



# Non-Revenue Water Management



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# Presentation outline

1. WASAC profile
2. NRW definition and Causes
3. WASAC, NRW reduction strategies



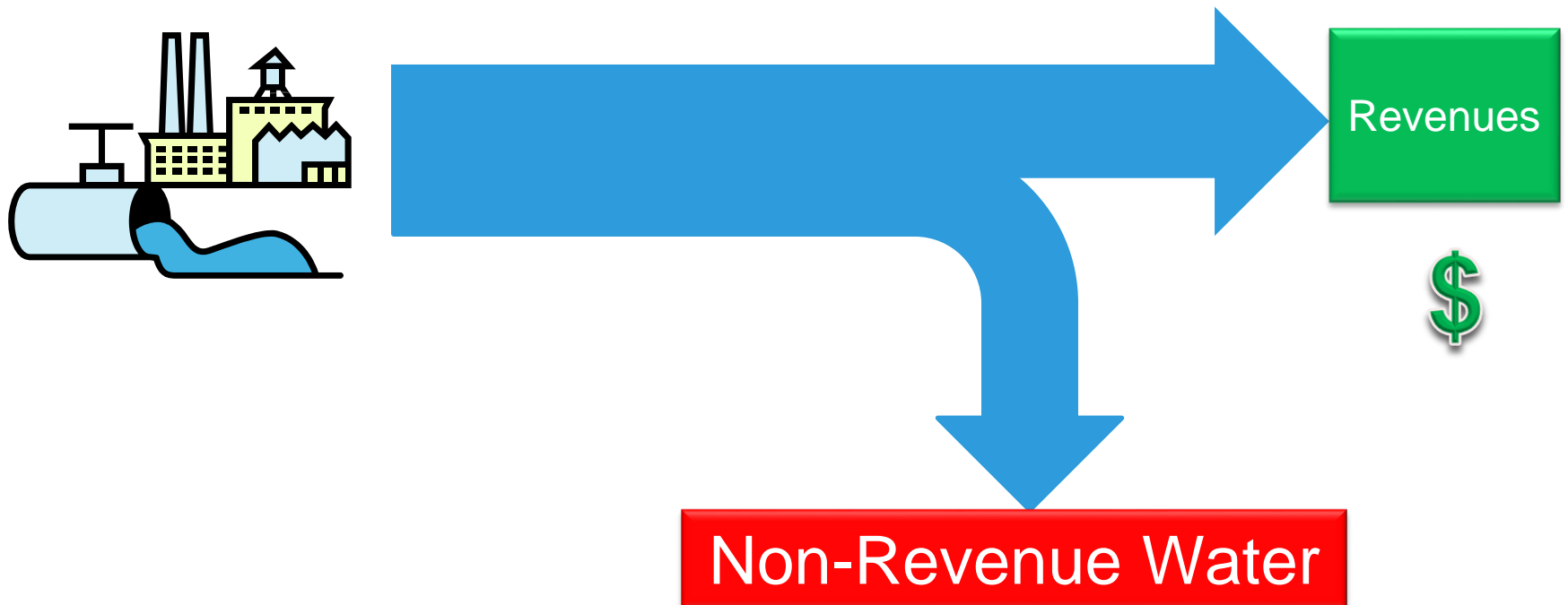
## WASAC Ltd

- The Water and Sanitation Corporation (WASAC) is the entity setup to manage the water and sanitation services in Rwanda as a result of the Government of Rwanda (GoR) decision to unbundle the national utility former EWSA
- 168,000 customers ; supplying 43M of cubic meters yearly
- 28M € annual budget for operations and 30M € for development projects
- 16 water treatment plants and 20 branches



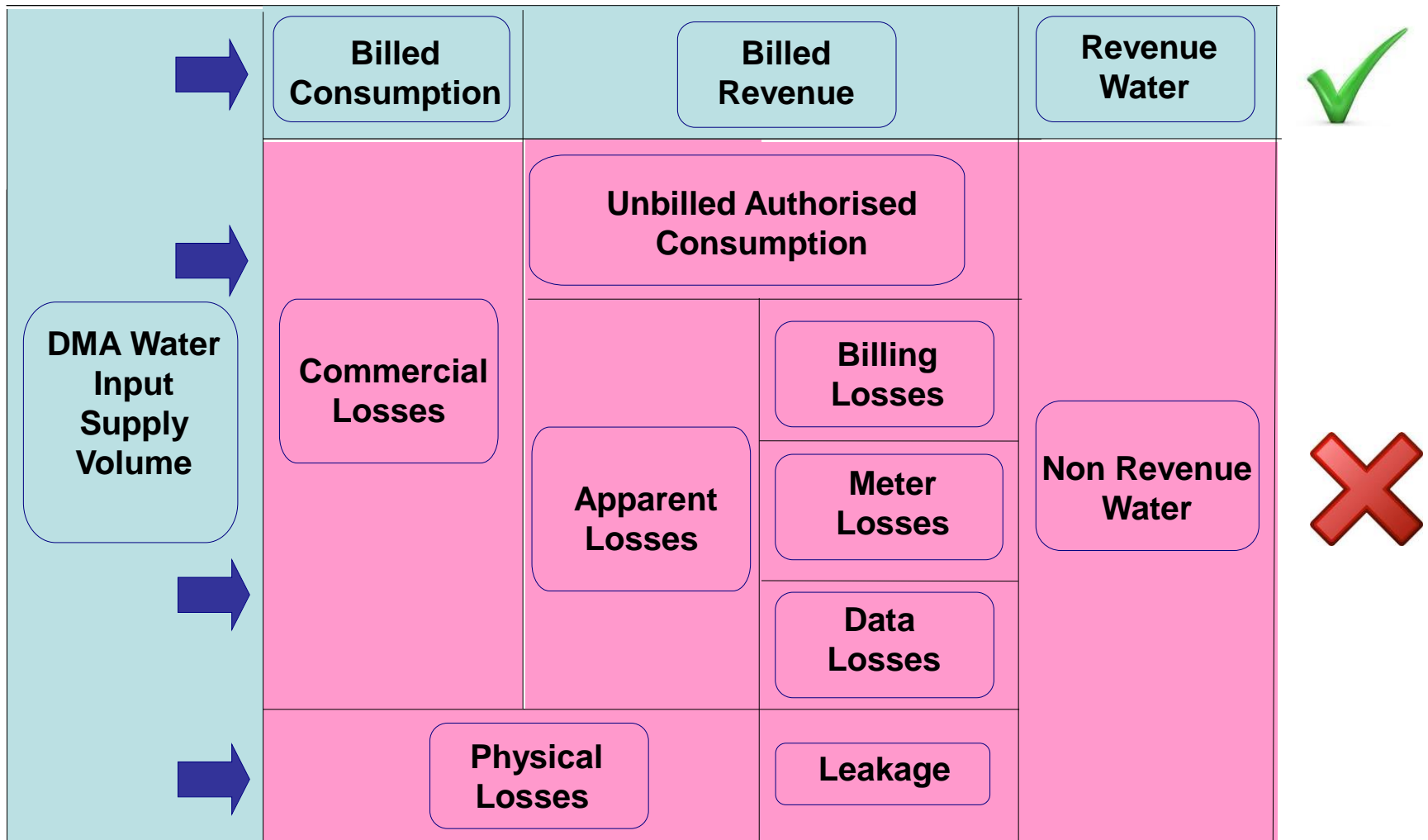
# Non-Revenue Water

NRW can be defined as the difference between the volumes of water introduced into the water distribution system and the volumes of water consumed by the customers and billed to them.





# IWA Water Balance



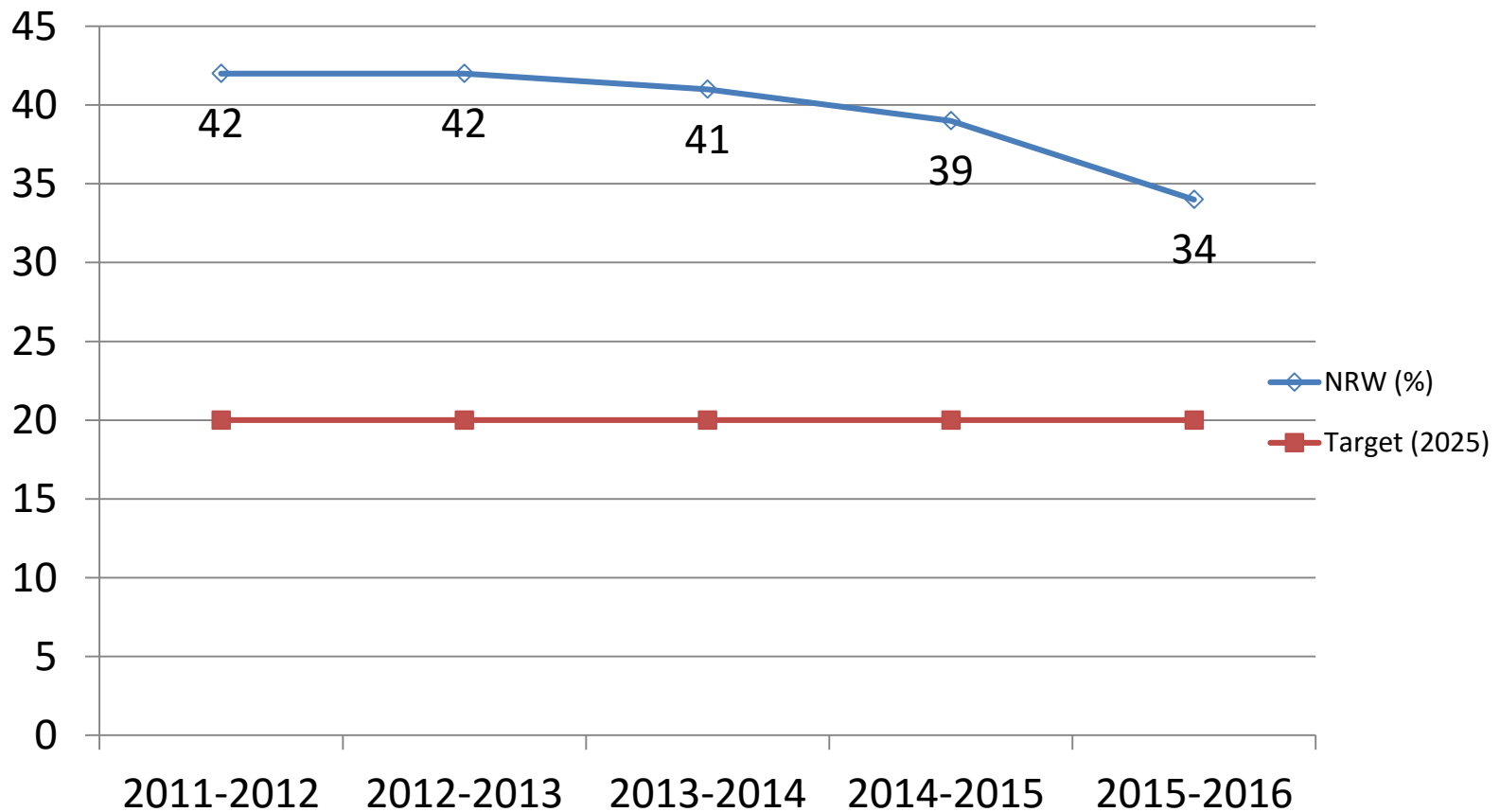


## Causes of NRW

- ❖ Technical losses are caused by :
  - . Aged and undersized network
  - . Poor quality of material and works
  - . High pressure in water network
  
- ❖ Commercial losses are caused by :
  - . Metering inaccuracies
  - . Errors in data handling
  - . Water theft



# WASAC , NRW trend ( 2011-2016 )







# NRW ,Benchmark

COUNTRY	NRW ( %)
SINGAPOUR	7%
ITALY	29%
RWANDA ( WASAC)	34 %
UGANDA ( NWSC KAMPALA )	35 %
KENYA ( Nairobi City Water and Sewerage Company Limited	40%
TANZANIA ( DAR-ES SALAM)	55%





## WASAC , Short term strategy



- ❖ Implementation of Performance improvement program focusing on service delivery ( quick leak repair, installation of floater valves , ..)
- ❖ Campaign against illegal connections ( **72 confirmed illegal cases in last 6 months**)
- ❖ Default meters replacement (1,700 default meters replaced in last 3 months)
- ❖ staff and customers awareness on NRW
- ❖ 6 months imprisonment and fine of 1 to 3 million for the case of illegal connection( Ref Article 394 penal code)



## WASAC , Long term strategy



- ❖ Ongoing customer inventory and mapping ;  
Network mapping and modelling; SCADA
- ❖ Rehabilitation, reinforcement and upgrade of the  
water network (**starting by in Kigali**)
- ❖ Live billing system
- ❖ DMA's creation and Kigali branches isolation
- ❖ Partnership with others water utilities and  
organizations ( Vitens, Evides, Jica ,..)
- ❖ Customers awareness on NRW



Thank you