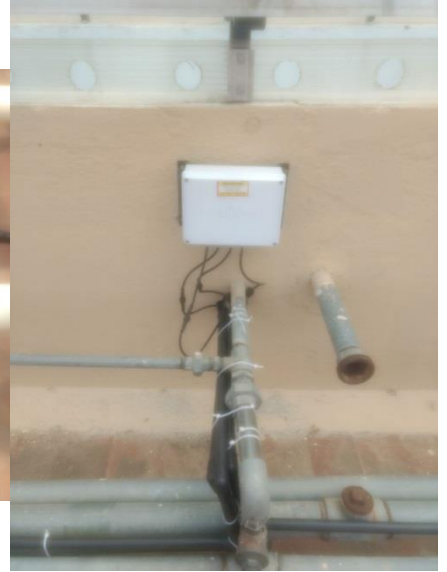


Water Meters for Apartment Associations

Reduce overall water consumption by up to 30%



People needing clarifications / details, can reach out to the people listed below.

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Presented by

BANGALORE APARTMENTS' FEDERATION (BAF)

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***Disclaimer:** Bangalore Apartments' Federation (BAF) has compiled this note based on inputs from different experts as well as secondary information available. BAF advises its members and readers of this note to consult their own advisors and use their own commercial judgement while evaluating proposals from vendors. BAF will not assume any liability for any implications of decisions taken by anybody, based on this document.*



1. WHAT ARE WATER METERS?

Water Meters are devices that help measure the flow of water through the pipes into a house / flat and gives readings of the exact quantum of water consumed in liters.

2. WHY SHOULD MY APARTMENT INSTALL WATER METERS?

Water meters help residents & RWAs to save water by about 30% through

- Measuring consumption of every individual flat on a daily & monthly basis
- Identifying leakages and unusual drainage of water in individual flats
- Helping take quick corrective action, where necessary

3. WHAT ARE ANALOG WATER METERS (AWM) & DIGITAL WATER METERS (DWM)?

- Analog Water Meters (AWM) are meters fitted to pipes with a calibration through which the measurement of water consumed can be noted down manually, usually at the end of every month. AWMs have been more prevalent till recently.
- Digital Water Meters (DWM) are meters fitted with an IoT (Internet of Things) device, which measures the water consumption and sends real-time data back to the users & RWAs, on a daily basis captured at hourly intervals. Readings can be accessed through a Phone App, as well as the Web for administrative purposes.

4. SHOULD MY APARTMENT CHOOSE ANALOG OR DIGITAL WATER METERS?

BAF recommends the installation of Digital Water Meters for the following reasons:

- **Automated Readings:** In DWMs, readings are automatically updated on the app, whereas in AWMs readings must be noted down manually at the end of every month from every meter, which creates the scope for data entry errors.
- **Better Analysis:** With DWMs, one gets information on an hourly basis, which helps in understanding hourly patterns, daily patterns etc., whereas with AWMs, one gets only a consolidated reading at the end of the month.
- **Real-time Alerts:** With DWMs, one can get real-time alerts on unusual water consumption like leaks during the night, which can help users take corrective / preventive action, whereas with AWMs, that is not possible.

However, DWMs are more expensive than AWMs and RWAs should take that into consideration before taking a decision on going with DWMs or AWMs.



5. HOW EASY OR DIFFICULT IS IT TO INSTALL WATER METERS?

Installation of water meters has become much simpler than before, with the emergence of quite a few vendors over the last few years (some of whom are listed in the Annexure too). Quite a few apartments have already installed smart water meters and many more are in the process of evaluation. The vendors can visit an apartment to do a feasibility study and subsequently present a proposal to the RWA. The following factors can be considered before the finalization of vendors:

- **Single Vs Multiple Meters for each flat:** Each flat will have multiple inlets going into the kitchen and the bathrooms. This might entail multiple meters (for each inlet point) or entail a re-piping, which can help consolidate all the inlet points into a single meter.
- **Installation Points:** The location of the points where the meters might have to be installed has to be finalized, viz. vertical walls, ducts, basements etc.
- **Capex Vs Opex Model:** Vendors offer two models –
 - Capex Model, where the RWA pays for the entire system upfront and engages with the vendor on an ongoing basis through an AMC.
 - Opex Model, where the RWA pays a significantly lower upfront amount and pays a monthly subscription per month per meter, in which the maintenance of the meters by the vendors is automatically included. Some vendors also offer an opex model based on liters of water consumed.

Overall, the installation of water meters will be completely managed by the vendor who is selected by the RWA. The activity can be done in coordination with the RWA's plumber & electrician. Once the system is installed, individual flats as well as the RWA can download the vendor's App on their phones. A dashboard available on the App will provide individual flat consumption details to every individual flat and a consolidated report to the RWA, which will facilitate billing. Grouping of meters can be achieved (configured) to help understand consumption per apartment, per floor, per series, per building etc.

BAF recommends that Members who have not installed water meters, to reach out to the vendors mentioned in the note for them to visit the premises, evaluate the feasibility & submit proposals. The RWA can then evaluate the proposals and finalize the vendor based on the most favorable proposal. THE PROCESS IS REASONABLY SIMPLE!



6. WILL THE INVESTMENT IN WATER METERS MAKE COMMERCIAL SENSE?

Water meters make eminent commercial sense. The below workings show that the Return on Investment (ROI) is ~20%, which is quite attractive.

ITEM	UNIT	AMOUNT	REMARKS
Investment per flat	Rs.	25,000	Rs. 5K - 7K per meter
Water consumption per person per day	Liters	200	Rough estimate
Water savings through meters	%	30%	Experience in few apts
Water savings per person per day	Liters	60	
Water savings per flat per day	Liters	180	~ 3 members per family
Water savings per flat per month	Liters	5,400	
Water savings per flat per month	Rs.	540	@ Rs. 100 / KL
Water savings per flat per annum	Rs.	6,500	
Maintenance costs per flat per annum	Rs.	1,500	AMC, Battery etc.
Net savings per flat per annum	Rs.	5,000	Post maintenance costs
Payback Period	Years	5	All profit after 5 years
Return on Investment (ROI)	%	20%	Savings / Investment

The above scenario does not factor in energy savings due to lower water pumping costs etc., which could be quite significant and will increase the ROI.

The above scenario has been drawn up on a reasonably conservative basis and is only indicative in nature. The actual investment & savings will vary from apartment to apartment, depending on the specific situation.

The above scenario is based on a CAPEX model, where the apartment invests the entire amount upfront. There are OPEX models also available, where the apartment invests only a part of the amount upfront and makes a monthly payment to the vendor (either an amount per meter or amount per liter consumed). The workings would be different in such a scenario.

The above scenario has been presented to highlight how installation of water meters can provide commercial benefits apart from helping conserve water. However, neither is this a standard estimate of the investment / savings / ROI, nor is there a guarantee that an apartment could realize savings along the above lines.

The best way to move forward is for apartments to engage with all the vendors to get different quotes and move forward with the best proposal.



7. BUT WHAT IF MY RWA DOESN'T HAVE THE CAPITAL TO INVEST IN WATER METERS?

BAF strongly recommends that if it is possible to invest a part of your corpus in water meters, you should go ahead and do it. Even if you do not have the requisite corpus amount, you should talk to all your residents to collect a fresh corpus for an investment.

However, if you are still not able to build a corpus, no worries! The vendors provide an opex model, which significantly reduces the upfront investment required and provides for payment on a monthly basis.

8. SOUNDS GOOD IN THEORY. HAS ANY APARTMENT ACTUALLY IMPLEMENTED THIS?

Yes, a few BAF Members have installed smart water meters and their opinion is:

- Reduction in water consumption by up to 30%, providing significant cost savings
- Saving in power costs as a result of less water being pumped into overhead tanks
- Charging individual flats for what they consume, encourages responsible behavior

9. SO, WHAT DOES BAF RECOMMEND?

Please install water meters in all flats of your apartment ASAP! With the water crisis upon us, let's save every drop of water that we can!

It is preferable to install digital water meters, even if they cost more than analog!

Reach out to the vendors immediately to evaluate feasibility, get proposals, compare offers and choose the best vendor! **Some technical & commercial details about each vendor is given in Annexure – II, to get an initial perspective about their products!**

Capex Vs Opex evaluation must be done by each association depending on their specific context!

The people whose email ids have been given in the title page have installed water meters in their apartments and can be reached out to, for clarifications!

LET'S SAVE WATER! LET'S DO OUR BIT FOR OUR CITY & OUR COUNTRY!!!



ANNEXURE – I

A SELECT LIST OF WATER METER VENDORS OPERATING IN BANGALORE

(in no particular order)

1. Smarter Homes (Provides 3 technology variants – Daisy-linked / GSM / RF)

- **Contact Person** : Mr. Jitender Thirwani, VP, Business Development
- **Email ID** : jitender.thirwani@smarterhomes.com
- **Mobile No.** : +91 99180 07770

2. WeGot (Ultrasonic meters, daisy linked to aggregator/s)

- **Contact Person** : Mr. Abilash Haridas, Co-Founder
- **Email ID** : abilash@wegot.in
- **Mobile No.** : +91 98843 32714

3. Third-I Inventech (Mechanical flow meters linked to GSM)

- **Contact Person** : Mr. Makarand Vairagare, Chief – Strategic Initiatives
- **Email ID** : makarand@tiiindia.in
- **Mobile No.** : +91 98605 60714

4. Agua Water Meters (Single Jet meters & RF Technology)

- **Email ID** : info@aguaws.com
- **Phone No.** : +91 80 50001151

All the above vendors will offer an exclusive discount of 10% to BAF Members, on the final negotiated rate! Please do quote your BAF membership number to avail this exclusive offer!

Please feel free to engage with other vendors as well.



ANNEXURE – II

TECHNICAL & COMMERCIAL DETAILS ON THE VENDORS' PRODUCTS

SMARTER HOMES

<https://smarterhomes.com/>

- Technology
 - Meters are Honeywell meters retrofitted with IoT
 - Volumetric Displacement Meter
 - Hard wired to an Aggregator on Roof top with Solar Supply, Wired, Daisy Linked
 - No batteries required
 - Comes with optional Shutting down device for remote shutdown and activation
 - Real Time information

- Commercials
 - One-time installation charge of Rs.1800 per meter under OPEX model

 - Four monthly slabs under OPEX model:
 - Rs. 45 / per month / meter
 - Rs. 60 / per month / meter
 - Rs. 90 / per month / meter
 - Rs.120 / per month / meter

 - For outright purchase
 - Meter without turn off valve – Rs. 7499/-
 - Having turn off valve – Rs. 9499/-
 - AMC Rs. 30 / meter / month



WEGOT UTILITY SOLUTIONS

www.wegot.in/venaqua/

- Technology
 - Ultrasonic water sensors
 - No moving parts inside
 - Wired, Daisy Linked, 4 core cable (2 for power & 2 for communication)
 - Wired from Meter to Duct Unit, then Duct Unit to Master Panel
 - Master Panel needs connection to Net and power line
 - Real Time information
 - Ability to detect very low water flow, which might happen when using Aerators

- Commercials
 - Installation charge reduced for BAF from Rs.3000 to Rs.2333 / per meter
 - Three monthly slabs:
 - Rs. 149/ per month / apartment irrespective of number of meters
 - Rs. 199/ per month / apartment irrespective of number of meters
 - Rs. 299/ per month / apartment irrespective of number of meters



THIRD-I INVENTECH (TII)

<https://www.third-ii.com/solutions>

- Technology
 - Mechanical Water Flow Meter (Volumetric) having TII proprietary IoT device retrofitted
 - Each meter fitted with **GSM** which sends water usage information to the TII server (on cloud)
 - Turning off the water through remote control from a computer system or smart phone is Not Available
 - Meters come with a one-year warranty.
 - Honeywell meters of Class C equivalent
 - Battery operated Flow meter & battery lasts for 5 to 8 plus years & replaced by vendor if AMC is taken - Flexible AMC options: 3, 5 and 10 years

- Commercials
 - Outright purchase of meters at an approximate cost of Rs.5999/- each based on volumes and site feasibility, taxes extra
 - OPEX model (Pay per use):
 - Initial setup/down payment advance is charged
 - Monthly Subscription:
 - Charged at per liter of water consumed
 - 0.01 Rs. Per Liter per unit till balance Price meets (Down payment minus remaining) as quoted with the RWA
 - This is variable per month and completely based on how much an end user conserves vs. consumes
 - 0.005 Rs. Per liter per unit after Balance is completed
 - For Unused Meters (Houses which are empty and / or locked for more than a week), pay for a minimum of 150 liters per meter per day, at a rate of 0.01 Rs. per liter.



AGUA WATER METERS

<https://aguaws.com/>

- Technology
 - Two types:
 - Wireless Flow Sensors
 - Wireless Water Meter with Analog display.
 - *Single Jet Water Meters*
 - Communication with Aggregator using RF (Radio Frequency)
 - *Power Supply through an UPS (hard wired to meter)*
 - Apollo Meters having FCRI certification
 - IE5 Modem

- Commercials
 - Outright purchase: Rs. 4500/- per meter & Rs.30 / meter / month for services, with AMC extra

 - OPEX Model:
 - Setup charge of Rs.2400/meter
 - Rs. 45 / month / meter for services, with AMC extra

