

Non-Revenue Water Reduction with Performance Based Contract AdRA's Case Study



**GOTA A GOTA
PREPARAMOS O FUTURO**

01

Intro

02

Before PBC

03

PBC contract

04

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Future



01. Intro

AdRA's Challenge to Efficiency

Scope of activity WS and WWS

Human and financial resources

Local responsibilities with populations

Public service

Challenge to efficiency

- 1500 km² of service area
- 350k inhabitants
- 7k km of network
- 167k customers

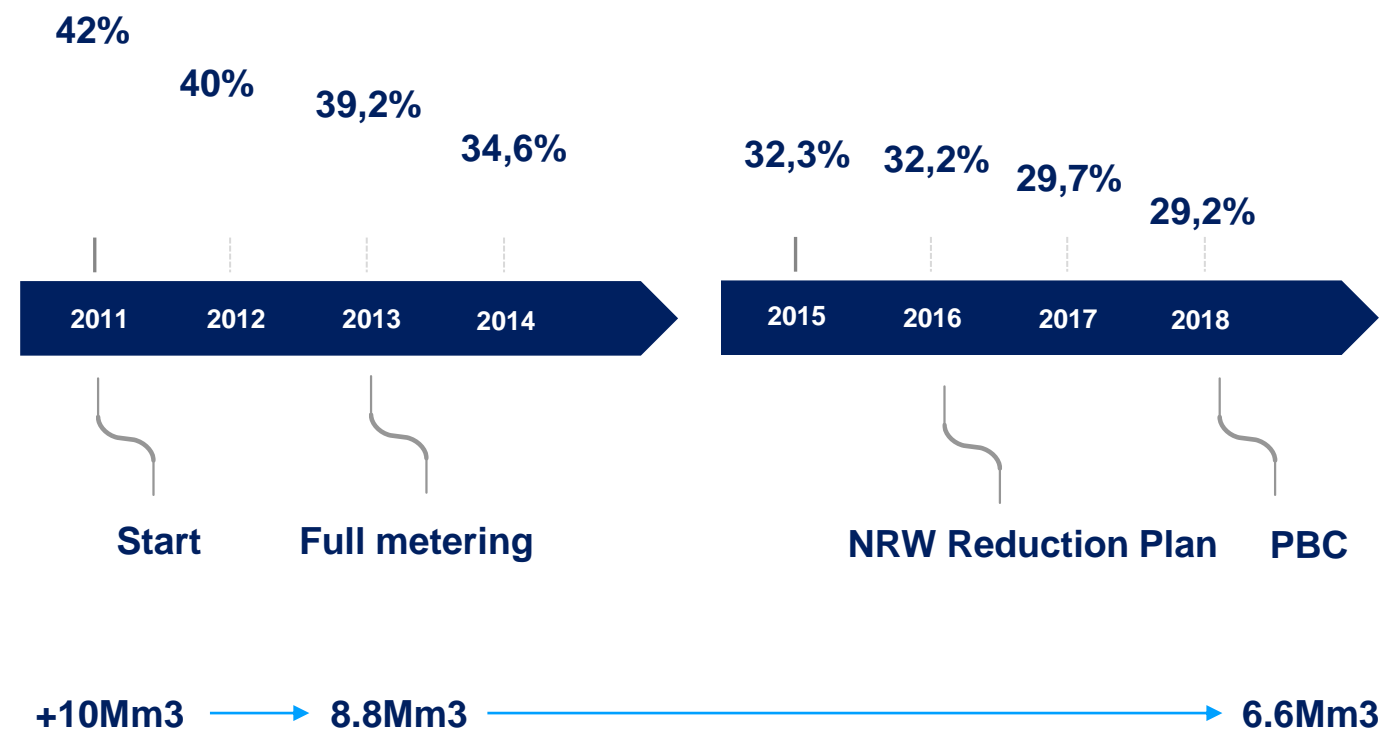




02. Before PBC

Milestones and Evolution

02. Before PBC



2011

AdRA's start off with all municipalities

2013

Full metering of production and storage facilities

2016

NRW Reduction Plan (2017-2021)

2018

Network **sectorization** and **monitoring**
 Leakage management as top **priority**
 Self knowledge and **leakage awareness**
Target oriented programs and activities
 Adoption of lean management principles
Outsourcing pipe repairs

02. Before PBC

Progress with in-house resources

Consolidation of internal processes

NRW as top priority

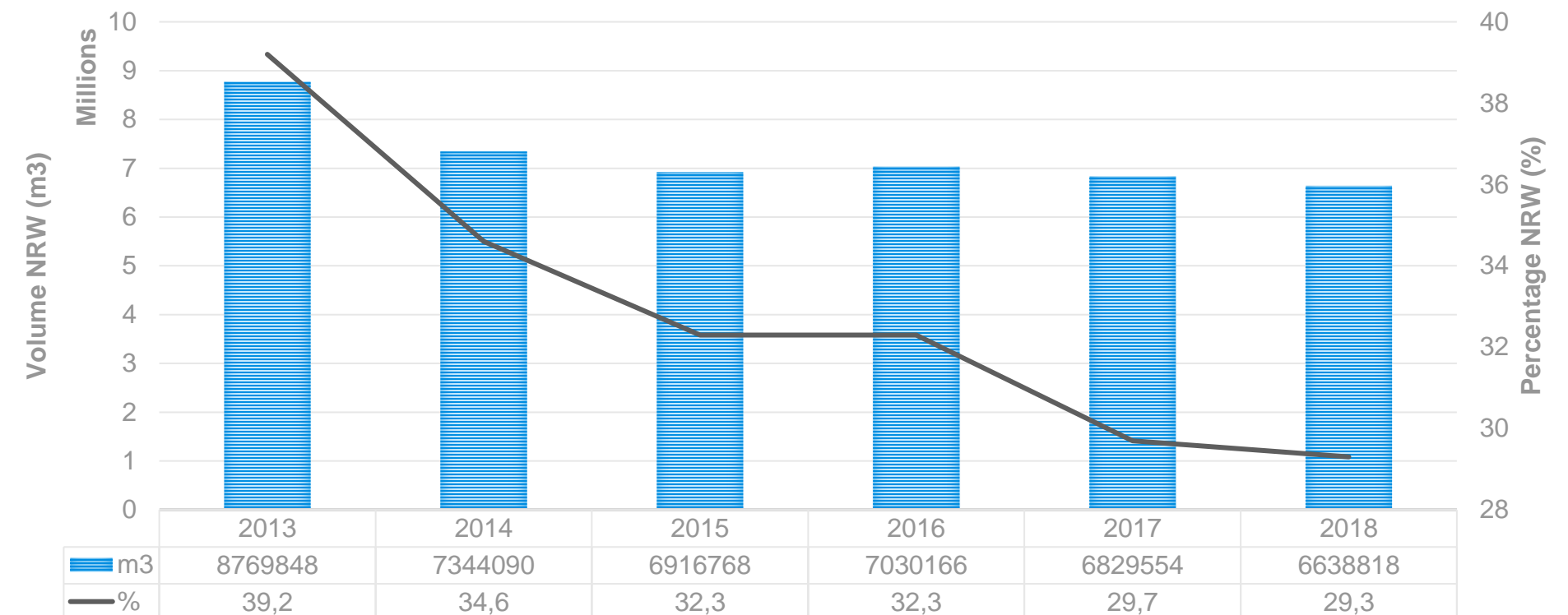
Great start and then stall

Acceptable results, but not enough

Due to lack of human and technical resources and know-how

In-house resources extended to the limit

NRW EVOLUTION - ADRA - 2013 / 2018



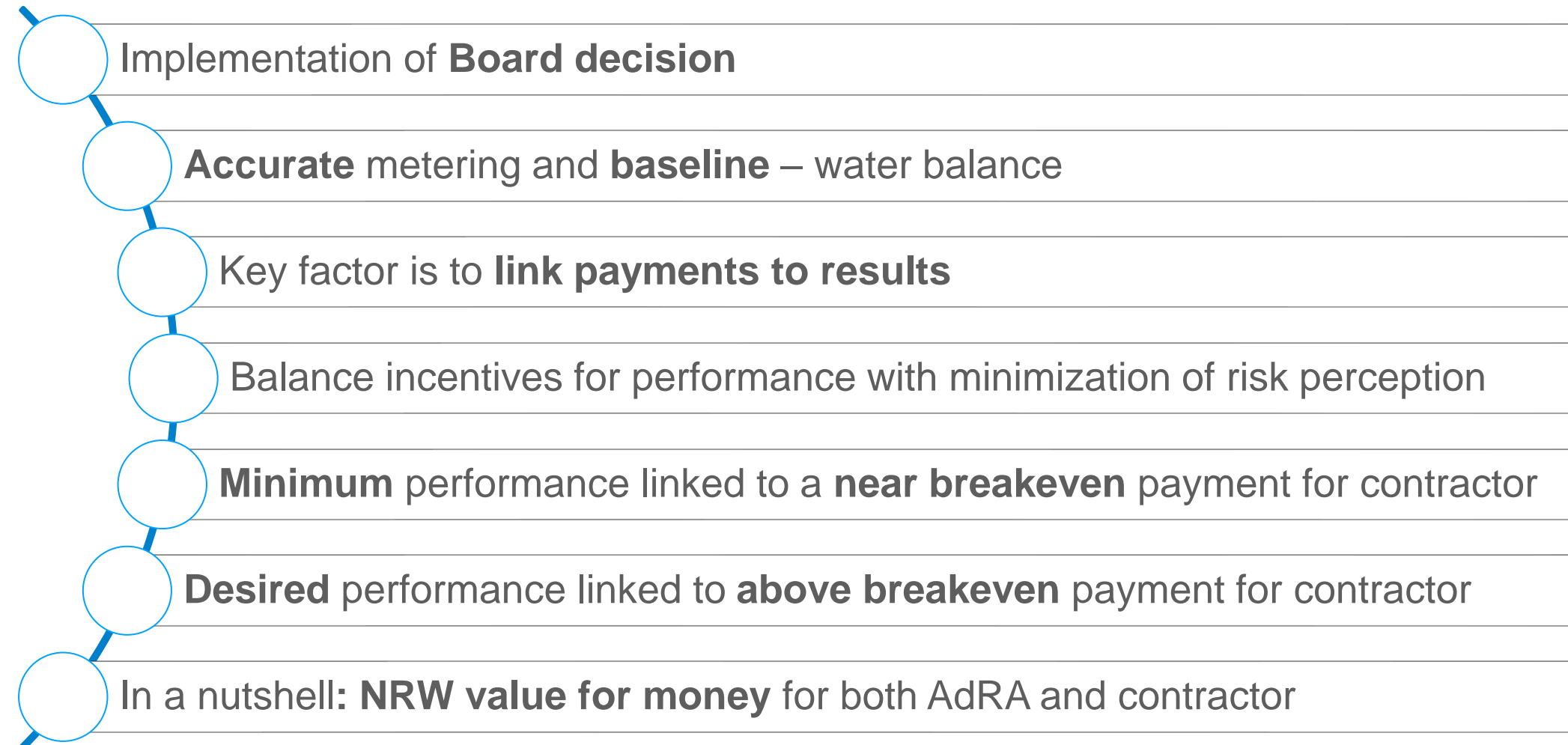
AdRA's Board took the strategic decision to launch a PBC, as an innovative approach to overcome the stalling progress in the reduction of NRW.



03. PBC contract

Design, Results and Goals

03. PBC contract



GOALS: Improve, develop, integrate new strategies for NRW in a 5 year contract and achieve about 20% of NRW.

03. PBC contract

Fixed component

Fixed fee during whole 5 year contract to assure and compensate minimum staff allocation

Modelling, design and construction works

Variable component

Risks' sharing and minimization

(1) Annual target reduction value - above breakeven ($1 > 2$)

(2) Annual minimum reduction value - near breakeven ($1 < 2$)

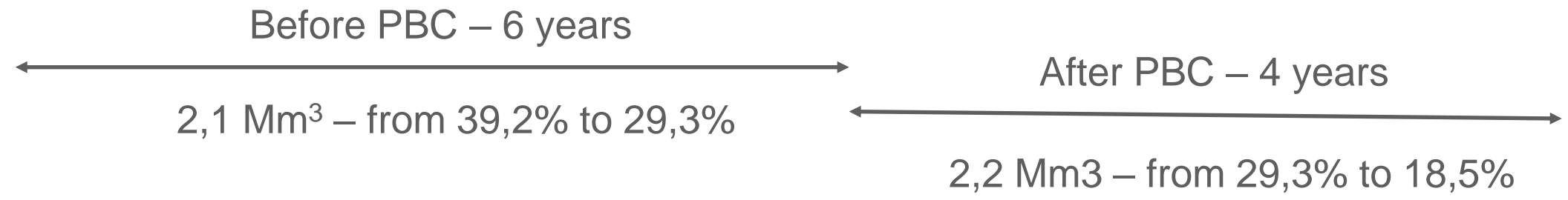
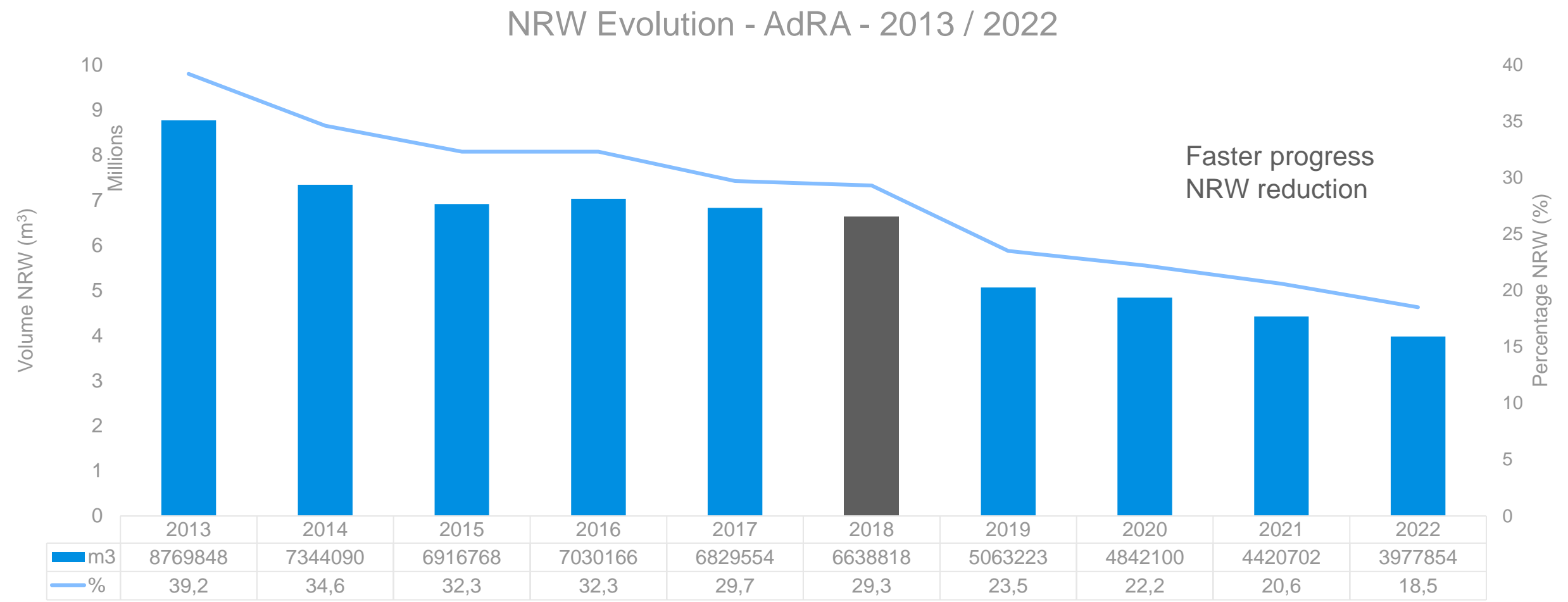
Penalty for no compliance

NRW reduction profits / savings to be shared

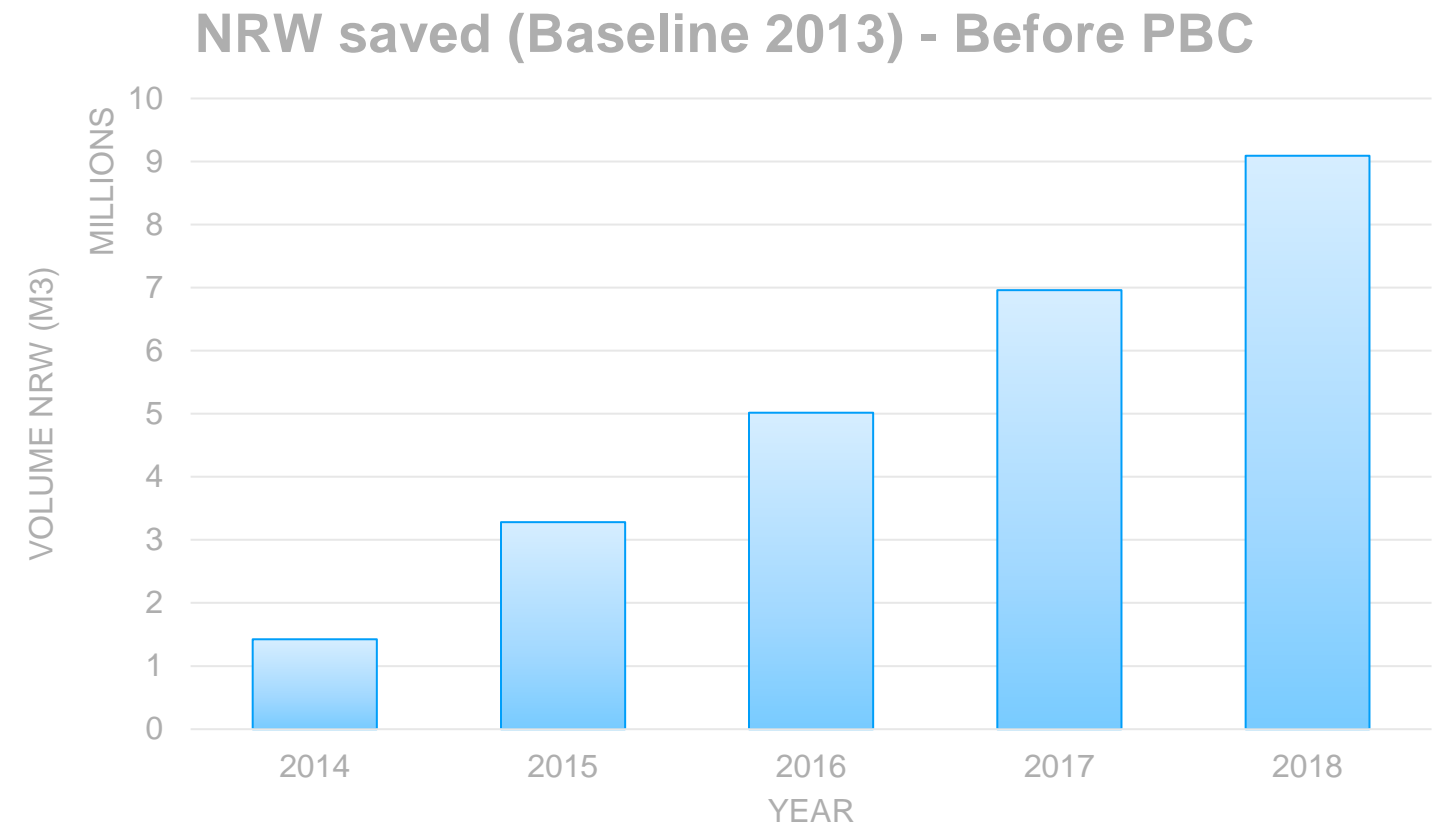
AdRA's commitment:

- Maximum time for pipe repair – 7 days
- Maximum time for correction of unauthorised water use – 14 days

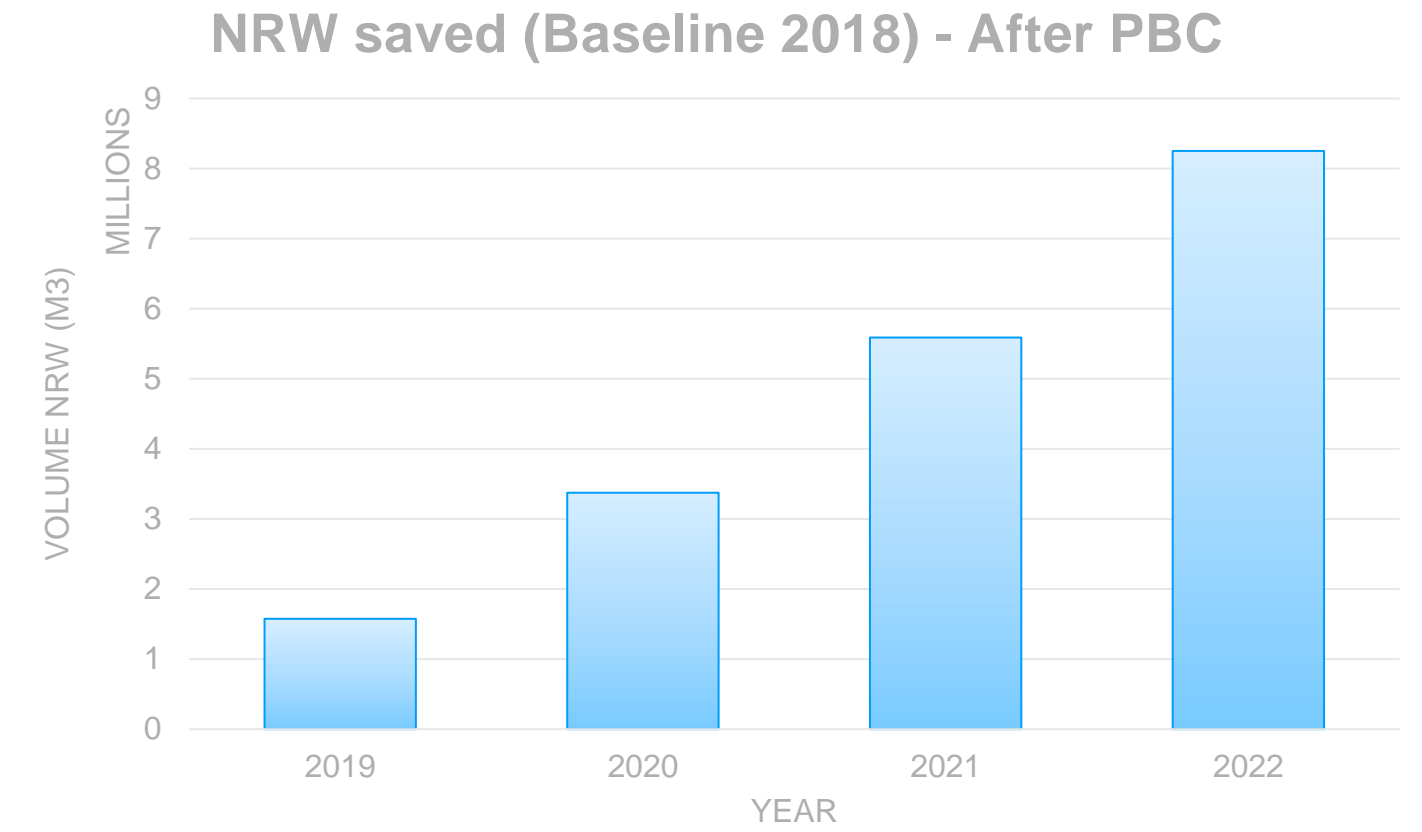
03. PBC contract



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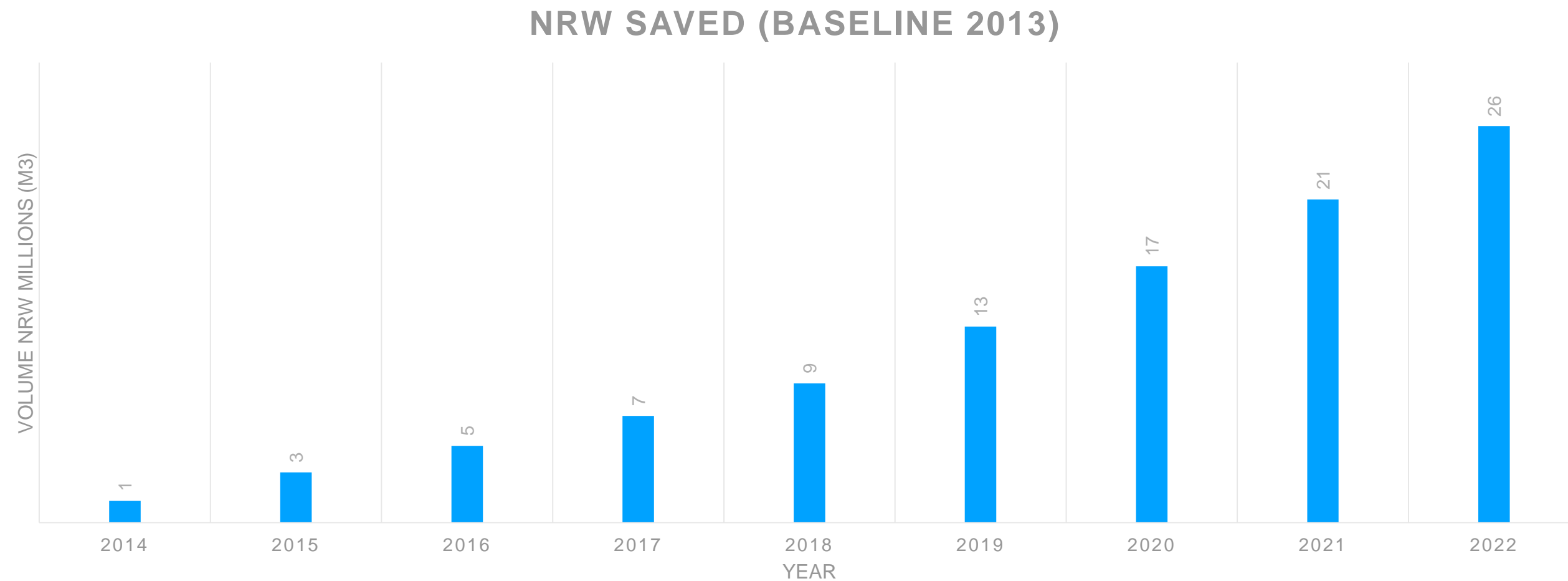
Baseline 2013
Total water saved – over 9 Mm3



Baseline 2018
Total water saved – over 8 Mm3

03. PBC contract

Total water saved since 2013 until 2022 – over 26 Mm3



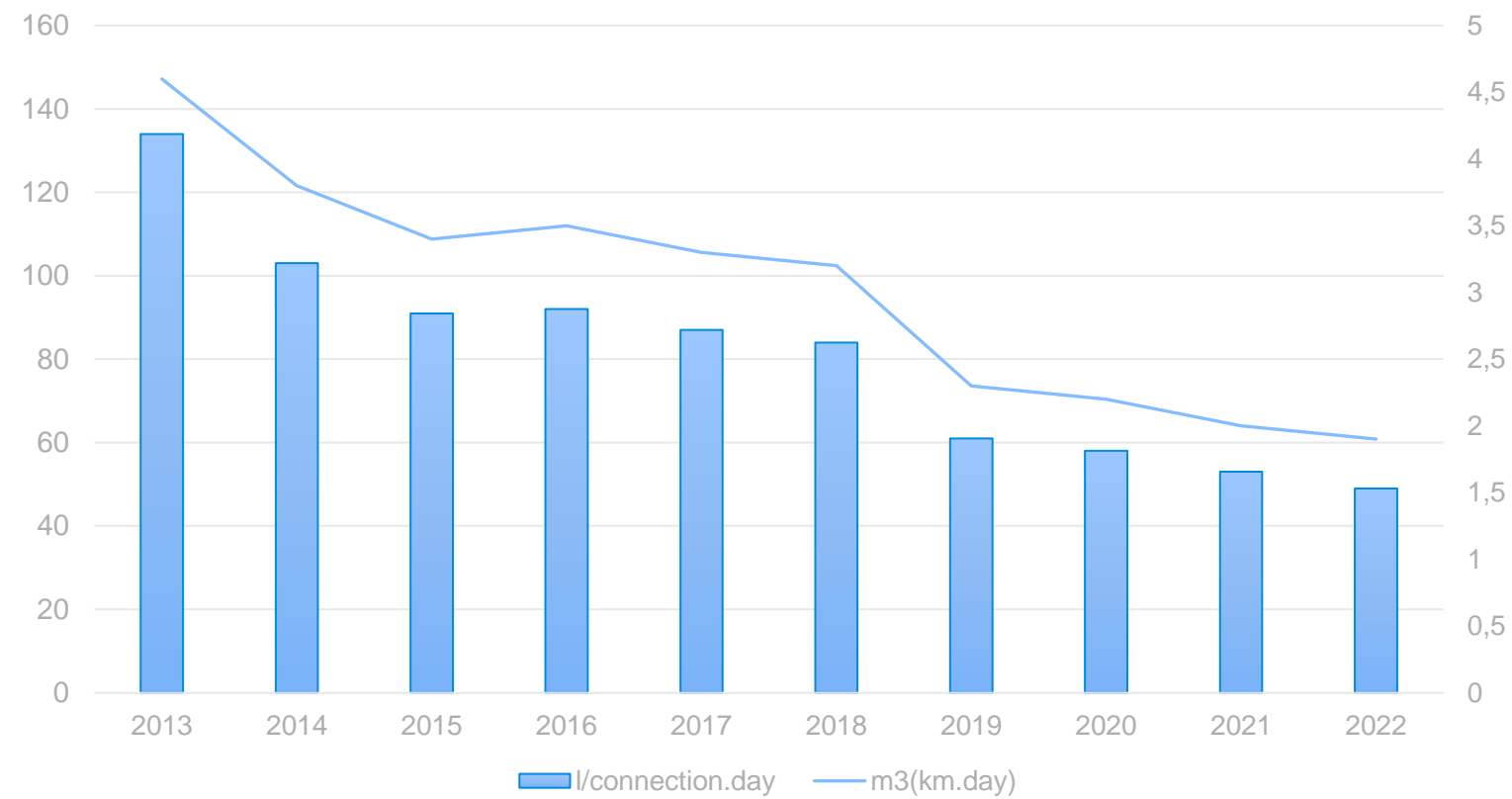
In 9 years, through NRW management, seeking water efficiency, AdRA saved 1 year of total distribution



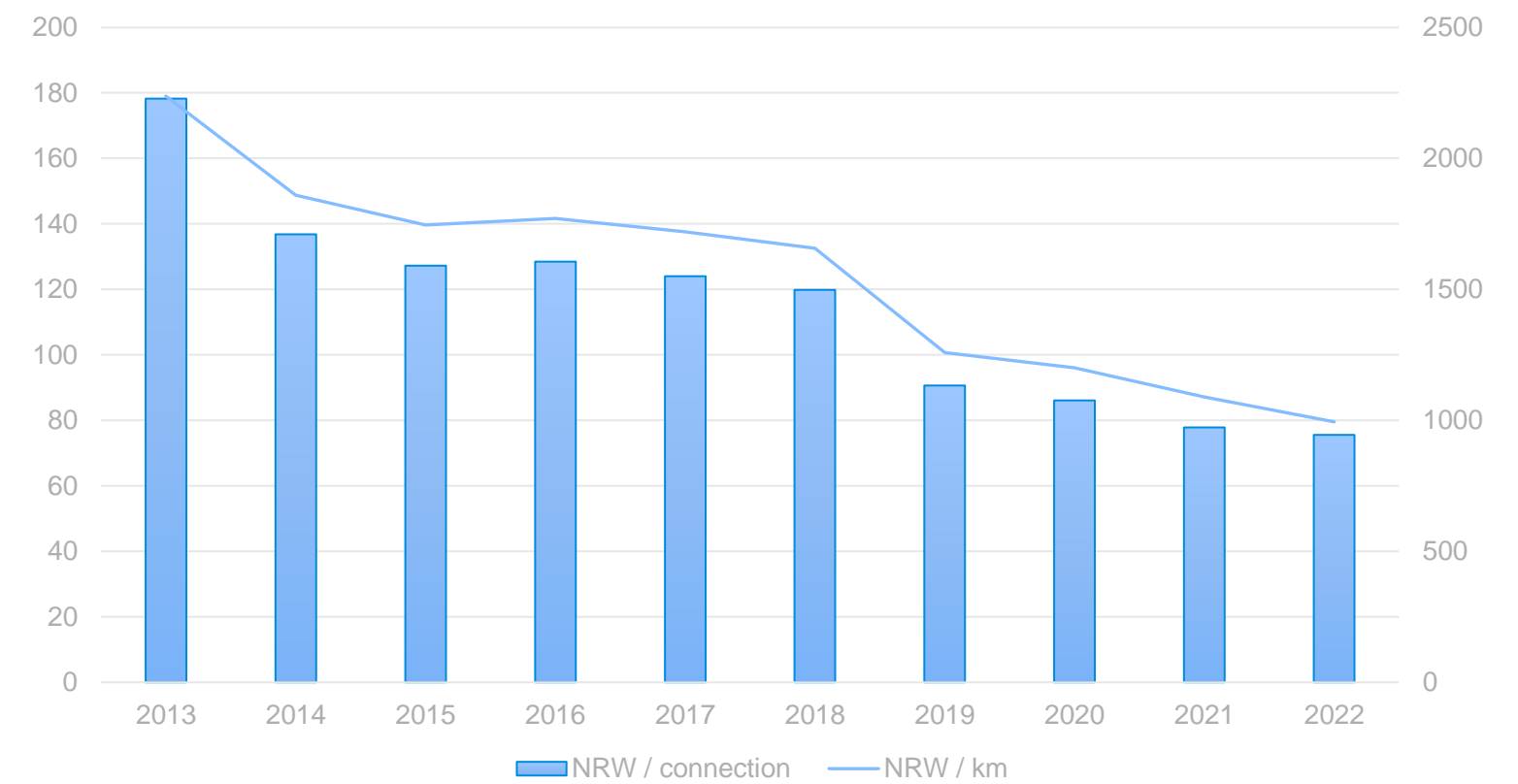
04. Indicators

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KPI - Real Losses (2013 - 2022)



KPI - NRW (2013 - 2022)



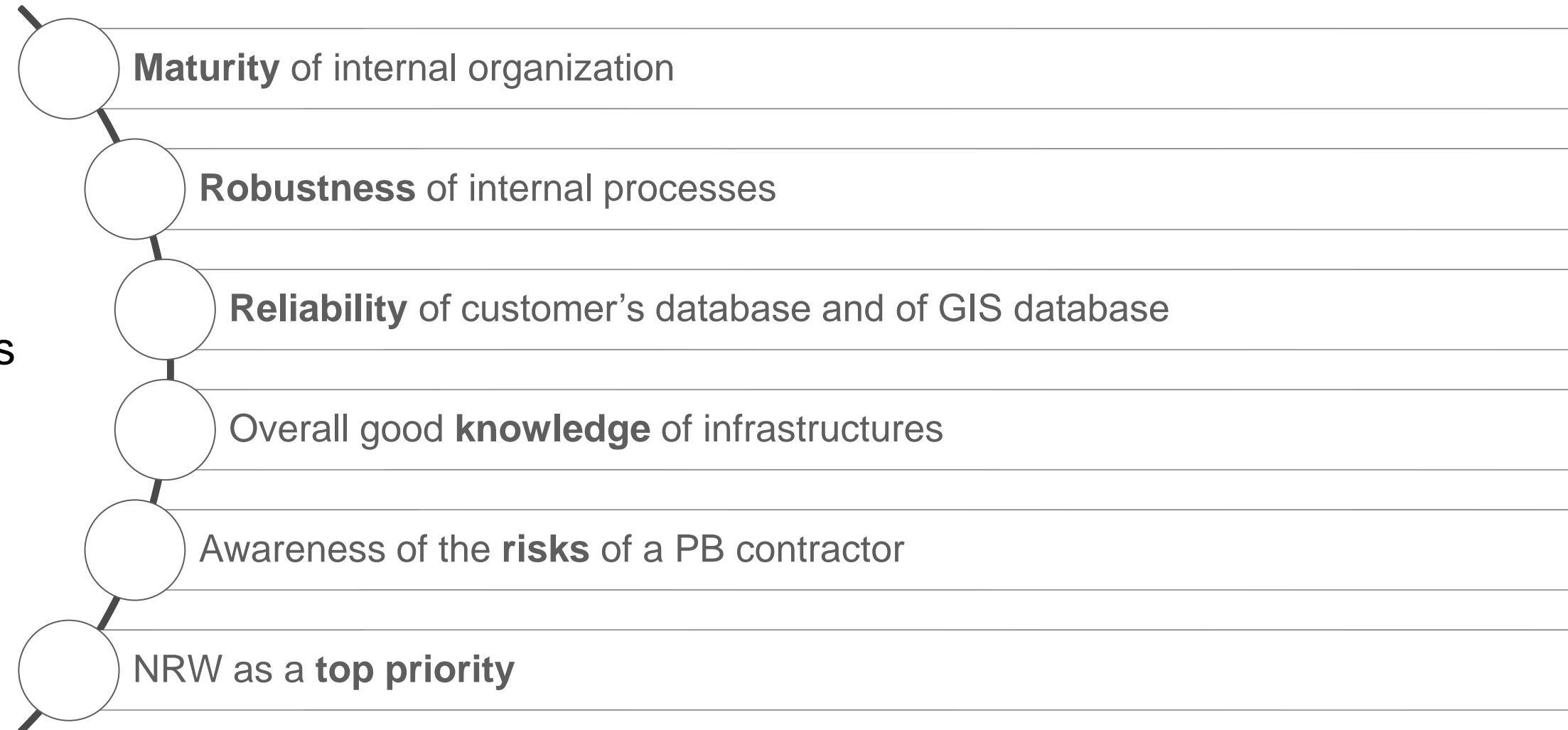


05. Lessons Learned

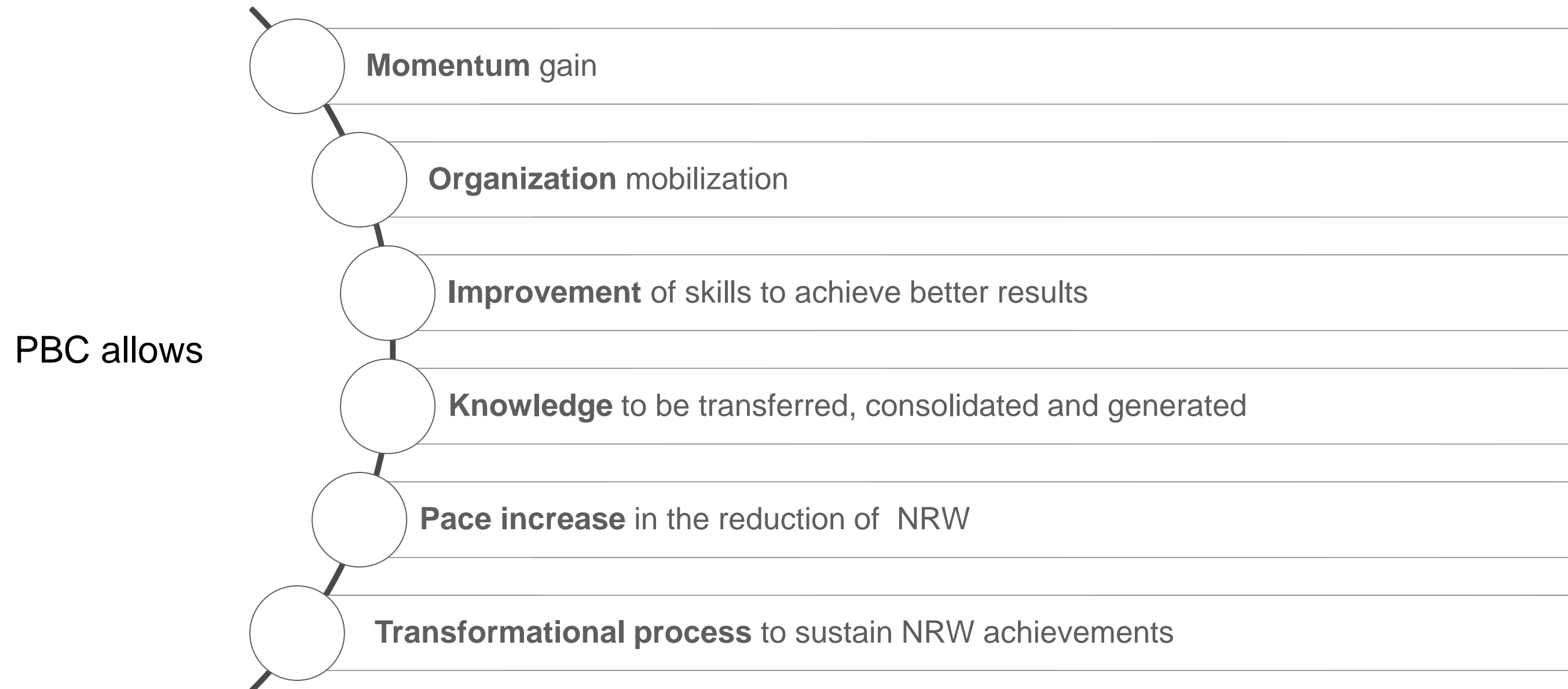
Requirements and Possibilities

05. Lessons Learned

PBC minimum requirements



05. Lessons Learned





06. Future

Scope and design

Seek ELL – Economic Level of Leakage

Value sustainability in the use of water resources

Reinforce the importance of water in the water-energy nexus

Pursue water efficiency to promote energy efficiency

Implement a culture of water efficiency as a service improvement

Increase billing by finding new customers

Ensure AdRA's economic sustainability

VISION: Consolidation as the reference company in the sector, of recognized efficiency and guaranteed reliability of the service provided, at socially accepted prices.

OBRIGADO