Bioeconomy in Brazil:

Political strategies na activities

MINISTÉRIO DA
AGRICULTURA, PECUÁRIA
E ABASTECIMENTO

BRASIL
GOVERNO FEDERAL

Forest Code

Low-Carbon Agriculture

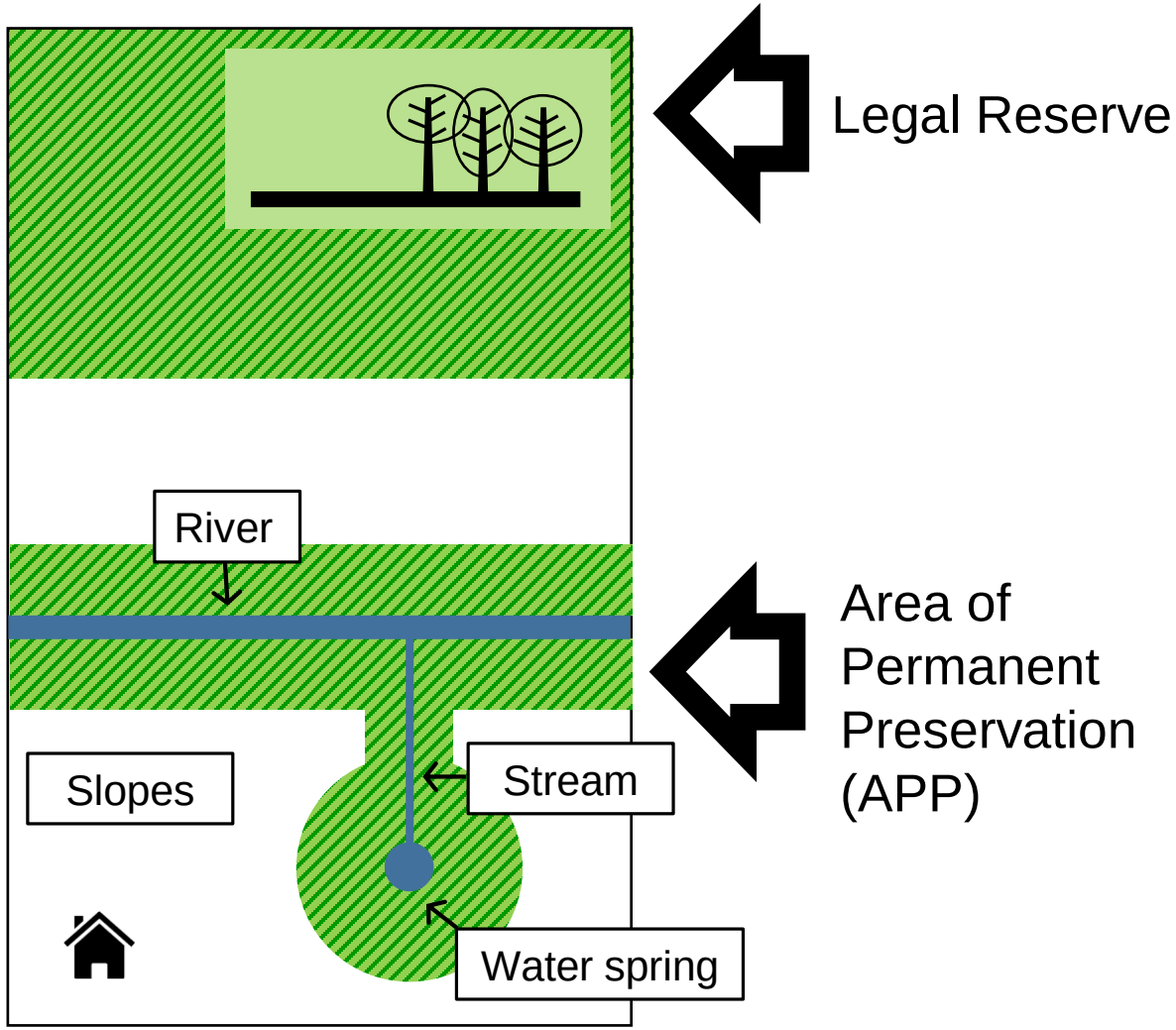
Bioenergy

Forest Code

A federal law that requires landowners to conserve or restore **native vegetation** in **rural properties.**

It aims at conserving water, biodiversity, soils and carbon stocks.

Forest Code



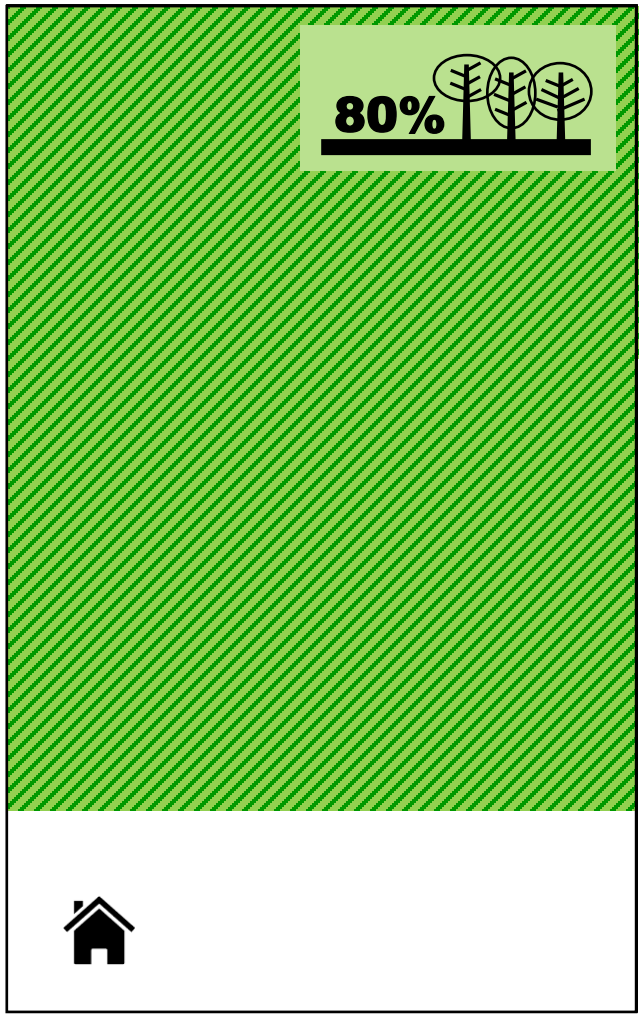
The Forest Code requires the preservation and restoration of vegetagion inside the farms:

Area of Permanent Preservation

and

Legal Reserve

Forest Code



Legal Reserve

Legal Reserve

In the Legal Amazon (~60% of the country's territory):

80% - forests

35% - cerrado

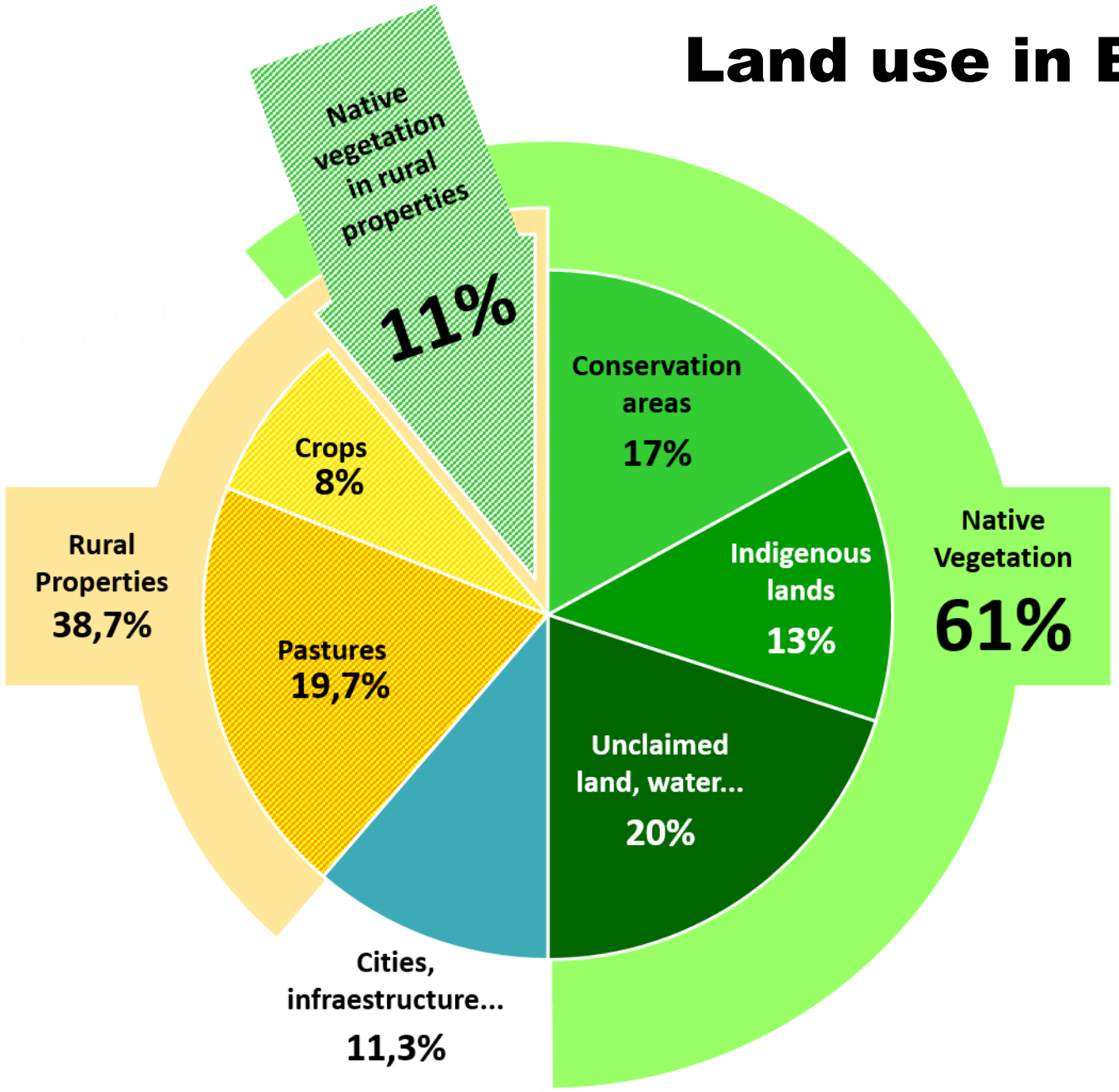
20% - campos

In the rest of the country - 20%

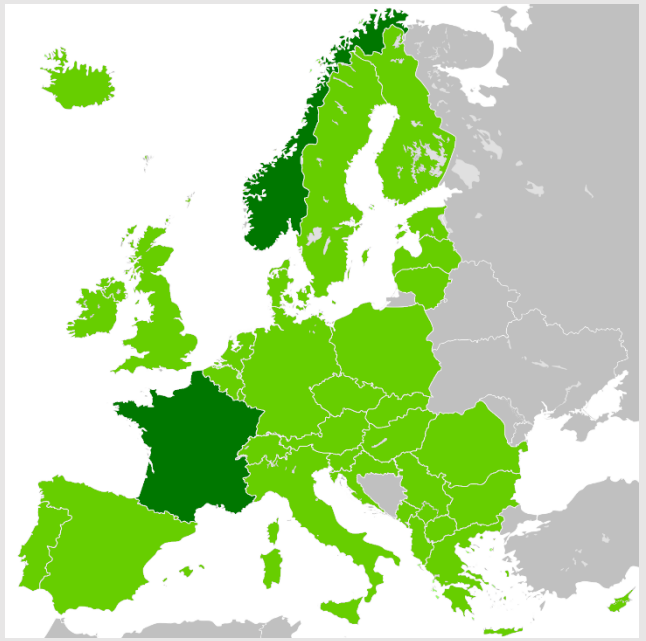
Some activities are allowed (*low environmental impact) (recognised by CONAMA or State Councils)*

Opportunity for cooperation!

Land use in Brazil

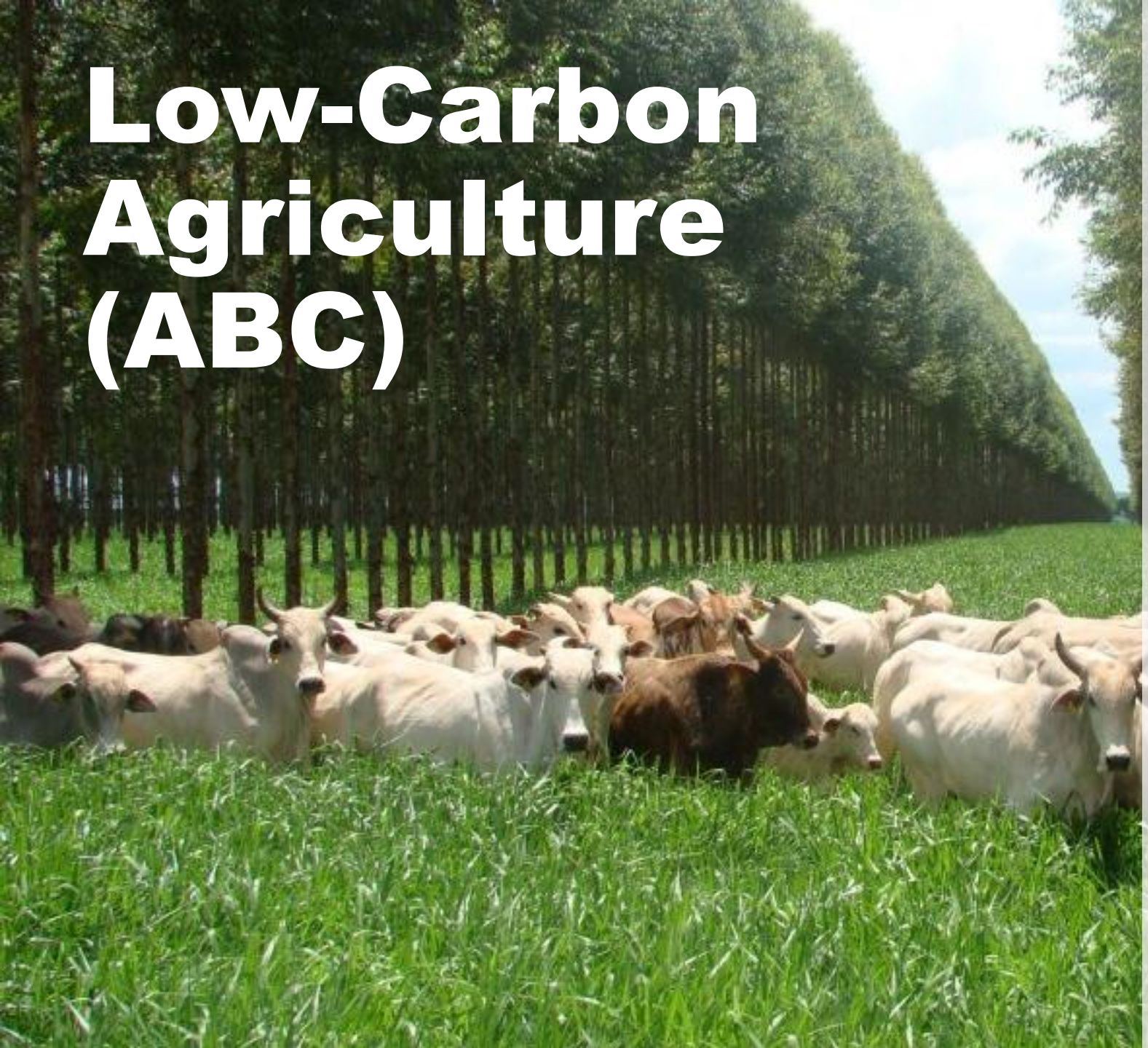


The area of native vegetation preserved inside farms in Brazil is equivalent to the total area of France and Norway, combined.



Source: Embrapa, IBGE, CNA, MMA, FUNAI, DNIT, ANA, MPOG. Preparation: Embrapa Monitoring

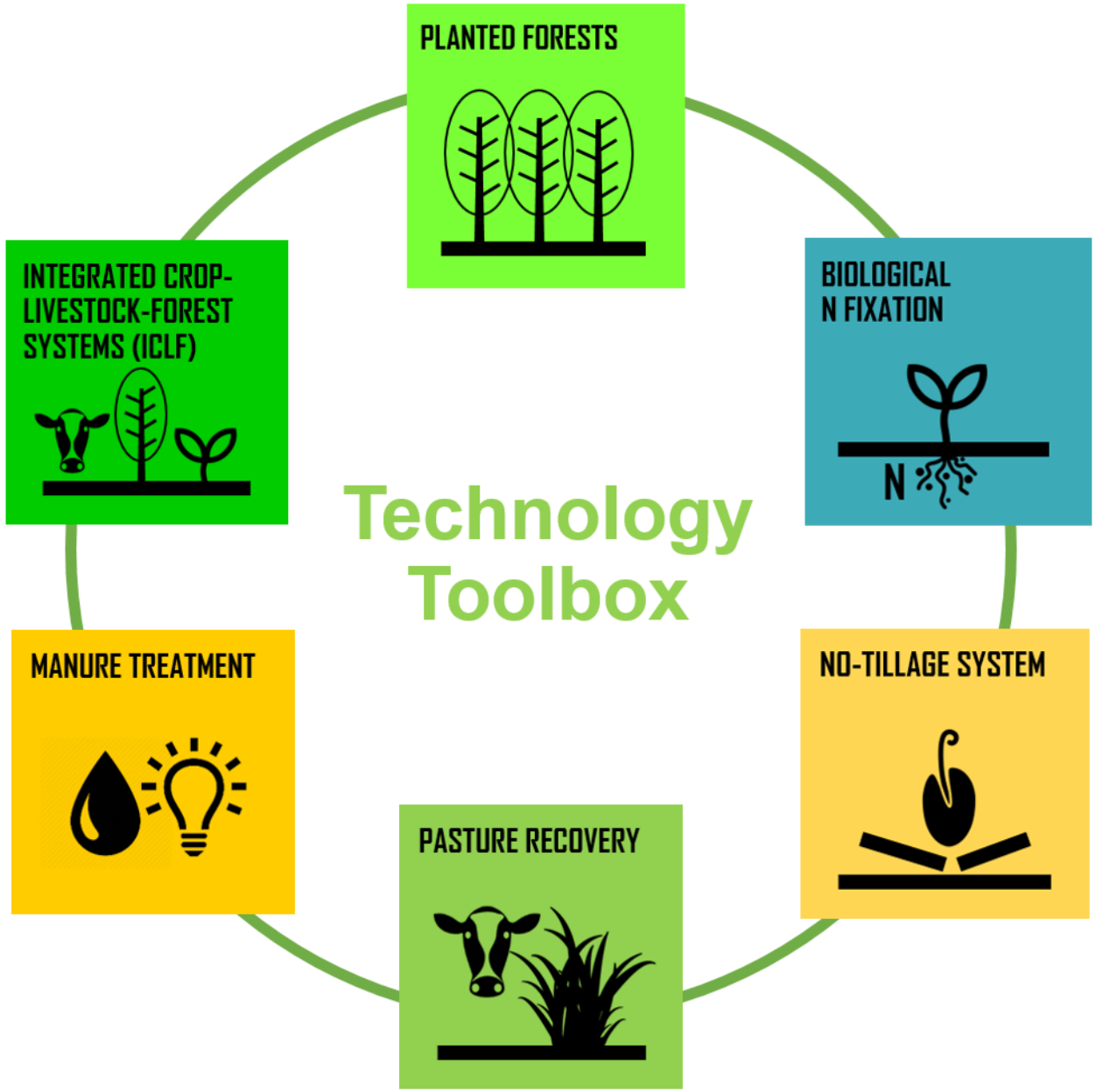
Low-Carbon Agriculture (ABC)



Brazilian agriculture is already low-carbon

And the country is commited to advancing even further.

In 2009, Brazil launched the ABC Program to hasten the adoption of low-carbon technologies.



Resilience

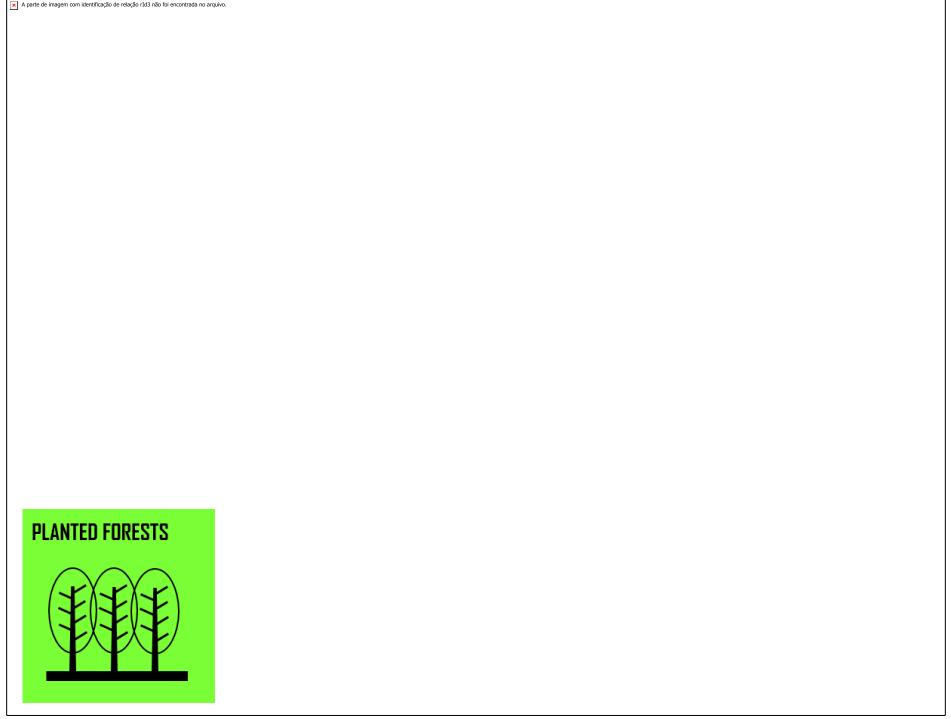
+

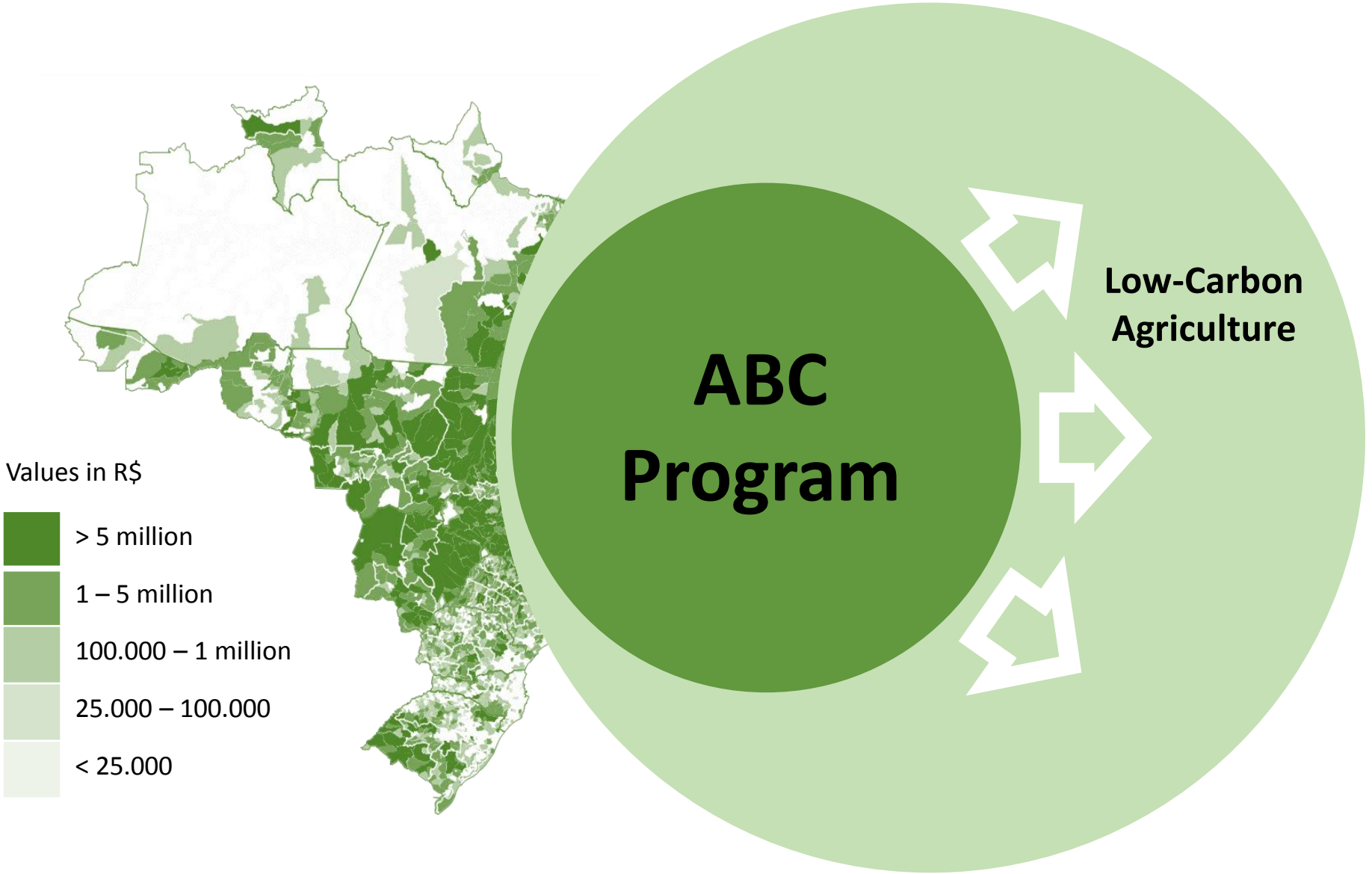
Sustainability

+

Carbon mitigation

Resilience, sustainability and new landscapes





Low-carbon agriculture has outgrown the ABC Program

From federal to state and local programs

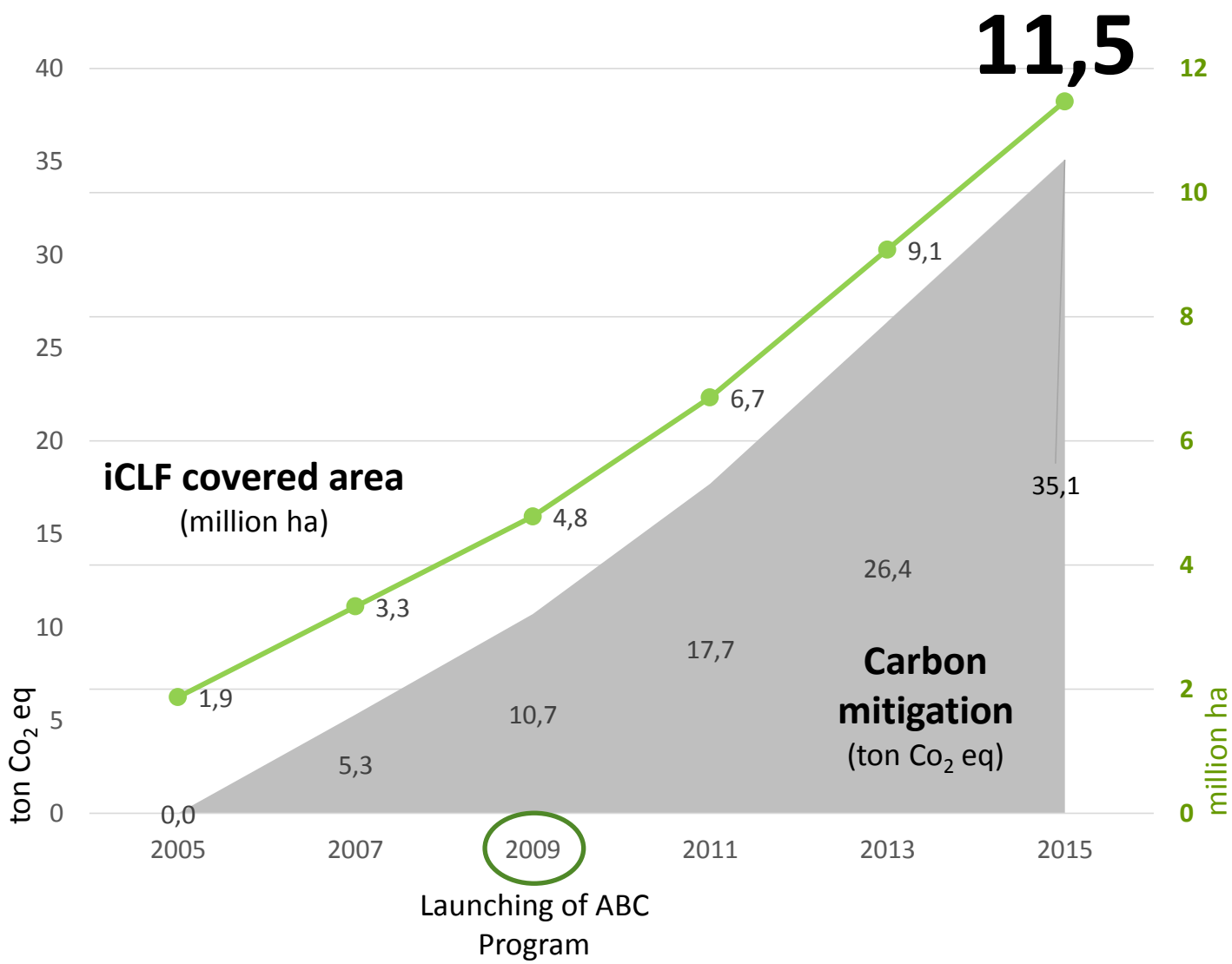
From public to private financing

From ABC Program training courses to widespread technical knowledge

INTEGRATED CROP-LIVESTOCK-FOREST SYSTEMS (ICLF)

Integrated Crop Livestock Forest Systems

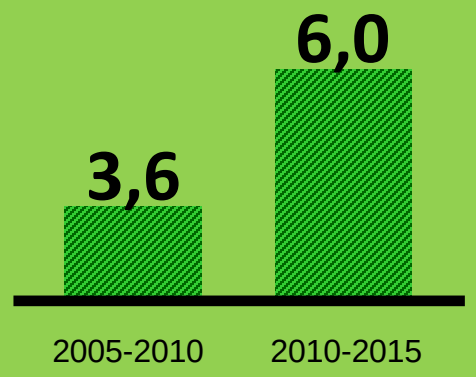
in Brazil



iCLF adoption doubled after the lauching of ABC Program

ICLF newly-added areas

(million ha)



Source : Rede de Fomento iLPF, 2016

INTEGRATED CROP-LIVESTOCK-FOREST SYSTEMS (ICLF)

ICLF Systems

INTEGRATED CROP-LIVESTOCK-FOREST SYSTEMS (ICLF)

Neutral carbon beef

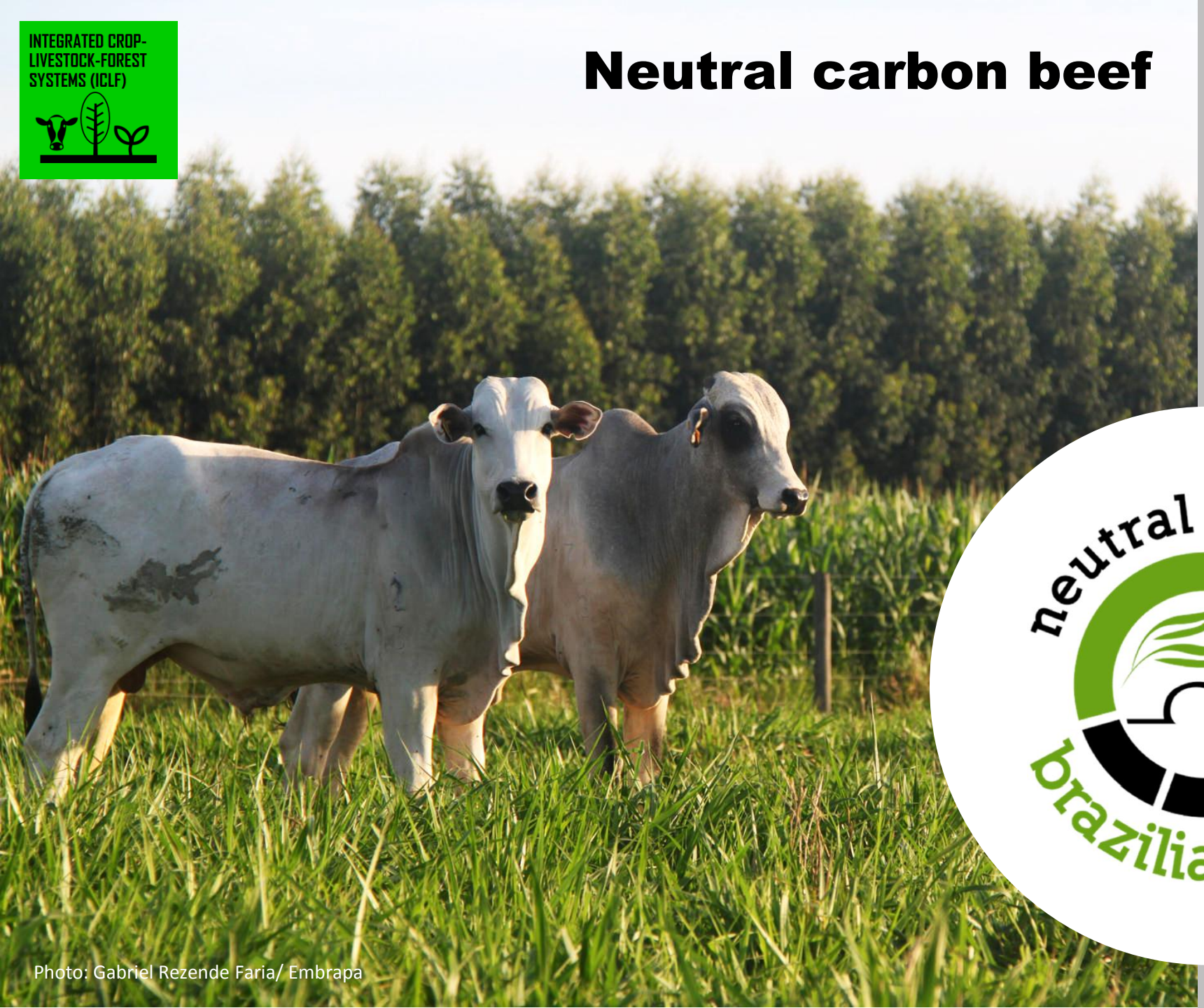


Photo: Gabriel Rezende Faria/ Embrapa

Coming up

neutral carbon brazilian beef

What did it take to achieve such a large scale technology shift?

Knowledge

Research

Embrapa ✚ Partners

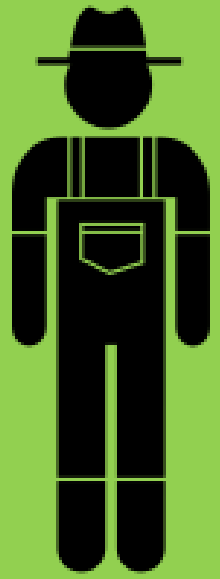
Climate change has been mainstreamed in work program of Embrapa (Brazilian Agriculture Research Corporation)

Training

Over 32,000 people
20% farmers
70% technicians and extensionists
10% college students

Monitoring

Farmer centered process



It had to make sense for the individual farmer

Finance

Loan program

Operated by the banking system

Governance

State level commissions with farmers and civil society

ABC Program Targets

8 million ha 16-20 Mton Co_2 eq	NO-TILLAGE SYSTEM 	INTEGRATED CROP-LIVESTOCK-FOREST SYSTEMS (ICLF) 	**9 million ha** 40.5-49.5* Mton Co_2 eq
4.4 million m^3 6,9 Mton Co_2 eq	MANURE TREATMENT 	PASTURE RECOVERY 	**30 million ha** 166-208* Mton Co_2 eq
5.5 million ha 10 Mton Co_2 eq	BIOLOGICAL N FIXATION 	PLANTED FORESTS 	**3 million ha** -

55.3
Million ha

2030 coverage target for low carbon agriculture in Brazil

239.4
to
294.4
Mton CO_2eq.

Estimated potencial carbon mitigation

* Limited to soil fixation

Photo: Lilian Alves/ Embrapa

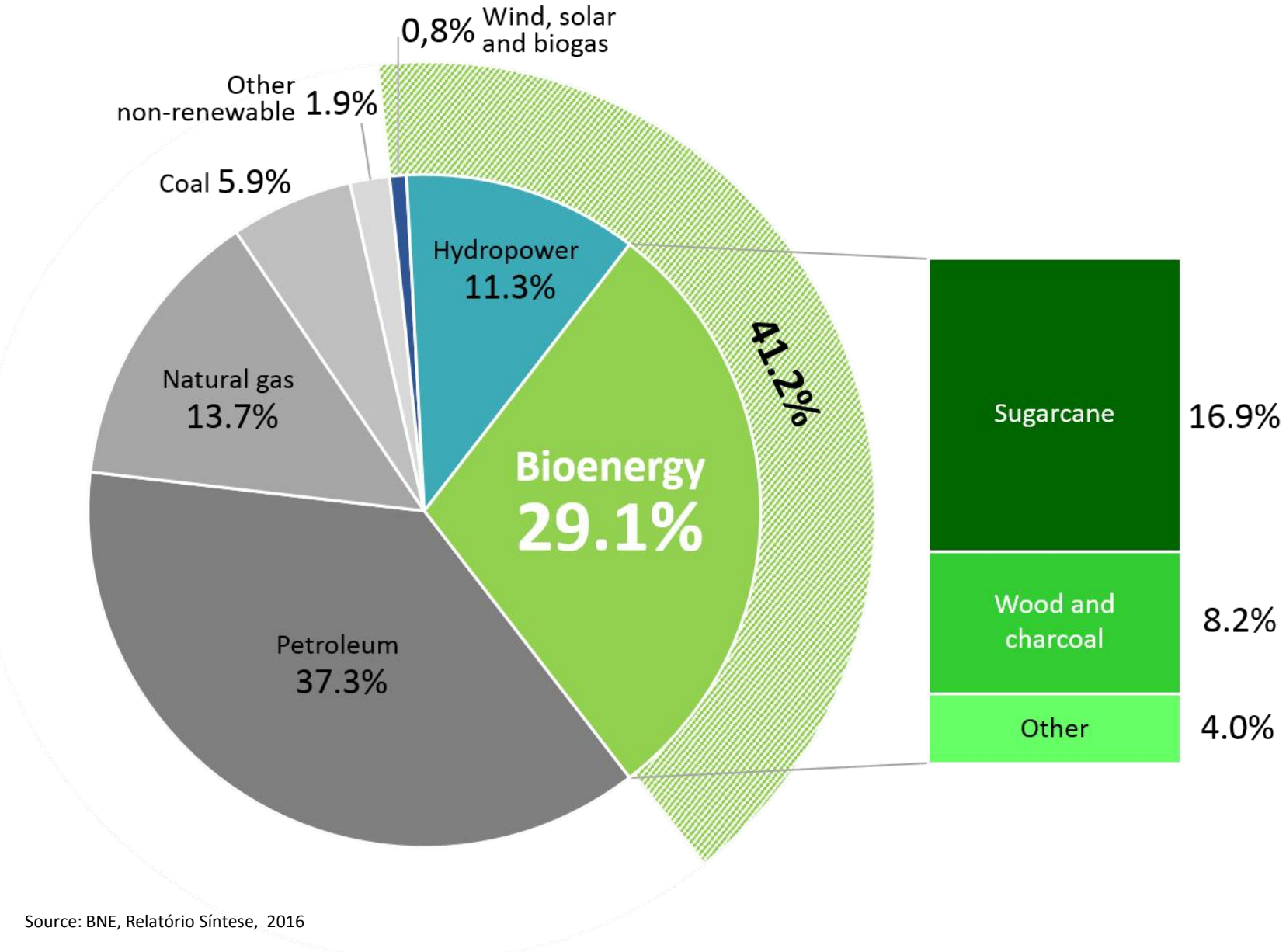
Bioenergy

Brazil pioneered the large scale use of **ethanol** as a substitute for fossil fuels. Nowadays, Brazilian car fleet runs partially or entirelly on ethanol

Biomass cogeneration is already the third largest source of electricity in Brazil. **Biodiesel** and other biofuels have a great potential.

Energy Supply in Brazil

by source



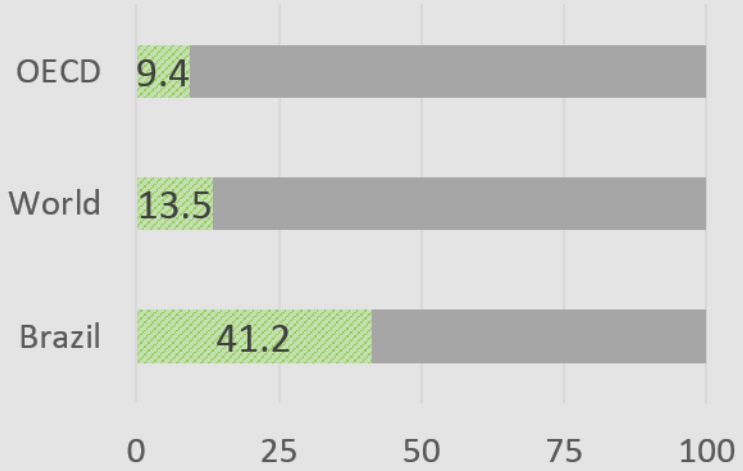
Source: BNE, Relatório Síntese, 2016

Agriculture

29.1% of energy supply

4.4% of energy consumption

Share of renewable energy in total energy supply:



Source: BNE, Relatório Síntese, 2016

Second-generation ethanol

Brazilian etanol from sugar cane is already considered an "advanced biofuel"*

In the case of sugar cane the potential is to reduce GHG emissions by 90%**

Use of ag residues and other sources of biomass

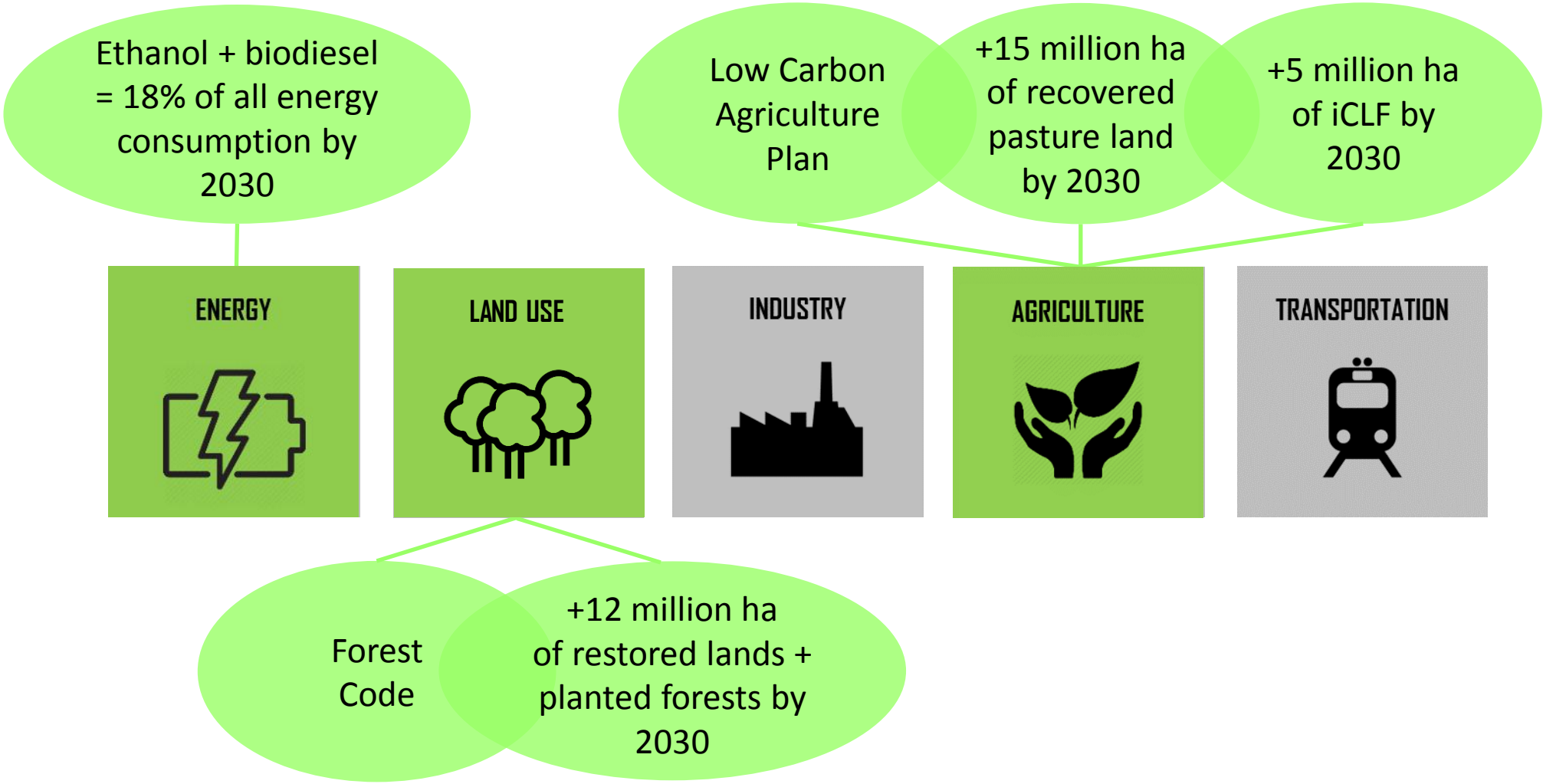
Biofuture platform

expand international collaboration and accelerate E2G development on a global scale

** "sugarcane ethanol from Brazil reduces GHG emissions compared to gasoline by 61%" (EPA)*

*** Straw and bagasse store about 2/3 of the energy potential of sugarcane*

NDCs Brazil. Agriculture Sector Targets



13 CLIMATE ACTION