

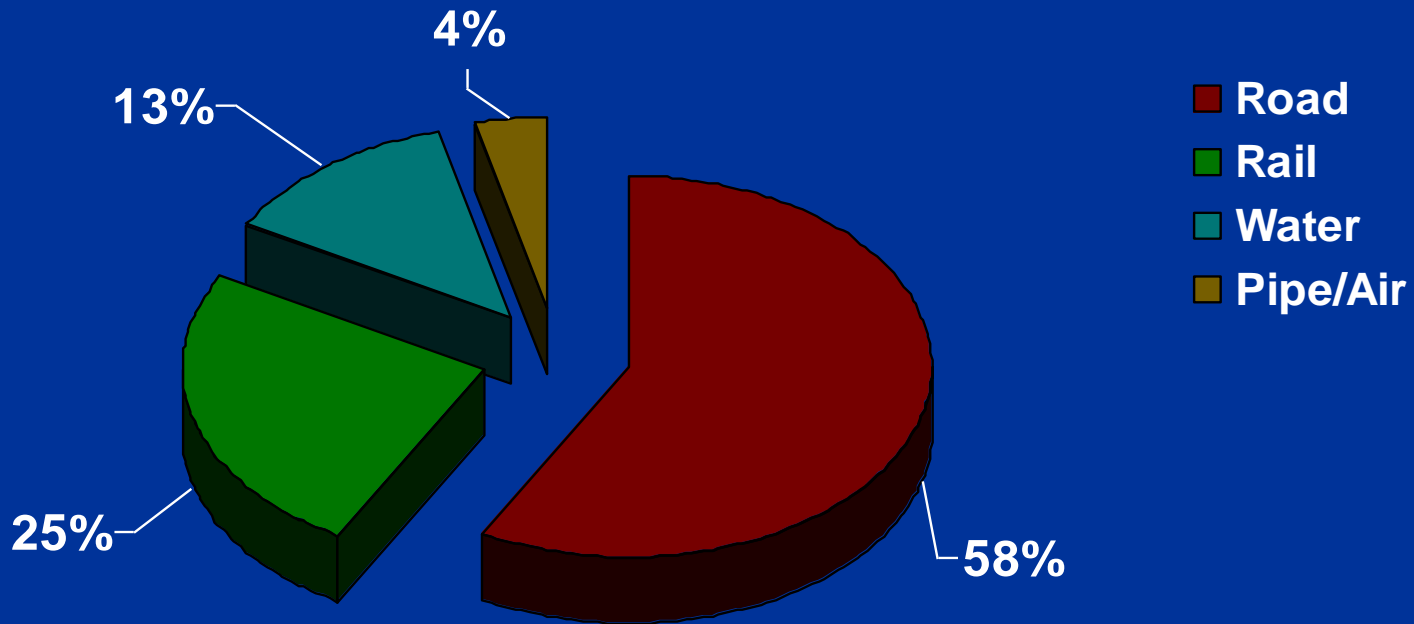
Brazil - Germany:

Time for a New Economic Partnership

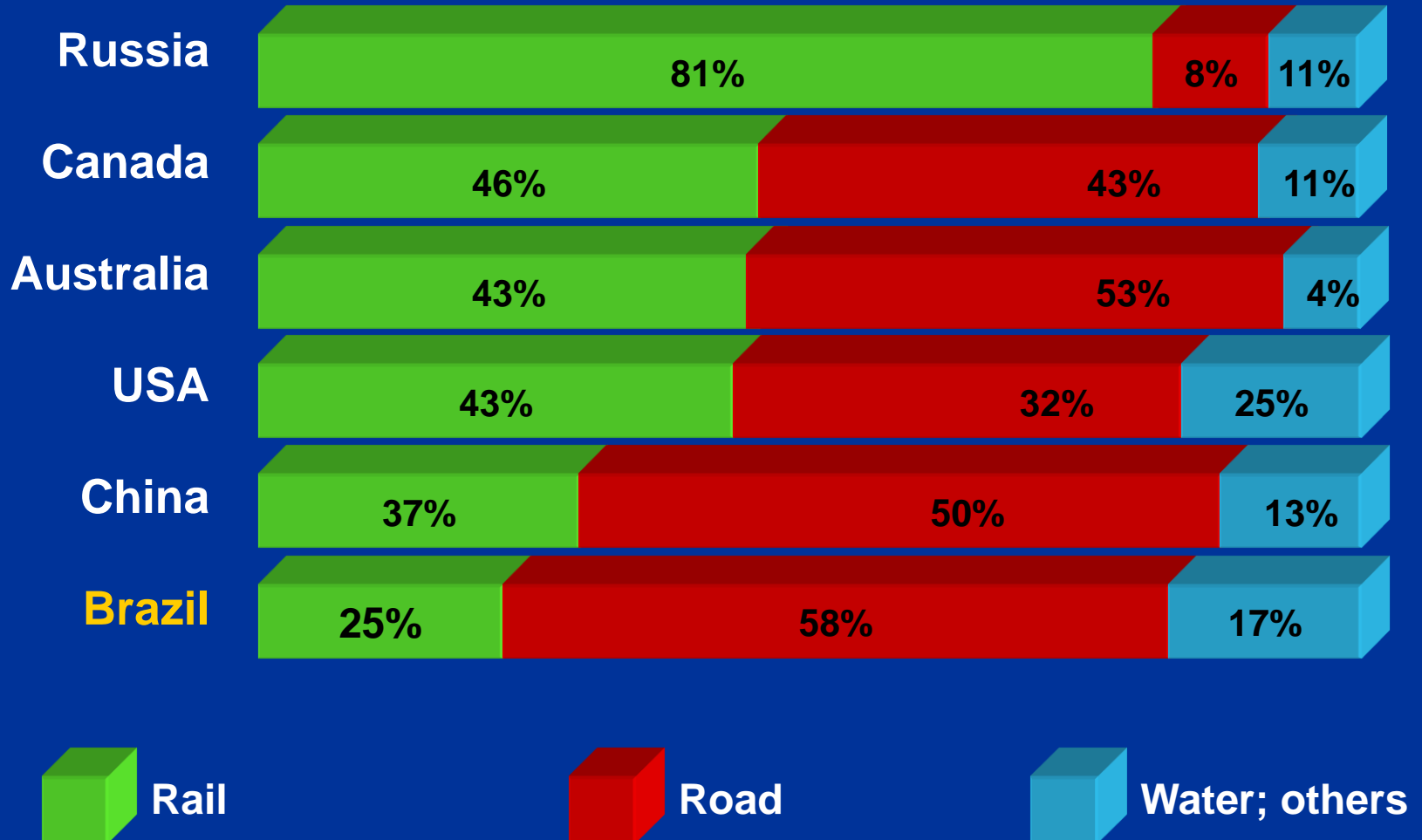
Painel I : Infrastructure, logistics and energy

Transport Policy and Planning

The transport matrix is unbalanced considering the size of Brazil



which is proved as compared with similar-size countries.



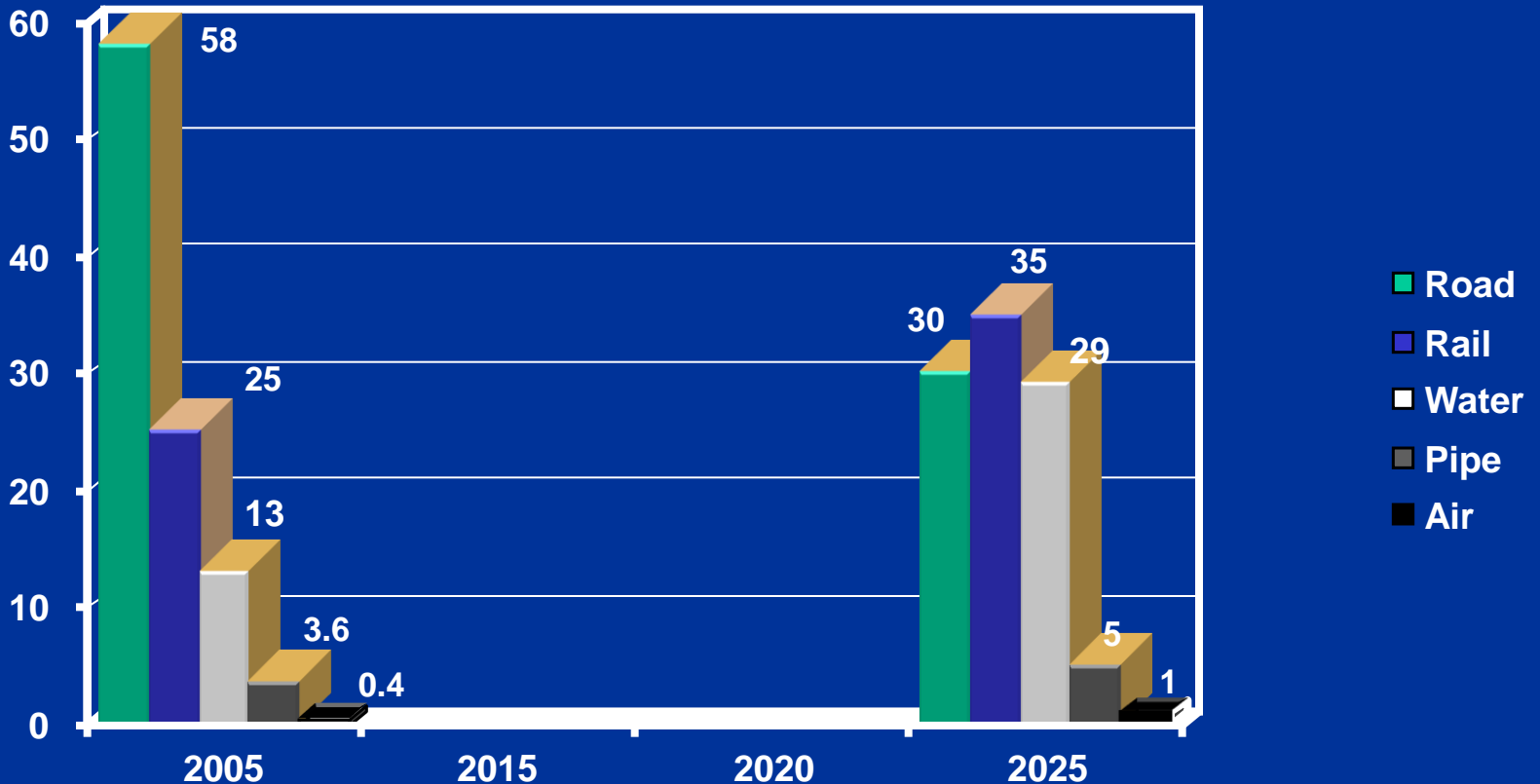
To organize such scenario and recover the transport sector, the Ministry of Transport has developed the National Plan for Logistics and Transportation (PNLT)

- ▶ An instrument for strategic organization with an integrated view on the territory and development.
- ▶ Transport as an agent to induce and facilitate development.
- ▶ A more balanced Brazilian transport matrix with a significant participation of rail and water modes, which are more efficient in terms of economy and energy consumption.

PNLT indicates ways to change the transport matrix

- ▶ Consolidation of a new Brazilian rail network (Law 11772/2008) with the implementation of 11,800 km of new rail lines, with 10,700 km of large-gauge tracks.
- ▶ New railways will serve areas of agricultural & mineral new frontiers.
- ▶ This restructured railway system prepares the Country for a new economic growth cycle to meet the domestic demand increase and integration with exporting ports.
- ▶ Gradual transfer of general cargo from roads to **railways, inland waterways, and coastal shipping.**

Transport Matrix - Present and Future



Source: PNLТ Processing, considering energy consumption

Benefits from the Transport Matrix change 2005 to 2023/2025

(Transport production from 851 to 1,510 bi TKU)

- ▶ 38% of energy efficiency increase
- ▶ 41% of fuel consumption reduction
- ▶ 32% of CO₂ emission reduction
- ▶ 39% of NO_x emission reduction

Rail Network Expansion Program

New railway projects were included in PAC in 2008, aiming to restructure the sector with more efficiency and competitiveness.

- PNLT identified the need of adjustments and expansion in the Brazilian railway network, to meet new transport demands
- Railway transport corridor concept
 - production regions → consumption regions
 - production regions → ports (existent and new)
- Law n° 11772/2008 structured a new rail network, in large gauge (1.60m), with 13,604 km, to meet the characteristics of existing and future transport demand, in terms of volume and regional distribution
 - existing network: 7,854 km
 - new segments: 4,650 km

Government has focused on network expansion.

North-South Railway

- North Section (719 km), conceded to private sector since Dec 2007
 - Açailândia/MA - Araguaína/TO in operation
 - Araguaína - Palmas/TO construction under way
- South Section (1,535 km)
 - Palmas/TO - Anápolis/GO (855 km) construction under way
 - Anápolis/GO - Estrela D'Oeste/SP (680 km) project under way

West-East Integration Railway

- Figueirópolis/TO - Ilhéus/BA (1,490 km) project under way

Partnership with private sector is always expected.

- **Nova Transnordestina Railway**

- Section Salgueiro / PE - Missão Velha / CE construction under way by the Concessionaire CFN

- **Ferronorte Railway: Alto Araguaia - Rondonópolis**

- To be concluded by December 2010, as agreed with the Concessionaire ALL

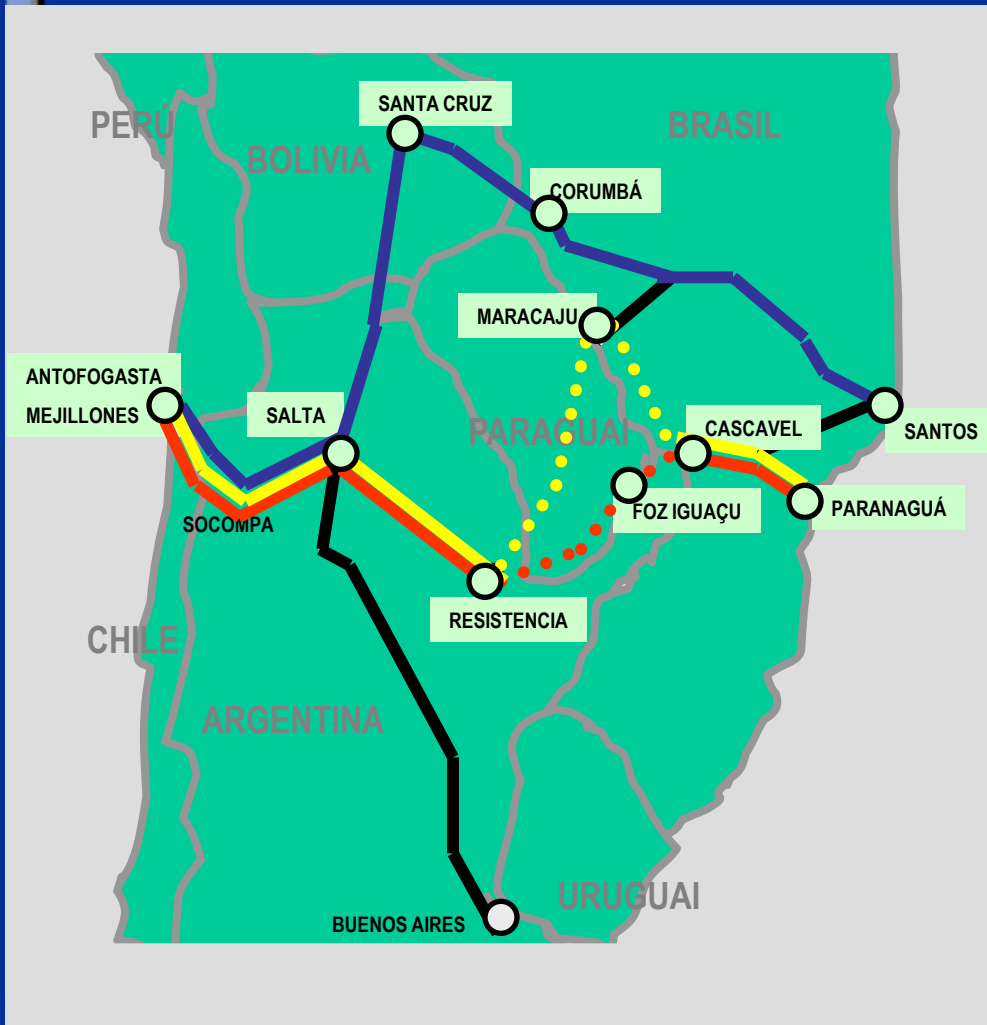
- **West Paraná Railway Corridor**

- Studies are being conducted by to evaluate:
 - New section between Guarapuava - Eng^o Bley, in Paraná
 - Ferroeste Railway extension from Cascavel / PR to Maracaju / MS
 - Railway system for the west portion of Santa Catarina.

- **São Paulo Ferroanel (*beltway*)**

- North and South sections under evaluation

The consolidation of a bi-oceanic rail corridor, linking railways from Brazil, Paraguay, Argentina, Bolivia and Chile is also being studied.



- Alignment 1 – VIA MARACAJU / MS
- Alignment 2 – VIA FOZ DO IGUAÇU / PR
- Existent Alignment VIA CORUMBÁ / MS

Government also focused on urban by-passes / beltways, to increase the capacity of existent railway corridors.

- Rail beltway in São Felix – Cachoeira / BA
- Rail by-pass in Camaçari – Aratu / BA
- Rail beltway in São Francisco do Sul / SC
- Rail beltway in Joinville / SC
- Rail by-pass in Barra Mansa / RJ
- Rail beltway in Araraquara / SP
- Rail beltway in Joinville / SC

Projects for Railways Expansion in Brazil

Programa de Expansão Ferroviária

11.800 km (10.700: bitola 1,60m; 1.100: bitola 1,00 m)

Custo de investimento estimado: U\$ 30 bilhões

EF - 232 (Ferrovia Nova Transnordestina) (1.770 km)

EF - 354 (Ferrovia Transcontinental)
Açu/RJ - Boq. da Esperança/AC (4.400 km)

EF-334 (Ferrovia de Integração Centro-Oeste)
Ilhéus/BA - Lucas do Rio Verde/MT (2.675 km)

EF - 364 (Ferrobán/Fertronorte)
Santos/SP - Cuiabá/MT (1.724 km)

EF-333 (Trem de Alta Velocidade)
Belo Horizonte-Curitiba (1.150 km)

EF 151 - (Ferrovia Norte-Sul)
Belém/PA - Panorama/SP (2.760 km)

EF - 222 (Trem de Alta Velocidade)
Rio de Janeiro-São Paulo-Campinas (511 km)

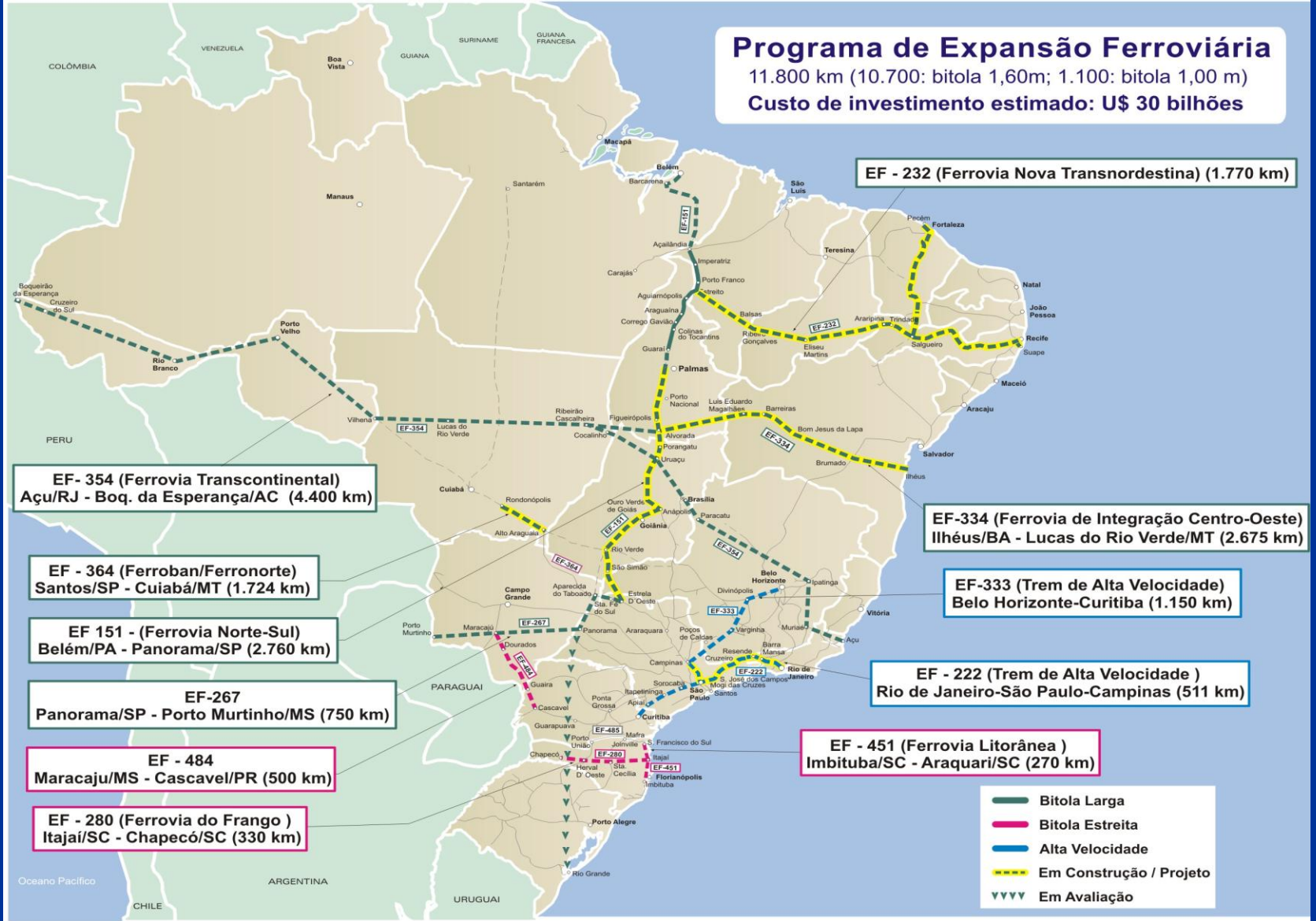
EF-267
Panorama/SP - Porto Murtinho/MS (750 km)

EF - 484
Maracaju/MS - Cascavel/PR (500 km)

EF - 451 (Ferrovia Litorânea)
Imbituba/SC - Araquari/SC (270 km)

EF - 280 (Ferrovia do Frango)
Itajaí/SC - Chapecó/SC (330 km)

- Bitola Larga
- Bitola Estreita
- Alta Velocidade
- Em Construção / Projeto
- Em Avaliação



High Speed Train Rio de Janeiro - São Paulo - Campinas

High Speed Train

Rio de Janeiro - São Paulo - Campinas

- Rio - São Paulo 450 km in 93 min
- São Paulo - Campinas 100 km in 30 min
- The most populous (36 millions inhabitants) and economically developed region (45% of GDP) in Brazil
- Studies on demand, alignment, geology, operation and economic-financial modeling being concluded - public hearing under way
- Estimated cost: R\$ 34,6 billions
- Public sector participation: part of equity and credit arrangements
- Operation expected to begin in 2015/16 (depending winner's proposal)

High Speed Train Rio de Janeiro - São Paulo - Campinas

- The entrepreneur will be responsible for the project, construction, operation and maintenance, under performance parameters
- Transfer of technology is mandatory
- Bidding will be open to all high speed technologies
- Call for bidding and auction: 1st quarter 2010
- Information available at www.tavbrasil.gov.br

High Speed Train Rio de Janeiro - São Paulo - Campinas

PROPOSED STATIONS



STATION LOCATIONS



Highlights of the Inland Waterway Sector

Inland Waterway Development

- ▶ Brazil is already developing the rehabilitation and structuring of the railway system
- ▶ Now the challenge is to structure an inland waterway system that contributes to a better equilibrium of the Brazilian transport matrix in terms of energy, economy and sustainability
- ▶ Such an arrangement implies a governmental articulation concerning the multiple use of water resources and the appropriate environmental handling

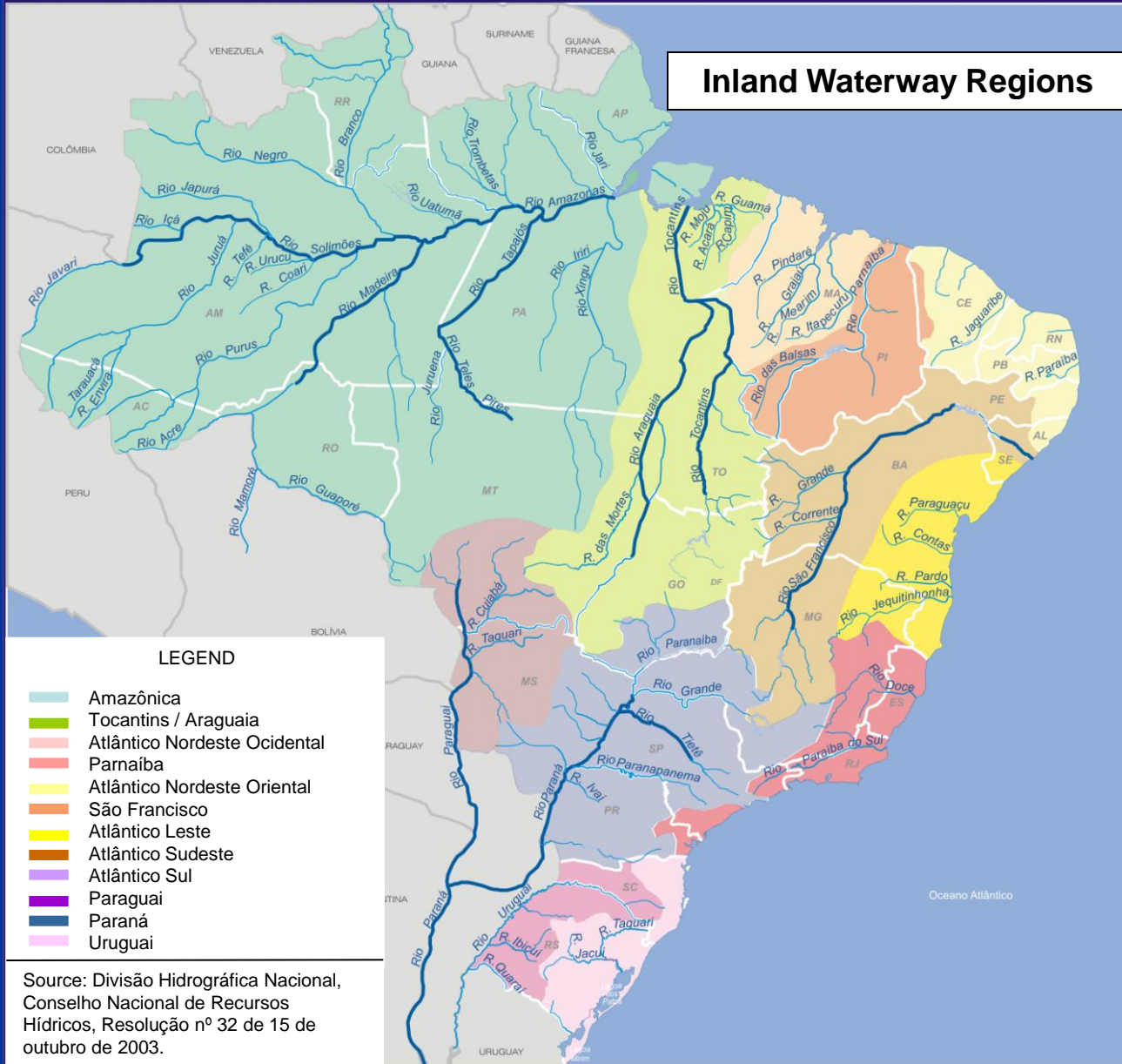
Strategic Inland Waterway Plan

Structures an organized and comprehensive instrument that, on the basis of the main potential-navigation hydrographic regions, aims to:

- Identify dredging and rock blasting works
- Identify and ranking works of dam crossing
- Structure inland waterway terminals
- Define institutional parameters for the inland waterway sector, considering the multiple use of water (water supply, irrigation, energy generation (*Brazilian matrix is clean, basically hydro-electric generation*), recreation, sanitation and transportation

Strong articulation and integration with other public and private agencies (especially the National Water Agency)

Inland Waterway Regions

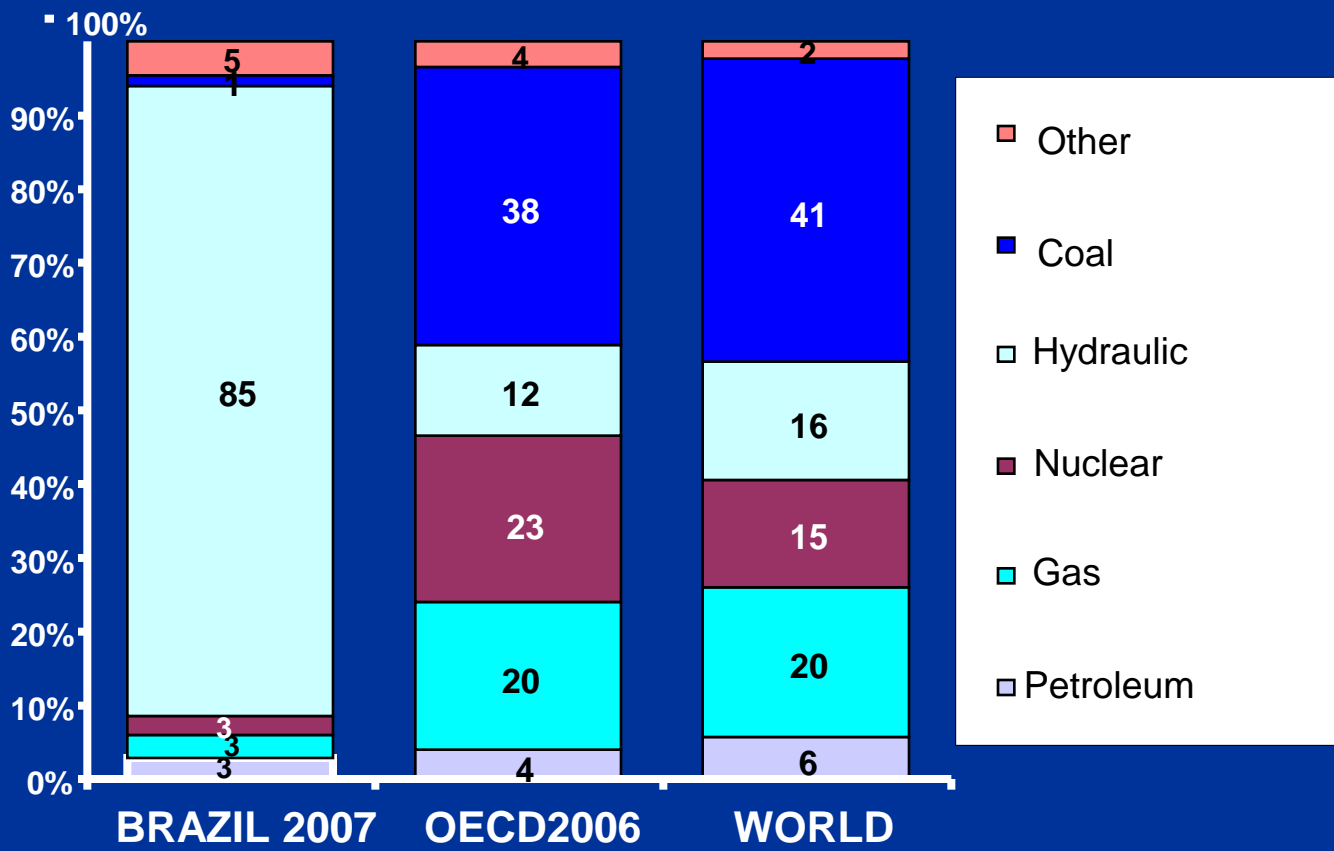


Strategic Environmental Evaluation of PNLT

- **Ministry of Transportation is also bidding the Strategic Environmental Evaluation (SEE) of the Plan, for taking into account the environmental aspects in the sector of transportation and to assure that the PNLT' strategies will fully contribute for the sustainable development of the Country.**
- **The SEE is a systematic process which allows the evaluation of the long term social and environmental costs and benefits resulting from policies, plans and programs.**
 - It is fully opened and transparent.
 - It optimises the projects' opportunity costs, by considering the cumulative and synergic effects from the multiple jobs and works acting at a given region.
 - Saves time in schedules for environmental licencing of studies and process.
 - Gives more qualified and suitable evaluation of Environmental Impact for projects in infrastructure.
- **Time for completion: 12 months.**

The Brazilian power generation matrix is clean, based on hydro-electric plants. It is needed to make this feature compatible with transportation needs

Power Generation Matrix - Brazil and the World (%)



483 TWh - 89%

10,460 TWh - 16%

18,930 TWh - 18%

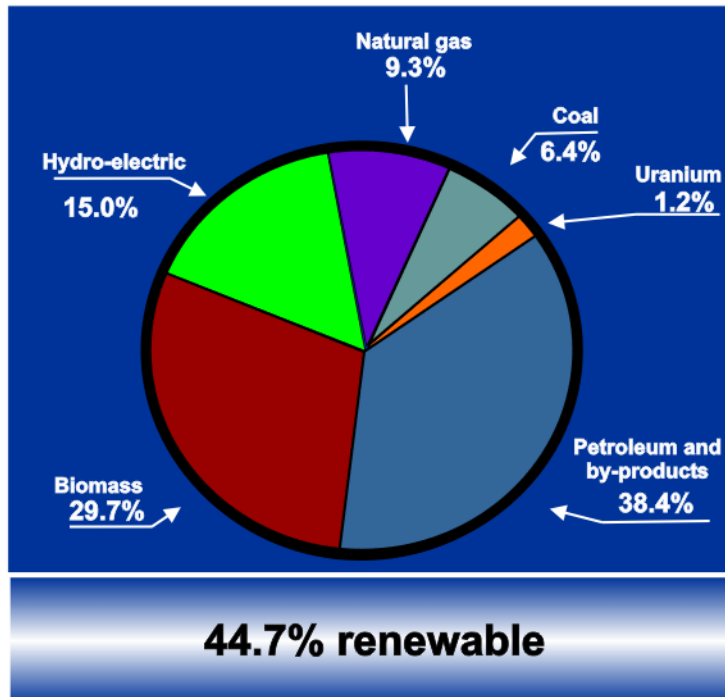
% renewable

Source: MME

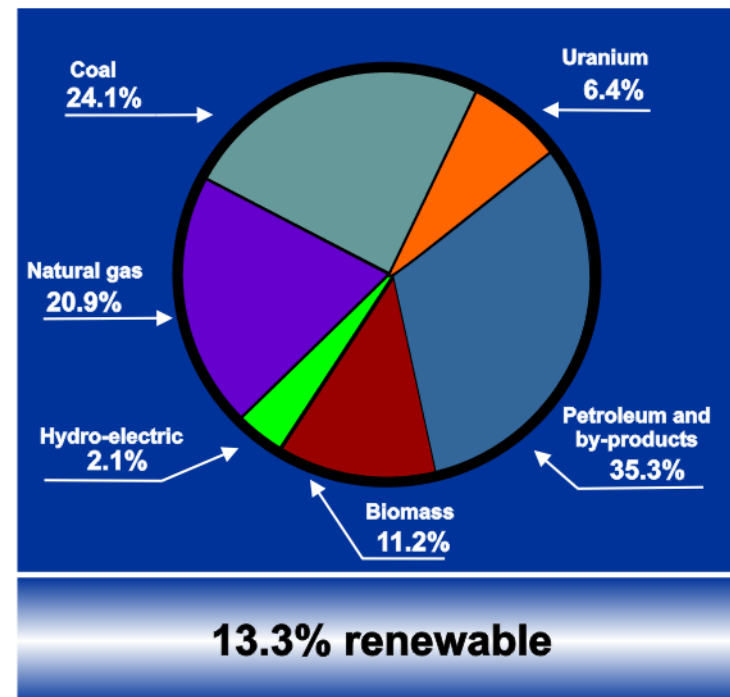
Energy Matrix in Brazil is markedly renewable

ENERGY MATRIX

BRAZIL



WORLD



Source: MME / BEN (2006)

Opportunities for Cooperation

- ▶ All those points, concerning specially the increasing railway transport, represent challenges to be faced by Brazil, as well as opportunities for transferring technology and international experience to Brazil.
- ▶ Germany certainly will be an important partner in such a process.

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