return to rivers is of better quality than that originally collected. These distortions, consequently, create disincentives for industry to adopt measures to further control their effluent discharges, diminishing political will to enforce more severe measures among industry.



Trading platform: proprietary technology

A trading platform was created to approximate buyers and sellers and facilitate the operation of these markets. After comparing offers from a wide range of exchange technology suppliers, BVRio decided to develop its own technology.

Taking into account the specifications developed by BVRio's technical team as well as the rules of the Brazilian forest code, an electronic trading platform was developed (BVTrade www.bvtrade.org). After internal tests, the platform was also subjected to security and stress tests conducted by a company specializing in this sector (Modulo Solutions for GRC Ltda.).

The platform was launched at the end of 2012 to support the Forest Reserve Credit (CRAF) market. In 2013, new modules were created for the markets of Tire Disposal Credits (CDA-PN) and Reverse Logistics Credits (CCLR-Cat) as well as to support a GHG emissions trading simulation for the Business for Climate initiative.

The screenshot shows the BVTrade platform interface. At the top, there is a navigation bar with "Documentos", "Florestal", "Pneus", and "Embalagens". Below that, there is a search bar and a button "Eu quero vender!". The main content area displays "Plataforma de negociação de CRAFs" and a table of transactions. The table has columns for ID, LOCALIZAÇÃO, DADOS DO IMÓVEL, PROCESSO, OFERTAS DE VENDA, and OFERTAS DE COMPRA. The table contains several rows of data representing different CRAF transactions.

ID	LOCALIZAÇÃO		DADOS DO IMÓVEL				PROCESSO			OFERTAS DE VENDA			OFERTAS DE COMPRA						
	Bioma	Estado	Ti	UC	RPPN	Vig Nat	Mem Desc	CAR	Laudô	CRAA Total	CRAA Disp.	Prazo (anos)	Preço (R\$/CRA)	Preço/ Prazo	Preço/ Prazo	Preço (R\$/CRA)	Prazo (anos)	Lote (CRAA)	Ti
5084/03	FAM	MT	PRI	N	N	S	N	N	N	1.225	1.225	20	3.600	180	180	900	5	1	
5636/6	MAT	RJ	PRI	N	N	N	N	N	N	4	4	5	2.500	500	150	1.500	10	4	
5697/72	FAM	PA	PRI	N	N	S	N	N	N	4.900	4.900	PP	6.000	120	100	1.000	10	4.900	
5662/11	CER	MG	PRI	N	N	N	S	N	N	13	13	5	3.000	600	100	2.000	20	13	
5639/6	CER	MG	PRI	N	N	N	S	N	N	13	13	5	2.000	400	100	2.000	20	13	
5640/9	CER	MG	PRI	N	N	N	S	N	N	13	13	5	3.000	600	100	2.000	20	13	
5641/16	CER	MG	PRI	N	N	S	S	N	N	24	24	5	3.500	700	125	2.500	20	24	

The following documents, related to the operation of the BVTrade system and its various markets, are available for download at the platform:

- Account opening manual
- Account opening contract for Individual Traders
- Account opening contract for Corporate Traders
- Terms and Conditions for Participation in the Exchange
- Terms and Conditions for Individual Traders
- Terms and Conditions for Corporate Traders
- Table of Fees and Charges
- Article: Introduction to the market of Forest Reserve Credits for Future Delivery (CRAFs)
- Farm registration manual
- Rules and Procedures for the CRAF market
- CRAF – General Terms and Conditions
- CRAF – Transaction Specifications Document
- Power of Attorney template for Land Owner to Authorized Trader
- Power of Attorney template for Land Owner to BVRio
- Description of BVRio's system of 'Points & Discounts' for the CRAF market
- CDA-PN – Market Rules and Procedures
- CDA-PN Contract – General Terms and Conditions
- CDA-PN Contract – Transaction Specifications Document
- CCLR-Cat – Market Rules and Procedures
- CCLR-Cat Contract – General Terms and Conditions
- CCLR-Cat Contract – Transaction Specifications Document
- CCLR-Cat market – Operator's manual
- Directory of Service Providers

This material is kept updated, and is complemented by additional information and training materials also available in BVRio's website.

BVTrade: leveraging private sector investment

From inception, BVRio was structured as not-for-profit organization focused on the development and promotion of market mechanisms as a means to facilitate compliance with environmental laws. Most of its product development activities are based on policy analysis and contribution to legislative processes and will always remain a cost center that cannot be funded through direct commercial applications. BVRio's funding, consequently, has been provided by grants and concessional finance and complemented by support from E2 Brazil Sócio Ambiental (BVRio's Co-founder and main supporter).

Concessional grant finance has been essential to allow for the demonstration of the proof of concept of BVRio's model. Delivering its full potential, however, will require levels of finance at a much greater scale. The aim of the next phase, therefore, will be to attract private sector capital to leverage and scale up the market development activities initiated by BVRio. This will be done through a separate vehicle (BVTrade Ltda) focused on the commercial activities associated with these markets.

BVTrade Ltda, which was incorporated as a new vehicle in October 2013, will adopt corporate standards of the Benefit Corporations (B-Corps) system, to better align itself to BVRio's mission as well as that of the impact investor community. BVRio will keep a meaningful shareholding in this new vehicle to ensure that it remains aligned to BVRio's institutional mission, as well as to secure a long-term stream of dividends to make it financially self-sufficient. Given the uncertainty related to the mechanisms proposed by BVRio, however,

in its initial phase BVTrade will operate on a shoestring budget in order to first demonstrate the feasibility of its commercial model prior to seeking investment.

Once capitalized, BVTrade will be responsible for operating the trading exchange platform, large-scale origination of participants, and providing liquidity for these markets. BVRio, in turn, will continue to develop concepts and ideas, contribute to public policy debates and to the formulation of environmental regulations, and conduct early-stage market development, awareness raising, and information dissemination.

At some stage, BVTrade will be able to distribute dividends to its shareholders, including BVRio. This will be used primarily to pay for the operational costs of BVRio, reducing its dependency on grant financing. If trading volumes reach a scale such that dividends exceed BVRio's costs an Endowment Fund will be created to support BVRio in perpetuity.



Information dissemination

An important role of BVRio is to disseminate information and raise awareness about the use of market mechanisms as means to supporting public policies and facilitating compliance. Additionally, BVRio also aims at promoting an entrepreneurial culture focused on social and environmental sectors.

In this regard, BVRio's activities to date included:

- Establishment of partnerships with government agencies and departments. From the outset, BVRio was created in partnership with the state and municipal government of Rio de Janeiro and subsequently it also entered into partnerships with the states of Pará (Secretary of Green Municipalities) and Amazonas, as well as with the Municipality of Paragominas;
- Assistance to government agencies in the process of developing regulatory frameworks for the implementation of environmental laws;
- Creation of environmental services agencies (ASAs – “Agências de Serviços Ambientais”) to assist small holders and producers in pursuing sustainable land use activities and complying with environmental legislation. To date, BVRio has created ASAs in the municipalities of Paragominas (Pará state) and Simplício (Minas Gerais state);
- Awareness raising and information dissemination to companies and individuals about the use of market mechanisms for compliance with environmental laws;
- Training and capacity building through courses and presentations in collaboration with sector associations and unions;
- Development of Circuito BVRio – a roadshow of presentations and workshops to promote compliance with the new Brazilian Forest Law in the Pará and Mato Grosso states. The roadshow will be conducted in 2014;
- Organization of high visibility events during the Rio+20 Conference including the donation of carbon credits to neutralize the GHG emissions of the conference;
- Participation in conferences and workshops. To date, BVRio has presented in more than 300 events (see www.facebook.com/InfoBVRio for main events);
- Partnerships with sector associations and institutions that can act as ‘multipliers’ of BVRio, growing its networks and enhancing its reach to attract participants;



Aluno	Nome	Out	Entr	Vol	Aluno
ACTAR.BVR	33A7 - Ave - Floresta Amazônica	2178,00	2178,00	1,216	BVRIO.BVR
ACTAR.BVR	73A0 - Bonópolis - Floresta Amazônica	4223,00	2364,00	581	BVRIO.BVR
ACTAR.BVR	73A0 - Bonópolis - Cerrado	1871,00	1871,00	101	BVRIO.BVR
ACTAR.BVR	33A7 - Ave - Floresta Amazônica	2248,00	2248,00	117	BVRIO.BVR
ACTAR.BVR	33A7 - Ave - Floresta Amazônica	1871,00	1778,00	101	BVRIO.BVR
ACTAR.BVR	73A0 - Bonópolis - Floresta Amazônica	2123,00	2123,00	119	BVRIO.BVR
ACTAR.BVR	73A0 - Bonópolis - Cerrado	1871,00	1778,00	101	BVRIO.BVR

BVRio in Agencia Estado's Broadcast trading data system.



Pedro Moura Costa presenting in the National Environment Conference

- Media relations - BVRio has had excellent media coverage, having featured in more than 500 articles printed or online, and over 30 TV and radio programs (see www.bvr.io/site/index.php/noticias);
- In order to increase the access to its exchange among a wider range of potential participants, BVRio initiated a partnership with Agência Estado's Broadcast system. Broadcast is the market information vendor system of Agência Estado and provides real time data to a wide range of participants, including traders and brokers of the agribusiness sector. Broadcast is the market leader in Brazil, with over 14,000 terminals around the country. The system divulges average prices and volumes for all types of contracts offered in BVRio and can be accessed through: [http://economia.estadao.com.br/broadcast/Commodities / Contribuidores / BVRio Reserva Ambiental](http://economia.estadao.com.br/broadcast/Commodities/Contribuidores/BVRioReservaAmbiental);
- Development of links with environmental exchanges in other countries;
- Development of links with initiatives involved with market mechanisms for other environmental sectors. BVRio participates in the Sustainable Cattle Ranching Working Group (GTPS - Grupo de Trabalho da Pecuária Sustentável), the REDD Observatory, and the Forest Code Observatory.

Some of these activities are described in more detail in the next sections.

Conferences and workshops

As a means to disseminate its proposals, BVRio actively participates in conferences and workshops. In the last two years, BVRio presented its work in more than 300 conferences, workshops, working groups and agricultural fairs (see www.facebook.com/InfoBVRio for a list of the main events). This activity was particularly intense during the Rio+20 Conference in 2012, and in the process of the National Environment Conference 2013, as described below.

Rio+20 Conference

BVRio actively participated in the Rio+20 Conference, making presentations at more than 10 events, including:

- Opening ceremony of the Rio de Janeiro Pavilion** – where Rio de Janeiro's state government announced the main pillars of its sustainable development strategy:



Panel discussion during opening ceremony of the Rio Pavilion, Rio+20.

BVRio Environmental Exchange, and the Rio de Janeiro Green Economy Roadmap. After the launch of these initiatives there was a round table discussion on "Green Economy and a Green Exchange", coordinated by Suzana Kahn, Secretary of Green Economy of Rio de Janeiro state.

- Mayor's Summit** – launching ceremony of the Low Carbon Strategy Development Plan



Pedro Moura Costa presenting in the Mayor's Summit, Rio+20.

of Rio de Janeiro Municipality, presented by Rodrigo Rosa (environment coordinator of Rio de Janeiro municipality), followed by presentations by Pedro Moura Costa (BVRio), José Paulo Pontes (vice-president of DNV), deputy mayor Carlos Muniz, World Bank vice-president Hassan Tuluy, and Rio de Janeiro mayor Eduardo Paes.

- Rio Carbon Talks**, workshop to compare carbon management approaches from different countries from taxation to regional carbon markets, coordinated by Walter de Simoni, Green Economy Superintendent of Rio de Janeiro state.
- Rural Registry System (Cadastro Ambiental Rural - CAR) and the Forest Reserve Credits market** – launching ceremony of the Low Carbon Strategy Development Plan of Rio de Janeiro Municipality, presented by Rodrigo Rosa (environment coordinator of Rio de Janeiro municipality), followed by presentations



Mauricio Moura Costa presenting the Forest Reserve Credits market at the Rio+20 Conference.

by Pedro Moura Costa (BVRio), José Paulo Pontes (vice-president of DNV), deputy mayor Carlos Muniz, World Bank vice-president Hassan Tuluy, and Rio de Janeiro mayor Eduardo Paes.

Neutralization of GHG emissions of Rio+20

BVRio sourced carbon credits for the state and municipal government to contribute to the neutralization of GHG emissions associated with the Rio+20 Conference. BVRio secured 15000 Certified Emissions Reduction credits from the NovaGerar landfill gas project in Rio de Janeiro, the first Clean Development Mechanism project registered in the United Nations worldwide. The credits were donated by waste management company Haztec in a ceremony including Nuno Neves (Haztec CEO), Mauricio Moura Costa (BVRio COO), and Rio de Janeiro Environment Secretary Carlos Minc.



National Environment Conference

In 2003 the Brazilian Ministry of the Environment began to use national environment conferences as a means to conduct countrywide consultations on topical environmental issues. In 2013, the theme of the Fourth National Conference was solid waste management and the implementation of the National Solid Waste Legislation (Política Nacional de Resíduos Sólidos, PNRS). More than 2,000 conferences took place in municipalities and states all over the country, gathering proposals from a wide range of participants from different stakeholder groups. This process culminated in the National Environment Conference in Brasilia, where proposals which had received the most votes were selected. These will provide guidance for the formulation of government policies for the implementation of the objectives set by the Solid Waste Legislation.



BVRio's staff participated in more than 20 of these preparatory conferences, promoting the proposal developed with the National Movement of Waste Collectors (Movimento Nacional de Catadores de Materiais Recicláveis, MNCR): the use of reverse logistics credit system to assist in the implementation of the Solid Waste Legislation and compensate Catadores (waste collectors) for the environmental services provided. The proposal was also submitted to the ministries involved in this process. It was well received, and received the most votes in some preparatory conferences.

After all this preliminary work, BVRio's proposal was presented at a high level panel discussion at the National Conference on "the role of Catadores in waste management strategies – from economically excluded to recycling entrepreneurs". The panel was chaired by Environment Minister Izabella Teixeira and included Senator Rodrigo Rollemberg, Secretary Diogo Santana, and Roney Lima from the National Movement of Catadores.

were conducted in cooperatives based in 15 states. It is expected that this activity will need to be continued over the next 12 to 24 months as part of the process of awareness-raising and engagement of cooperatives in the system.

Legislative support for the implementation of environmental laws

In recognition of the vast experience of its team with the legal aspects of the various sectors in which it operates, BVRio was invited to contribute to the process of developing implementation regulation for different environmental laws, including the regulation of the Forest Law of Pará, Amazonas e Rio de Janeiro.

In parallel, BVRio is organizing a series of workshops for state attorneys about the implementation and compliance with the Forest Law, in partnership with the Brazilian Association of Environmental Public Attorneys, ABRAMPA.



Luciana Freitas, presenting BVRio's Reverse Logistics Credit market in Manaus.

Capacity building for waste collector cooperatives

Following the creation of the Reverse Logistics Credit system, in collaboration with the National Association of Catadores (Waste Collectors), BVRio initiated a systematic process of training and capacity building of cooperatives of Catadores throughout Brazil. Training sessions



Severino Lima (National Movement of Catadores) in a workshop in BVRio.



Roberta Del Giudice, BVRio, participating in a working group on the regulation of the new Brazilian Forest Law.

BVRio Roadshow

In order to expand its client base while engaging rural producers in the process of complying with the New Brazilian Forest Code, BVRio organized an extensive roadshow in strategic municipalities in the Pará and Mato Grosso states, where the level of agricultural activity and deforestation are highest. The roadshow (Circuito BVRio – Regularização Ambiental em Ação) was organized in partnership with Amazon think-tank Imazon, the Secretary of Green Municipalities of Pará, Banco do Brazil, and Acrimat (Mato Grosso's Cattle Ranchers Association).

During the roadshow, a team of BVRio staff and its partners will visit a series of municipalities and conduct presentations in each of them, followed by specific workshops and hands-on support on the subjects of CAR, the use of Forest Reserve Credits, and funding lines for compliance with the Law. These workshops will be advertised through local media, including radio spots to be broadcast beforehand in the regions to be visited. In addition, there will be distribution of press releases for regional newspapers and TV stations in order to get the maximum impact in the regions covered.



Leonel Mello presenting during Circuito BVRio roadshow.

BVRio has partnered with state government communications departments to amplify and fine-tune its local information strategy.

The BVRio Roadshow takes place between January and May 2014, with presentations focusing on the following objectives:

- Informing producers about the New Forest Law and its requirements, such as the Rural Environmental Registry (CAR) system and the need for Permanent Protection Areas and Forest Legal Reserves;



- Raising awareness of different options available for complying with the Law, including market mechanisms such as the Forest Reserve Credits (CRAs);
- Raising awareness of sources of funding, technical assistance, and low carbon agriculture techniques, available for compliance with the Forest Law; and
- Presentation of BVRio's Forest Reserve Credits market and its trading platform BVTrade.

Publications, videos and radio

One of the main approaches used by BVRio to divulge information and raise awareness is through publication of articles in magazines, newsletters and sector newspapers. To date BVRio has published articles in over 50 media outlets. It has also produced training and information material in print form, radio and TV formats. In addition, BVRio sends periodic newsletters to a mailing list of over 40000 readers.

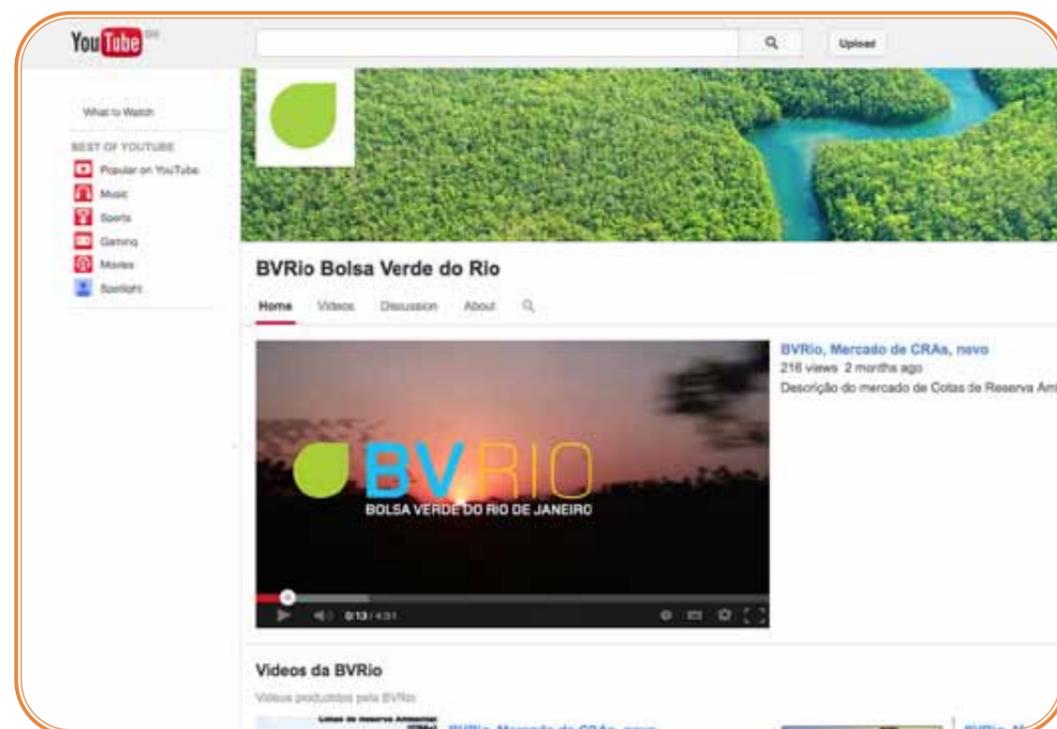
Magazine and newspaper articles produced by BVRio

A generic article about the Forest Reserve Credit market ("O que é o Mercado de Cotas de Reserva Ambiental") was produced and published in over 40 magazines focused on the agricultural sector (which, in turn, was reproduced in a large number of blogs and online publications). Opinion articles were also published in magazines specialized in public policies and environmental legislation.

Video and radio

BVRio produced a series of video clips focusing on the various sectors and markets, which are used for conferences and presentations and available for viewing or download at BVTrade's site, or in BVRio's YouTube channel (www.youtube.com/user/canalbvrio):

- An introduction to the Forest Legal Reserve Credits market;
- An introduction to the Tire Recycling Credits market;



BVRio YouTube channel (www.youtube.com/canalbvrio).

- An introduction to the Reverse Logistics Credits market;
- Cartoon about the Forest Reserve Credits market;
- Cartoon about the Reverse Logistics Credit market;
- Introduction to the BVTrade negotiations platform;
- Tutorial video on the use of the BVTrade platform for transacting Forest Reserve Credits;
- Tutorial video on the use of the BVTrade platform for transacting Reverse Logistics Credits.

These videos were viewed more than 5,000 times, and projected in a number of conferences and workshops. Some of them are available with English and Spanish subtitles.

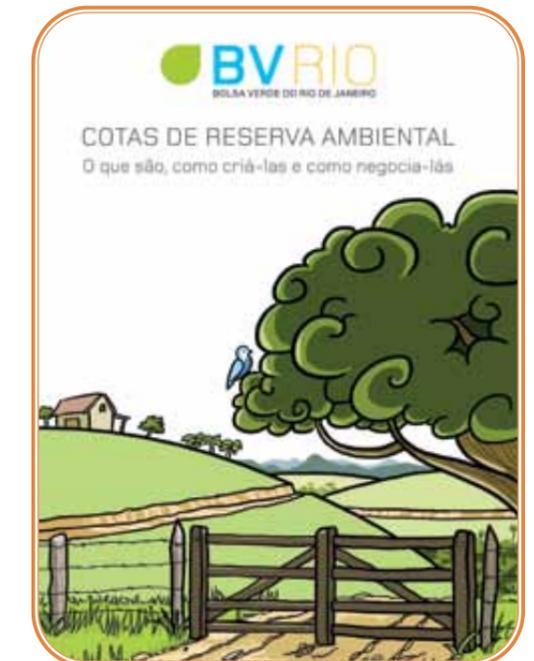
In addition, BVRio also produced two radio packages for regional and local radio stations in Brazil interested in explaining to their audience what CRAs are and how BVTrade works. These were available to download from the website <http://www.bvrio.org/site/index.php/noticias/sala-de-imprensa>.

Material de treinamento

BVRio produced a series of documents specifically tailored to inform and train interested parties in the various markets it operates. The following documents are available at BVRio's site:

- A cartoon-style document on the step-by-step process of creating CRAs;
- BVRio manual about the Forest Reserve Credit market, focused on agricultural producers;
- Forest Legal Reserve Credits – what they are and how to create them;
- Specific manuals for training participants willing to trade in the BVTrade platform;

- Reverse Logistics Credits and Tire Recycling Credits;
- Informational and training videos about the various markets (see below).



Website and Social Media

BVRio developed and maintained its website (www.bvrio.org) as a communications vehicle and repository of information related to the various sectors, markets and associated legislation. From its creation to the end of December 2012, the website has had more than 1 million page hits which, in turn, is resulting in widespread coverage in other sites.

Additionally, BVRio created pages in Facebook (www.facebook.com/InfoBVRio), Twitter (<https://twitter.com/bvrio>) and a channel in YouTube (<http://www.youtube.com/user/canalbvrio>). BVRio's YouTube channel contains all videos it produced, as well as TV and radio programs featuring BVRio and/or its staff, including four 30-minute TV programs broadcast by TV Globo and Canal Rural, respectively.

Another tool used by BVRio to reach out to a wider audience is the live webcast of press conferences. The launch of BVTrade, for instance, was broadcast live over the internet and the press conference allowed the participation of journalists from all over the country. Some 500 people watched the webcast: <http://www.bvrio.org/site/index.php/noticias/videos/227-lancamento-da-bvtrade-coletiva-de-imprensa>.

Press coverage

Since its launch in December 2012, BVRio has received significant media attention. Media coverage was particularly intense during the Rio+20

Conference, the launch of its trading platform in December 2012, and the National Environment Conference in 2013. Highlights include:

- Articles published in the main broadsheet newspapers with national circulation, including Valor Econômico (cover page article), Estado de São Paulo, Folha de São Paulo, O Globo, Gazeta do Povo, Brazil Econômico;
- Articles in international newspapers and media outlets, including Financial Times, Associated Press, Reuters Point Carbon, Bloomberg, Environmental Finance, Argus Global Emissions, and others;



- The Associated Press ran an article some ten days after BVTrade's launch that was published all over the world, highlighting BVRio's unique nature as an environmental assets exchange. The story was featured in the main page of MSNBC.com (a news website with 73 million unique visitors/month), as the main feature of the US Huffington Post Green (www.huffingtonpost.com/2012/12/16/bvrio-



Mauricio Moura Costa in Canal Rural TV program.



Pedro Moura Costa and Marina Grossi (CEBDS, WBCDS) interviewed in Globo News TV program.

brazil-forest-protection-_n_2309726.html), the sixth most visited news website and the number one news blog in the world) and at Yahoo News, a news portal with 110 million unique visitors monthly;

- Articles in popular magazines, including a 4-page feature about BVRio in Revista Época (the second most read weekly magazine in the country), Isto É Dinheiro, Revista DBO, Página 22;
- Feature TV programs for Canal Rural, TV Globo (Globo News), and TV Senado, as well as 20 TV interviews to Band News, TV Globo, Canal Futura, Canal Terra Viva, CCTV (Chinese national TV), and others;
- Radio programs with influential journalists such as Sergio Abranches (CBN), Sergio Besserman (CBN), Band News, Radio França, and insertions in a series of regional programs, with a total broadcast time of over 2 hours;
- A Google search on “bolsa verde do rio” shows more than 50,000 entries in blogs and third party websites.

A list of the main interviews can be found in BVRio's website (www.bvrio.org/site/index.php/bvrio-na-imprensa) or its YouTube channel (www.youtube.com/user/canalbvrio).



Partnerships



Partnerships BVRio has established partnerships with government agencies, academic institutions, think tanks, NGOs and private sector organizations. The main ones are:

- Rio de Janeiro State and Municipal government** agencies were active in the creation of BVRio, and are important institutional partners. Rio de Janeiro state, represented by its Secretary of Green Economy, and the Rio de Janeiro Municipality both participated in the process of conceiving and creating a green environmental exchange to revitalize the financial services sector of Rio and contribute to the development of a green economy in the state. Both institutions believe that market mechanisms have a

great potential as an instrument to facilitate the implementation of public policies related to the sustainable development and the environment. BVRio was created and a collaboration agreement was signed with these government departments for the provision of technical cooperation (without financial transfers) in November 2011. More recently, this partnership was expanded to include the municipal urban planning think-tank Instituto Pereira Passos. Both state and municipal government are represented in BVRio's advisory board.

- Secretary of Environment of Amazonas state** – collaboration agreement for the creation of market mechanisms and tools to facilitate the implementation of the Rural Environmental Registry (CAR), and the regulation of the Forest Law and its mechanisms (e.g., Forest Reserve Credits). The agreement was signed by the Secretary of Environment of Amazonas, Nádia Ferreira, during an event organized by BVRio in the Rio + 20 Conference.



Environment Secretary Carlos Minc, in BVRio's launching ceremony, sided by Suzana Kahn (Secretary of Green Economy), Eduarda La Rocque (Secretary of Finance), and Marina Grossi (CEO of CEBDS – WBCSD Brazil).

- Secretary of Green Municipalities of Pará state** – collaboration agreement for the creation of market mechanisms and tools to facilitate the implementation of the Rural Environmental Registry (CAR), and the regulation of the Forest Law and its mechanisms (e.g., Forest Reserve Credits). The agreement was signed by Justiniano Netto (Secretary of Green Municipalities of Pará), in the presence of Abidias José de Souza Júnior (President of Banco da Amazônia), José Alberto Colares (Secretary of Environment of Pará), Sydney Rosa (Secretary of Development of Pará) and Adnan Demachki (Mayor of Paragominas).



- Municipality of Paragominas** – collaboration agreement for the creation of market mechanisms and tools to facilitate the implementation of the Rural Environmental Registry (CAR), and the regulation of the Forest Law and its mechanisms (e.g., Forest Reserve Credits). The agreement was signed by the Adnan Demachki, Mayor of Paragominas, during an event organized by BVRio at the Rio + 20 Conference.



Signing ceremony of Collaboration Agreement between BVRio and the State of Pará, with Justiniano Netto (Secretary of Green Municipalities of Pará), Sydney Rosa (Secretary of Development of Pará), Adnan Demachki (Mayor of Paragominas), Pedro and Mauricio Moura Costa (BVRio).

- Imazon** (Instituto do Homem e Meio Ambiente da Amazônia) – Pará-based research think-tank focused on ecological research and policy development for the Amazon region. Collaboration agreement for the development of tools for the implementation of the Rural Environmental Registry (CAR) system.



Signing ceremony of Collaboration Agreement between BVRio and the State of Amazonas, with Nádia Ferreira, Secretary of Environment of Amazonas, Luiz Firmino, Sub-secretary of Environment of Rio de Janeiro, and Pedro Moura Costa, BVRio.

- Fundação Getúlio Vargas, Law Department Rio** – technical cooperation agreement focused on the development of research projects and other activities related to the Environmental Law Program of FGV Law Department Rio.



- Center for Sustainability Studies of the Getúlio Vargas Foundation (GVces) – partnership for the development of a GHG emissions trading simulation for the Business for Climate Platform (EPC – Empresas pelo Clima).



- Shanghai Environment and Energy Exchange – technical cooperation agreement for information exchange related to the development of carbon markets.



- Brazilian Association of Environmental Public Attorneys (Associação Brasileira dos Ministérios Públicos Ambientais - ABRAMPA) – technical cooperation agreement to analyze and promote activities related to the use of market mechanisms for compliance with environmental laws.



- BVRio was one of the founding members of the Paragominas Environmental Services Agency (Agência de Serviços Ambientais - ASA Paragominas), a non-profit organization with the objective of promoting the payment for environmental services in the Paragominas region, in Pará state;

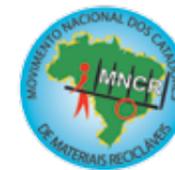


- BVRio was one of the founding members of the Simplício Environmental Services Agency (Agência de Serviços Ambientais - ASA Simplício), a non-profit organization with the objective of promoting the payment for environmental services in the Vale do Paraíba do Sul region and in Rio de Janeiro and Minas Gerais states;

- BVRio joined the Working Group on Sustainable Cattle Ranching (GTPS - Grupo de Trabalho da Pecuária Sustentável) in 2013.



- National Association of Waste Collectors (Movimento Nacional de Catadores de Resíduos Recicláveis) – partnership for the development of a Reverse Logistics Credits system to assist in the implementation of the National Solid Waste Legislation.



- BVRio, Santiago & Cintra Consultoria and Eco-Lógica entered into a cooperation agreement to link the SIG-CAR (an Environmental Registry System (CAR) software) to the BVTrade platform, providing a tool for streamlining the use of the CAR among rural producers.



- IETS (Institute of Work and Society Studies) – cooperation agreement to develop the ASA Simplício, a non-profit organization with the objective to promote the payment for environmental services in the Vale do Paraíba do Sul region and in the states of Rio de Janeiro and Minas Gerais.



Supporting the creation of a green economy

The adoption of market mechanisms as a means of compliance with legislation requires the development of a service industry associated with these markets. For instance, the National Solid Waste Legislation will require services of reverse logistics, collection and disposal of residues. The Forest Law, in turn, has created the need for reforestation services for farms that do not have sufficient forest legal reserves. In addition, there is the need for legal, accounting, and consultancy services specialized in these new sectors.

Creation of a community of specialized service providers



The introduction of environmental targets and obligations create a demand for specialized services that, in turn, foster the development of a 'green economy' around these sectors.

This service industry can become significant – the low carbon sector in London, for instance, today involves the services of over 9000 organizations and 160000 professionals, generating revenues of over GBP 23 billion a year. At the same time, the professionals involved in these new sectors become advocates for public policies that protect the environment, ensuring the continuation of these initiatives and forming the basis of a sustainable and long-lasting green economy.

For these reasons, BVRio is working on many fronts to develop some of the pillars of this new green economy. Among other activities, BVRio has focused on the following:

- Organization of workshops, trade fairs and events focused on promoting investment and entrepreneurship in the social and

environmental sectors. In 2012, for instance, BVRio participated in the international conference Rio Investors Day, organized by the Secretary of Finance of Rio de Janeiro. This led to the organization of the Rio Social Investors Day event, in October 2013. The latter aims at becoming an annual event placing Rio de Janeiro as a destination for the global social impact investors' community. BVRio has also contributed to attracting the Latin American Carbon Forum (organized by the World Bank and IETA – International Emissions Trading Association) to Rio de Janeiro. This is an important conference in this sector, and happened in Brazil for the first time in 2013;

- Creation of funding lines specifically to support entrepreneurship and investment focused on these new sectors and services. BVRio is promoting these opportunities

among Brazilian and International development banks and agencies.

BVRio recognizes the need to monitor the impact of its activities, and the markets it promotes in terms of economic indicators related to this service industry – i.e., companies involved, jobs created, and revenue generated for the cities, states and

nation as a whole. For this reason, BVRio is seeking partnerships with academic organizations that would like to track the development of this new economy over the long term.

In parallel, BVRio has already initiated a series of initiatives that, in the medium term, would complement its core activities, as follows.



Social Entrepreneurship Exchange

The process of creating tradable environmental assets (e.g., Forest Reserve Credits, Reverse Logistics Credits, etc.) requires a wide range of specialized services. This, in turn, creates opportunities for entrepreneurship related to these new sectors.

For instance, in the urban environment, there is a need for services associated with the reverse logistics of solid waste. This, in turn, can result in the creation of Reverse Logistics Credits to assist companies in meeting their obligations related to the Solid Waste Legislation. In the rural sector, the requirement of maintenance of forest legal reserves to meet the obligations created by the new Forest Law will require the services of reforestation, collection of seeds

and seedlings, mapping, etc. These activities, in turn, can result in the creation of Forest Reserve Credits and Reforestation Credits.

Many of these services can be provided by new ventures (small or medium enterprises, or SMEs) created specifically for this purpose. These new SMEs, in turn, will require financing or investment to equip themselves for the efficient provision of these services.

Recognizing this demand, BVRio has been working on the concept of a new Social Entrepreneurship Exchange ("Bolsa Social do Rio de Janeiro") to link SMEs and social entrepreneurs to venture capital and impact investors. This would be incorporated as a new organization, with similar structure and governance to BVRio but with a separate board and management team.

ASA Paragominas Environmental Services Agency

Paragominas is a fast changing municipality in the state of Pará, in the Brazilian Amazon. Settlement started in 1965, by migrants attracted by its timber resources, and its history illustrates a typical process of natural resource exploitation followed by resource depletion and, now, it is starting a period of diversification to enable economic recovery. At its peak, the municipality had one of the highest deforestation rates in the Brazilian Amazon, followed, in many cases, by conversion to other land uses, resulting in the deforestation of nearly 45% of the land area of the municipality.

In 2007, the Brazilian Ministry of the Environment created a 'red list' of 36 'worst offending' municipalities in terms of deforestation (the list was amended in 2009, with the inclusion of another 7 municipalities). Paragominas was included in the list. One of the main consequences of being listed is that businesses and individuals in these municipalities lost all access to credit (debt finance) and their products were gradually rejected by some market segments.

Following inclusion in the list, the Paragominas local government and business leaders got together to work out a strategy to revert this situation. This resulted in a pact to control deforestation and meet the government's environmental requirements and be removed from the list.

The result of this initiative was highly successful in meeting the targets stipulated by the Ministry of the Environment. In March 2010 the Municipality was the first one to be removed from the list in recognition of its achievements in terms of reduction of deforestation (compared with the period 2008-2009, deforestation was reduced by about .80%), land use management and participation in the rural environmental

registry (CAR – over 90% of properties in the municipality are registered in the CAR).

Following on this achievement, Paragominas then focused on finding sources of finance to fund its sustainability initiatives and creating conditions that would attract external investors. These will enjoy the benefits of a positive momentum created by this process and assist Paragominas in the development of its new economic model. In this context, BVRio signed a cooperation agreement with both the Municipal Government of Paragominas and the Secretary of Green Municipalities of Pará, to help them access finance through participation in environmental markets.

A new organization was created to coordinate the process of documentation and monetization of the environmental services created in Paragominas. The Agency for Environmental Services ASA Paragominas is a new NGO founded by E2 Brazil Sócio Ambiental (BVRio's founding partner) in partnership with Imazon (Instituto do Homem e Meio Ambiente da Amazônia) and BVRio. Among other things, ASA⁷ Paragominas acts a hub to promote compliance with the new Forest Code among the rural producers in the region, enabling them to access the Forest Reserve Credits market. BVRio has already organized training sessions with the ASA management team and local producers.



ASA Simplício Environmental Services Agency

The model used for ASA Paragominas is now being adapted to the needs of the Vale do

Paraíba do Sul region on the frontier between Rio de Janeiro and Minas Gerais states. The region is predominantly dependent on low productivity agriculture and cattle ranching, creating high level of negative environmental impact and low profitability.

The objective of the ASA Simplício is to engage smallholders and rural producers in sustainable activities while promoting the intensification of their agricultural practices. ASA Simplício also plans to engage in education activities focused on the conservation of natural resources, and the capacity building to smallholders to meet the relevant environmental legislations and the Forest Law.

ASA Simplício was incorporated by BVRio and IETS (Instituto de Estudos do Trabalho e Sociedade) and has the same governance structure of ASA Paragominas.



Centro Rio+

In the months preceding the Rio+20 Conference, a group of individuals and organizations in Rio de Janeiro got together to promote the creation of a new institution that could become a legacy of the sustainability conferences hosted in Rio.

This initiative acquired momentum once it was absorbed by another initiative led by Ambassador André Correia do Lago and the Brazilian Foreign Affairs Ministry (Itamaraty) and began to involve a wider range of stakeholders and interested parties. This process resulted in the creation of the Centro Rio+ (International Centre for Sustainable Development), launched during the Rio+20 Conference as a partnership of the Brazilian Government and the United Nations Development Program (UNDP). Among a range of activities, the Centre will focus on:

- Partnerships with cities and communities that can serve as sustainable development vectors;
- Innovation, science and technology, with a focus on developing standards for sustainable production and consumption;
- Monitoring of the official commitments of the Rio+20 Conference;
- Continuation of the Rio Dialogues on sustainable development;
- Support to the initiatives launched at Rio+20 (creation of new indicators for happiness and life quality);
- Partnerships with universities that can act as hubs for development, testing and dissemination of sustainable development practices;
- Intermediation of technical assistance and information exchange platform for governments, civil society, private sector, and social entrepreneurs, including South-South cooperation;
- Promotion of the inclusive sustainable development concept, aiming at the transformation of poverty pockets into sustainable communities;
- Promotion of innovative approaches to aggregate social, environmental and economic objectives;
- Sustainable development education;
- Promotion and dissemination of sustainable development practices;
- Debates about the challenges associated with the social, environmental and economic sustainability in a world with 9 billion inhabitants by 2050;
- Technical support to international initiatives linked to the sustainable development theme.

BVRio is one of the founding partners of Centro Rio+.

⁷ ASA stands for "Associação de Serviços Ambientais" – Environmental Services Agency.

Awards and Prizes

Katerva Awards

At the end of 2013 BVRio was shortlisted as a 2013 Awards Nominee for the Katerva Awards (www.katerva.net) for new organizations promoting sustainability innovations, and voted the best initiative of the year in the Economics category – an important recognition for its work to date.

The award, created in 2011 by British NGO Katerva, relies on the recommendations of a global network of experts who identify and select the best new ideas in the sustainability sector from organizations with less than two years and potential to grow. The communications agency Reuters has suggested that the Katerva Awards are the Nobel Prize of sustainability.

The selection process involved a thorough review by panels of specialists that analyze the feasibility, originality, impact and potential to grow of the nominees. The panels included industry specialists, scientists, and investors. Winners of each category will then run for the ‘People’s Choice Award’ of best sustainability innovation of the year, that will be announced in 2014.



The roster of experts selecting the awardees included, among others, Mary Robinson (former President of Ireland), Yuan Tseh Lee (President of the International Council on Science and winner of the 1986 Nobel Prize in Chemistry), Fatih Birol (Chief-Economist of the International Energy Agency, IEA), and Bruno Berthon (Global Director of Accenture’s Strategy and Sustainability group).

Yale ISFT Innovation Prize

In 2013, BVRio was also shortlisted for the Yale ISTF (International Society of Tropical Foresters) Innovation Prize, sponsored by the Andrew Sabin Family Foundation and Gordon & Betty Moore Foundation. The competition theme in 2013 was ‘innovations in forest finance’. BVRio was selected among 40 international institutions but, due to other commitments, had to decline participating in the final selection process.

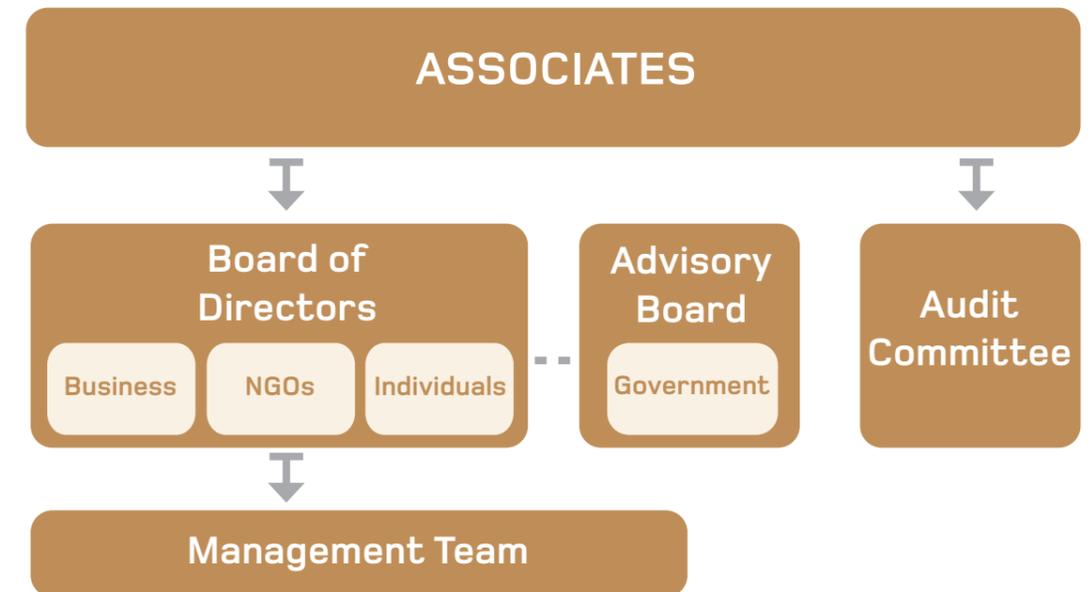


The screenshot shows the Katerva website header with navigation links: Award Nominees, What We Do, Who is Involved, Who We Are, and Media. The main content area features a large banner with the text 'The 2013 Katerva Category Award Winners Are!' and 'Economy'. Below this, the BVRio logo is prominently displayed against a sunset background. Underneath the banner, the text 'BVRIO' is visible. At the bottom of the page, there are three columns representing the award process: IDENTIFY (Katerva Spotters identifying the world's most interesting innovations), EVALUATE (Katerva panels evaluating innovation for validity, scalability and impact), and ACCELERATE (Katerva nominees and award winners accelerating the future).



Governance and Management

BVRio was structured to include different sectors of society, grouped as three categories of associates: the Business Sector, NGOs & Academia, as well as Citizens involved in the promotion of sustainable economic development in Brazil. Each category of associates will be represented in the BVRio's board. An Advisory Board was also created with representation of the government agencies involved (government agencies cannot participate in the board of directors). An executive secretary is responsible for the executive functions.



Board of Directors

NGOs & Academia

- Fundo Brasileiro para a Biodiversidade (**Funbio** – Brazilian Biodiversity Fund), represented by its CEO, **Rosa Lemos** (Chair of the Board).
- **Fundação Brasileira para o Desenvolvimento Sustentável** (Brazilian Foundation for Sustainable Development), represented by **Walfredo Schindler**.



Business Sector

- Conselho Empresarial Brasileiro para o Desenvolvimento Sustentável (**CEBDS**-World Business Council for Sustainable Development), represented by its CEO, **Marina Grossi**.
- **E2 Brazil Sócio Ambiental Ltda**, represented by its director, **Mauricio Moura Costa**, CEO of BVTrade.



Citizens

- **Sérgio Besserman**, Senior Advisor to Mayor of Rio de Janeiro, Eduardo Paes.
- **Pedro Moura Costa**, CEO of BVRio.

Advisory Board

- **Suzana Kahn**, Secretary of Green Economy, representing the Environmental Secretariat of the State of Rio de Janeiro.
- **Eduarda La Rocque**, initially Finance Secretary and subsequently as President of Instituto Pereira Passos of Urban Planning, representing the Municipality of Rio de Janeiro.



Audit Committee

- **João Alfredo Dias Lins**, president of the audit committee of Fundação Brasileira para o Desenvolvimento Sustentável and curator of Fundação Getúlio Vargas.
- **Mario Lima**, partner at Ernst & Young Terco;
- **Aylton Coelho**, financial director of Fundo Brasileiro para a Biodiversidade (Funbio).

Management Team

BVRio's key executives are:

- **Pedro Moura Costa** – BVRio's CEO
- **Mauricio Moura Costa** – COO and BVTrade's CEO
- **Roberta del Giudice** – Institutional Relations and Legal Council
- **Marcio Barros** – Technology Developer
- **Leonel Mello** – Land Use Department
- **Luciana Freitas** – Solid Waste Department

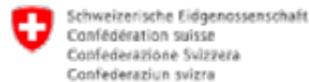
In addition, BVRio also has Regional Managers located in the states of Pará and Mato Grosso and additional staff in Rio de Janeiro.



Financial summary

Sources of funding and support

To date, BVRio's activities were conducted with financial support from the following organizations:



Swiss Agency of Development and Cooperation – supported a feasibility study on the use of a cap & trade mechanism for the control of industrial effluents discharged in the Guanabara Bay through a grant of US\$ 235,000 provided by the Swiss Development and Cooperation Agency (SDC) as part of a larger project coordinated by Forest Trends (“Scaling Up Payment for Ecosystem Services to Meet the Global Water Crisis”). The study was conducted between 2012 and 2013;



UK Prosperity Fund – a program of the UK Foreign and Commonwealth Organization, provided funding of GBP 174,000 for the initial development of BVRio and the initial analysis and development of mechanisms for various sectors, during 2012-2013;



Climate and Land Use Alliance (CLUA, Climate Works Foundation) – is currently supporting the development of the land-use related activities of BVRio. After an initial grant of US\$ 245,000, awarded in 2012, it provided

a follow-on grant of US\$ 120,000 for an awareness-raising roadshow about the forest law and its compliance mechanisms (Circuito BVRio) to be conducted in 2014;



Iniciativa do Clima da América Latina (ICAL, Climate Works Foundation) – provided support to the development of the reverse logistics credit market, through a grant of US\$ 234,000 for the period 2012-2013;



Gordon and Betty Moore Foundation – approved a grant of US\$ 600,000 for the development of land-use activities in the Amazon region, for the period 2013-2014;



Environmental Defense Fund – financial support of US\$ 50,000 to contribute to the development of a trading platform for the emissions trading simulation to be conducted in 2014 for the Business for Climate Platform, coordinated by Fundação Getúlio Vargas (GVces);



E2 Brasil Sócio Ambiental – provided financial resources and pro bono support from the initial stages of development of BVRio to date, in a total of R\$2,830,000 at the end of 2013. E2's support was used to cover the financial needs of BVRio additional to the specific project activities funded through the grants listed above.

Uses of financial resources

During this initial phase of operations, the financial resources raised by BVRio were used for activities conducted in relation to the following sectors:

