

Small Scale Distributed Generation in Brazil

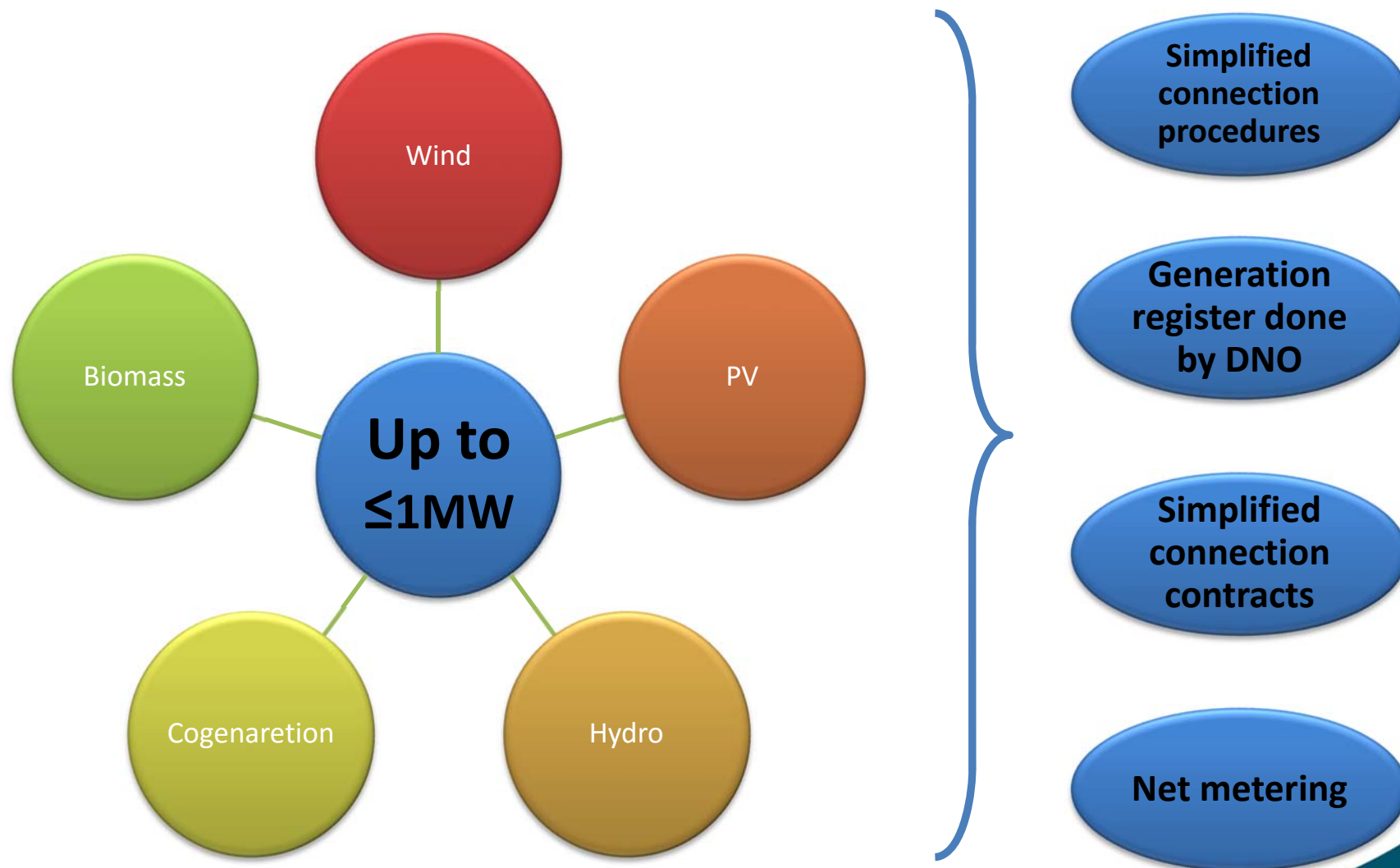
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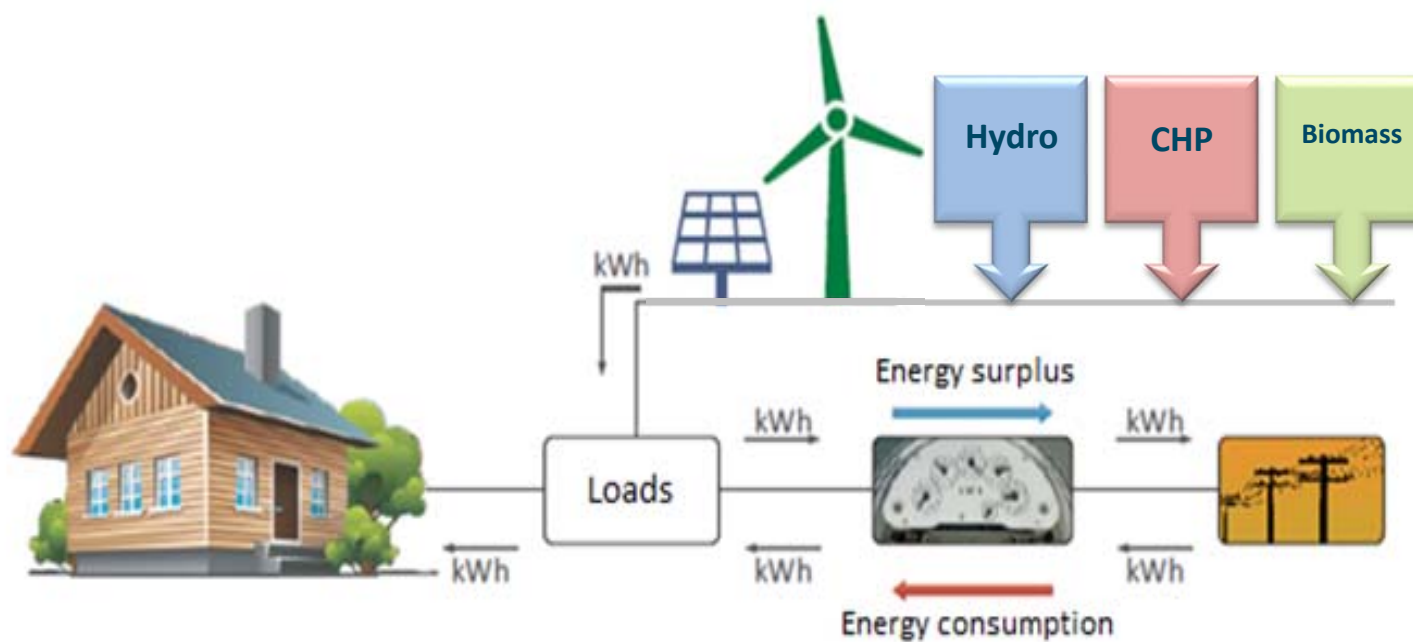
Rio de Janeiro – RJ

4/9/2015

Small Scale Distributed Generation



Small Scale Distributed Generation

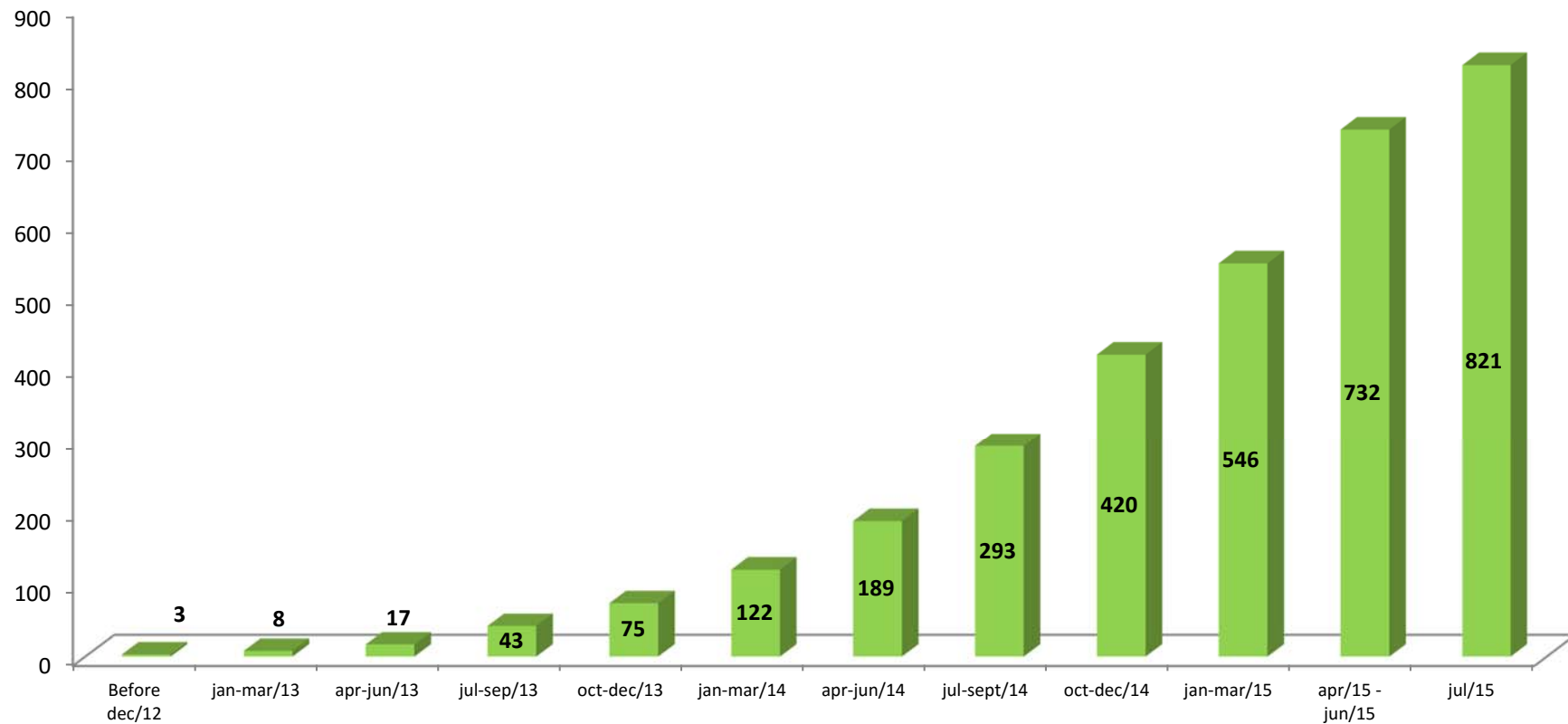


Small Scale Distributed Generation

- ✓ **Any retail consumer** of DNO with renewable generation with peak capacity output of 1 MW or less **is eligible**.
- ✓ Only the **net** monthly consumption is billed plus a minimum payment (for demand). **Credits expires** in 36 months.
- ✓ Consumers may use their credits on others units of their own – stores, houses, etc.
- ✓ To participate, consumers must apply and **receive approval** to have their system interconnected to the DNO grid.
- ✓ The meter keeps track of how much electricity is consumed and how much excess electricity is generated by the system and sent back into the electric utility grid.
- ✓ There is no purchase or electricity selling.

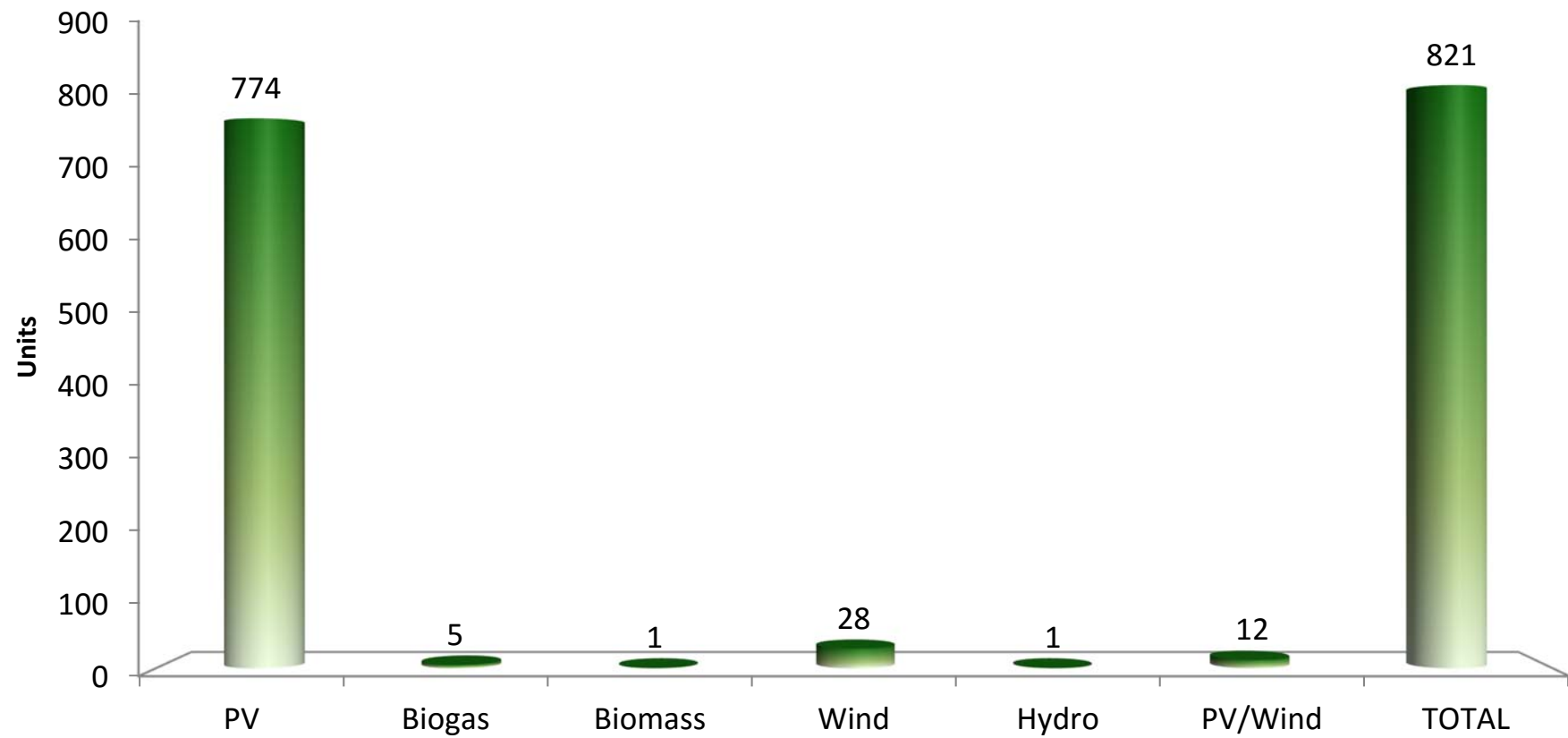
Actual Situation

Consumers with small scale DG



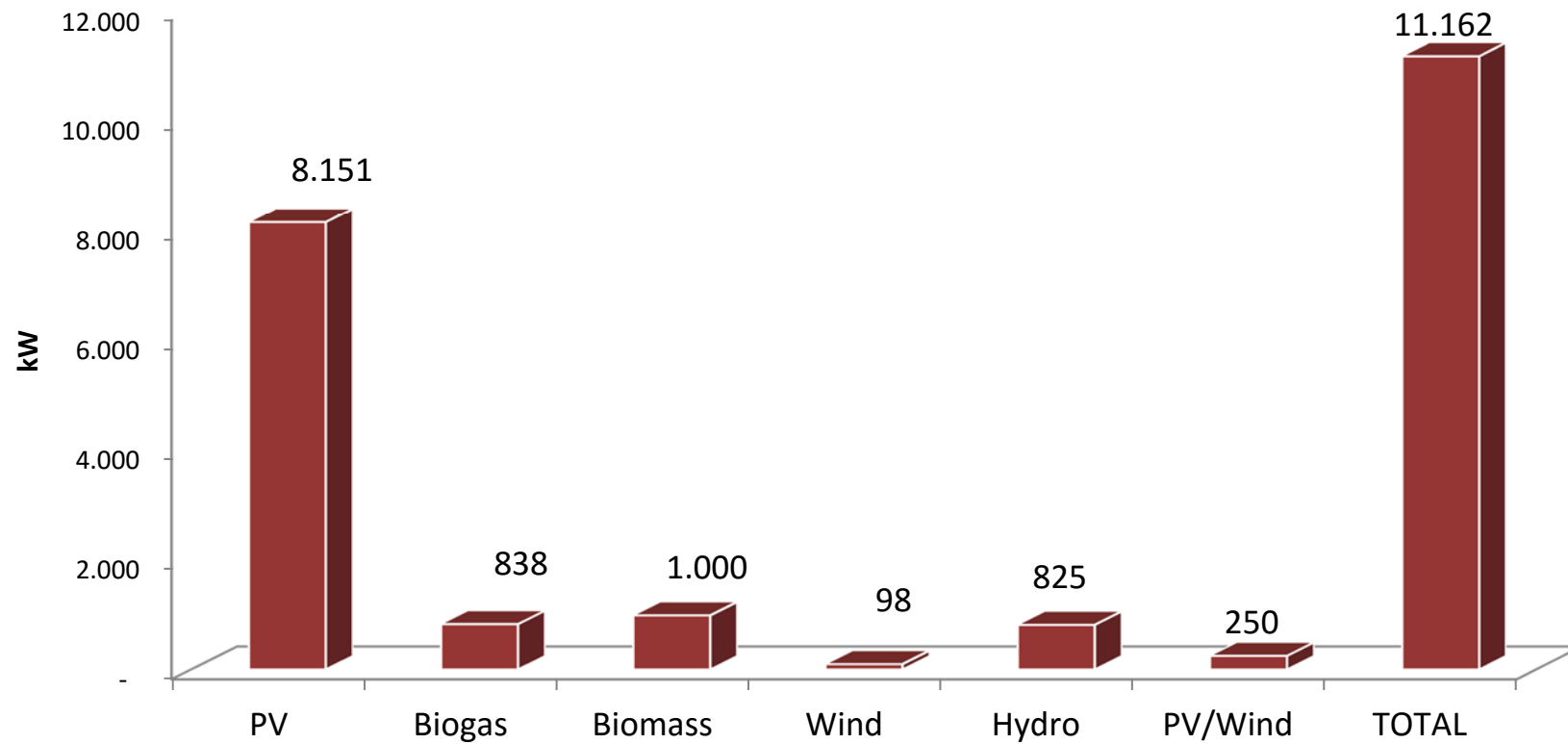
Actual Situation

Energy source



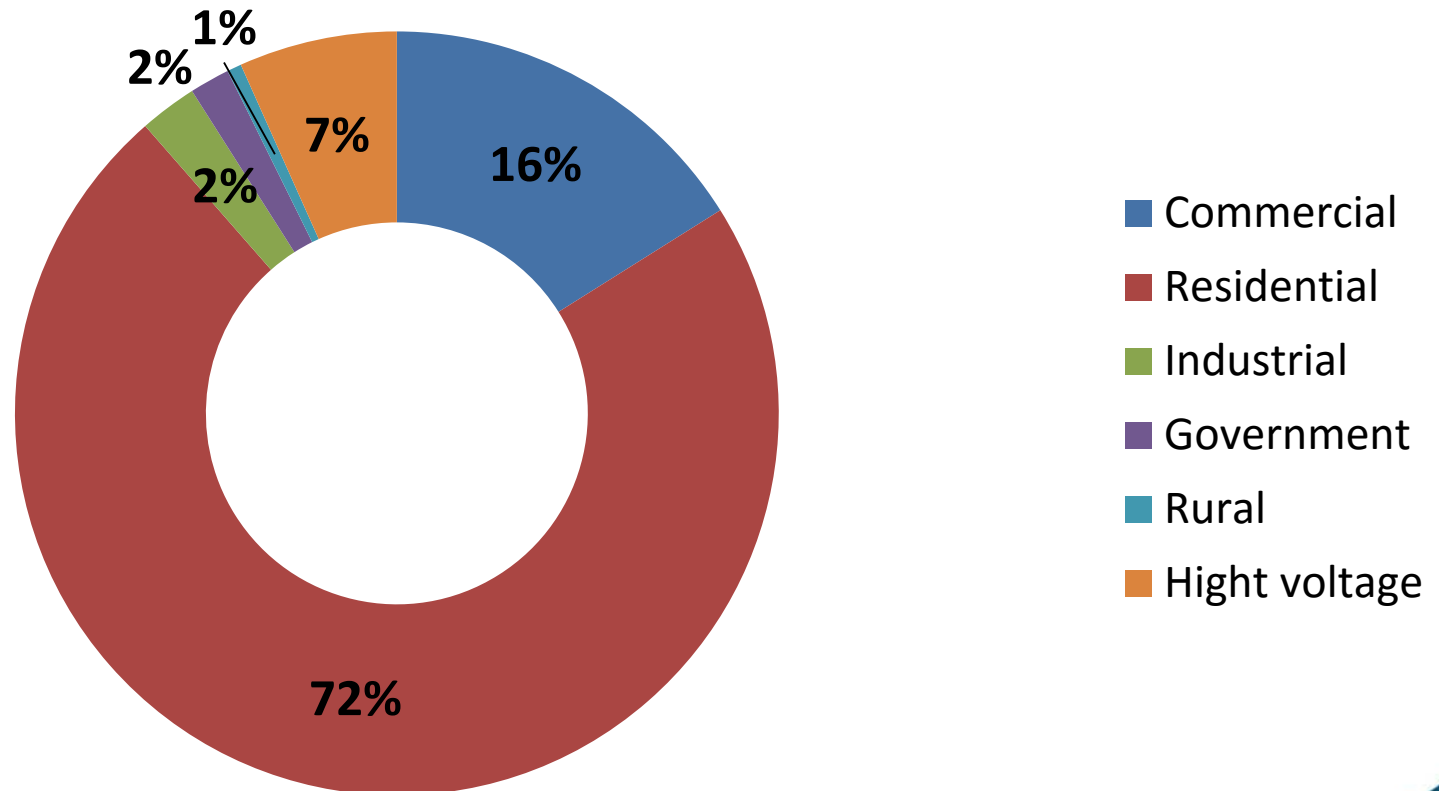
Actual Situation

Installed Power

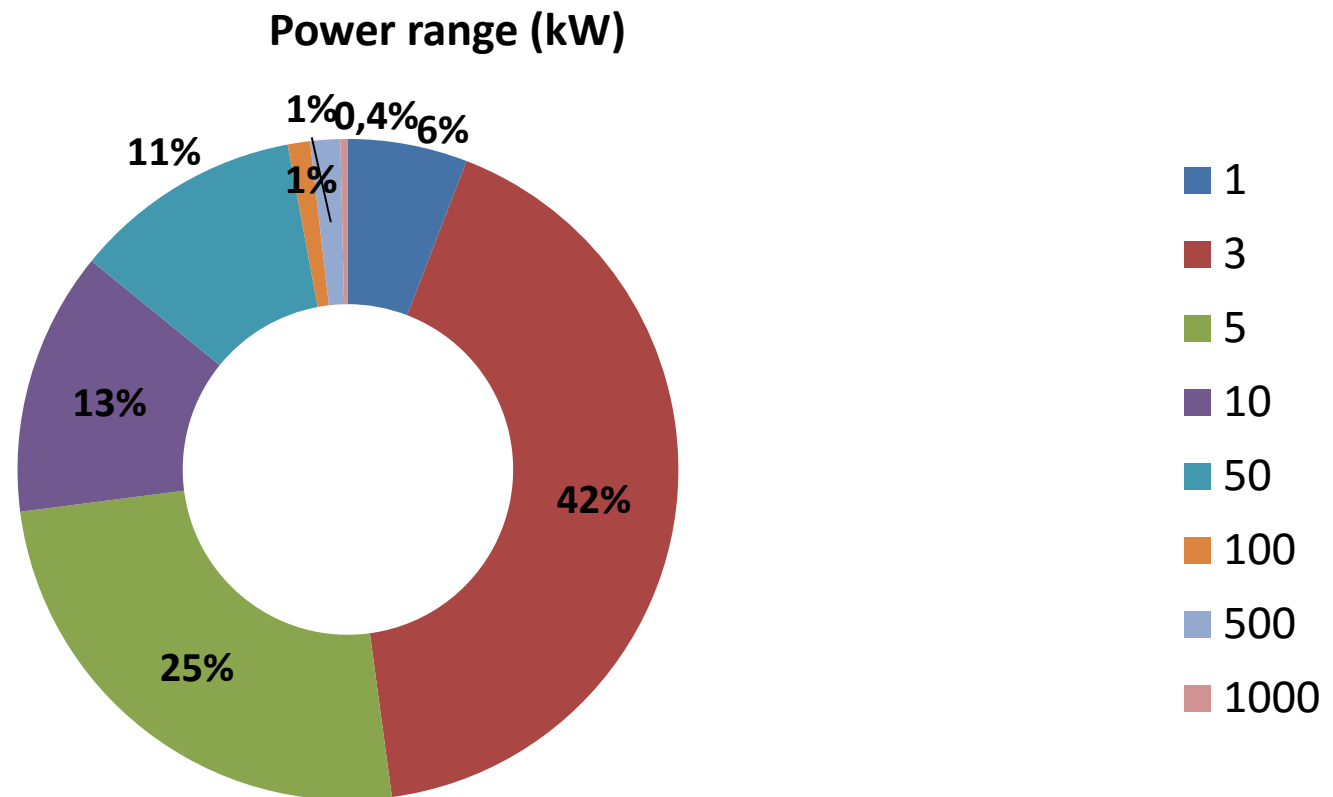


Actual Situation

Division by consumers class

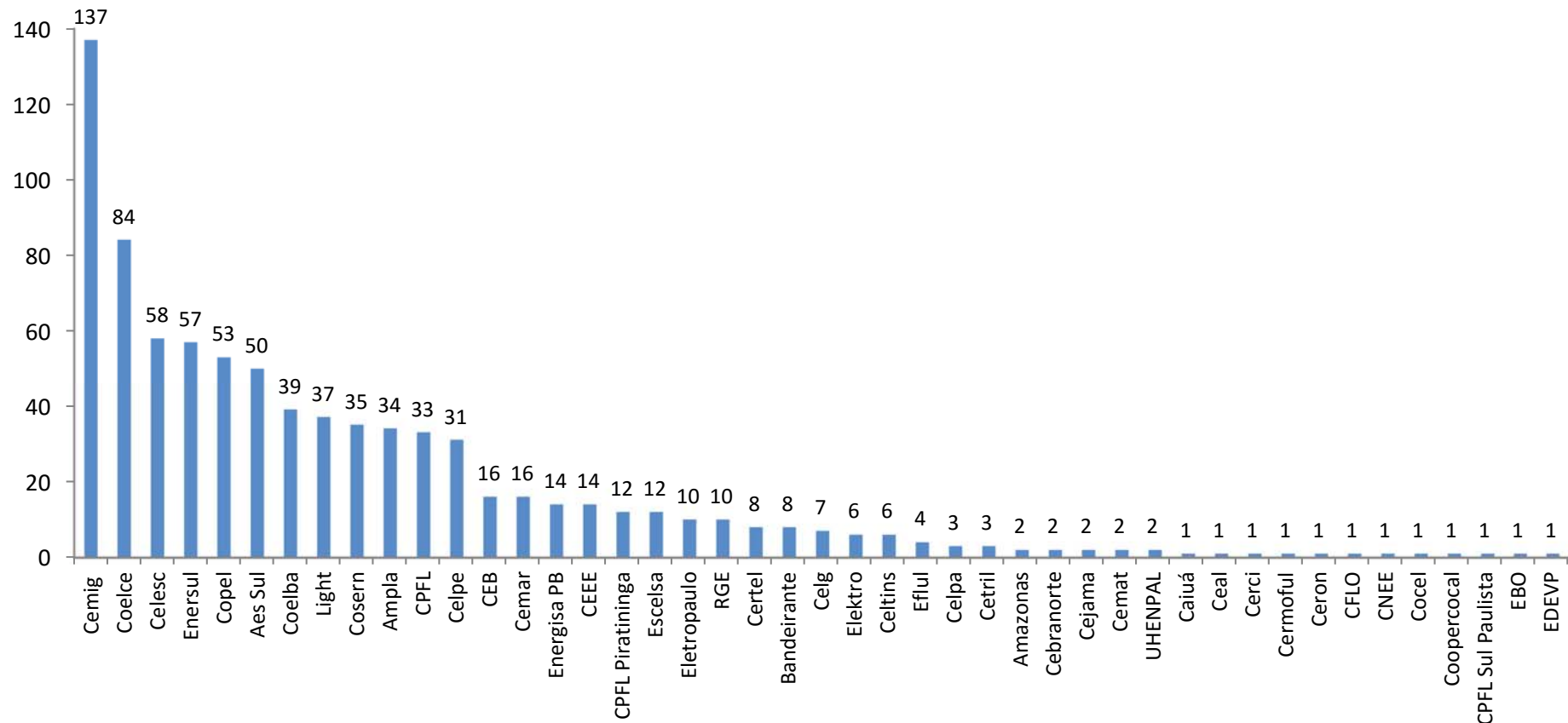


Actual Situation

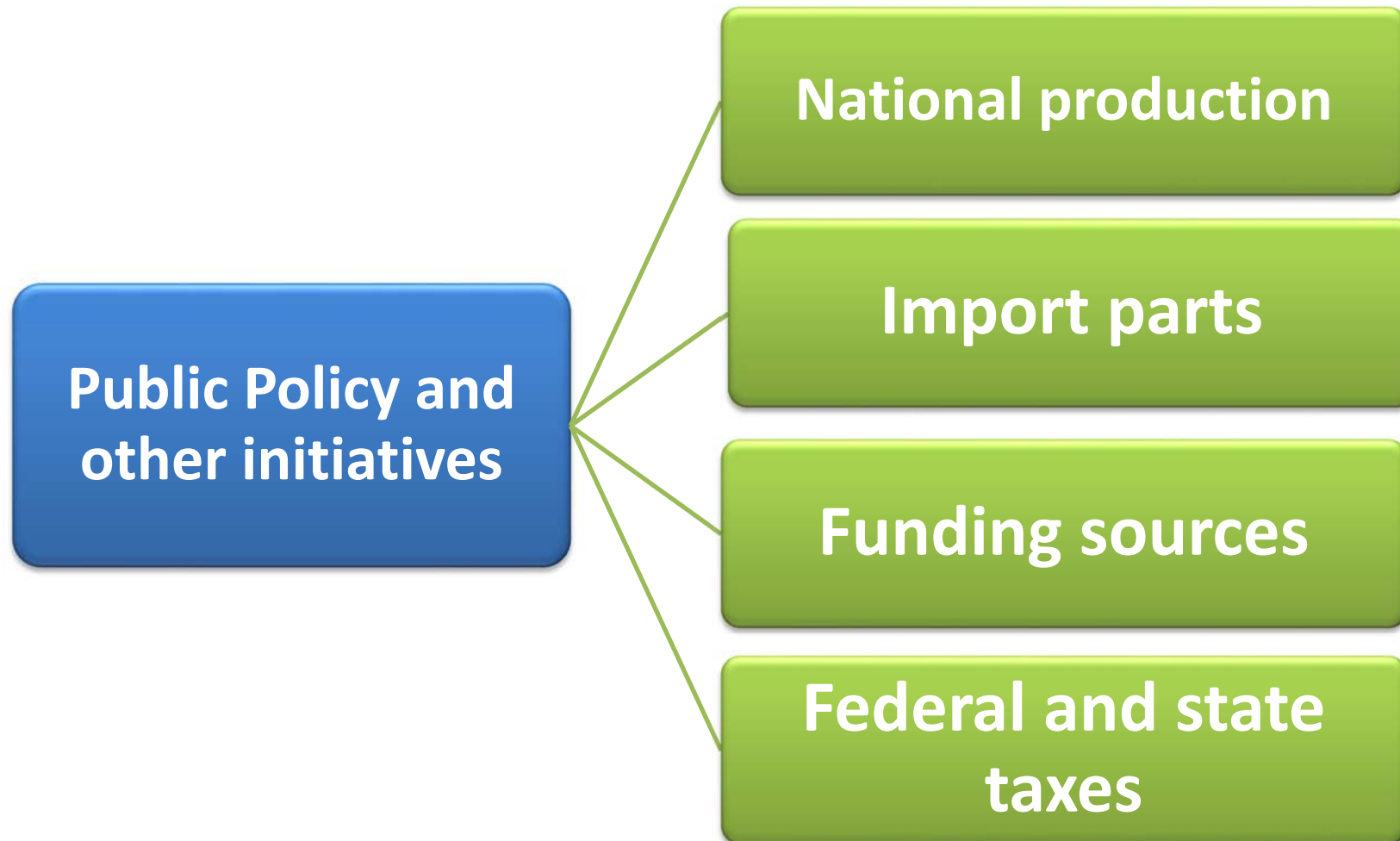


Actual Situation

Connections per utilities



DG main barriers in Brazil



What ANEEL is doing about: Taxes

REN 482/2012

- The electricity injected on the grid is a kind of a loan from the consumer to the DNO.

ICMS Agreement # 6/2013

- ICMS (state sales tax) is charged over all consumption, not only over the net consumption.
- This reduces the economic viability of small scale DG.

ANEEL participated in meetings, performed studies, made contributions for a new agreement.

ICMS Agreements # 16 /2015, 44/2015 e 52/2015

- Allow SP, PE, GO, RN, CE e TO to charge ICMS only over the net consumption. MG does it already for the 5 first years after installation (State Law 20.824/2013).
- Revoked ICMS Agreement # 6/2013.

What ANEEL is doing about: Inverter certification

PRODIST – Módulo 3



Allow national and international certification.

Portaria Inmetro nº
357/2014



The inverters should be certified by
Inmetro from February/2015.

Portaria Inmetro nº
240/2015



Inmetro Public Hearing to extend the deadline
until March/2016.

Portaria Inmetro nº
271/2015



Authorizes new labs to certificate and suspend
the deadline.

Ofício Circular nº 18/2015-
SRD/ANEEL



Directs that the DNO must accept national and
international certification.

Advertising actions



Brochure

- An overview about the connection procedures for small scale DG and net metering system.



<http://www.aneel.gov.br/biblioteca/EdicaoLivros2014cadernotematicomicroeminigeracao.cfm>

Advertising actions



Seminário Micro e Minigeração Distribuída

Impactos da Resolução Normativa
nº 482/2012

- Small Scale DG Workshop, held on April/2014, in Brasília-DF.
- Evaluate the evolution of small scale DG in Brazil after REN 482/2012 and identify the main improvements needed.
- Slides and videos available on:
<http://www.aneel.gov.br/hotsite/mmgd/index.cfm>

Perspectives for small scale DG

DG is getting cheaper

Electricity tariffs are increasing

Consistent regulatory framework

The economic attractiveness is increasing

Perspectives for small scale DG

- Public Hearing 26/2015: amendment in the REN 482/2012 and PRODIST.
- We received 676 contributions from 110 agents: consumers, associations, banks, DNO, generators, manufacturer, universities, consultants, NGO.
- Documents available on PH 26/2015 website:
http://www.aneel.gov.br/aplicacoes/audiencia/dspListaDetalhe.cfm?attAnoAud=2015&attIdeFasAud=971&id_area=13&attAnoFasAud=2015

PH 026/2015

➤ Objectives:



- Reduce costs e time to small scale GD connection;
- Elucidate rights and obligations of consumers with DG;
- Increase the scope; and
- Improve information on the bill.

PH 026/2015 - Proposal

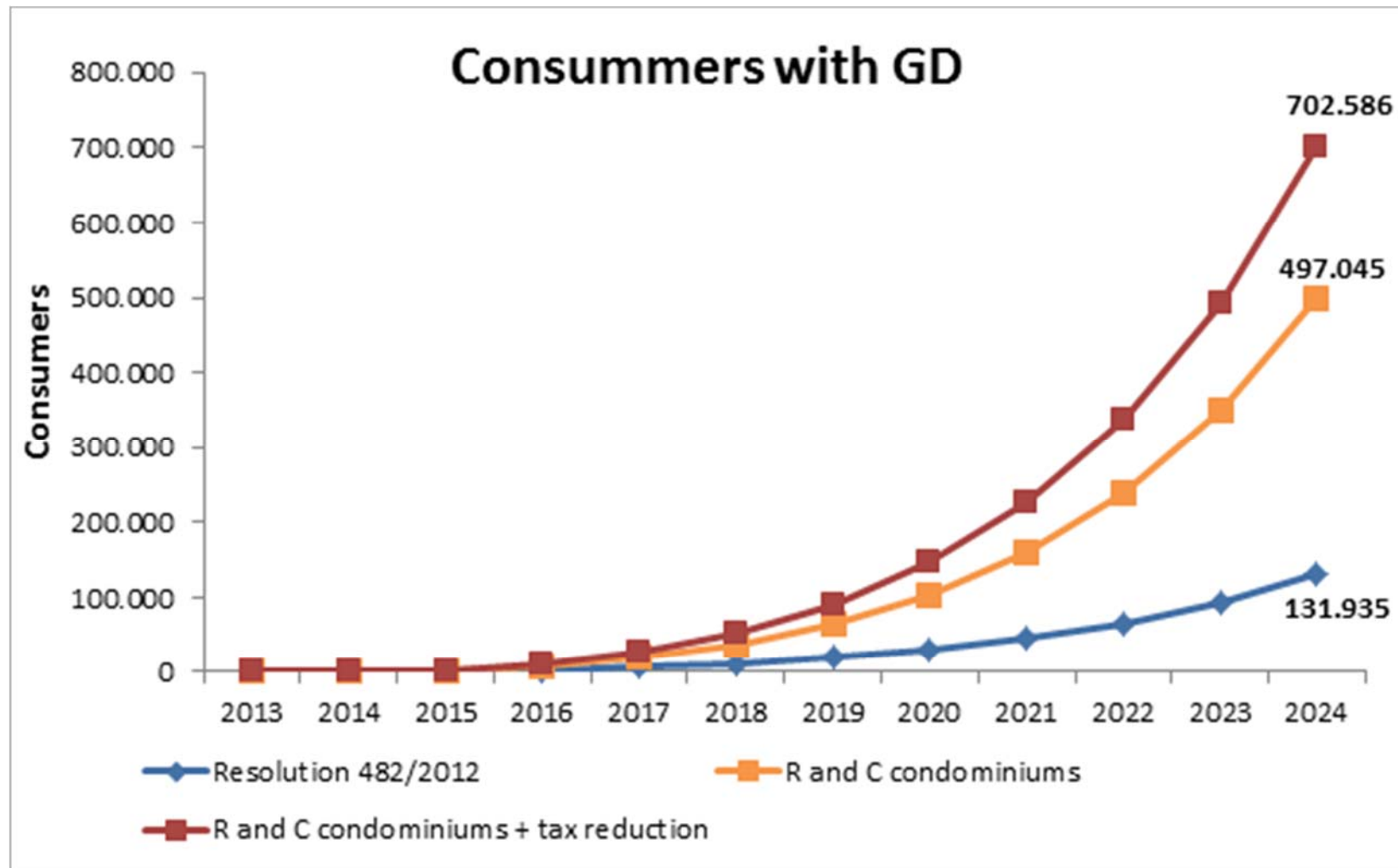
- Extend net metering for any renewable source or cogeneration.
- Extend net metering to the power of generation up to 3 MW for hydro and 5 MW for other sources.
- Allow net metering for different consumers in contiguous area (residential and commercial condominiums)
- Not charge the cost of meter change.
- Standardize forms in order do simplify the information and documents the consumers should present to the DNO.
- Reduce the maximum time to connection: from 82 days (actual) to 43 days.

PH 026/2015

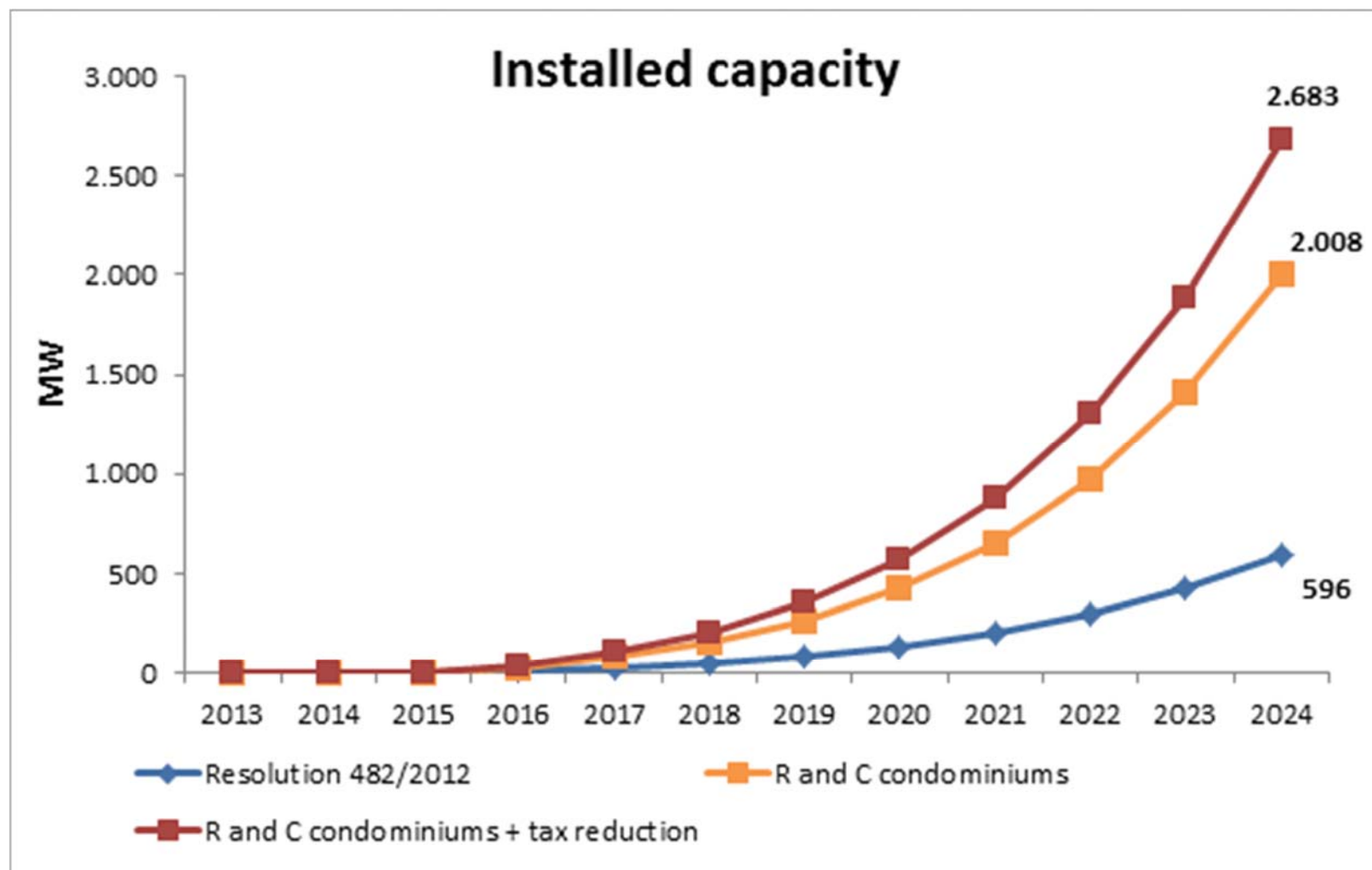
Some contributions were related to:

- Sale the excess electricity 
 - Other REN object (not REN 482/12).
 - Only on the free market.
 - ICMS
 - Inverters certification
 - Founding sources for DG
- 
 - It is not competence of ANEEL
 - But we are working...

Perspectives for small scale DG



Projeções 2015-2024



Additional information



[Resolução Normativa nº 482/2012](#)



[PRODIST – Módulo 3 – Seção 3.7](#)



[FAC](#)



[Solar Guide \(América do Sol\)](#)



[Wind Guide \(Instituto Ideal\)](#)



[Seminário de Micro e Minigeração](#)



[Generation Databank](#)

Muito Obrigado!

Davi Rabelo Viana Leite

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