

OTC BRASIL 2023

An event organized by IBP and OTC

ANP 25 Years Developing an R&D Ecosystem in Brazil



24–26 October 2023

EXPO MAG, Rio de Janeiro, Brazil

otcbrasil.org



R&D AND TECHNOLOGICAL INNOVATION - ANP'S ROLE

LAW - 9478/1997

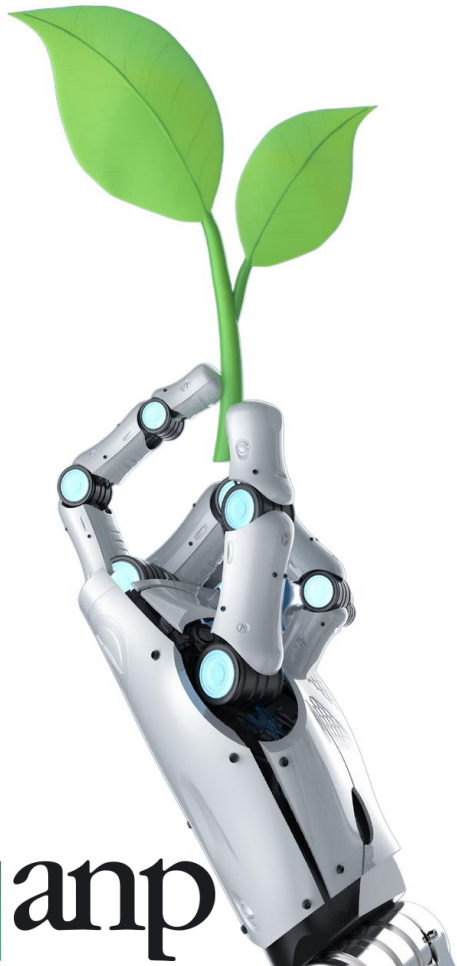
- implement the **national energy public policies** → **promote national development.**
- foster R&D and new technologies **across industry (beyond E&P);**
- enforce **good practices** for the **conservation and use** of oil, NG and fuels and **environmental protection.**

FEDERAL CONSTITUTION

- Fundamental objectives: **reduce regional inequalities.**



R&D Investment – E&P Contracts





Investimento em P&D Obrigação Total por Regime de Contrato

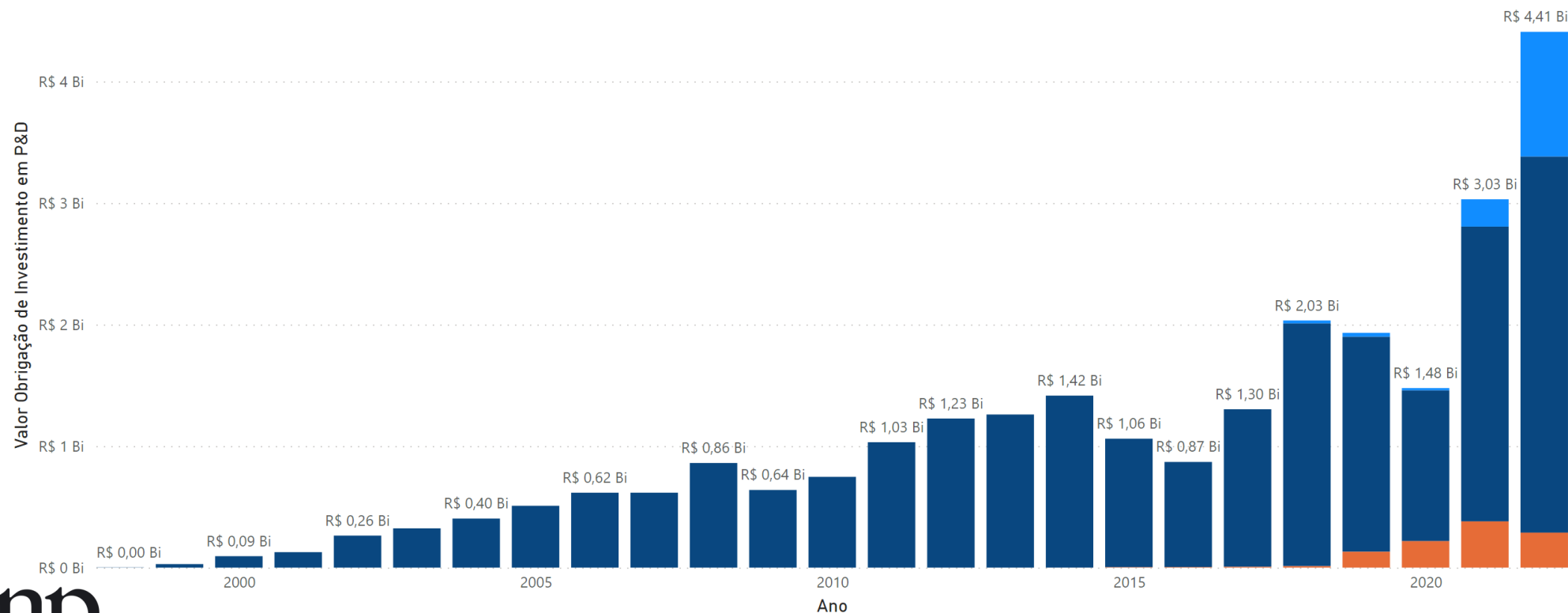


Obrigação Total

Comparativo Petrobras x Demais Empresas

Obrigação de Investimento em P&D por ano

Regime do Contrato ● Cessão Onerosa ● Concessão ● Partilha





Investimento em P&D Obrigação Total - Comparativo Petrobras x Demais Empresas

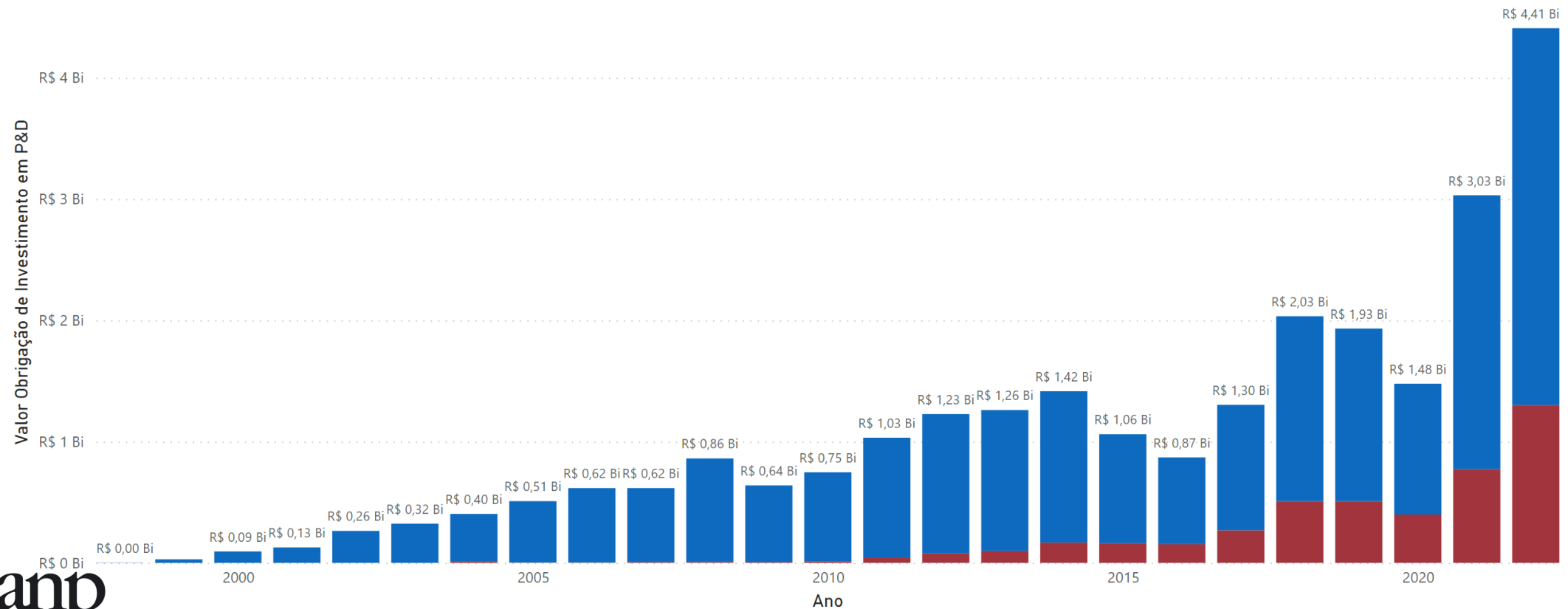


Obrigação Total

Obrigação por Regime de Contrato

Obrigação de Investimento em P&D por ano

Petrobras x Demais ● Demais empresas ● Petrobras





Investimento em P&D Obrigação de Investimento por Empresa



98 - 22

Petrolífera (Grupo Econômico)

Todos

Petrobras x Demais

Todos

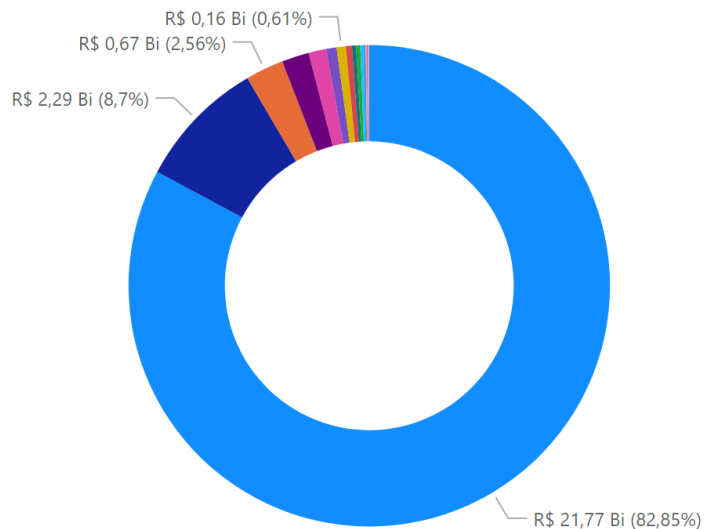
Regime de Contrato

Todos

Contrato (Apelido)

Todos

Obrigação de Investimento em P&D por Petrolífera



83%

Petrolífera

- Petrobras
- Shell
- Petrogal
- Repsol Sinopec
- Equinor
- Total Energies
- Petronas
- Sinochem
- CNOOC Petroleum
- CNODC Brasil
- PetroRio
- Enauta
- Eneva
- Qatar Energy
- GeoPark

Petrolífera	Obrigação de Investimento
☐ CNODC Brasil	R\$ 72.074.552,41
☐ CNOOC Petroleum	R\$ 74.823.145,76
☐ Enauta	R\$ 42.748.909,10
☐ Eneva	R\$ 20.541.973,60
☐ Equinor	R\$ 314.155.605,40
☐ GeoPark	R\$ 9.499.757,42
☐ Karoon Brasil	R\$ 9.129.045,76
☐ ONGC Campos	R\$ 4.951.848,10
☐ Petrobras	R\$ 21.772.792.815,64
☐ Petrogal	R\$ 673.581.089,01
☐ Petronas	R\$ 161.268.723,99
☐ PetroRio	R\$ 48.926.478,78
☐ Qatar Energy	R\$ 20.304.913,60
☐ Repsol Sinopec	R\$ 481.146.478,17
☐ Shell	R\$ 2.286.113.517,13
☐ Sinochem	R\$ 106.523.013,81
☐ Total Energies	R\$ 181.458.832,20
Total	R\$ 26.280.040.699,88





Investimento em P&D Obrigação de Investimento por Empresa



2022

Petrolífera (Grupo Econômico)

Todos

Petrobras x Demais

Todos

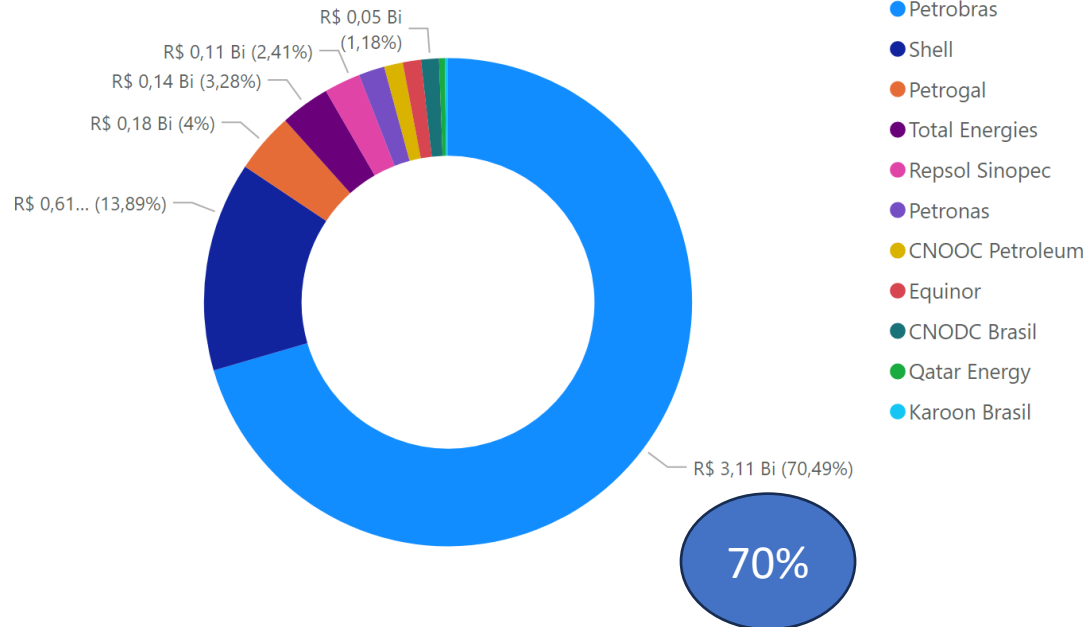
Regime de Contrato

Todos

Contrato (Apelido)

Todos

Obrigação de Investimento em P&D por Petrolífera



Petrolífera

- Petrobras
- Shell
- Petrogal
- Total Energies
- Repsol Sinopec
- Petronas
- CNOOC Petroleum
- Equinor
- CNODC Brasil
- Qatar Energy
- Karoon Brasil

Petrolífera	Obrigação de Investimento
☐ CNODC Brasil	R\$ 52.047.155,22
☐ CNOOC Petroleum	R\$ 54.795.748,57
☐ Equinor	R\$ 53.060.253,94
☐ Karoon Brasil	R\$ 9.129.045,76
☐ Petrobras	R\$ 3.107.567.050,27
☐ Petrogal	R\$ 176.155.137,10
☐ Petronas	R\$ 75.693.553,80
☐ Qatar Energy	R\$ 16.835.791,87
☐ Repsol Sinopec	R\$ 106.181.781,33
☐ Shell	R\$ 612.151.423,44
☐ Total Energies	R\$ 144.781.171,74
Total	R\$ 4.408.398.113,04

70%

538 PROJECTS





Painel Dinâmico de Credenciamento de Instituições Mapa de Instituições e Unidade de Pesquisa



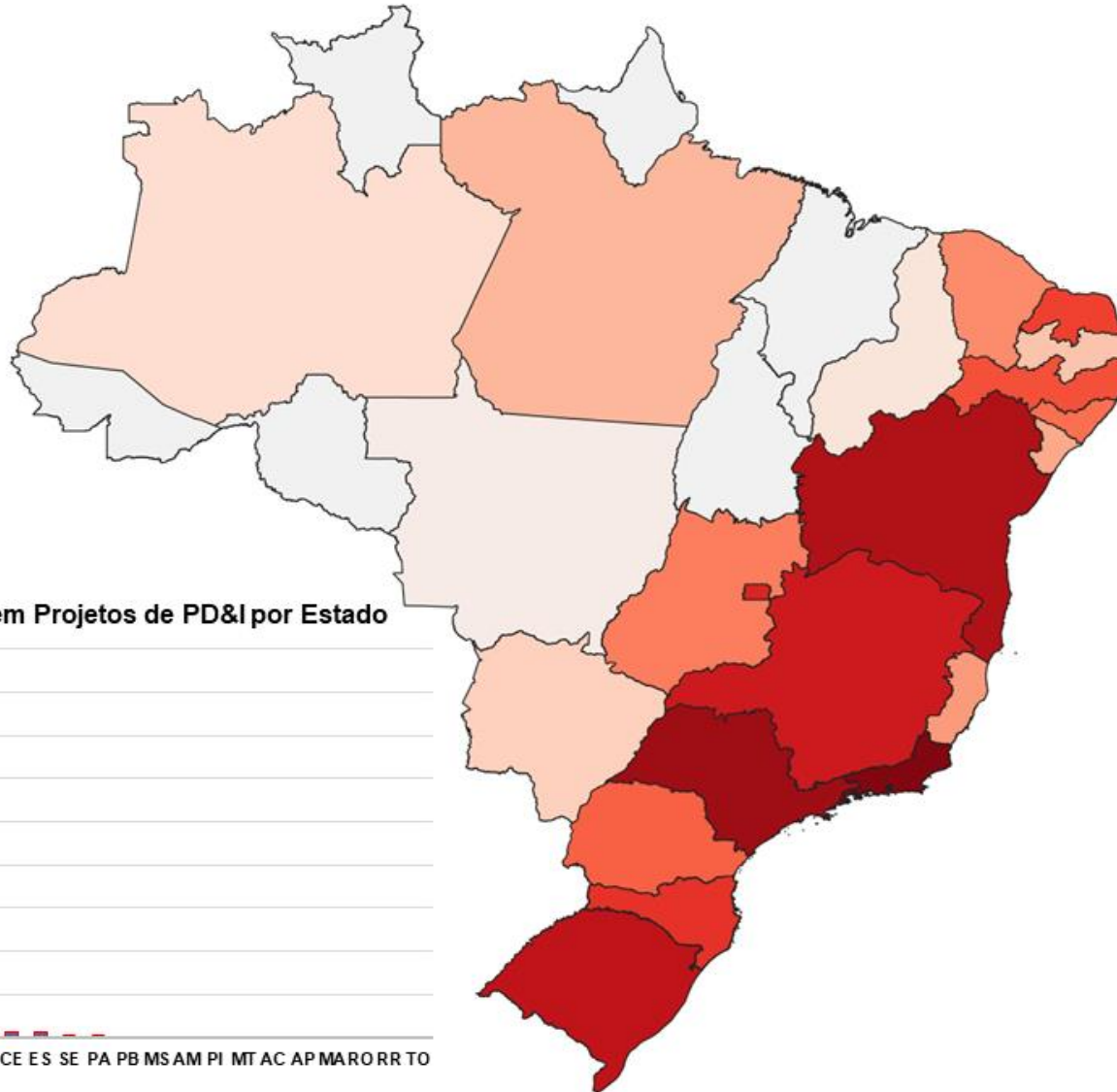
2022

1034 research units

186 institutions

Last 5 years: 90
institutions with
projects.





Federal Constitution –
Fundamental Objectives:

Reduce Regional
Inequalities?

National Energy Policies –
objectives:

NATIONAL development?





Painel Dinâmico de Projetos Iniciados - Regulamento Técnico ANP nº 3/2015

Financiadores e Executores



Ano

Todos

UF

Todos

Empresa financiadora

Todos

R\$ 14.540.259.064,93

Valor dos projetos iniciados

3264

Qtd.Projeto

Por projeto

Tipo de Projeto

Todos

Área

Todos

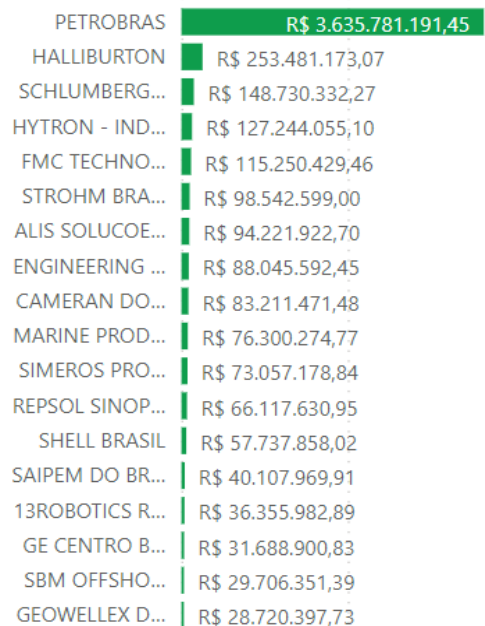
Tema

Todos

Subtema

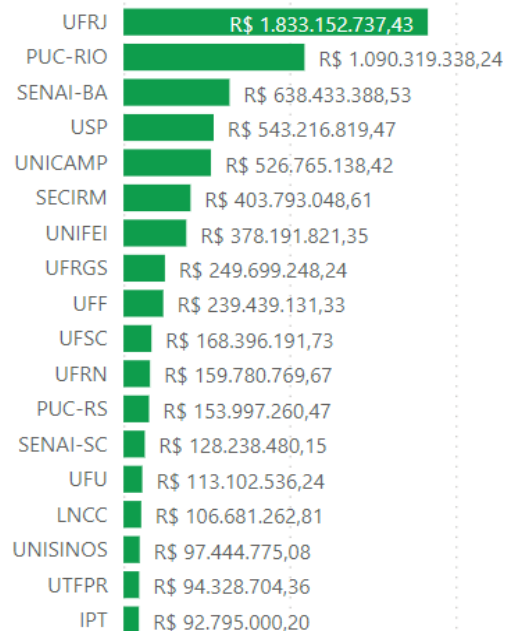
Todos

Executor - Empresa



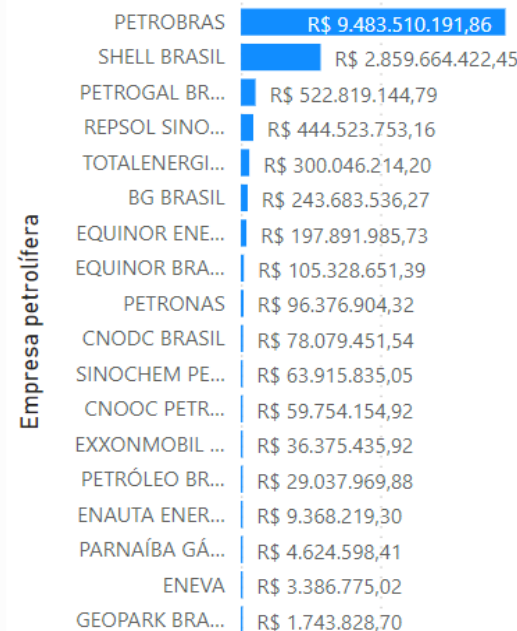
R\$ 0 Bi R\$ 2 Bi R\$ 4 Bi
Valor dos projetos iniciados

Executor - Instituição credenciada



R\$ 0 Bi R\$ 1 Bi R\$ 2 Bi
Valor dos projetos iniciados

Empresa financiadora



R\$ 0 Bi R\$ 5 Bi R\$ 10 Bi
Valor dos projetos iniciados



ANP HUMAN RESOURCES PROGRAM

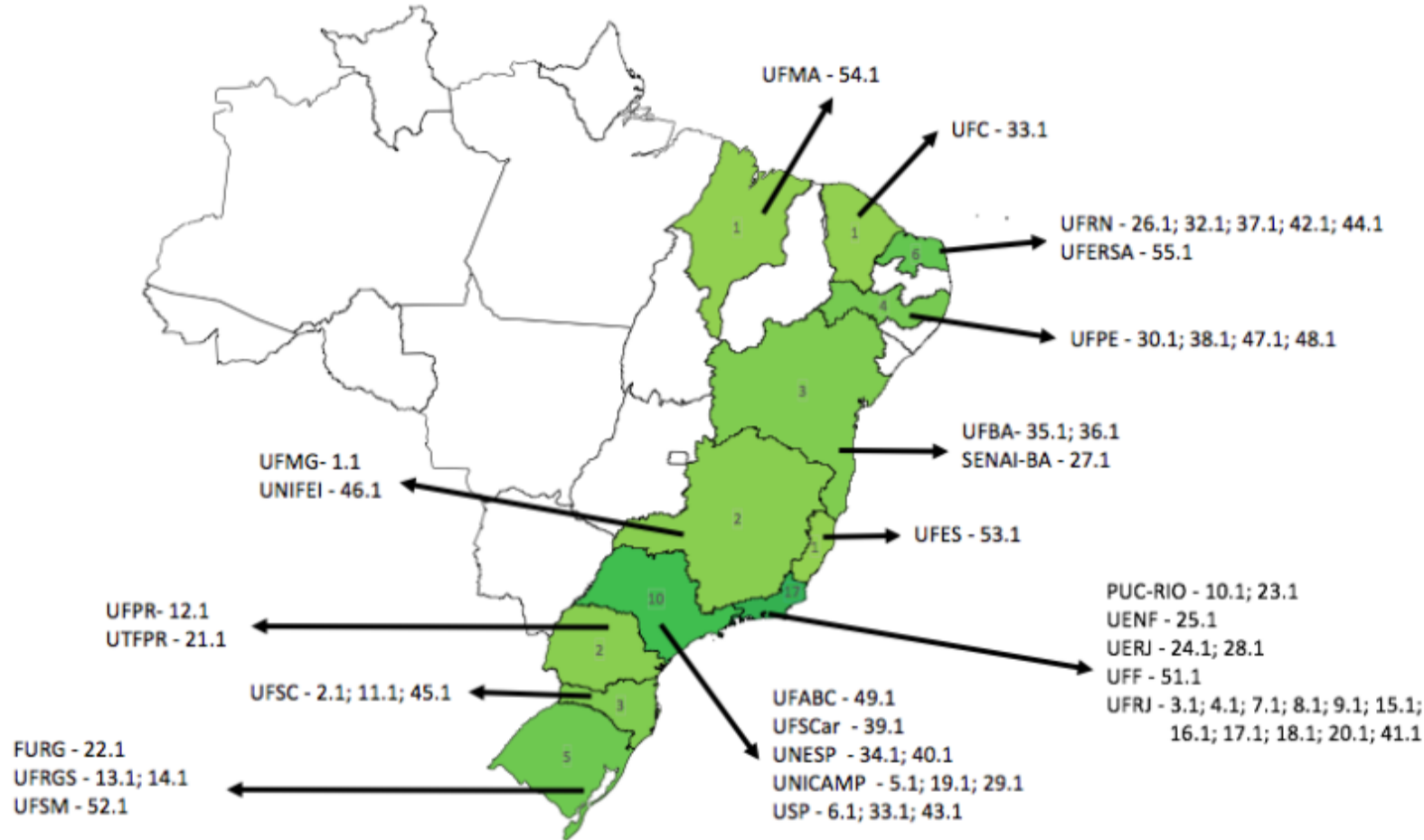


Figura 1 - Distribuição regional dos PRHs

Federal Constitution –
Fundamental Objectives:

Reduce Regional
Inequalities?

National Energy Policies –
objectives:

NATIONAL development?

Brazil as a world subsea HUB

- **25 years of investments**
 - Suppliers
 - National and International awards
 - Pré-salt: new tech
 - Tech centers





Energy Transition: actions.

- 01 Renewables and new fuels (h₂; synthetics, biofuels)
- 02 Energy Efficiency
- 03 New Technologies - CCUS
- 04 R&D – critical technologies



Public Policies

PNH2

Gas to Employ

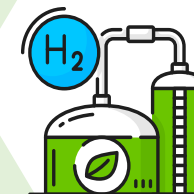
Fuel of the Future



Low Carbon sectors: bills coming.

Bill 576/2021
Bill 725/2022
Bill 1878/2022
Bill 2308/2023

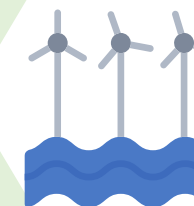
Bill 3173/2023
Bill 3452/2023



Bill 1425/2022
Bill 4196/2023
Bill 4516/2023

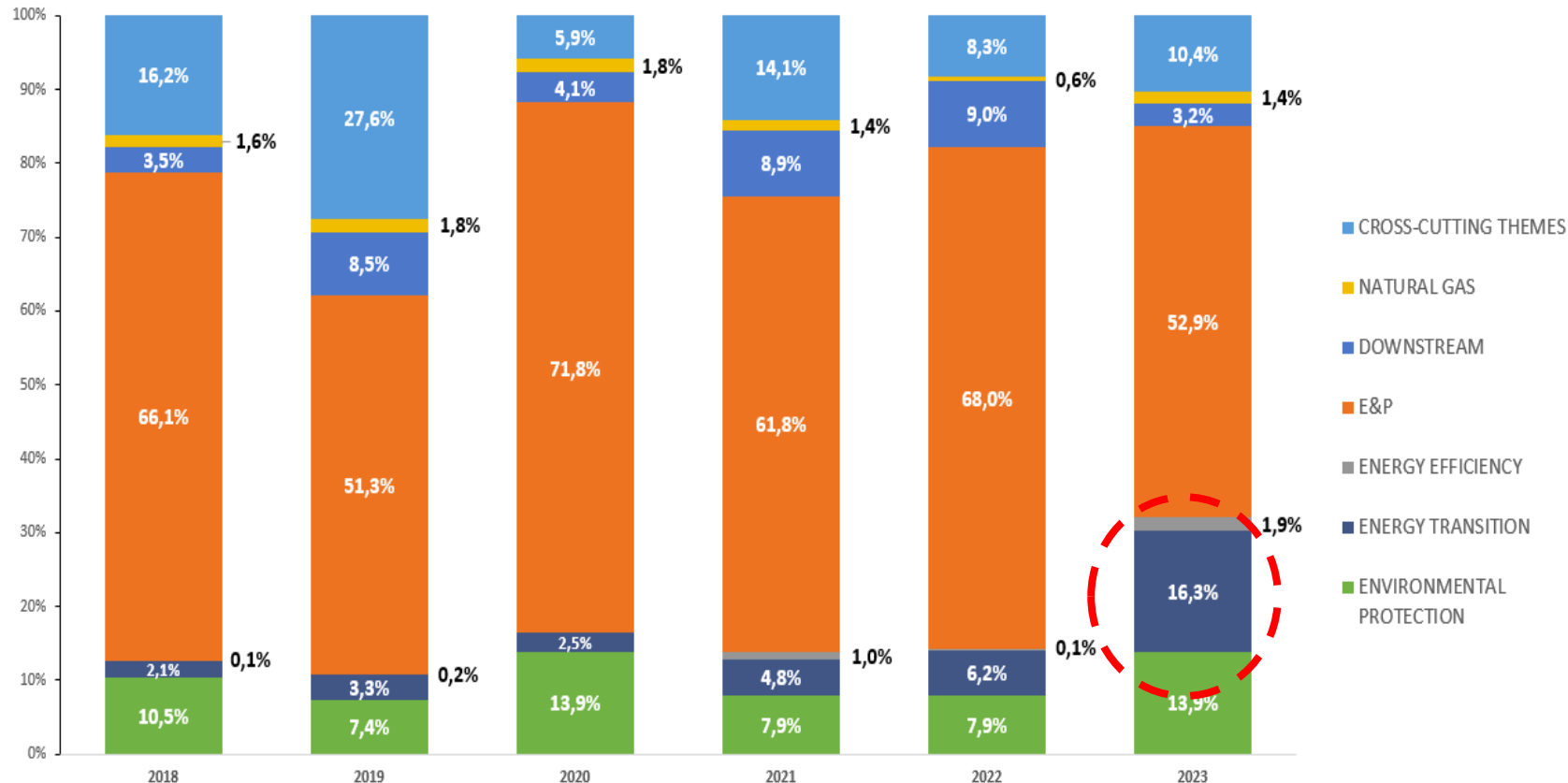


Bill 576/2021



R&D investments in renewables and decarbonization themes

CNPE 2/2021 repositioning required certain themes to be prioritized...



R&D Trends:

- Artificial Intelligence
- Machine Learning
- Digital Transformation
- Smart Completion
- CCUS
- Hydrogen
- Biofuels
- Environmental Protection



ANP Strategies and Plans

R&D

- Critical Technologies
- High TRLs
- Blend investments
- NATIONAL opportunities
- Technological oversight

Renewables / Decarbonization / Energy Transition

- Clarify - eligibility

Innovation

- Entrepreneurship Program – startups

Human Resources Program

- Alignment with public policies (PNH2; Gás to Employ; CCUS...)
- Foster the technical level
- Support Exchange Programs
- Up-Country Opportunities: NG; Equatorial Margin; green economy
- 2050: Jobs - careers



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THANK YOU

Daniel Maia Vieira

Director



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