



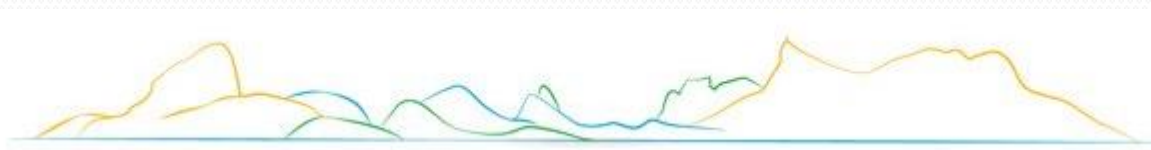
RIO CAPITAL OF ENERGY

Ago 2014



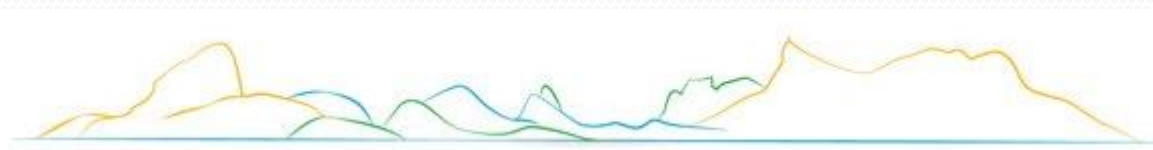
MOTIVATION

- The State of Rio de Janeiro's importance to the Country energy security;
- Main Oil & Gas producer State;
 - 85% of national oil production;
 - 28 MM m³/d of natural gas – 45% of Brazilian production
- Main Thermoelectric power generation facilities and the only two nuclear plants;
- Site of major Brazilian foreign companies in the energy sector
- Existence of State Universities and Research Centers of Technological Development with world-class training;
- Prominent position in the international debate on sustainable development.



GOALS

“Mobilization society on concentrating resources around de energy sector, in order to make Rio de Janeiro a world reference in sustainable energy”



GUIDELINES

- I. Prioritizing of energy security and sustenable growth of the State
- II. Minimizing costs of energy supply
- III. Rational Uses of energy sources by observing the minimun impact on the environment
- IV. Maximizing energy sources revenues produced in the State
- V. Maximum contribution to increase work and income generation in the State



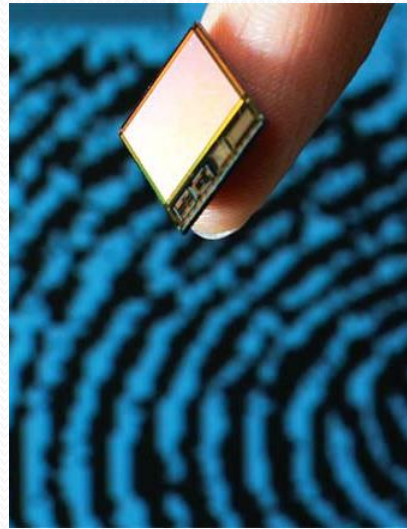
DEVELOPMENT

DEVELOPMENT

Four Pillars



Energy Efficiency



Technological
Innovation



Low Carbon
Economy



Mass Concept

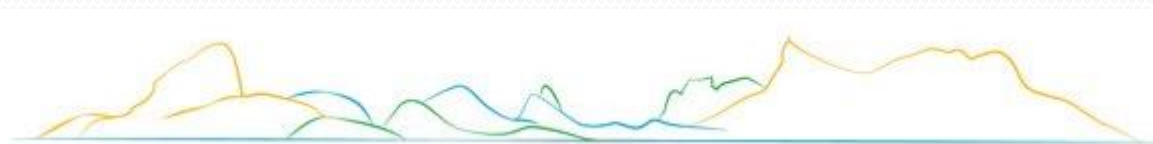
ESTRATEGIC COMMITTEE





PROJECTS

- ✓ 66 projects to start the portfolio to be implemented by 2015
- ✓ Investments around R\$ 2,2 billion
- ✓ Dinamic portfolio, always open to new projects



PILLARS PROJECTS DISTRIBUTION

6
6

29

- Technological Innovation

17

- Energy Efficiency

13

- Low Carbon Economy

7

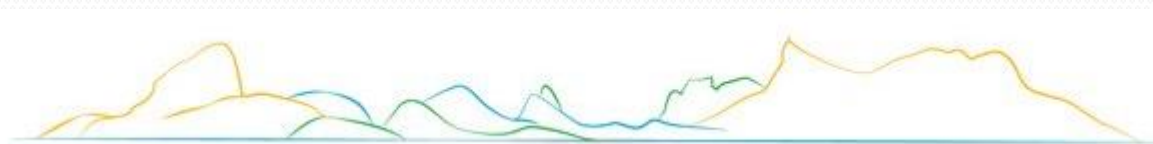
- Mass Concept



PROGRESS



9 ready projects



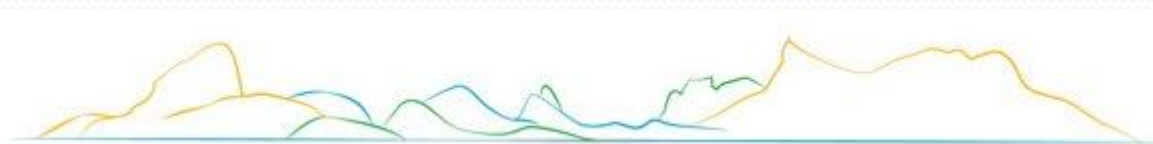
TECHNOLOGICAL INNOVATION

Center Coppe-Guodian technology in wind energy	Obtaining Biodiesel enzyme technology	Green bus	Platform for bus electrical traction	Laboratory for clean fuels
Smart City Buzios	Smart Grid Light	Solar State Public Library	Maracanã Solar	Solar Energy in Marine Aquarium
Innovation Laboratories UERJ	Harnessing Hydrogen	Improvement planning models	Laboratory of Ultra-High Voltage	Improvements in Energy Management System
Laboratory of Smart Grid	New computational improvements	Construction Material Vikaflex	Generating electricity with photovoltaic modules	Utilization of sewage sludge to generate electricity
WG Electric Vehicles	Solar Challenge Brazil	Electric water taxi	Solar Energy the Big Island State Park	Photovoltaic energy in CEFET
Mapping the rooftops Rio de Janeiro and Niteroi	Solar Atlas	Renewable Energy Sub-Sea	Studies of Subsea Cluster structuring	



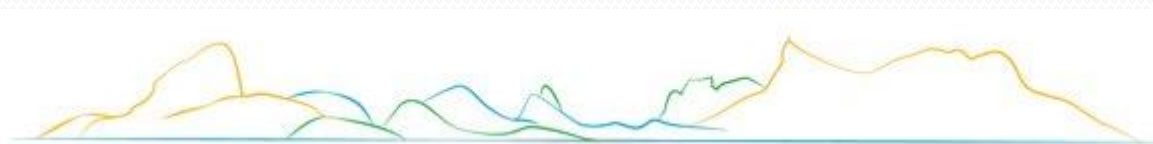
ENERGY EFFICIENCY

Efficient Community	Light Recycles	Energy Optimization of CPD's	Eco-efficiency in industry and commerce	Energy Efficiency Lab UERJ
Energy Efficiency at Fiocruz	Energy Efficient Water and Sewage Three Rivers	Energy Efficiency in Public Buildings	Energy Efficiency in Micro and small Business	Ethanol Production Incentives
UFRJ Green Fund	Cogeneration RJR	Energy efficiency Planetarium	Efficient Lighting	Efficient films
Consciência Ampla – Exchange of Refrigerators	Digital Energy Efficiency			



LOW CARBON ECONOMY

Motor Ciclo Diesel consumindo etanol	Diesel-Gas Ferry boat	Fundão Solar	Save program	Kit for hybrid electric vehicle low cost
Diesel-Gas Bus	Green Zones	Eco-efficient system of environmental sanitation and bioenergização	Utilization of waste gas for power generation	Renewable Natural Gas
Trucks Fleet Renewal	Energy Efficiency Fund Gas	Production of GNR in Landfill Two Arches		



MASS DISSEMINATION OF CONCEPT

Conpet at School	Technical Cooperation GIZ	Massification of RCE Concept	Consciência Ampla Saber – Lectures and Workshops	Demonstration Centre Smart Grid
Consciência EcoAmpla	Consciência Ampla Future			



BÚZIOS SMART CITY



- ✓ Automation of electric grid
- ✓ Electric Mobility Plan
- ✓ LED Lighting with remote control points
- ✓ Smart Metering
- ✓ Distributed Power Generation from renewable sources
- ✓ Social projects
- ✓ Home automation
- ✓ Wireless Internet
- ✓ Centralized Control System
- ✓ Building Monitoring Center

✓ Coordination: Ampla Energia e Serviços S.A.

✓ Budget: R\$ 37,6 million

✓ Partners

Ampla / Endesa Brasil / Endesa Espanha / Enel / Aneel / Governo do Estado do RJ
Prefeitura de Búzios / UFRJ / UFF / PUC / UERJ / FGV



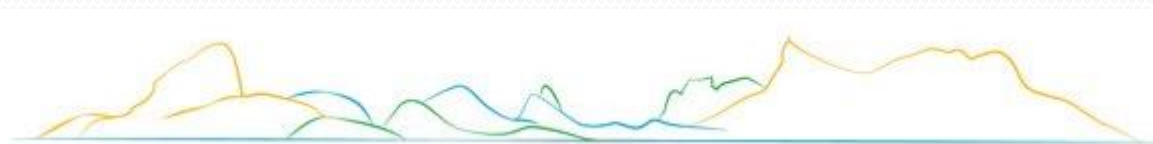
GREEN POLO



Coordination:
SEA

Partners :
SEA, CODIN, UFRJ, CEG,
LIGHT-Esco, LOREAL, GE

- ✓ Located on Bom Jesus Island, will gather Research Centers for technology development, in line with industries and universities.
- ✓ Sustainable infrastructure in centralizes steam generation, cooling, power and cogeneration systems.
- ✓ LED street lighting, recycling system and use of rainwater, sewage treatment stages and paved streets with asphalt rubber.
- ✓ Sustainable Buildings



SMART GRID LAB



Coordination :
Eletrobrás Cepel

Budget: R\$ 19 million

Partners:
Eletrobrás, Cepel, Furnas, Eletrosul,
Chesf, Eletronorte, MME and World
Bank

Schedule for completion by apr/2015

Implementation of laboratory infrastructure for experimental research
and evaluation of solutions smart grid (Smart Grid)



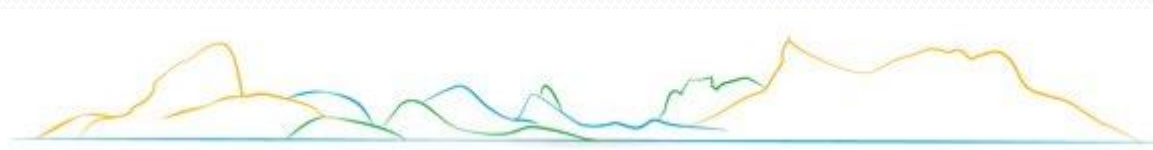
RENEWABLE NATURAL GAS



Coordination:
Sedeis

Partners:
Sedeis, CEG, CEG Rio, Agenersa,
Alerj

Law nº 6.361 of 19/dec/2012, establishes the Renewable Natural Gas State Policy, encourages the production deployment and makes mandatory the purchase of gas concessionaires up to 10% of conventional gas distributed in Rio de Janeiro.



TWO ARCHES PROJECT

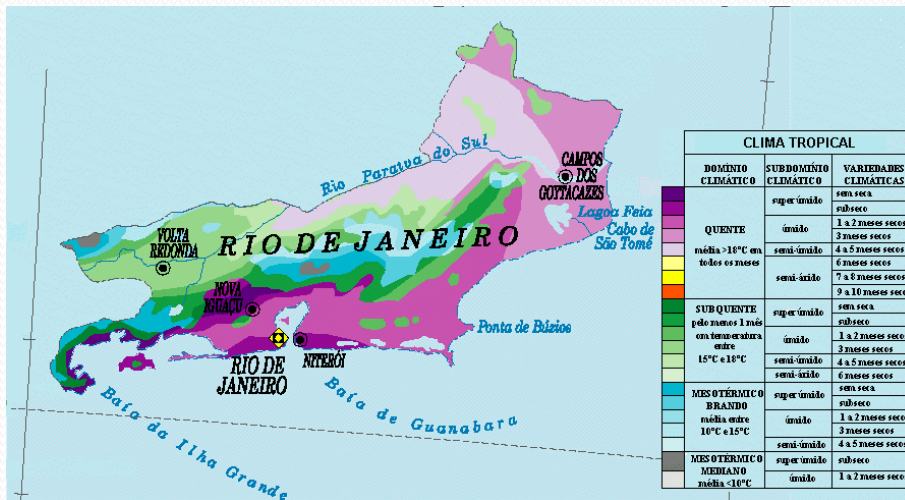


Coordination : Ecometano

Partners: Ecometano / Osafi
Empreendimentos / CEG

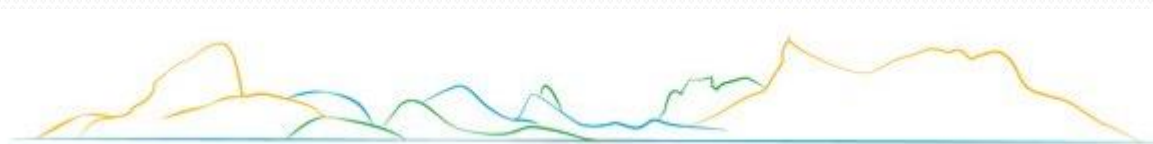
Production of renewable natural gas in landfill two arcs in São Pedro da Aldeia, with initial production capacity of 10,000 m³ / day, up to 15,000 m³ / day in 2018.

RIO DE JANEIRO'S SOLAR ATLAS



- ✓ Coordination : Sedeis
- ✓ Partners:
PUC-Rio, UTE Norte Fluminense,
EDF e EGPE Consult

Elaboration of the potential use of solar energy in the state of Rio de Janeiro for power generation and water heating.



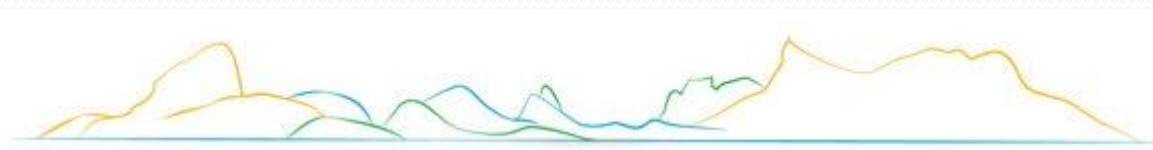
INCREASE ETHANOL



Coordination:
Seag, Sedeis

Partners:
Seag, Sedeis

Differential treatment of ICMS (VAT) for expand ethanol production in Rio de Janeiro State. Establishes the obligation of new investmentes in cultivation and production processes.



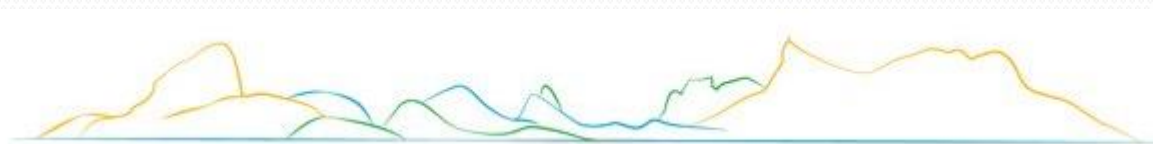
GREEN FUND



Coordination:
SEA, Sedeis e Sefaz

Partners :
SEA, Sedeis, Sefaz, UFRJ, Light

Application of ICMS resources from energy bills of UFRJ – Fundão Campus in energy efficiency projects and technological innovation.




ELECTRIC VEHICLES



Coordination:
Sedeis

Partners:
Sedeis, SECT, SEA, Nissan, Light,
Ampla, Petrobras Distribuidora,
Rio Negócios, Inmetro, BNDES

Creation of Working Group to study the viability and infrastructure required for deployment of electric vehicles plant in Rio de Janeiro.



USE OF SEWAGE SLUDGE TO GENERATE ELECTRICITY



Coordination :
UTE Norte Fluminense

Partners:
Cedae, P²IT Engenharia, Jordão
Engenharia

Budget: R\$ 287 thousand

installation of a 50 kW turbogenerator from urban sewage sludge in sewage treatment Pavuna Station, providing the Cedae a generating unit self sustained.



PHOTOVOLTAICS IN CEFET



- ✓ Coordination: GIZ
- ✓ Partners:
Cefet, Light, Aneel e Sedeis

Installation of Photovoltaic Panel in Cefet unit at Maracanã



ECO-EFFICIENT SYSTEM OF ENVIRONMENTAL SANITATION AND BIOENERGIZAÇÃO



Coordination : Grupo Canabrava

Partners:

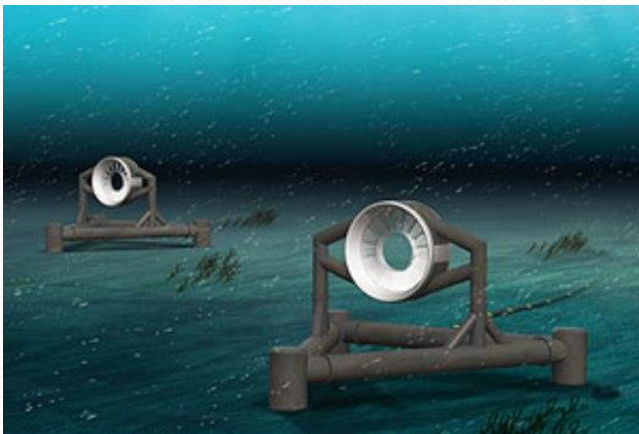
Grupo Canabrava, BNDES and Finep

Budget: R\$ 10 million

Vinasse treatment system, effluent from the ethanol production process, with a view to energy recovery, biogas to generate electricity and capture carbon credit.



SUB-SEA ENERGY

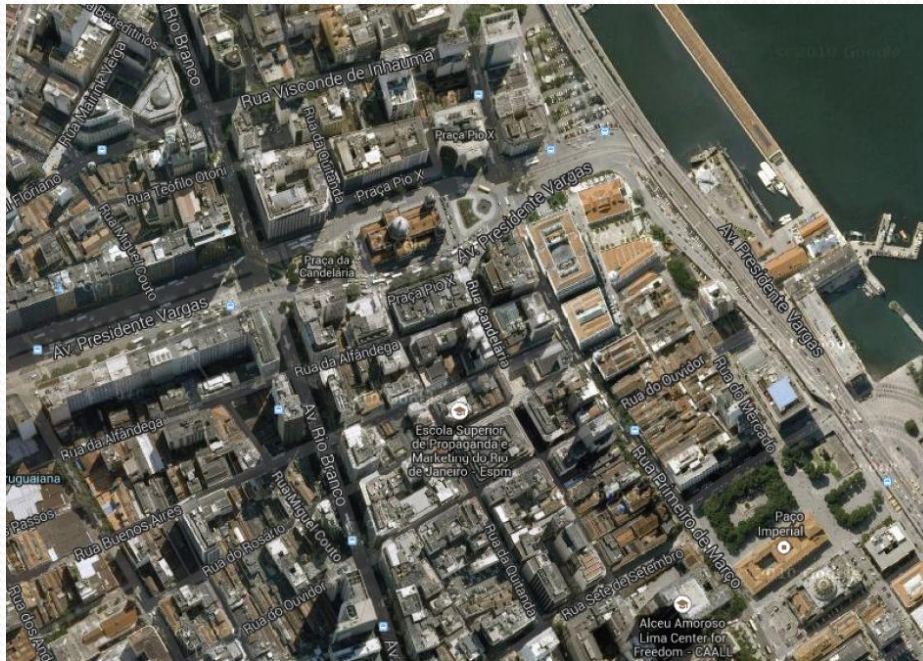


- ✓Coordination : Sedeis
- ✓Partners:
ONIP, UTE Leonel Brizola Petrobras

Study on energy efficiency and rationalization of electricity generation under the seabed to serve the production process of oil and gas in deep waters.



MAPPING THE PHOTOVOLTAIC POTENTIAL OF ROOFS



- ✓ Coordination : GIZ
- ✓ Partners:
IPP, Light, Ampla, EPE e Sedeis

Elaboration of the PV potential of the cities of Rio de Janeiro and Niterói, from aerophotogrammetric survey.



PLANETARY - ENERGY EFFICIENCY



Coordination:
Light Esco

Partners:
Light, Light Esco e Prefeitura do
Rio de Janeiro

The project aims to improve the energy efficiency of central air conditioning system, recovery of the thermal storage tank and deployment of educational project for the use of solar energy.



DEMONSTRATION CENTER ENERGY EFFICIENCY AND SMART GRID



Coordination:
Light

Partners:
Light e Light Esco

Area of 400 m², which will play a smart city with the characteristics of Rio de Janeiro, with interactivity, simulations, games and equipment, in order to encourage visitors to adopt efficient consumer habits and combat energy waste, the first being the kind in Latin America.

WEB SITE

GOVERNO DO Rio de Janeiro
SOMANDO FORÇAS

PORTAL **RIO CAPITAL DA ENERGIA**

INÍCIO | O PROGRAMA | PARCEIROS | ÁREAS DE ATUAÇÃO | PROJETOS DO PROGRAMA | EVENTOS | FALE CONOSCO

EFICIÊNCIA ENERGÉTICA

PROJETO PROPÕE O INCENTIVO PARA CONSTRUÇÃO DE PRÉDIOS VERDES NO RIO DE JANEIRO

NOTÍCIAS

Redução de Emissões
Primeira operação da Bóia Verde do Rio acontecerá durante a Rio+20
17/04/12
Primeira transição será a negociação de créditos de carbono emitidos durante a conferência.

Redução de Emissões
Graca Foster prevê crescimento do mercado de etanol e biocombustíveis
09/04/2012
Segundo a presidente da Petrobras, preço do petróleo abrirá oportunidades para combustíveis alternativos.

SERVIÇOS

Promissas
Inscrições para o processo seletivo do 6º ciclo de cursos gratuitos foram prorrogadas até domingo

Promissas
Companhia abre processo seletivo para 145 vagas, sendo 93 de nível médio e 52 de nível superior

INOVAÇÃO

"Buzios Smart City", projeto, pioneiro na América Latina, será implementado no balneário
O "Buzios Smart City" consiste na transformação de Armazém de Buzios na primeira cidade inteligente do país. Projeto prevê obras de conversão da rede de distribuição de energia em uma rede mais inteligente, capaz de integrar toda a geração existente.

EFICIÊNCIA ENERGÉTICA

UERJ desenvolve projeto que visa o aproveitamento racional da energia e a utilização de fontes renováveis numa residência familiar.
Serão observados os seguintes tópicos: arquitetura, conforto ambiental, energia solar térmica, energia solar fotovoltaica, aproveitamento de água, materiais de construção e metodologia de construção civil.

REDUÇÃO DE EMISSÕES

ACR1 propõe a utilização do Ônibus Híbrido nas áreas das novas edificações a serem construídas na área do Porto Maravilha
O VEH é um veículo elétrico que gira a eletricidade que ele próprio utiliza, sendo cerca de 30% mais eficiente do ponto de vista energético.

GALERIA DE IMAGENS

EVENTOS

Rio+20 + 12/18
Rio+20
A Conferência das Nações Unidas sobre Desenvolvimento Sustentável, a Rio+20, será realizada de 11 a 22 de junho de 2012, na cidade do Rio de Janeiro.

20/04 a 13/05
EnergSolar + Brasil
Primeira feira internacional para a indústria fotovoltaica, térmica e de energia solar concentrada (CSP) no Brasil ocorrerá de 11 a 13 de julho de 2012 em São Paulo.

PARCEIROS

RIO CAPITAL DA ENERGIA
Desenvolvimento de Energia do Brasil

OCX | Light | Eletrobras Furnas | LIH PETROBRAS | USTANEXPO

O PROGRAMA
Objetivos
Estrutura
Perguntas Frequentes

PARCEIROS

ÁREAS DE ATUAÇÃO
Inovação
Eficiência Energética
Redução de Emissões

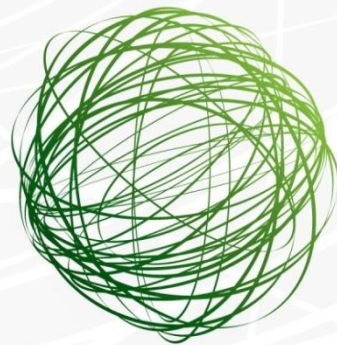
PROJETOS DO PROGRAMA

EVENTOS

FALE CONOSCO
Acessibilidade
O que é acessibilidade?
Lei de acessibilidade.

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RIO CAPITAL DA ENERGIA

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