

30
1993
2023



International Association
of Water Service Companies
in the Danube River
Catchment Area



**DANUBE
WATER
PROGRAM**

**10
YEARS**

2023 DANUBE WATER CONFERENCE

**Navigating Changing Waters: New ways to overcome
emerging challenges of the water sector in
the Danube region**

Teodor Popa
1st June 2023

Mission (im)possible: Keeping up sustainable service delivery in an economically turbulent environment

Financial management of water utilities in practice

Content

Tariffs

Energy challenge

Depreciation / royalty

Smart finance mechanism

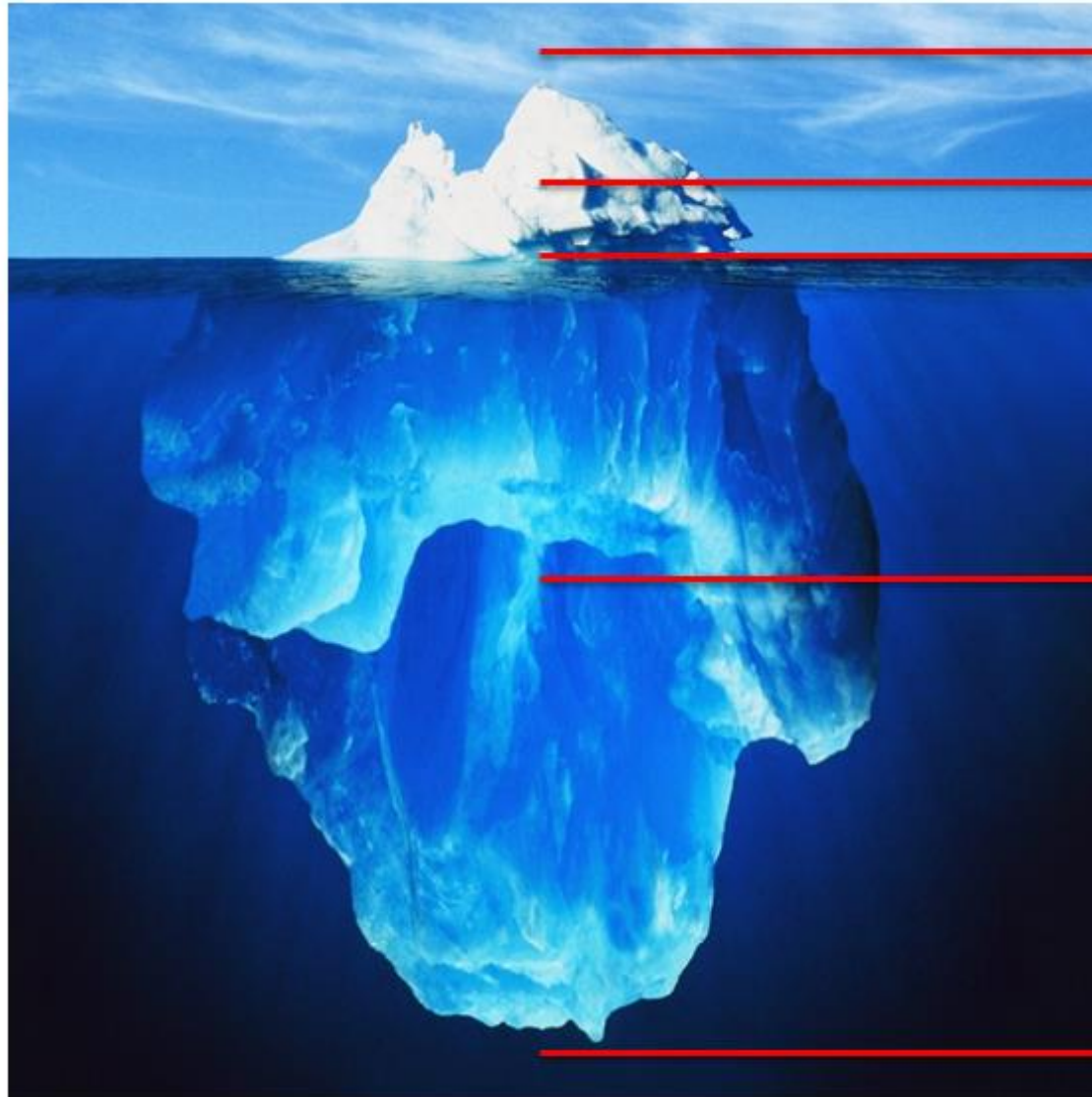
Romania water services organization

- ▶ Local authorities are responsible for organizing the water services
- ▶ Romanian operators provides the whole water cycle services

Water	Sewerage	Wastewater
Catchment and treatment	Collection	treatment
Transport and distribution	transportation	

- ▶ The infrastructure is public property
- ▶ 40 Regional Operating Companies (ROC) (public, of the local authorities)+ Bucharest (private, Veolia)+ 900 other services providers (public or private)

We know its going to cost a lot, and its not where you think



Capital expenditure

Minor maintenance



Major maintenance

Everything else:

- **Regulation**
- **Policy**
- **Monitoring**
- **Institutions and people**
- **Costs of borrowing**

Tariff structure

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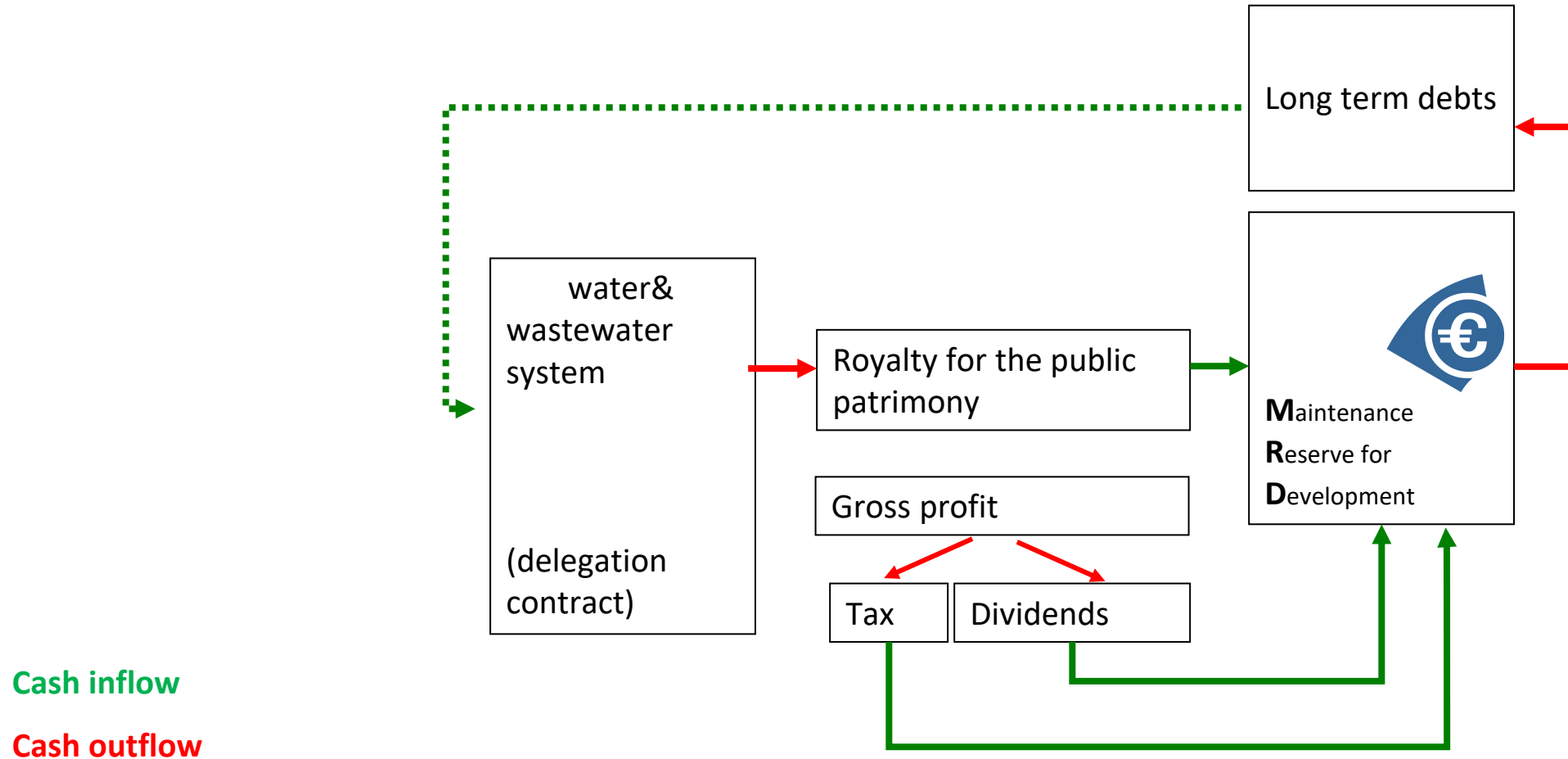
ASSETS	COST ELEMENTS	ADJUSTMENT
	Operating expenses: Raw water, energy, fuel, staff	INFLATION 
	Maintenance & repair expenses Executed by themselves/ third parties <ul style="list-style-type: none"> ▶ <i>emergency repairs</i> ▶ <i>routine maintenance</i> ▶ <i>preventive maintenance</i> 	REAL TERM
	Environmental expenses:	FORMULA
	Financial expenses: Interest and commission, exchange rate loss	FINANCING/ LOAN AGREEMENT
Water Co. Fixed assets: buildings, equipment etc.	Company' assets depreciation	BUSINESS PLAN/ COST- BENEFIT ANALISYS
City Fixed assets: w& ww. networks etc. (Delegation contract)	Public assets depreciation: zero !	A F F O R D A B I L I T Y
	Royalty = to be depreciation eq.	
	Development fund	
	Profit	



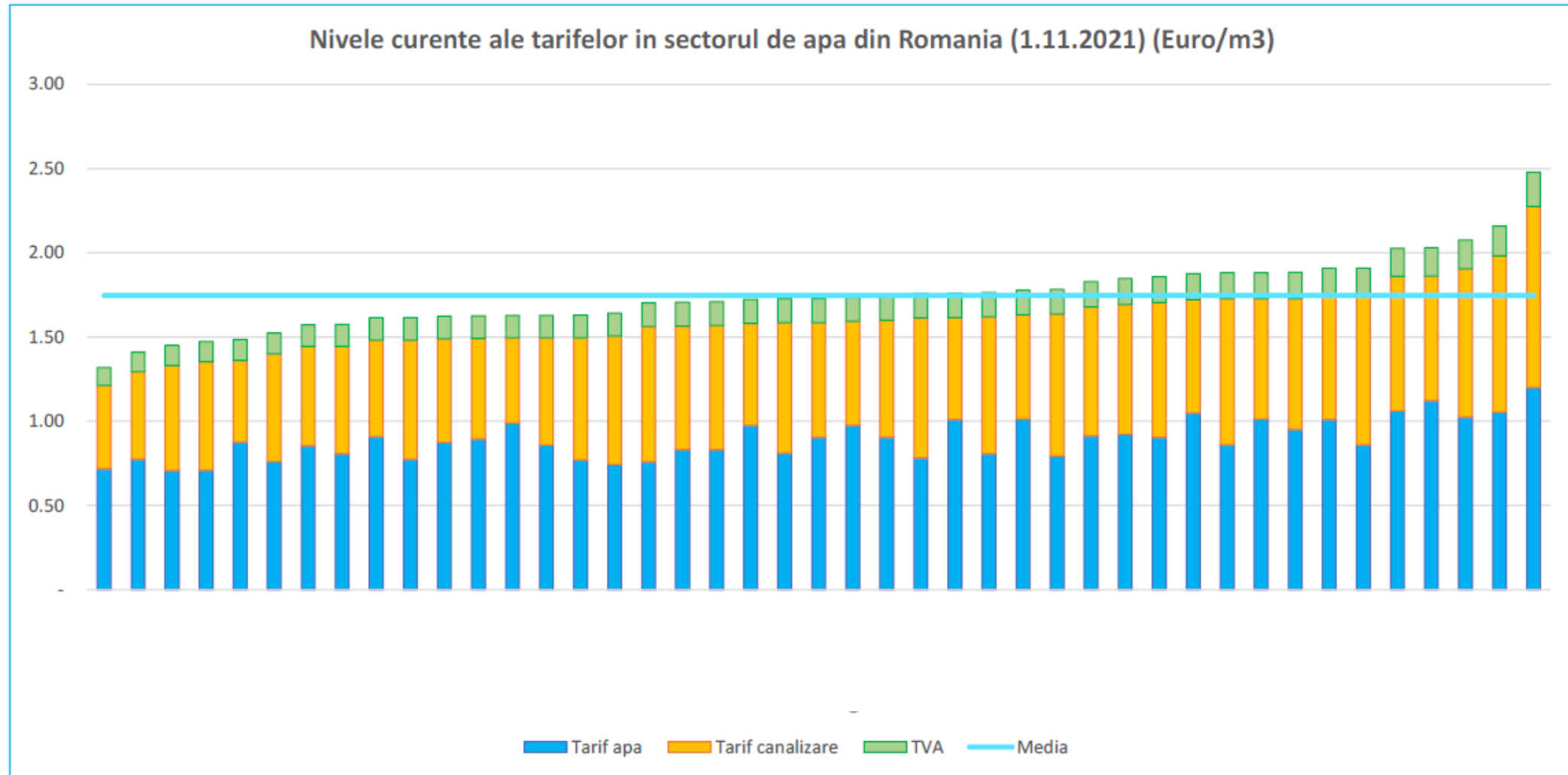
Maintenance Reserve for Development

The “smart” financing mechanism

Introduced by EBRD in 1995 (law in 2005)



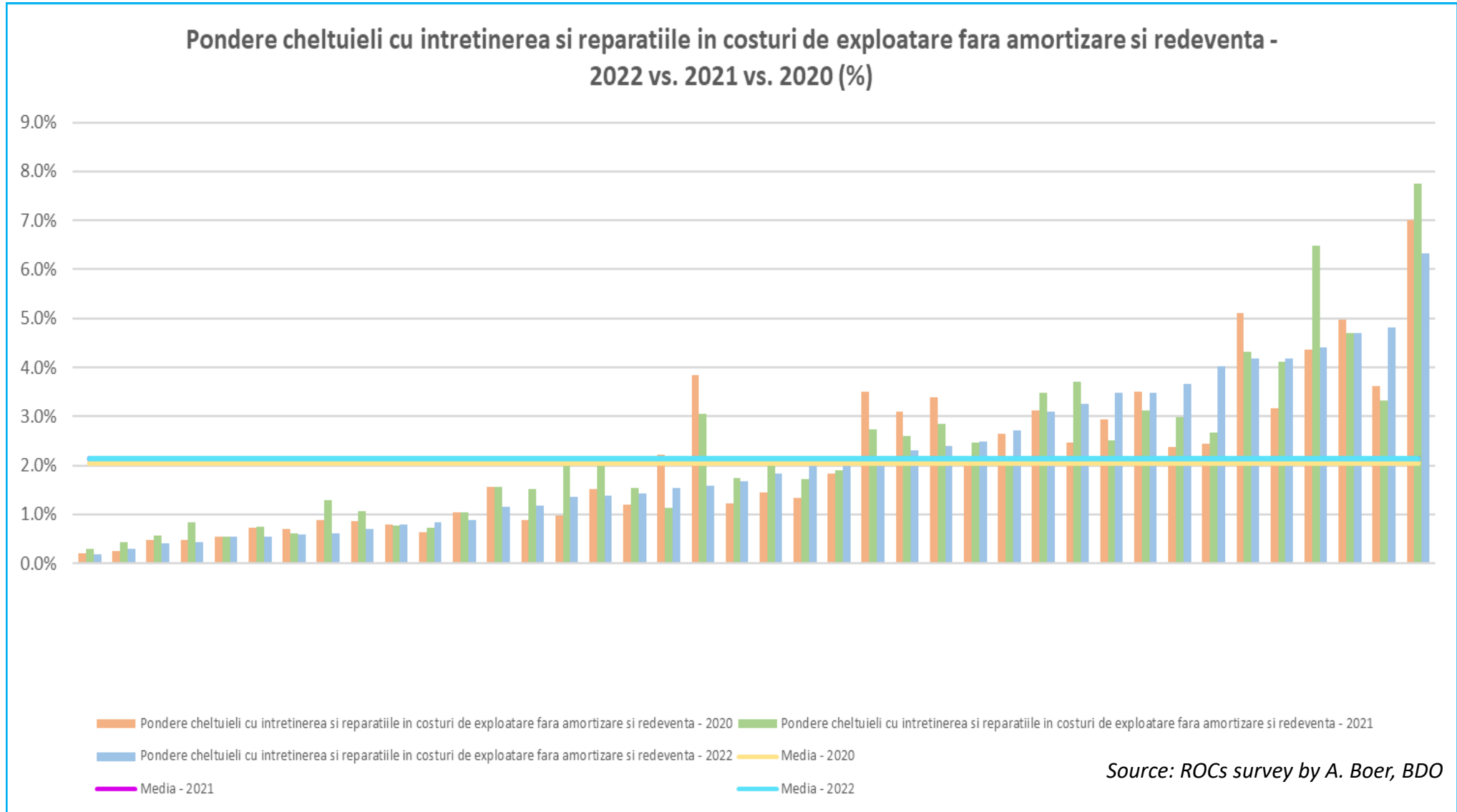
Water and wastewater tariffs by ROCs 2021



Source: ROCs survey by A. Boer, BDO



Maintenance weight on OPEX before royalty and depreciation 2020- 2021- 2022



Depreciation of the assets regime

- Private assets
 - Depreciation according to accounting rules
- Public assets
 - No depreciation according to the accounting rules
 - Reflected partially by the royalty

Royalty in Romania

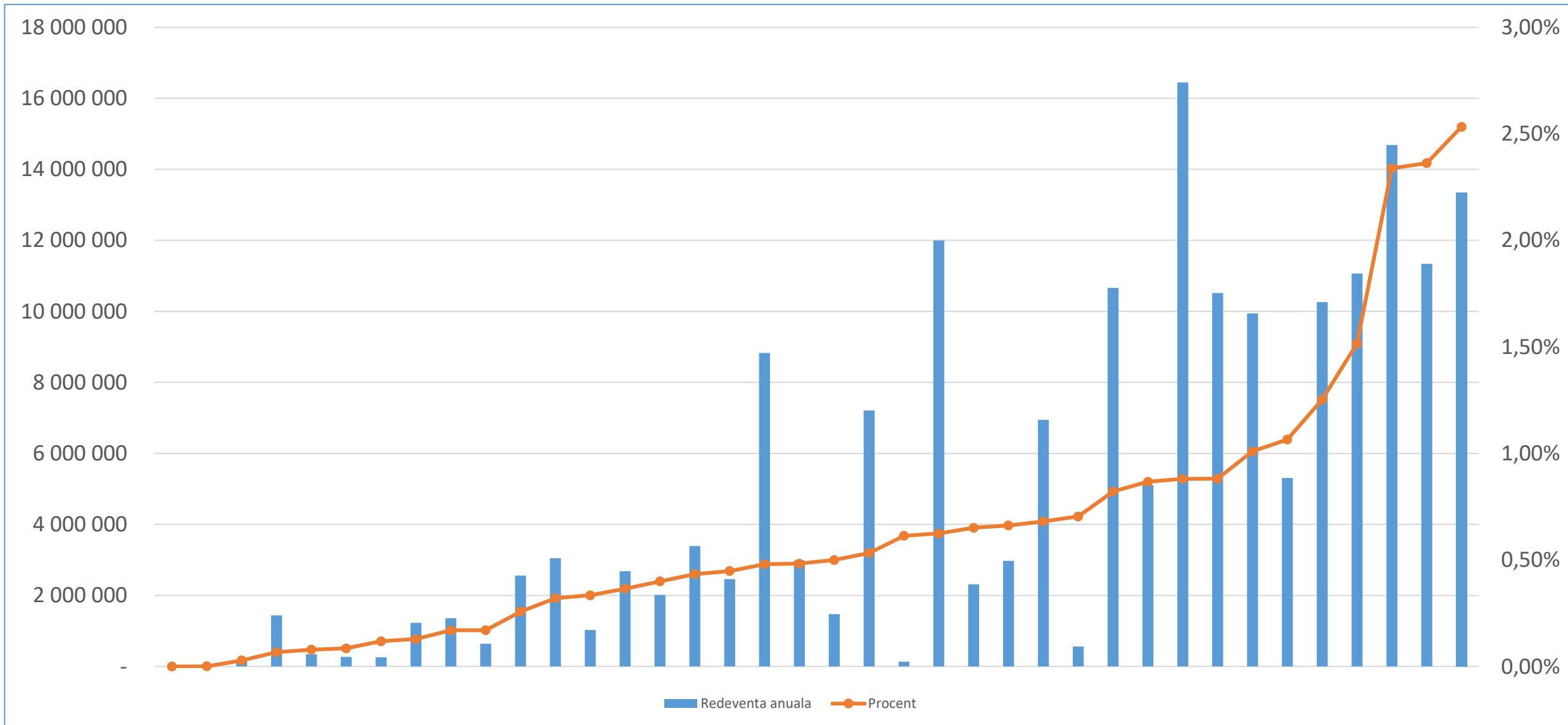
Royalty is the amount due by the ROCs for using the public assets to the owner (local authorities).

- Connected (theoretically) to the **depreciation**, but the only compulsory request is the minimum amount must cover the debt service
- Royalty is recognized in the tariff, therefore, **affordability** must be taken into consideration

Calculated as:

- Fixed amount per year
- Amount per cubic meter invoiced
- Percent out of turnover
- Equal to the debt service
- Equivalent to depreciation
- Other methods

Royalty vs assets value, Romania



Tariff policy until 2022

- Volume based/ ~~Fixed part possible~~/ Polluters pay principle
- Strategies were related to the investment projects considering the affordability criteria (top ceiling):
 - Until 2022: cost recovery principle
 - 2000 : 4.0% for the average household income
 - 2003-2004 : 3.5%
 - 2007-2022 : 2.0-2.5% max. 4% for the lowest decile

New approach: Cost- Benefit Analysis (CBA) and new economic regulation (2022)

Bottom ceiling principle: min. 2.5% and linear increase the royalty to depreciation level over the next max. 30 years.

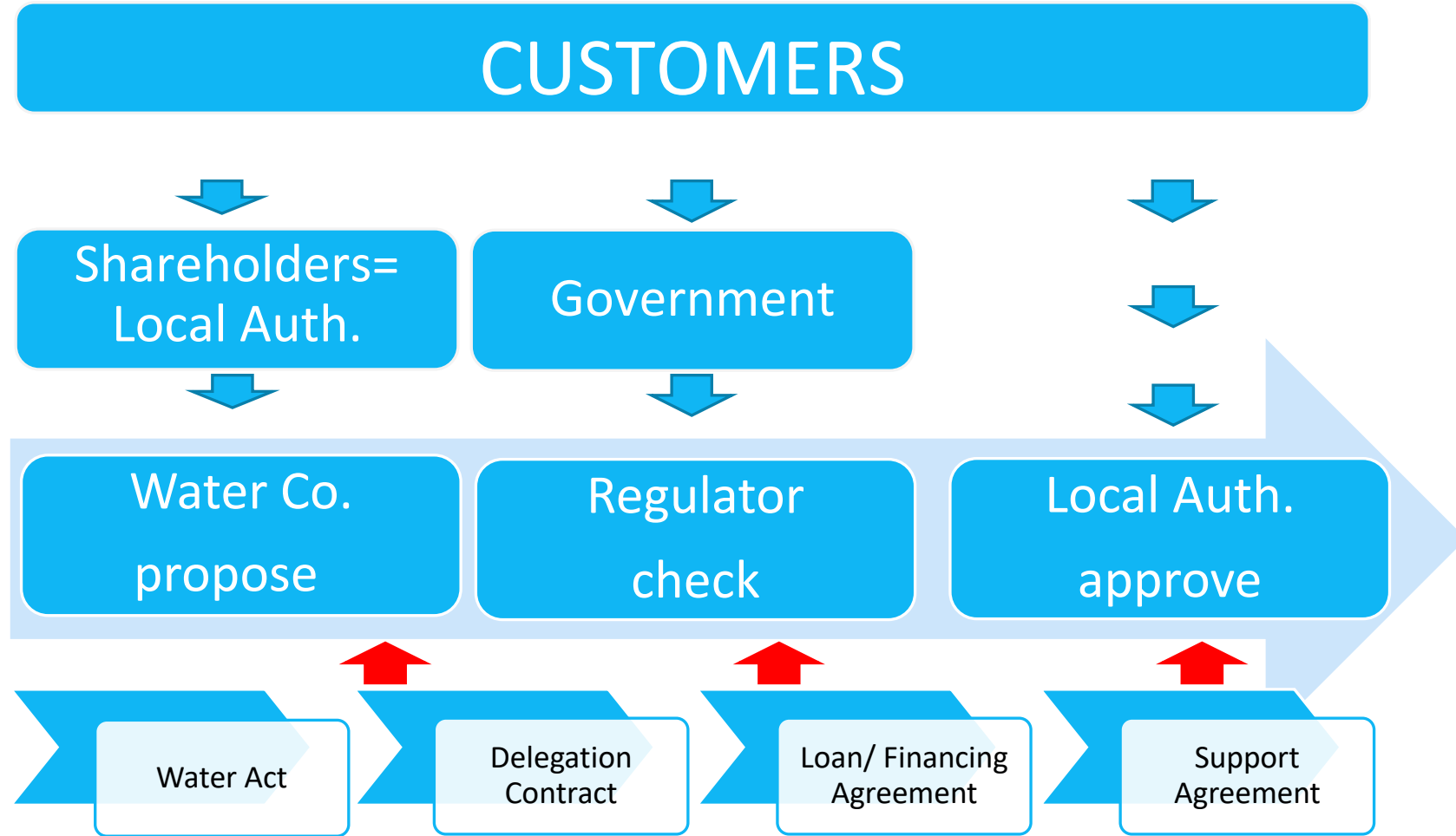
Cost recovery principle: controlled OPEX+ maximization of CAPEX

Tariff strategy to cover:

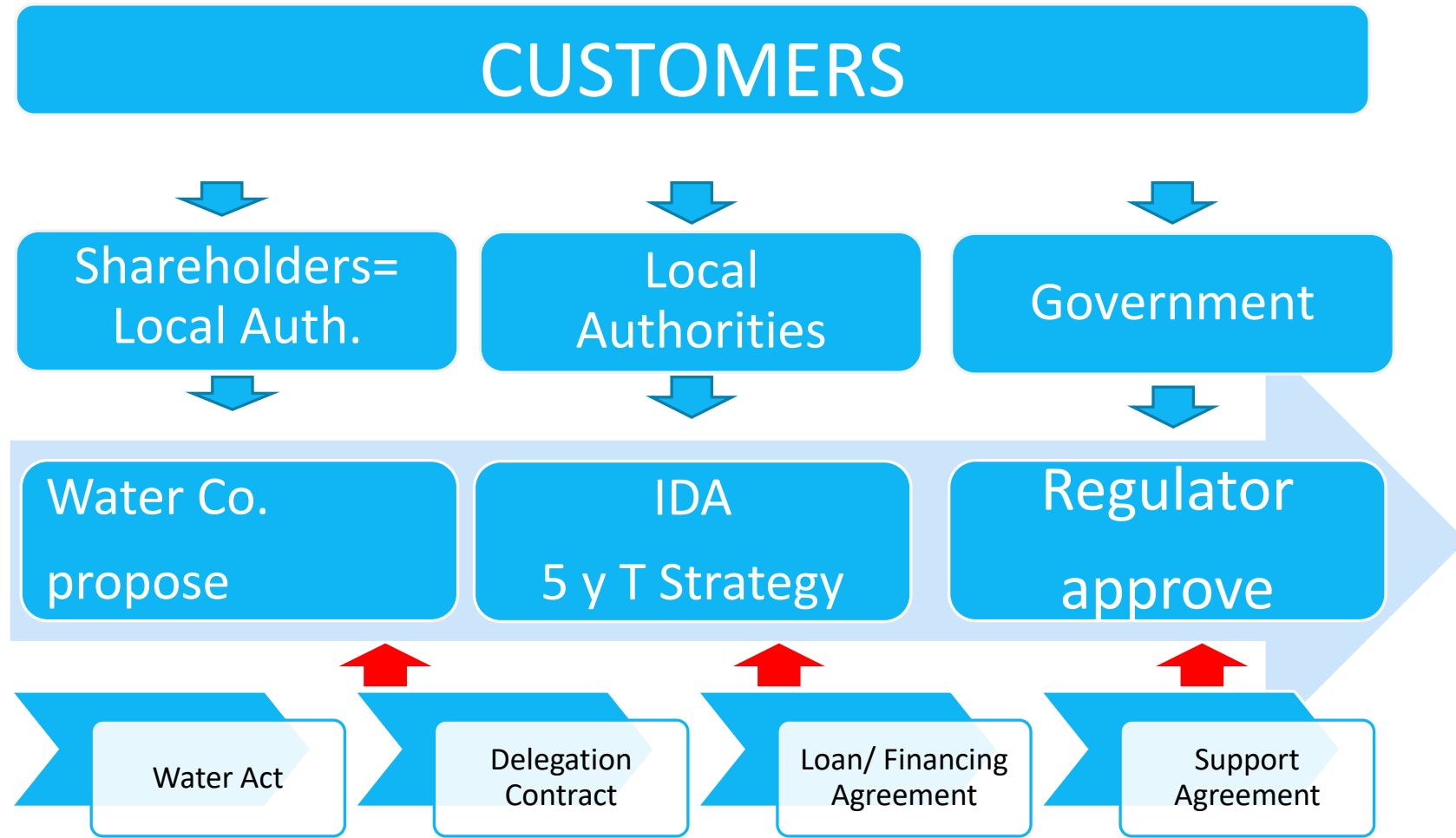
- Controlled OPEX plus
- X% out of public assets depreciation

X could be between 0- 100% anticipated to increase linear yoy over the next max. 30 years to cover **replacement** costs and **affordability**

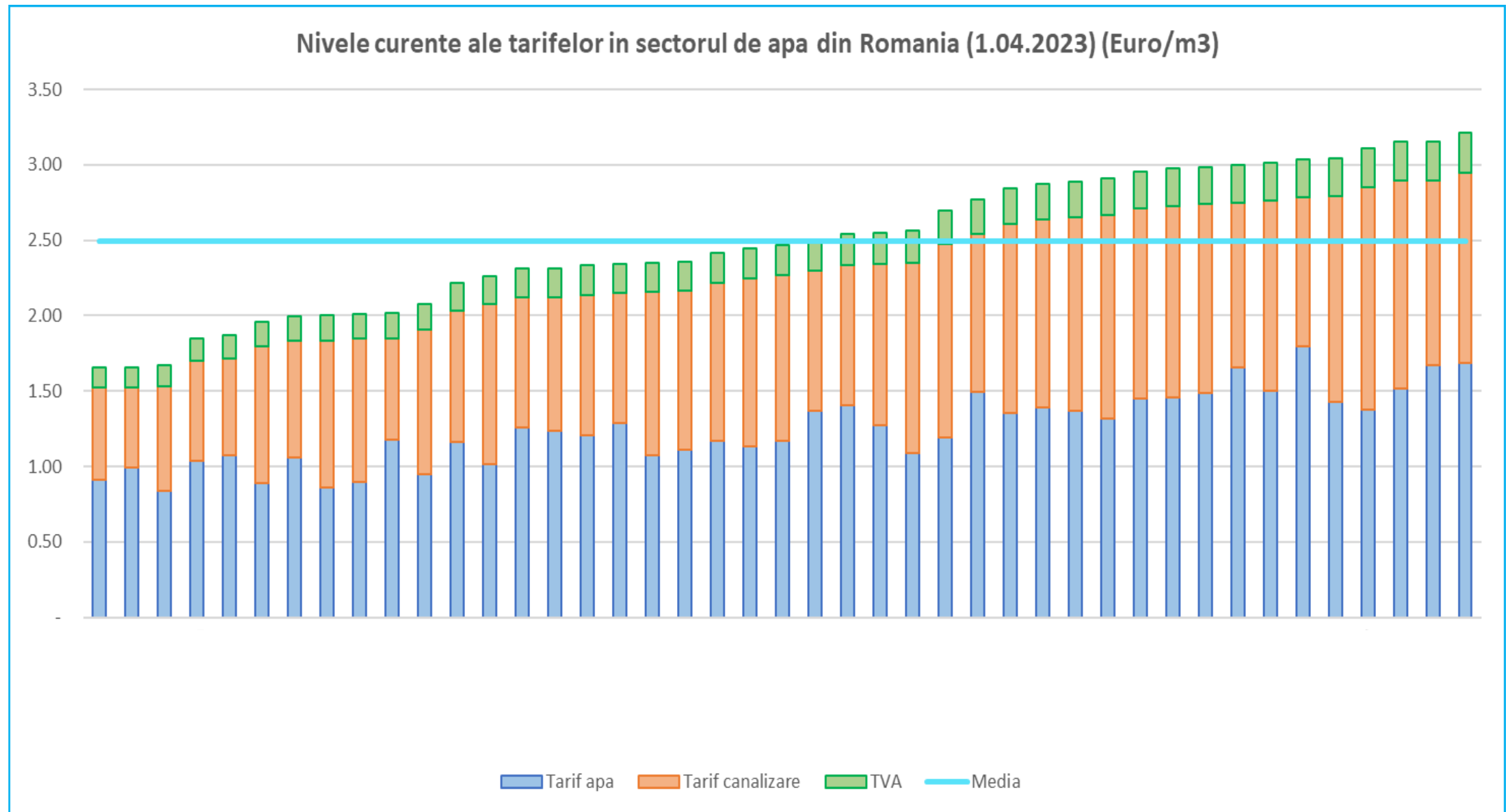
Tariff approval process until 2022



Tariff approval process after 2022

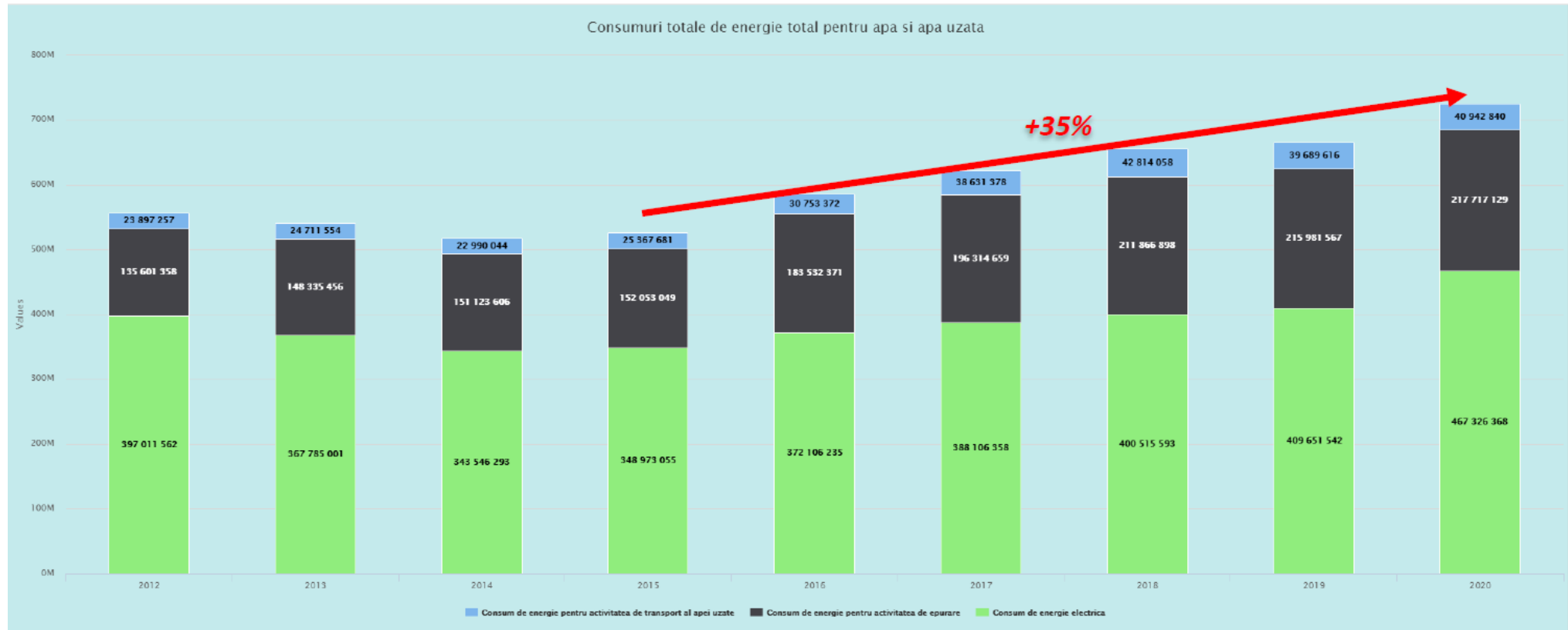


Water and wastewater tariffs by ROCs April 2023



Energy challenge

Energy cost 2012- 2020, Romania



MAA-000006 Suport Sectorial Ad-hoc oferit pentru sectoarele Mediului si Energiei in Romania

Lotul 2: Mediu si Energie (MIPE PASSA 2 - AA-010424 / MMAP PASSA - AA-010532)

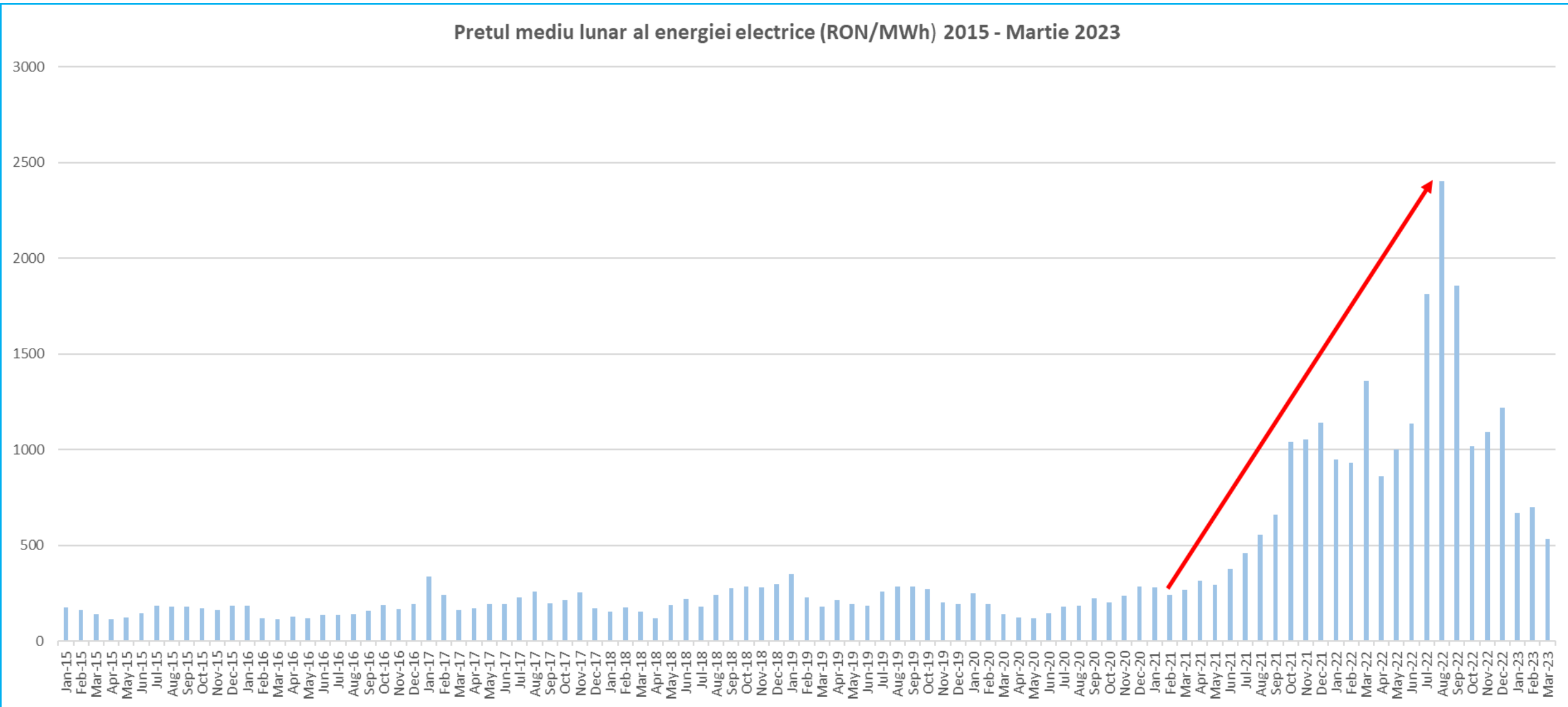
Green: Water

Black: Wastewater treatment

Blue: WW Transport

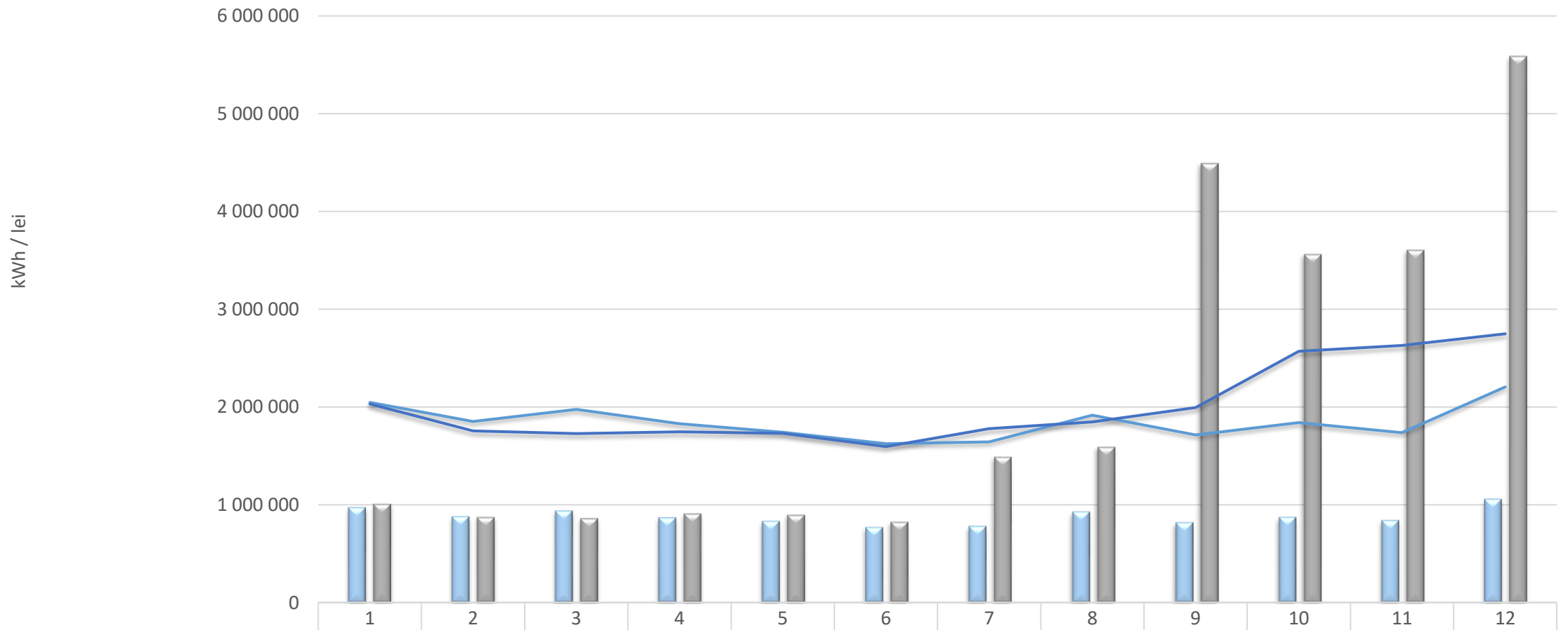
Average monthly electricity price 2015- 2023

Pretul mediu lunar al energiei electrice (RON/MWh) 2015 - Martie 2023



Source: ROCs survey by A. Boer, BDO

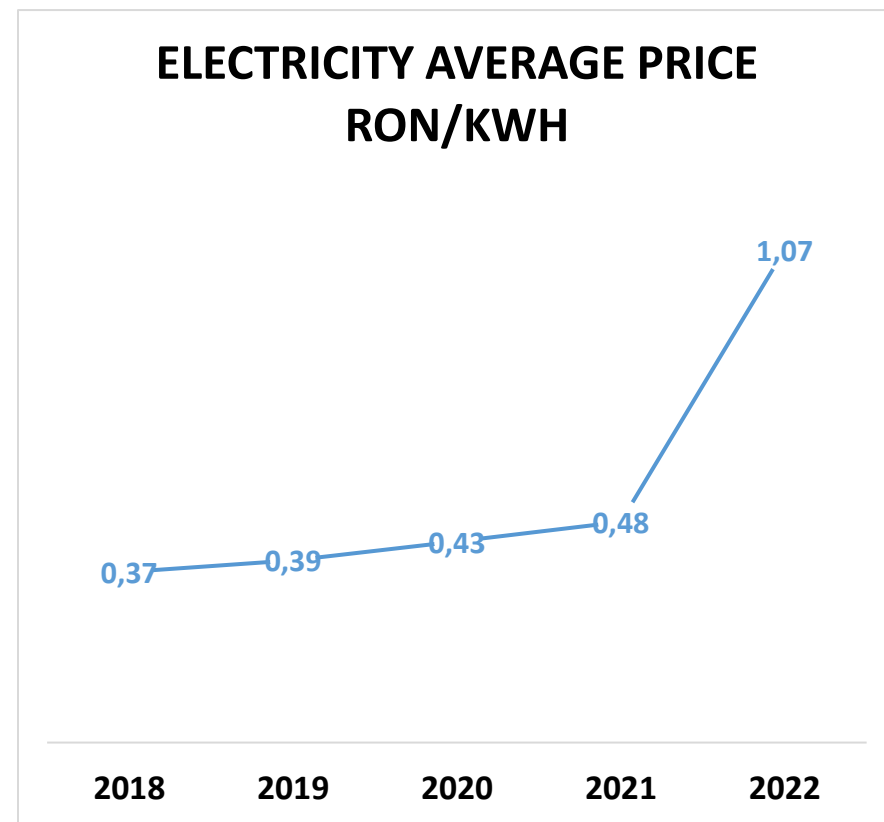
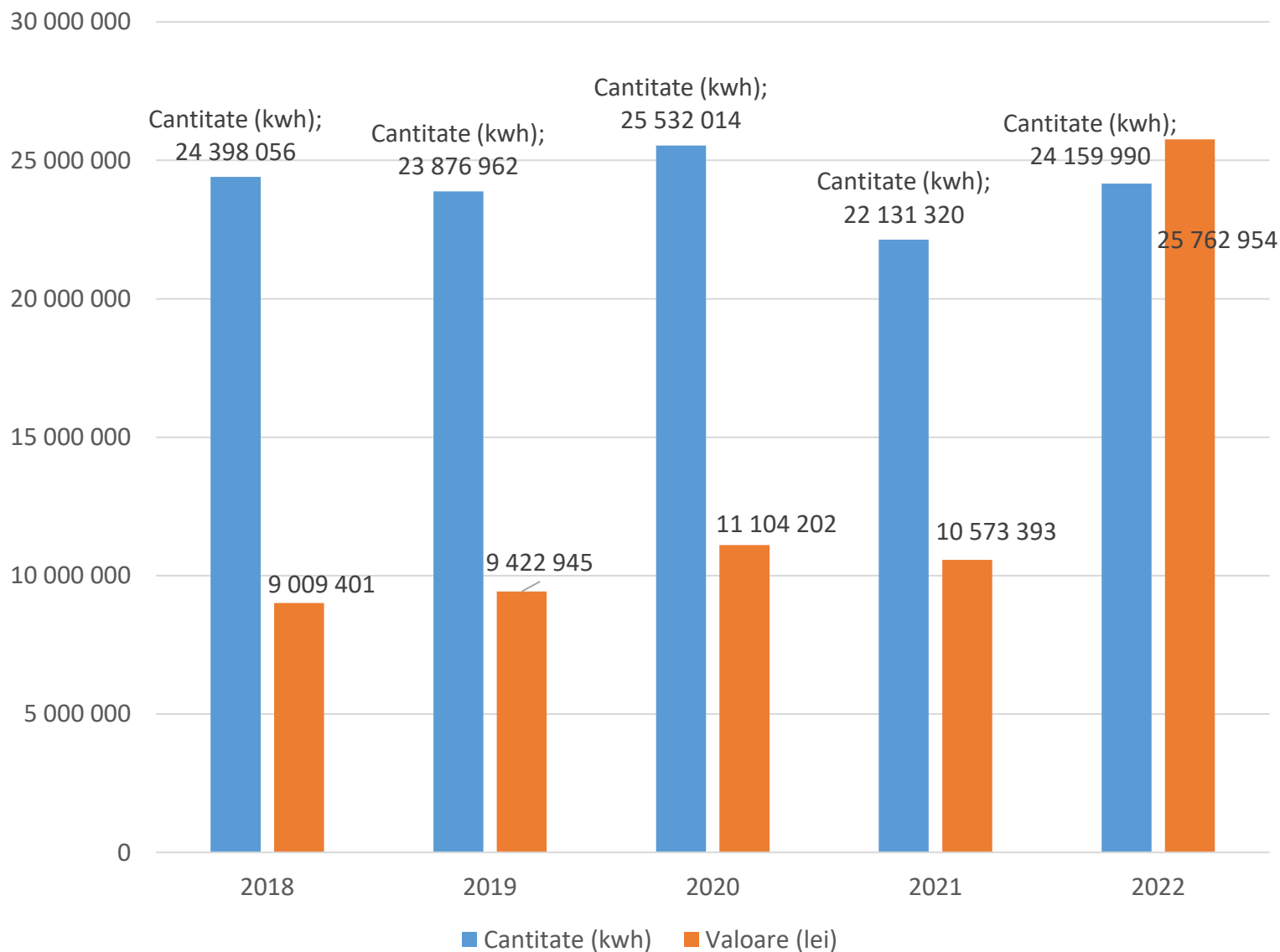
Electricity bill 2021- 2022



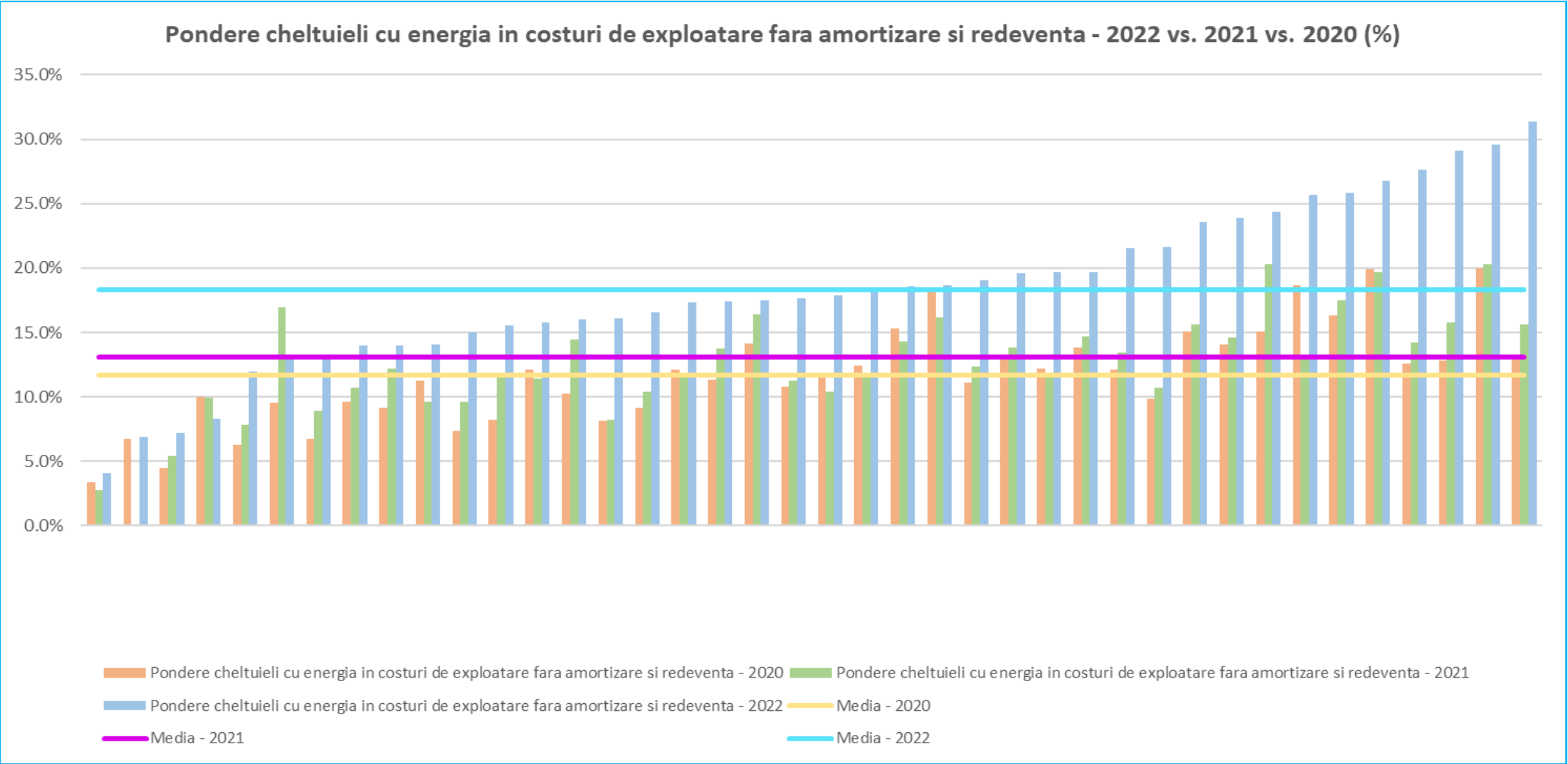
	1	2	3	4	5	6	7	8	9	10	11	12
Valoare 2021 [lei]=10.573.393	973 392	880 683	938 998	869 226	833 092	771 134	783 091	929 190	819 285	874 633	842 830	1 057 839
Valoare 2022 [lei]=25.762.954	1 013 400	878 544	867 300	915 229	902 229	830 950	1 495 794	1 596 974	4 494 958	3 567 416	3 610 251	5 589 909
Energie electrica 2021 [kWh]=22.131.320	2 046 821	1 851 844	1 976 065	1 829 629	1 742 569	1 626 484	1 643 800	1 916 153	1 715 928	1 839 983	1 737 380	2 204 664
Energie electrica 2022 [kWh]=24.159.990	2 030 996	1 755 118	1 728 454	1 747 097	1 731 347	1 596 664	1 778 378	1 846 994	1 995 000	2 570 688	2 629 254	2 750 000

Electricity cost and consumption 2018- 2022

Electricity consumption/ cost 2018-2022

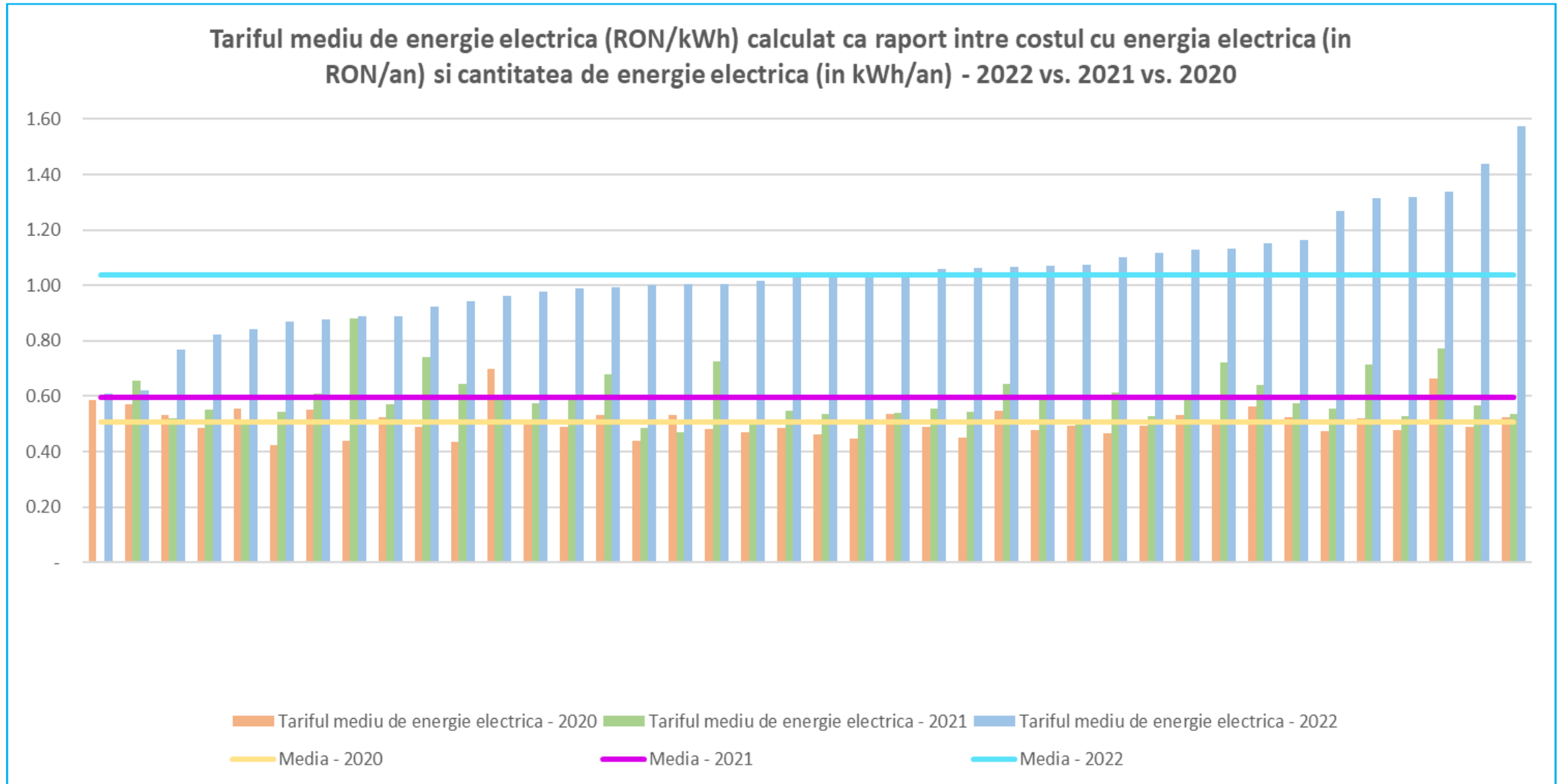


Energy cost of OPEX before royalty and depreciation April 2023



Source: ROCs survey by A. Boer, BDO

Average electricity price 2020-2021- 2023 (RON/ KWh)



Challenges

Improving tariff structure in order to incorporate both the real OPEX and CAPEX

Adopt new technical solution and become more agile/ resilient

Moving to “green”: renewable energy and circular economy

Shifting our mindset: understanding technical and financial aspects, challenges ownership

Acknowledgment:

Thank you!



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