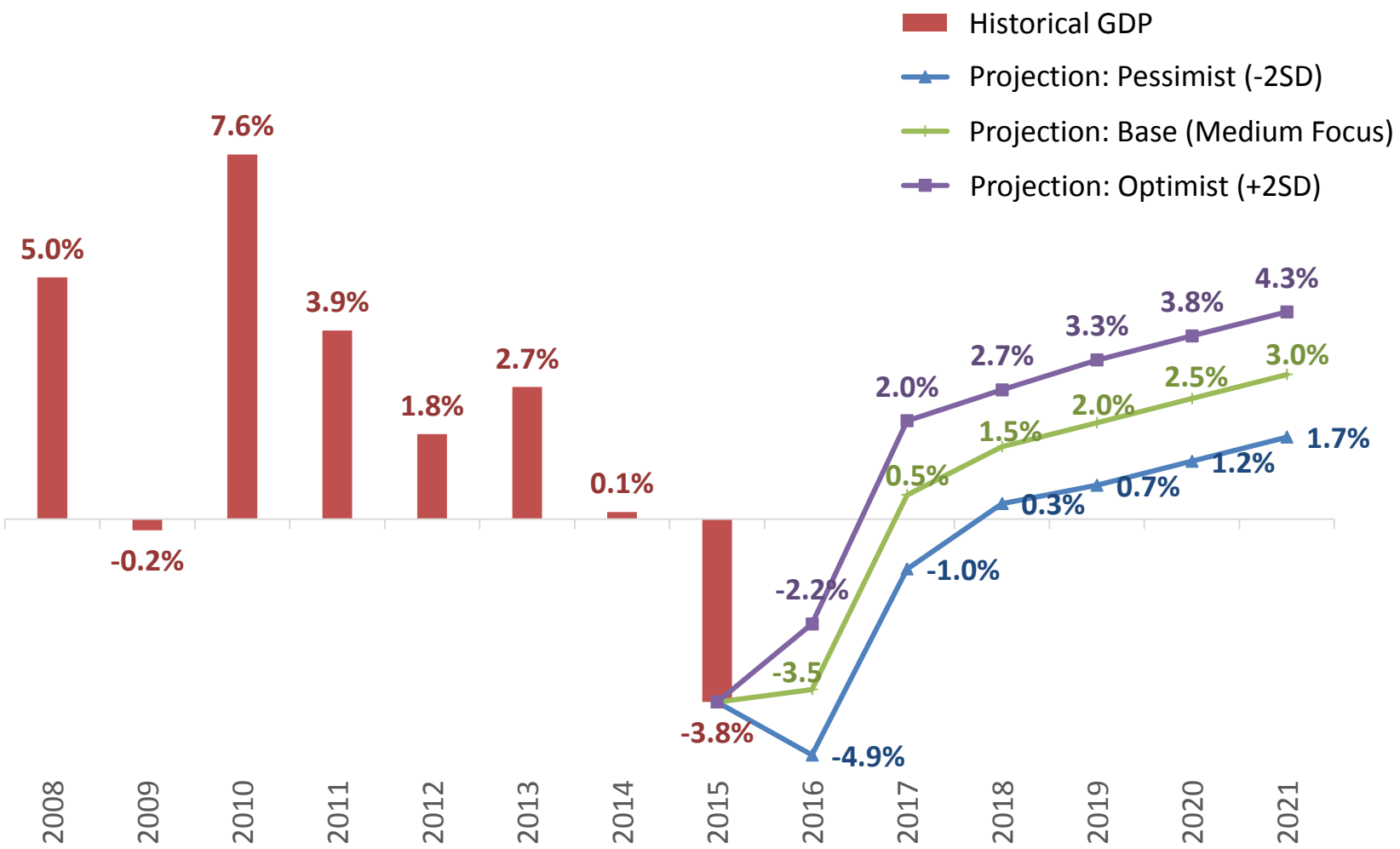


PROSPECTS FOR THE ENERGY MARKET

Manoel Zaroni Torres

São Paulo, March 30, 2016

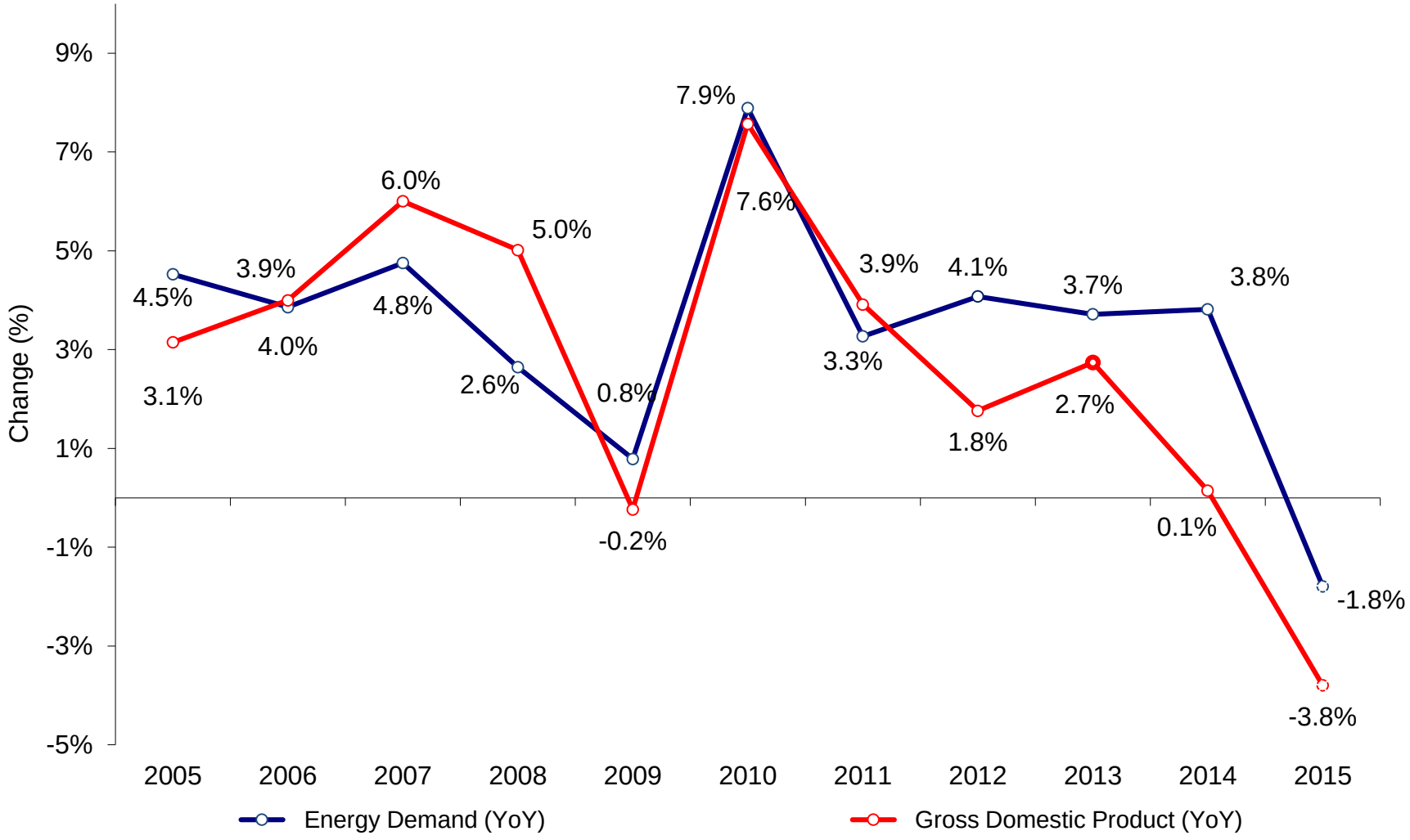
GDP: historical x projection



Source: Banco Central do Brasil

ENGIE Tractebel Energia

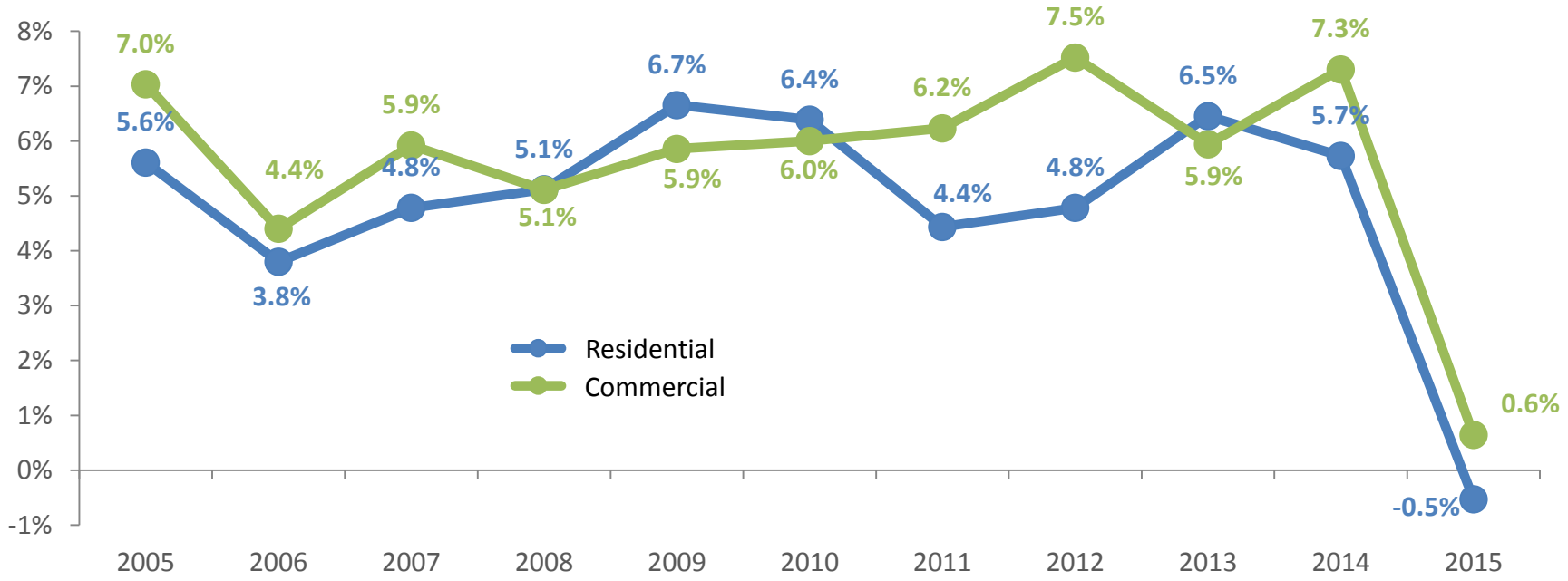
GDP and electricity correlation



Source: Banco Central do Brasil/ONS

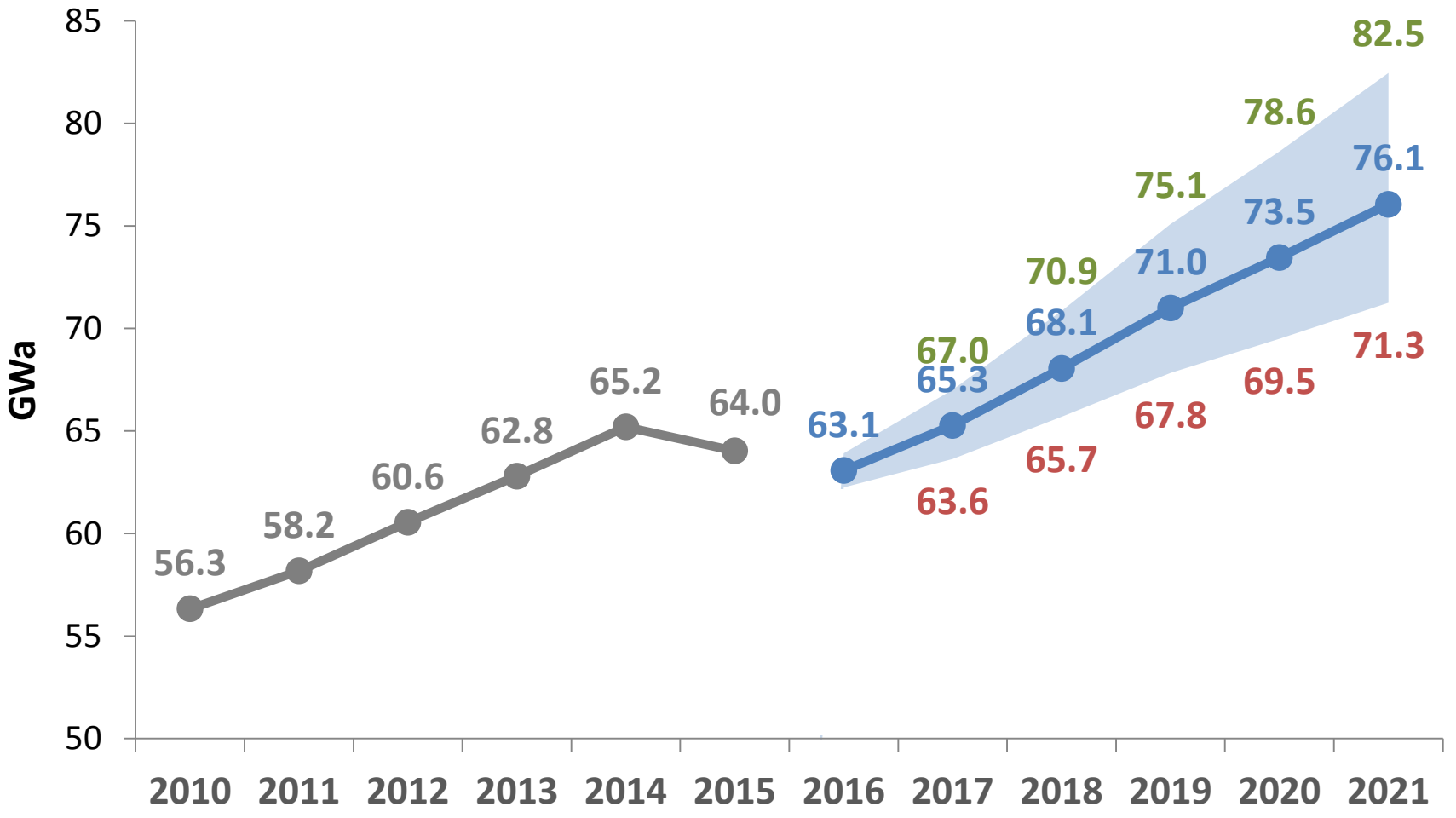
ENGIE Tractebel Energia

Low residential growth in 2015



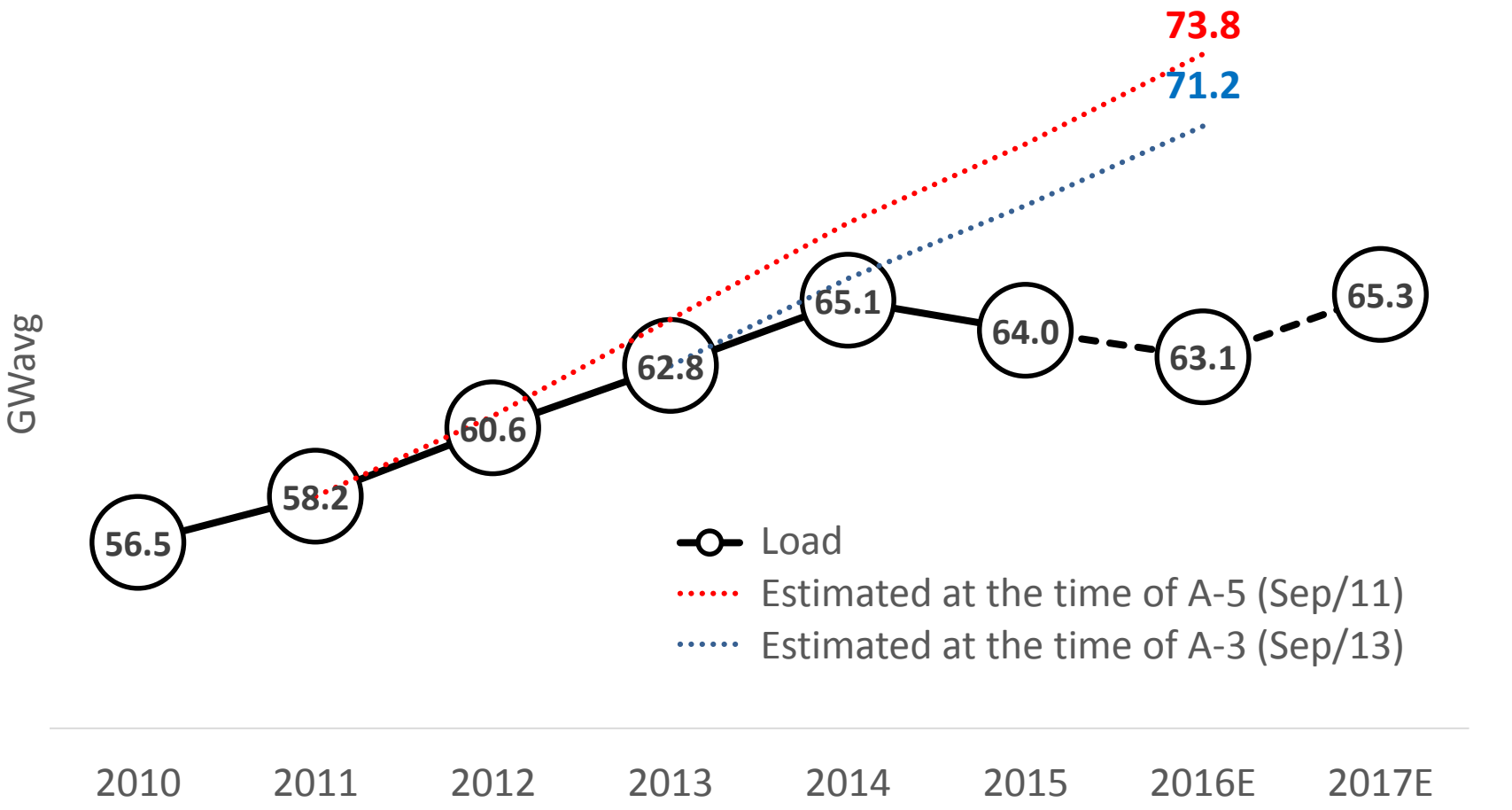
Source: EPE

Projection: demand



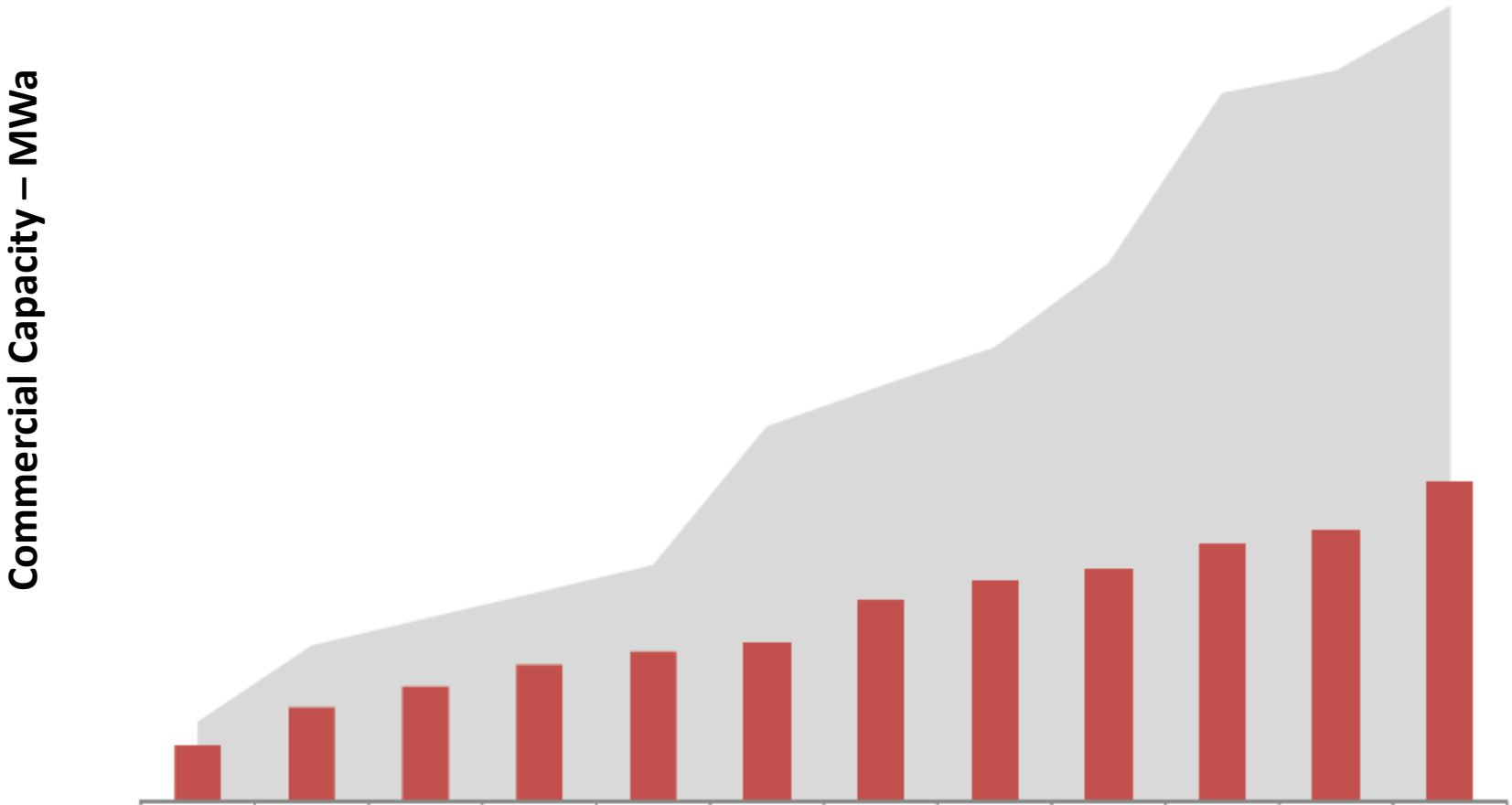
Source: ONS/Tractebel Energia

Demand



Source: ONS

Generation and transmission recurring delays

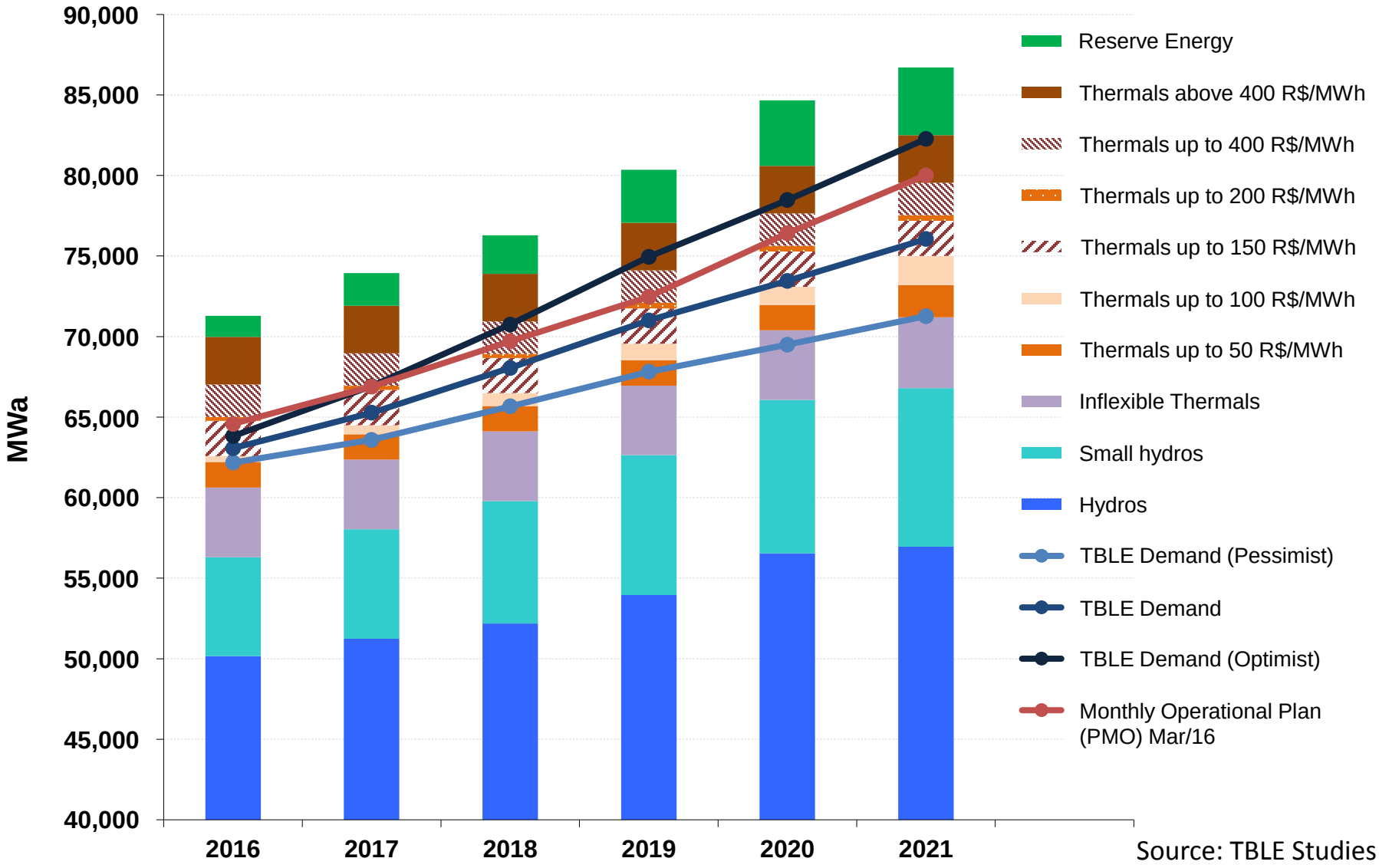


	Jan-15	Feb-15	Mar-15	Apr-15	May-15	Jun-15	Jul-15	Aug-15	Sep-15	Oct-15	Nov-15	Dec-15
Estimated PMO January	444	868	1020	1167	1319	2091	2316	2534	3002	3953	4076	4438
Actual up to December	313	522	638	763	834	881	1122	1233	1294	1436	1507	1779

Source: PSR - Energy Report (Jan/2016)

ENGIE Tractebel Energia

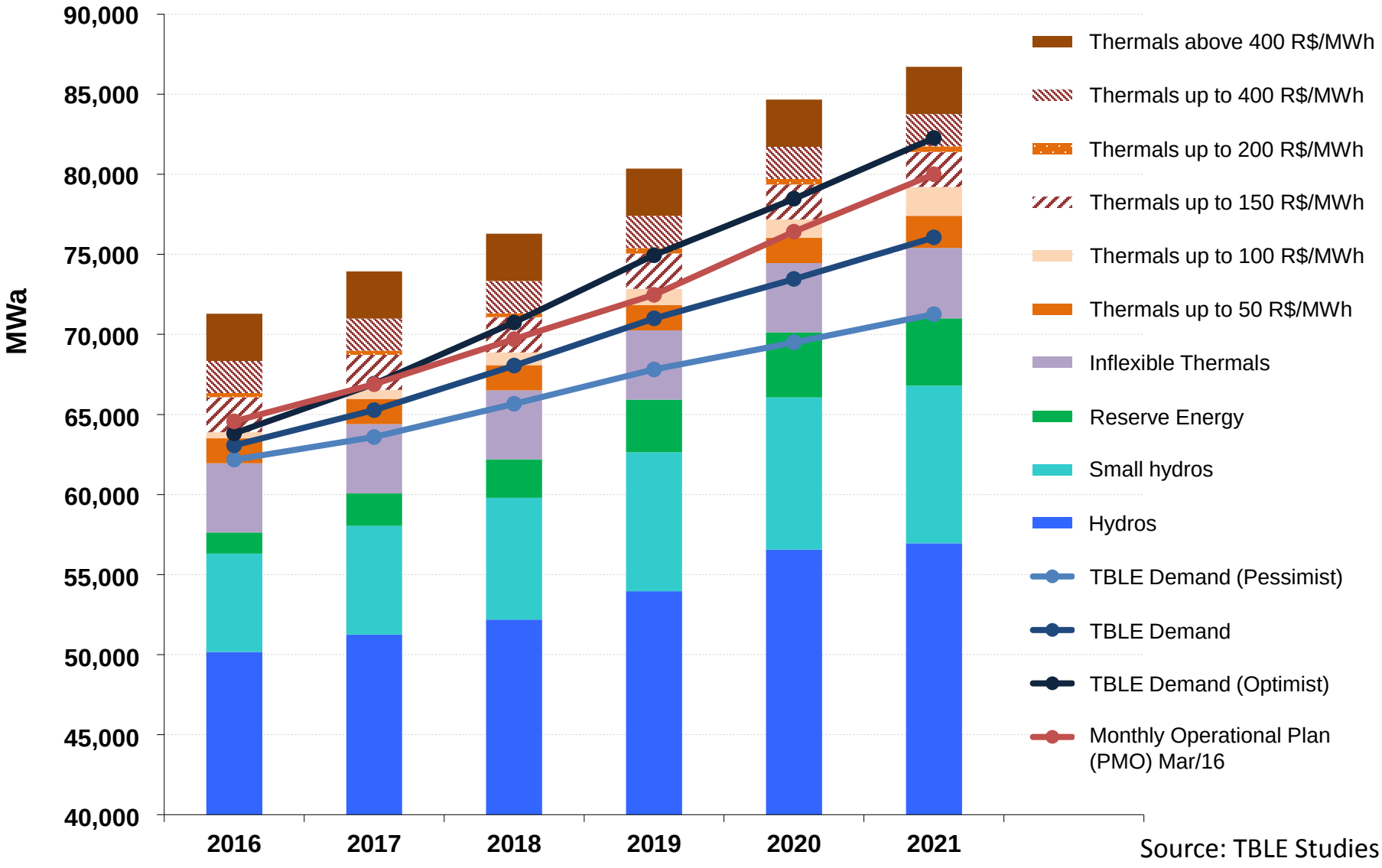
Balance: new capacity delay (effect: commercialization coverage)



Source: TBLE Studies

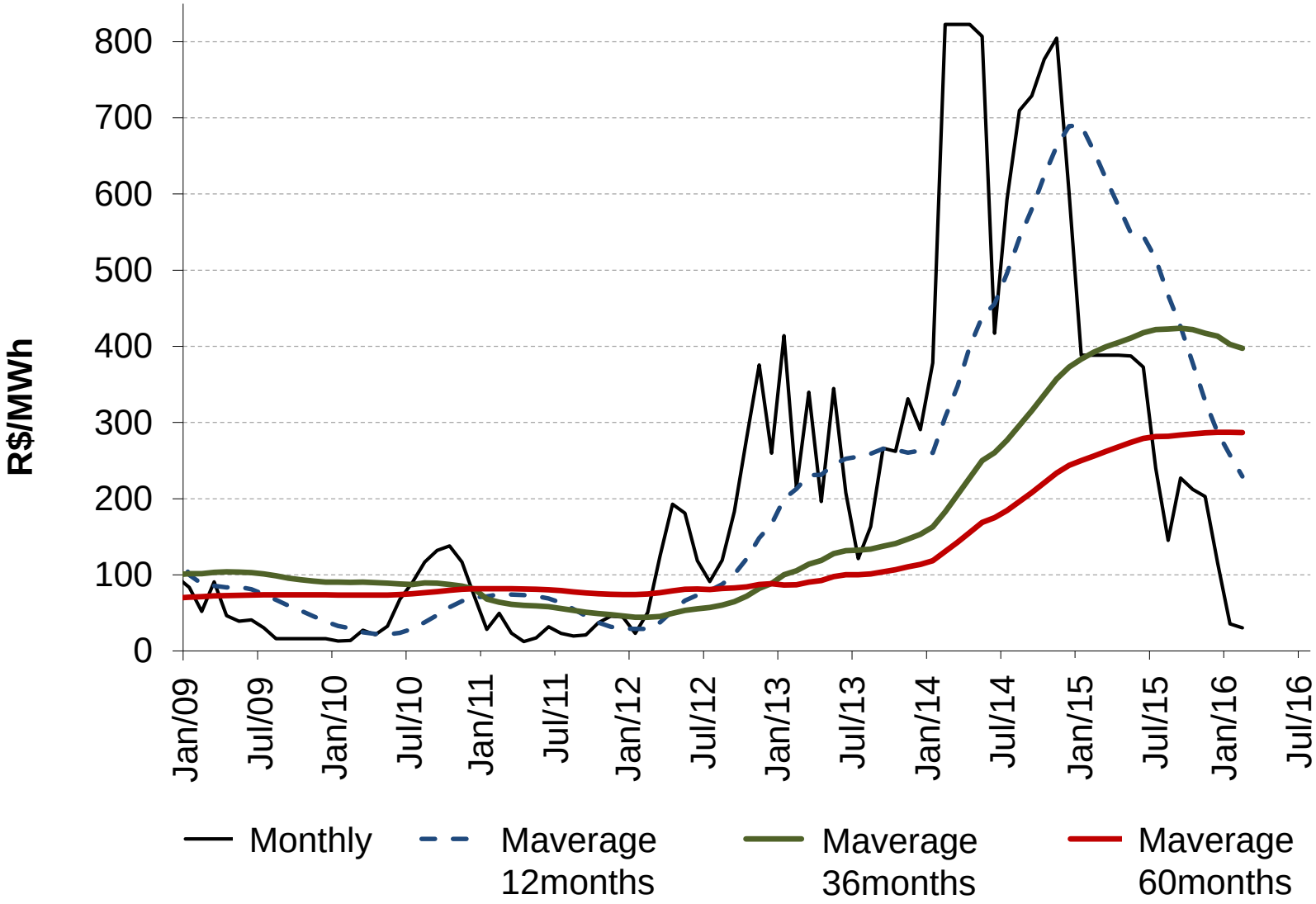
ENGIE Tractebel Energia

Balance: new capacity delay (effect: energy pricing)



Source: TBLE Studies

PLD

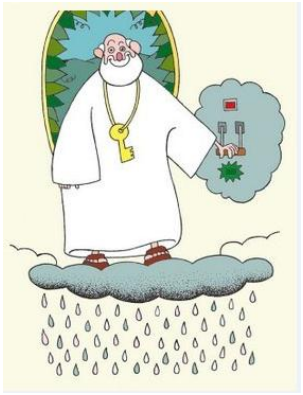


Source: CCEE

ENGIE Tractebel Energia

Relevant factors that influence energy pricing

- Hydrology (wet or dry year)



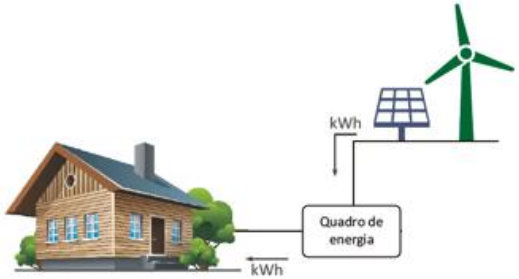
- Delays in the schedules of generation and transmission projects



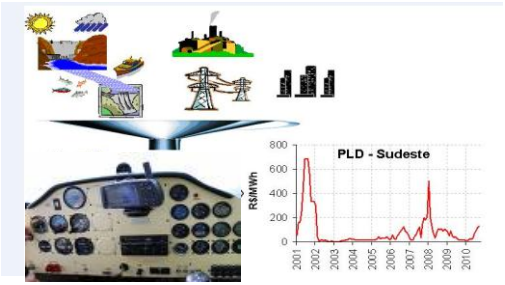
- Economy recovery



- Distributed generation growth

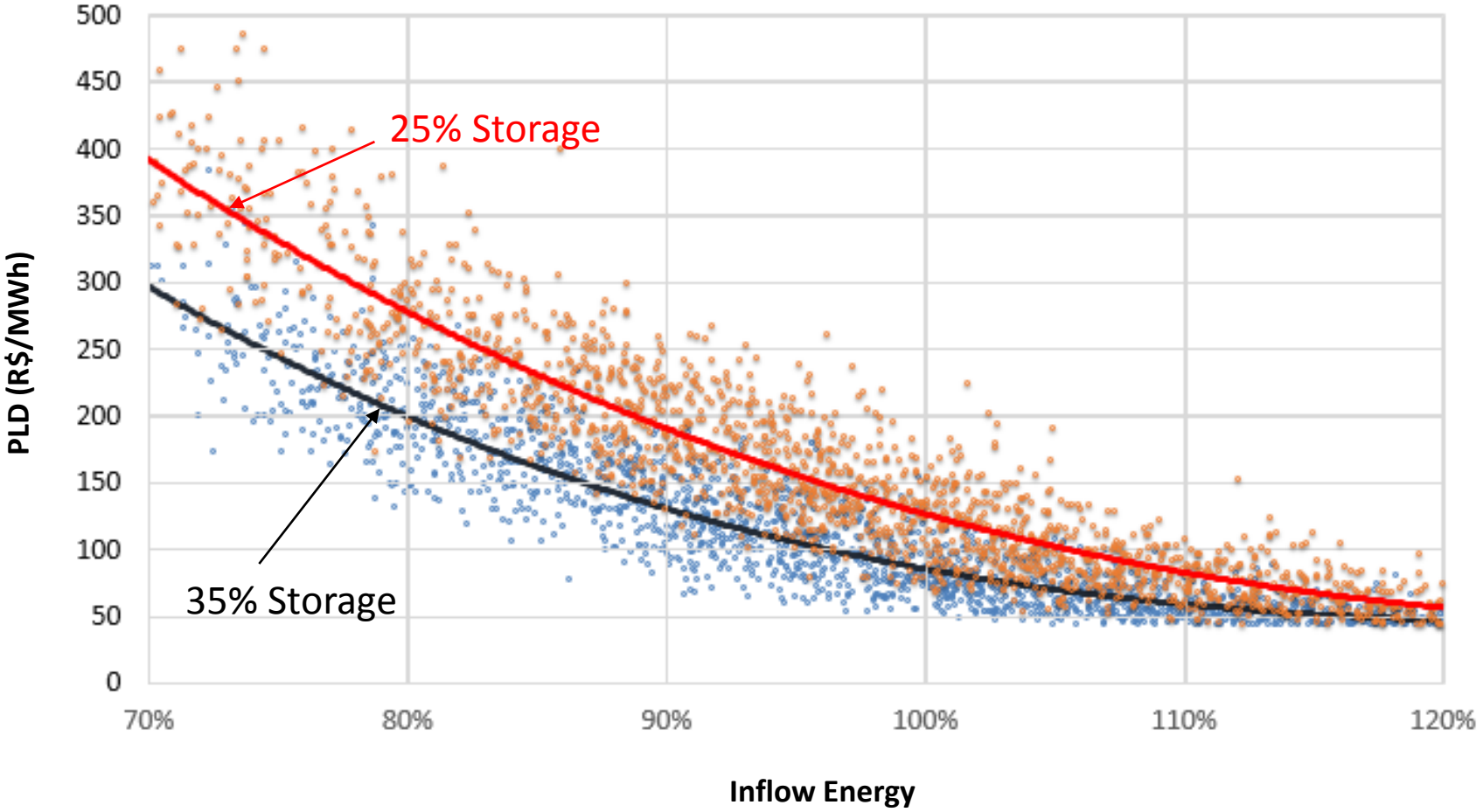


- Energy pricing models calibration composition (for example: risk level)



Hydrological uncertainty in the energy pricing

- Supply 2020 (storage sensibility 25% and 35% in the SE)

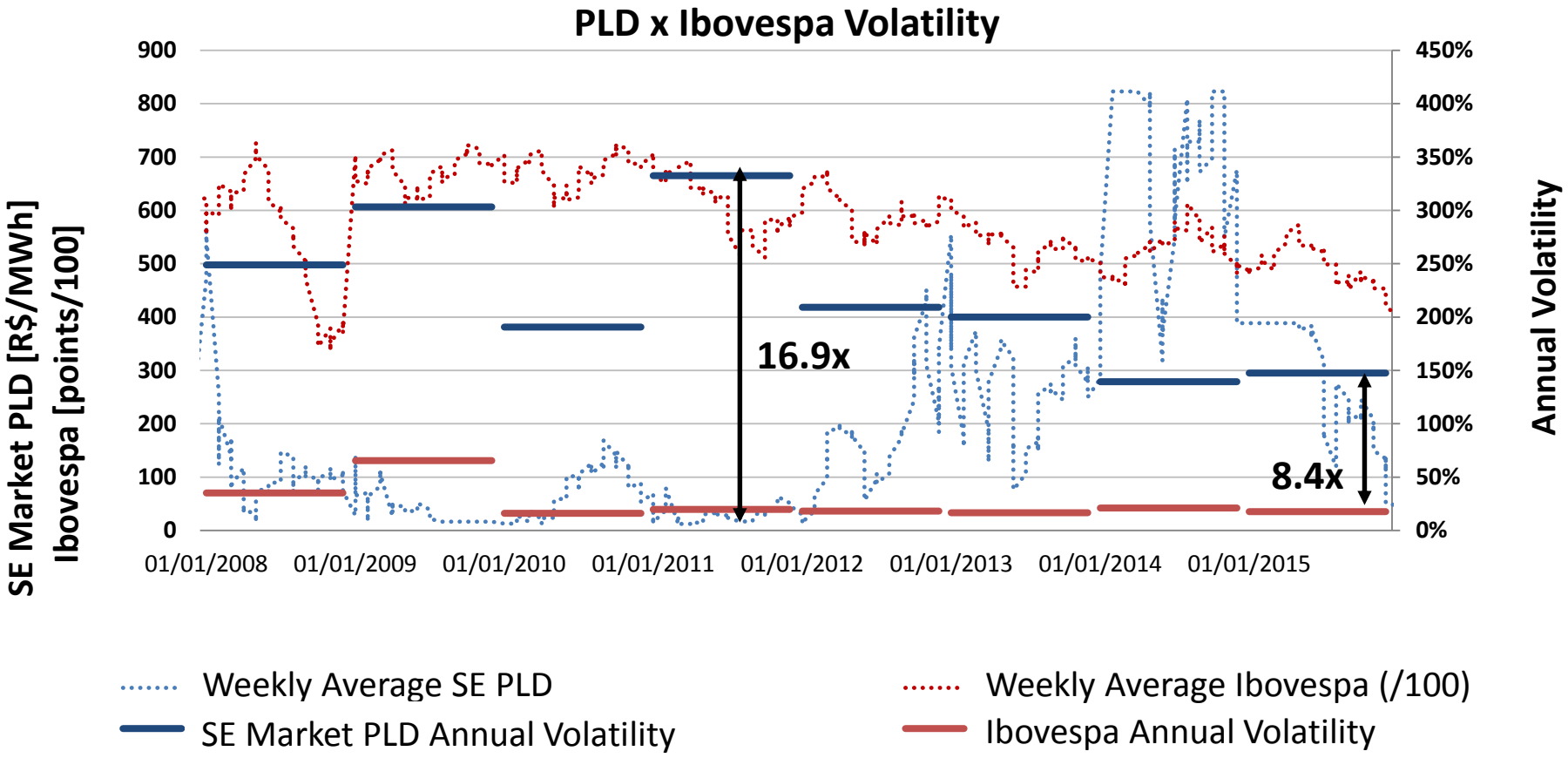


Internal Studies

ENGIE Tractebel Energia

PLD and volatility

PLD is intrinsically a business of very high volatility

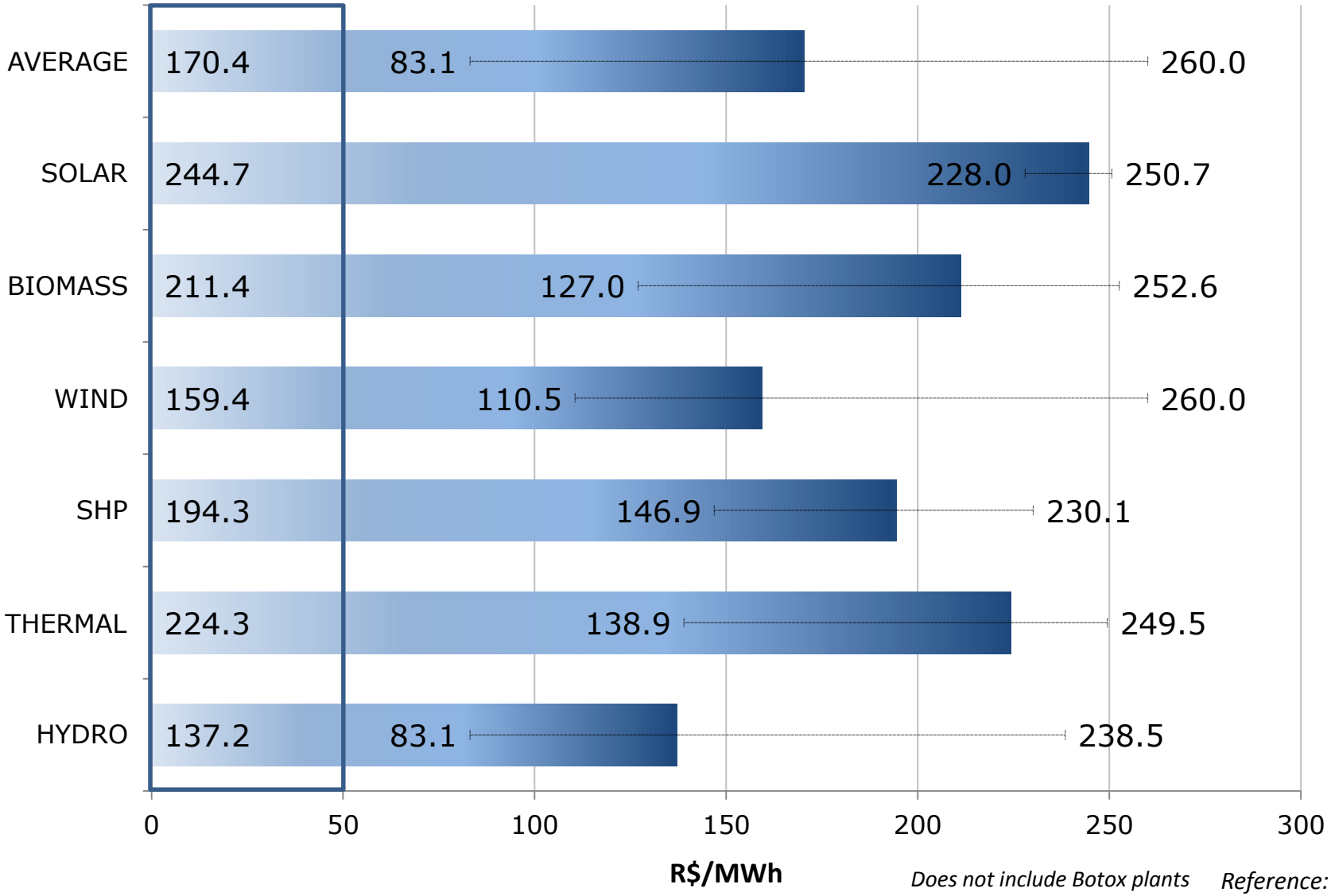


Volatility: $x_i = \ln (P_{i+1} / P_i)$

Source: Bovespa/CCEE

ENGIE Tractebel Energia

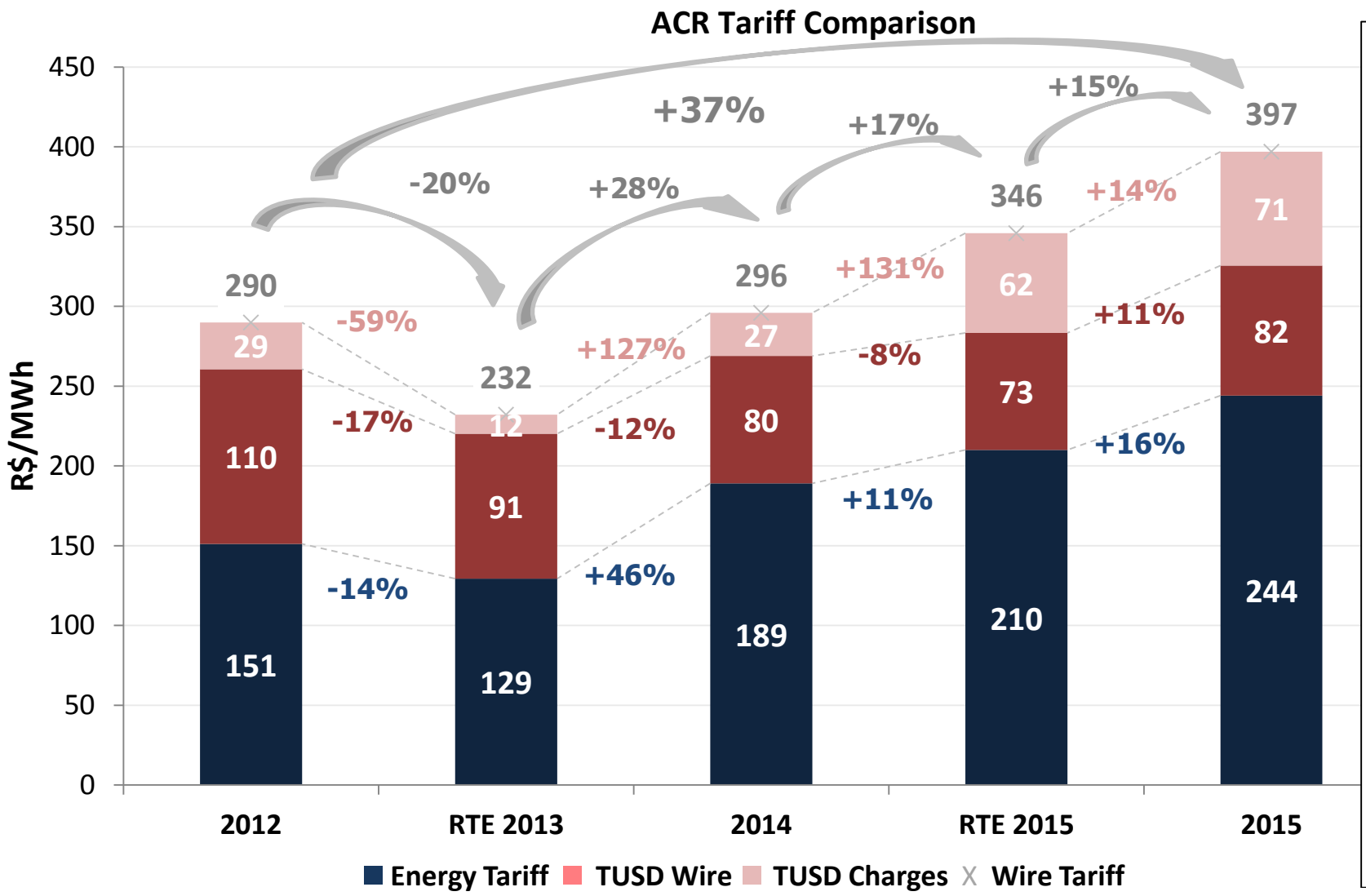
CCEAR new energy: auction results



Does not include Botox plants

Reference: Jan/15

Average tariff of DISCOs

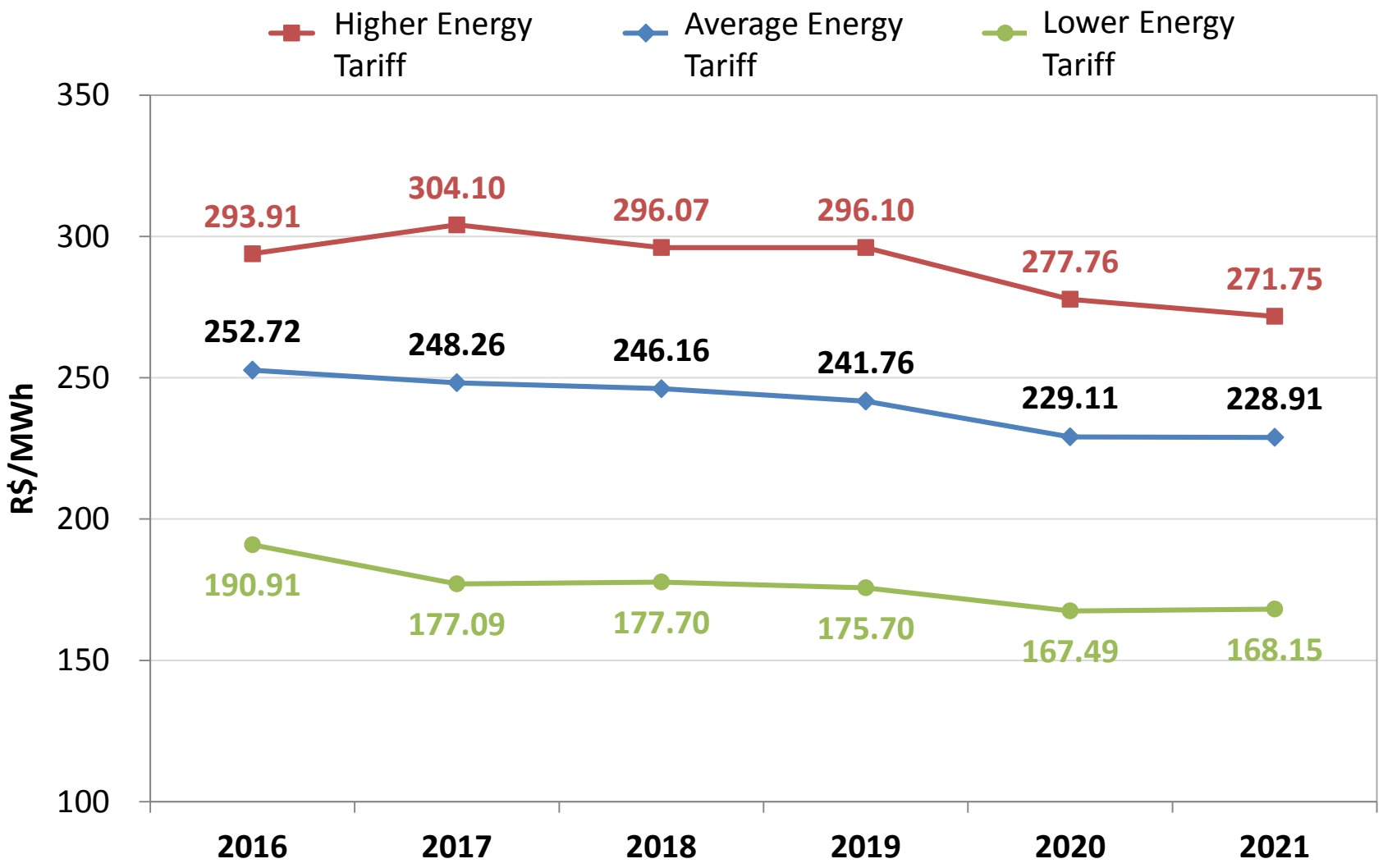


Sample:
- CPFL Paulista
- AMPLA
- CEMIG
- CEMAT
- ENERSUL
- AES SUL
- COELBA
- Bragantina
- RGE
- COPEL
- Eletropaulo
- ESCELSA
- CELG
- CELESC
- ELEKTRO
- EBE
- Piratininga
- CEEE
- Energisa-MG
- Energisa-PB
- COELCE
- CELPE
- CEAL
- Cepisa
- Light
- Sulgipe

Source: Aneel

ENGIE Tractebel Energia

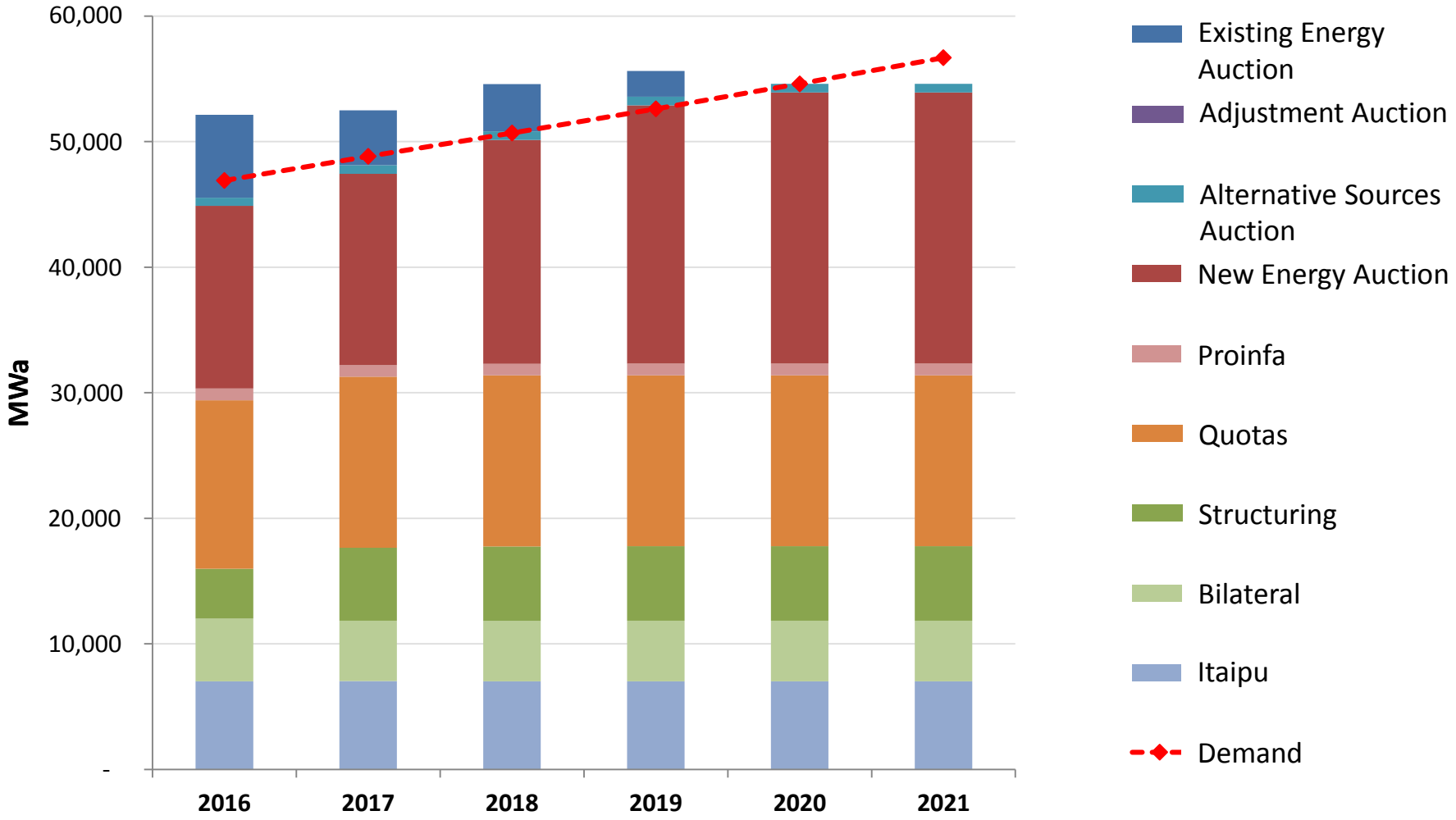
DISCOs tariff will remain high



Internal Studies

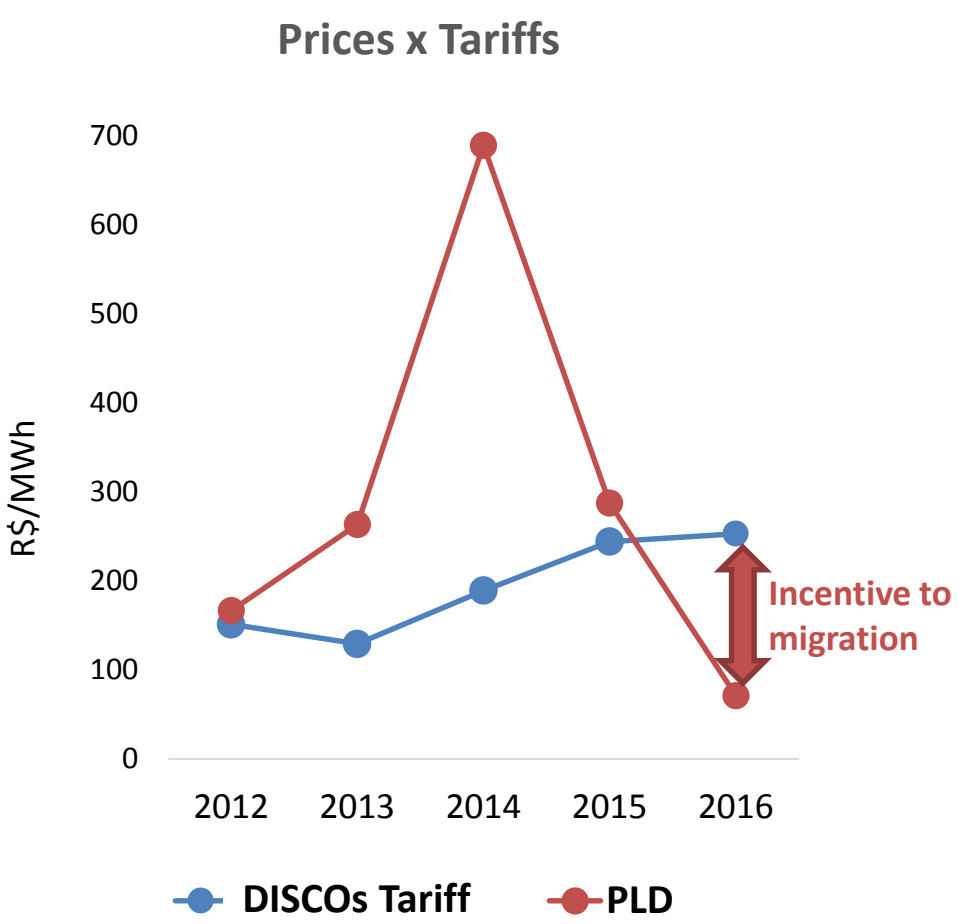
ENGIE Tractebel Energia

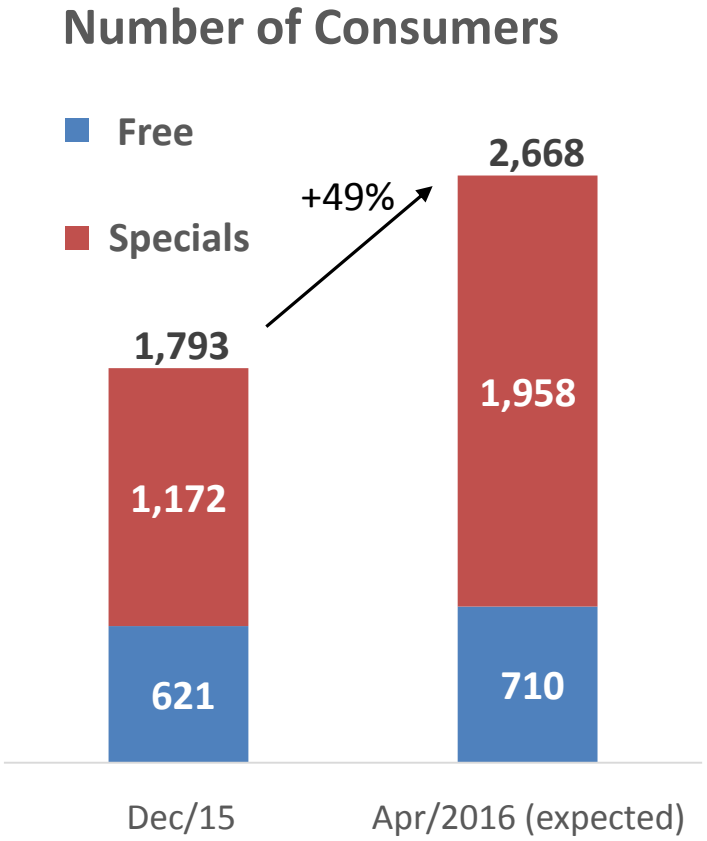
Regulated market (ACR) balance



Source: CCEE/Aneel

Strong incentive to migration



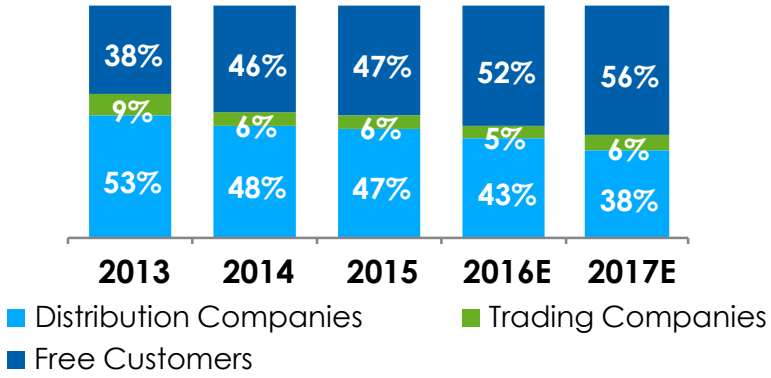


Source: Internal Studies/CCEE

ENGIE Tractebel Energia

Tractebel: type and level of contracts

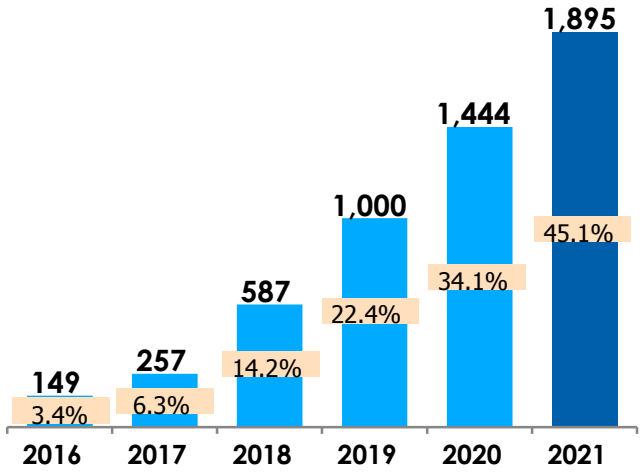
Client Breakdown



Average Net Sales Price [R$/MWh]*				
2013	**2014**	**2015**	**2016**	**2017**
163.9	163.1	171.4	172.9	168.0

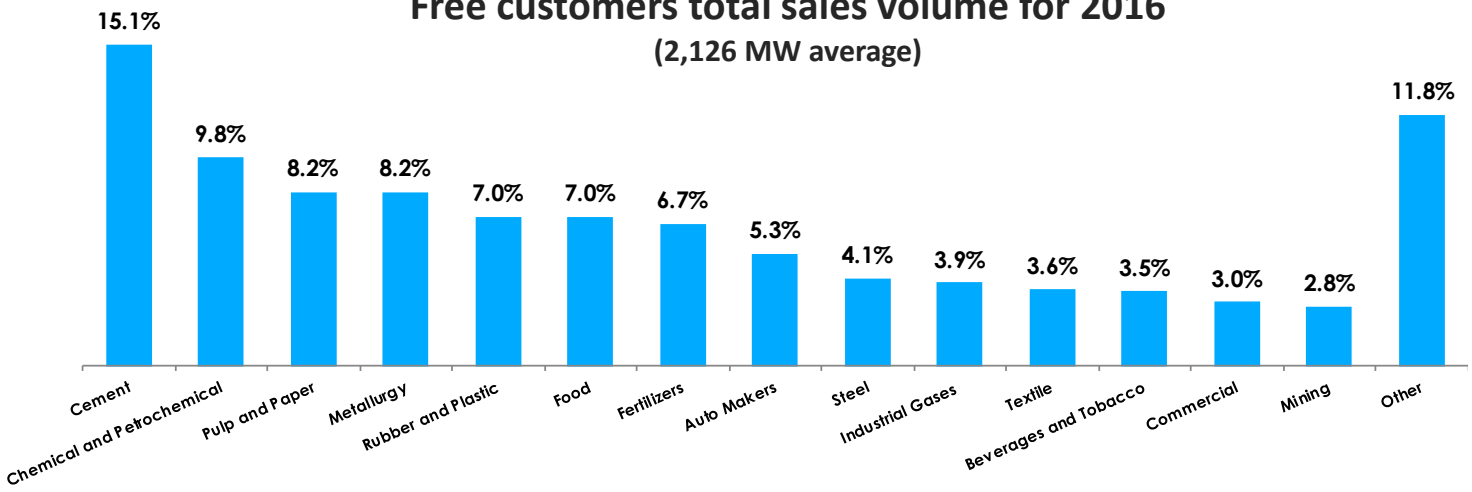
TBLE's uncontracted energy

(MW average)



Free customers total sales volume for 2016

(2,126 MW average)



*Average Net Sales Price (without PIS/CONFINS, ICMS and R&D): base date Dec/2015

Conclusions

- The economic crisis was much more serious and long-lasting than expected and affected load growth (3 years of decline)
- Uncertainty surrounding the timing of resumption in demand: recovery could be rapid
- Low per capita consumption (North/Northeast, class B and C): indications for resumption in residential growth
- ENA continues to be the principal variable, principally with reservoirs still needing to recover
- Tractebel Energia
  - Generating complex made up of energy sources of a complementary nature
  - Policy of anticipated contracting
  - Diversified client portfolio

High degree of resilience in the face of unfavorable market scenarios