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AquaProTi

**ICT « digitalisation » for efficient resource management
in waterworks
(preparatory phase)**

Bruno Storni

Swiss US Innovative Energy Days New York 24.08.2017



High energy intensity in water

Pumping , consumer hot water use

Sewage treatment

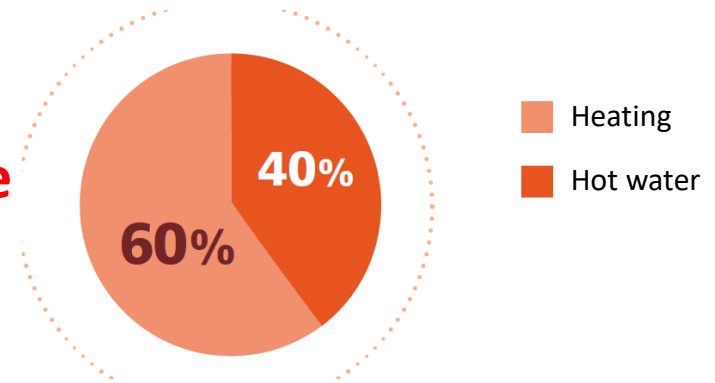
Embedded energy in Water

State of the waterworks : **buried old pipes networks**

Non Revenue Water (leaks, counter errors, self use, etc.)

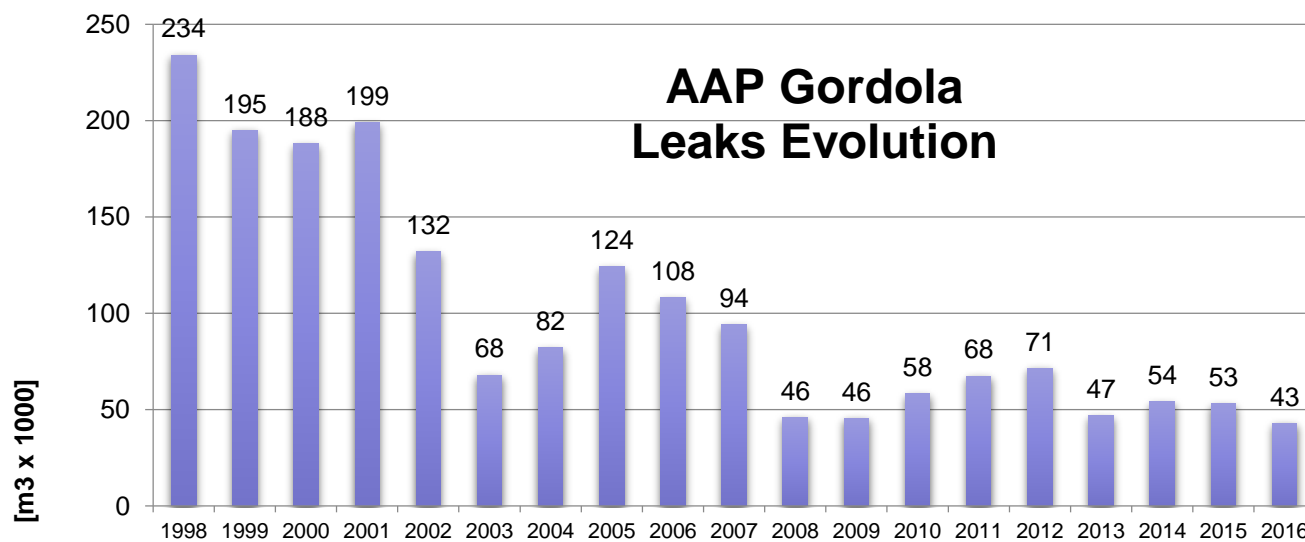
In Switzerland declared NRW 20% (leaks estimated 13%)

Tariffs : no or low causality for consumer, wasting water



Baseline Gordola Project: >15 years of stepwise improvements

Next step adopt more ICT



Smartmeters

More accurate

On line communication (wireless technologies)

On line leaks monitorings

Dynamic Tarifs (causality) Peak and band consumption
reduction

Internet of things on line data analytics

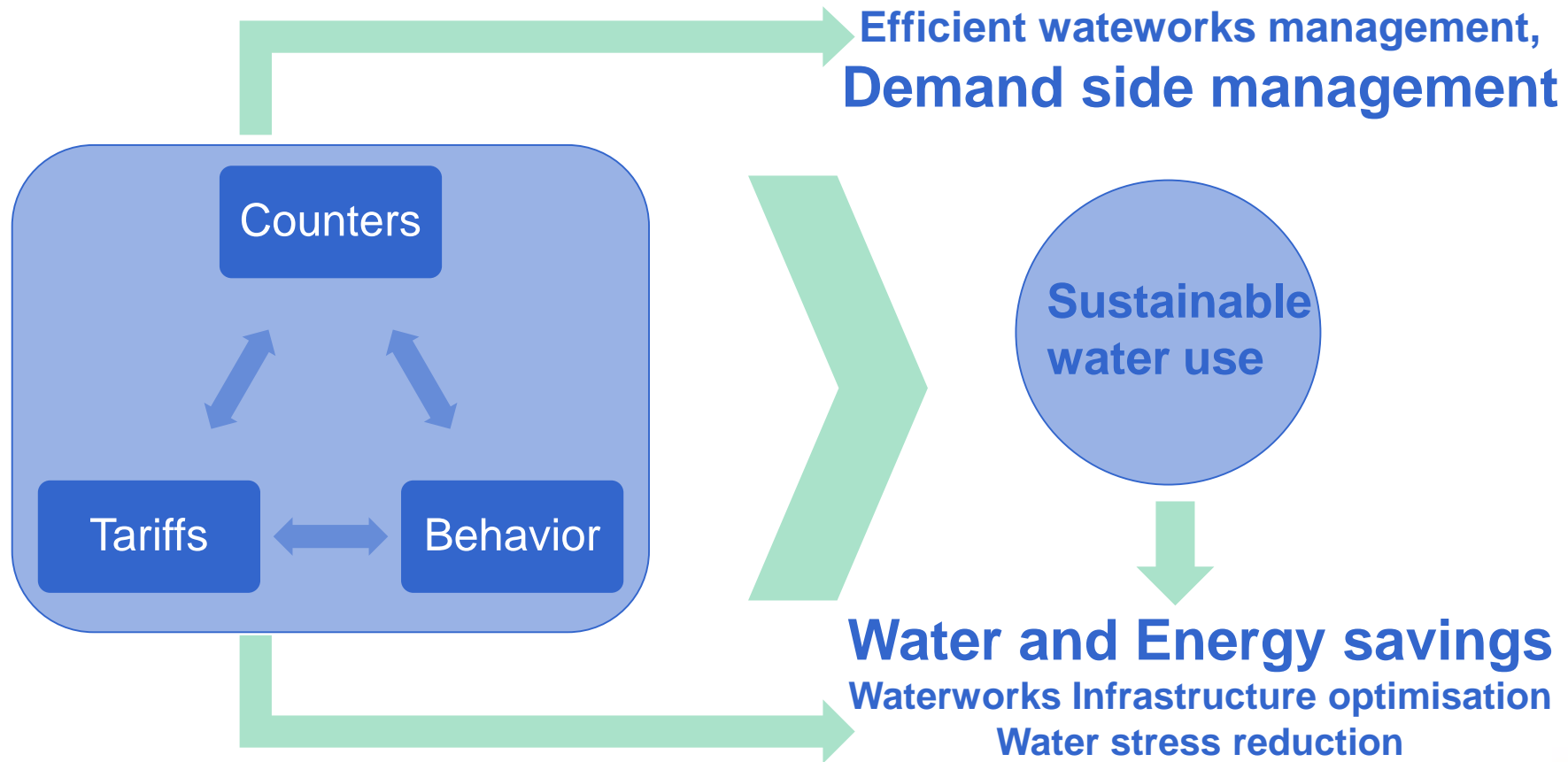


Energy saving potential in Switzerland

1. Halving Leaks (NRW) hundreds GWh
2. Reducing hot water use TWh
3. Reducing sewage treatment hundreds GWh


total 1.5-2.5 TWh/y (7 – 11 Verzasca power plants)





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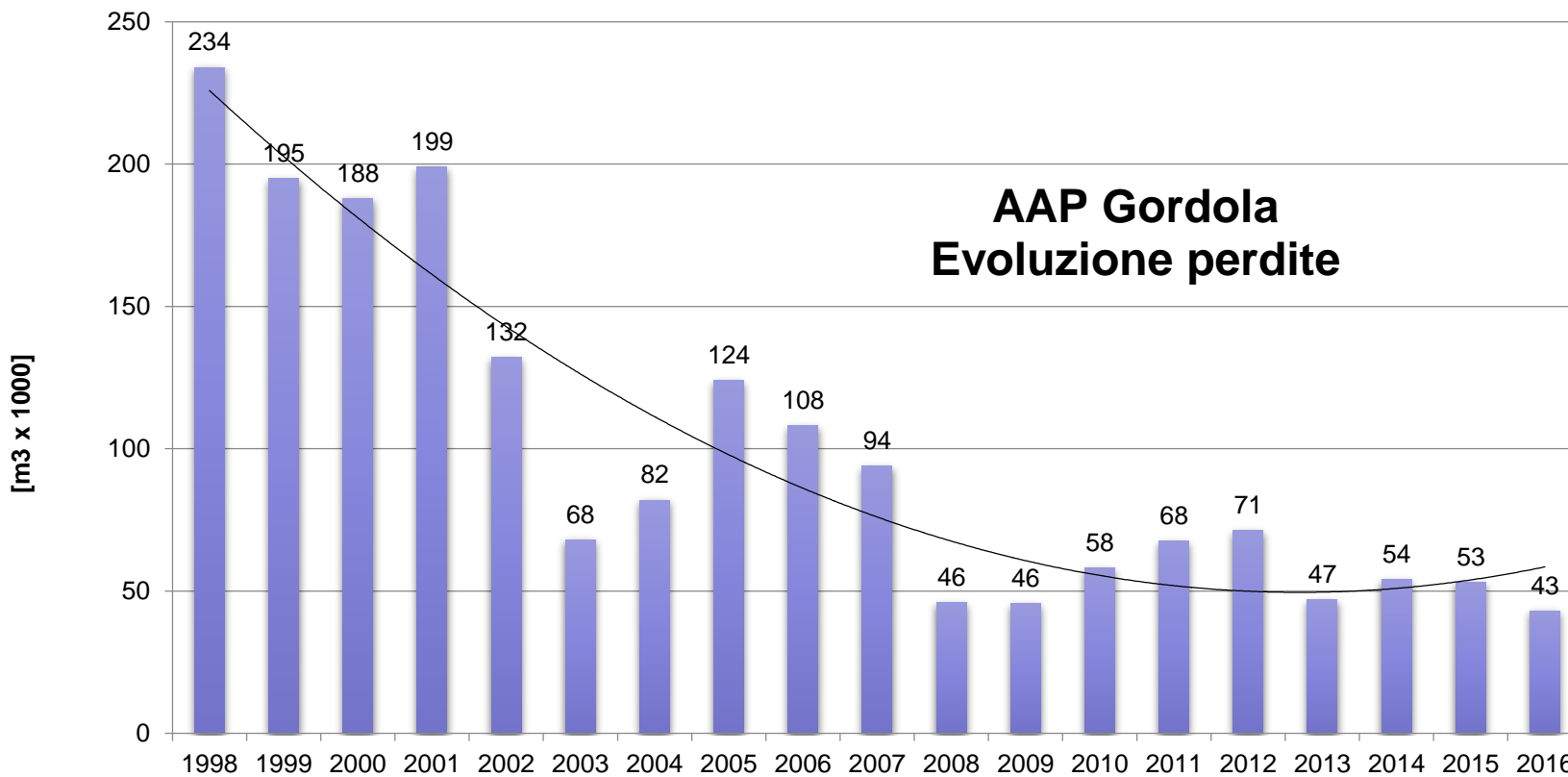
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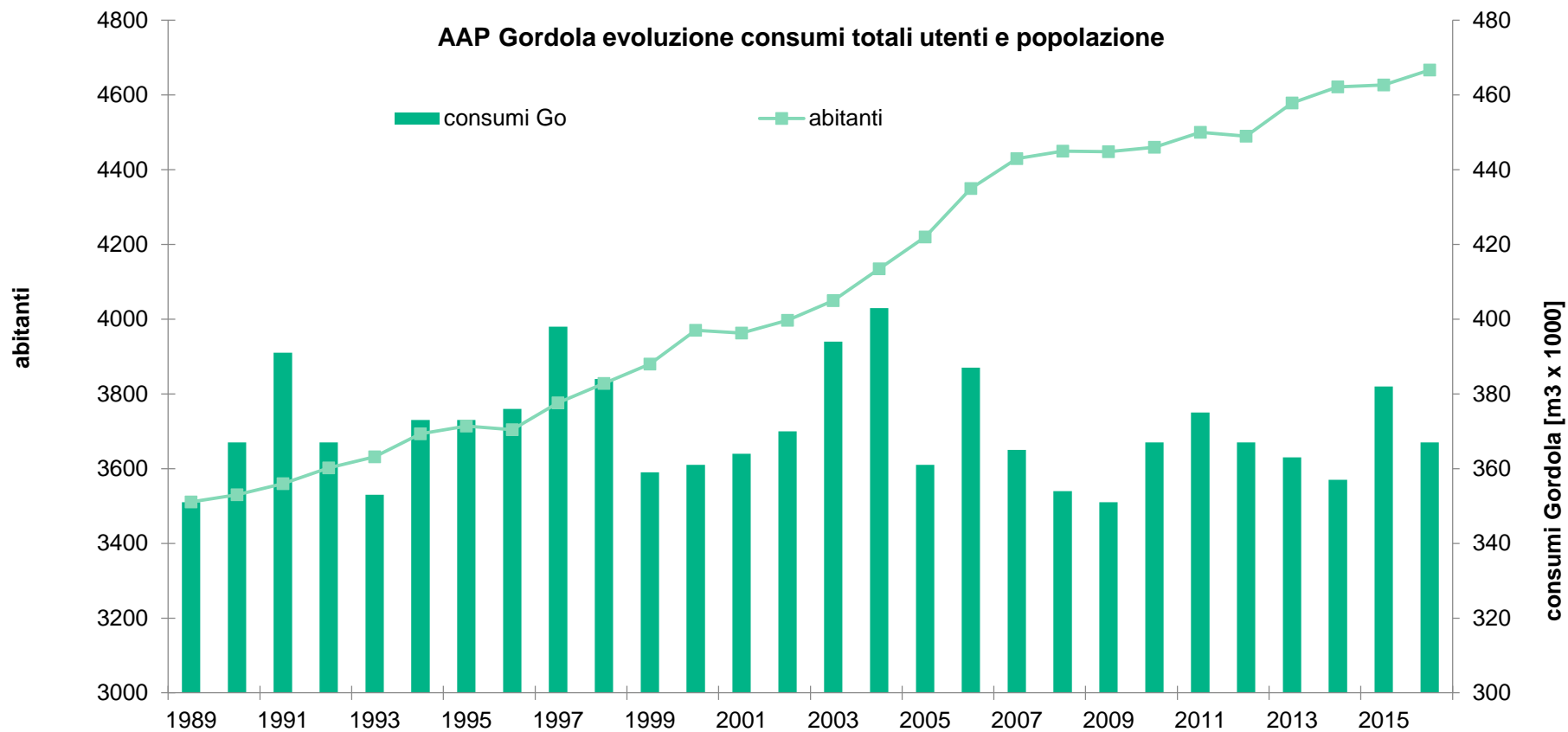
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When the well's dry, we know the worth of water

Benjamin Franklin (1706-1790)







AAP Gordola

Consumo totale rete giornaliero medio per abitante Gordola, Svizzera, Ticino(parz)

