



Smarter Dharma

Sustainability in the Hospitality & Tourism Sector



Who we are

We are a social organization operating spectrum wide in the field of sustainability.

Why us

- *Holistic approach* to sustainability - social & environmental.
- *Rich and full-circle experience* working across communities, government bodies and mid to large sized private companies.
- Team with *hands-on experience* in implementing solutions.



Impact Assessment and Management

Resource Management



Organisations



Policy Makers



Communities

Policy

Technology

Education

Implementation

Stakeholder Engagement

CONSTRUCTION

HOSPITALITY

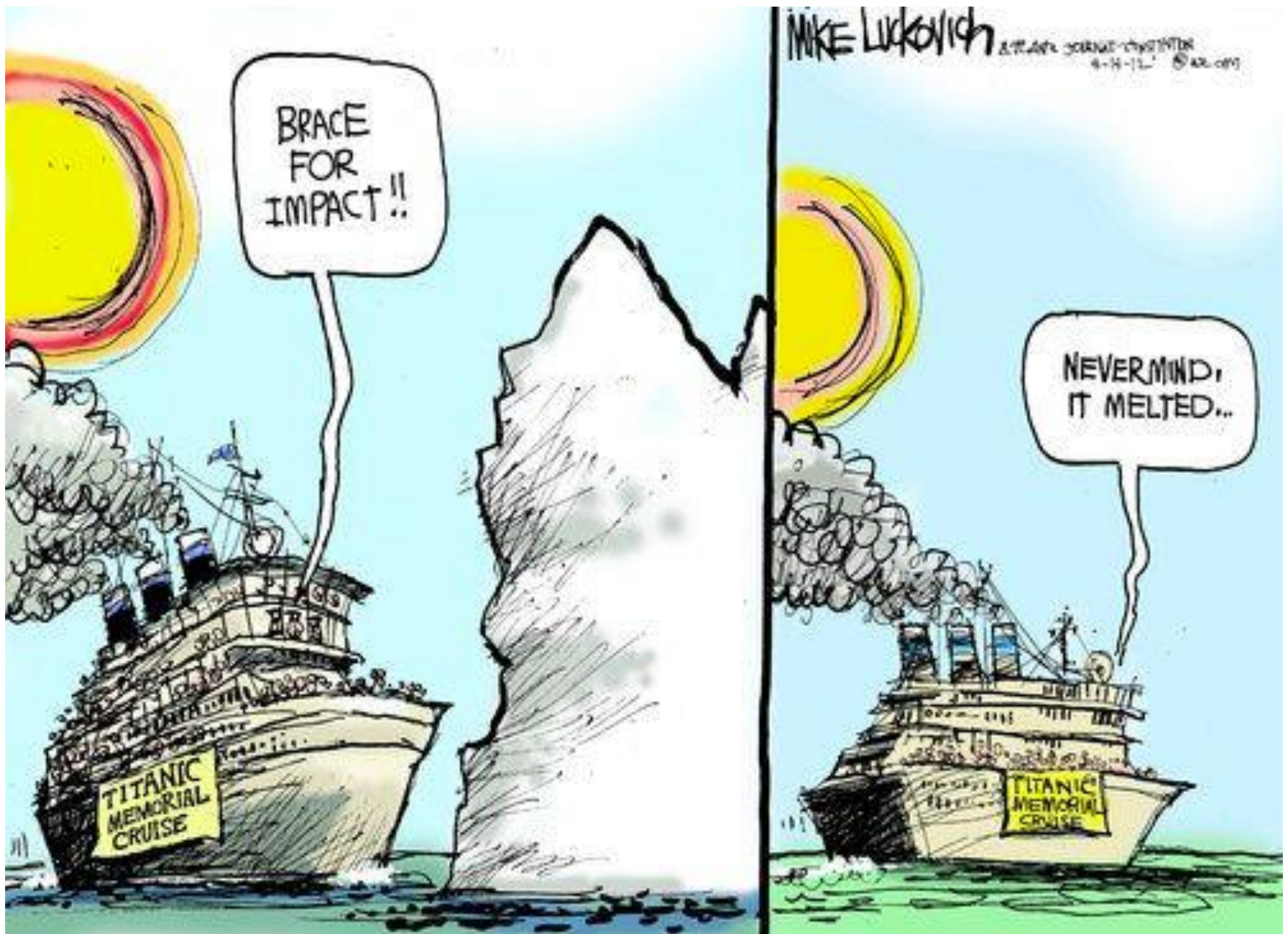
MANUFACTURING

SERVICES

GOVERNMENT & COMMUNITY

EDUCATION





The Problem

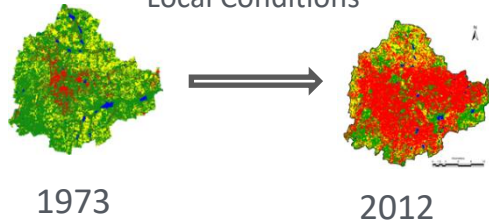
Environmental

Energy

Global Limit

2°C by 2100

Local Conditions



Economic

Buildings getting warmer
Higher demand for cooling

4% ↑ Cost for
Every degree

How to deal with the heat?

Water

Ground Water Table

5m ↓ In
25m ↓ 10 years

In highly
urbanized areas 500m

Dwindling Supply
from Musi / Govt.

30% ↑ Annual
HMWSSB

7- 10 ↑ Cost from
times 100 to 500m

Where will water come from?

Waste

In 2016 >> 530mn tons

By 2030 >> 1.2bn tons

Materials

40% Raw material
for construction

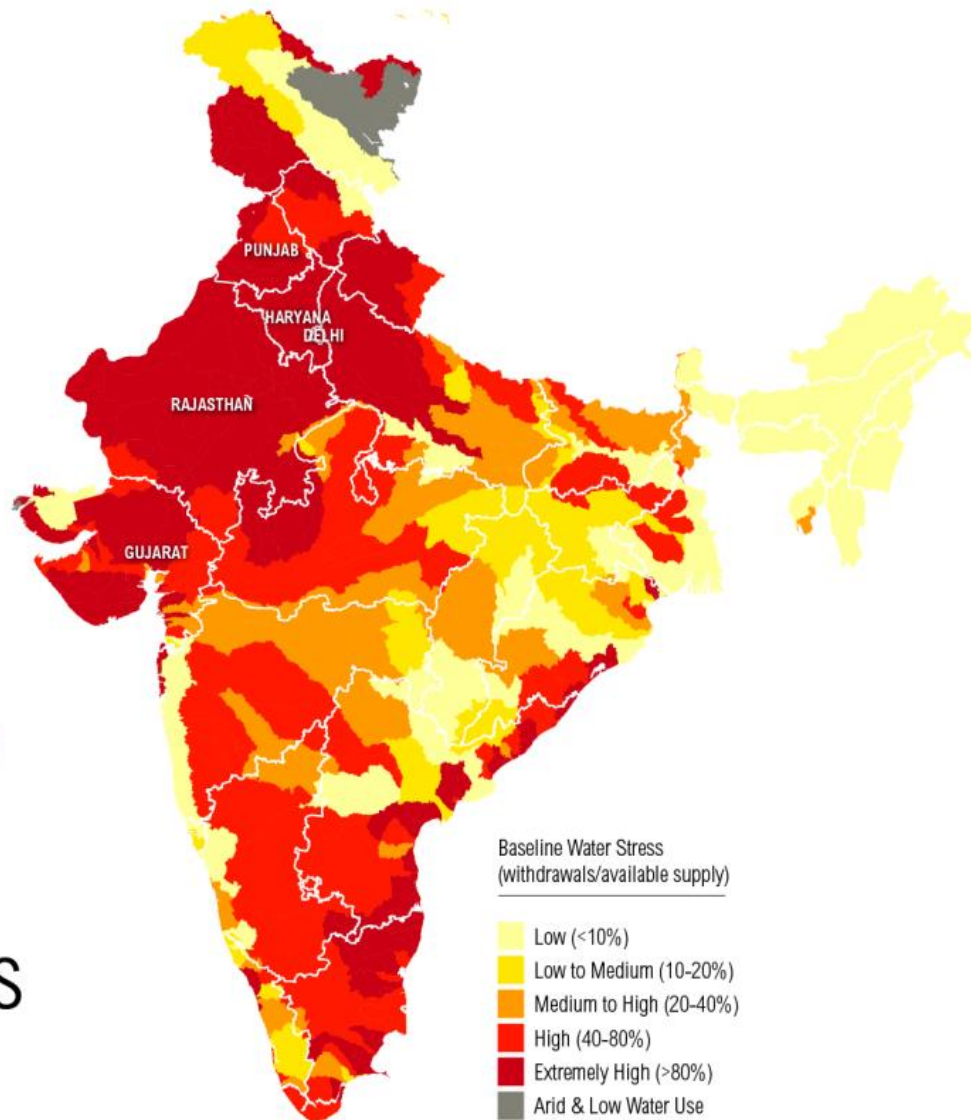
Increasing scarcity

↓
Exponential increase in cost

What about resources?



54%
of India
Faces
**High to
Extremely
High**
Water Stress



Earth Overshoot Day:

EOD is the date on which humanity's resource consumption for the year **exceeds** Earth's capacity to regenerate those resources that year.

Year	Overshoot Date	Year	Overshoot Date
1987	December 19	2010	August 21
1990	December 7	2011	August 27
1995	November 21	2012	August 22
2000	November 1	2013	August 20
2005	October 20	2014	August 19
2007	October 26	2015	August 13
2008	September 23	2016	August 8
2009	September 25	2017	August 2



FACILITATING BEHAVIOUR CHANGE

THE SUSTAINABILITY CATALOGUE.

RESOURCE MANAGEMENT

(energy, water, materials)
Optimizing consumption & costs
Responsible sourcing
Shared economy
Resource Creation

TECHNOLOGY

Dharmameter
Monitoring

OPERATIONAL IMPACT ASSESSMENT & MANAGEMENT

Emissions *(carbon)*
By-products *(waste)*

STAKEHOLDER ENGAGEMENT

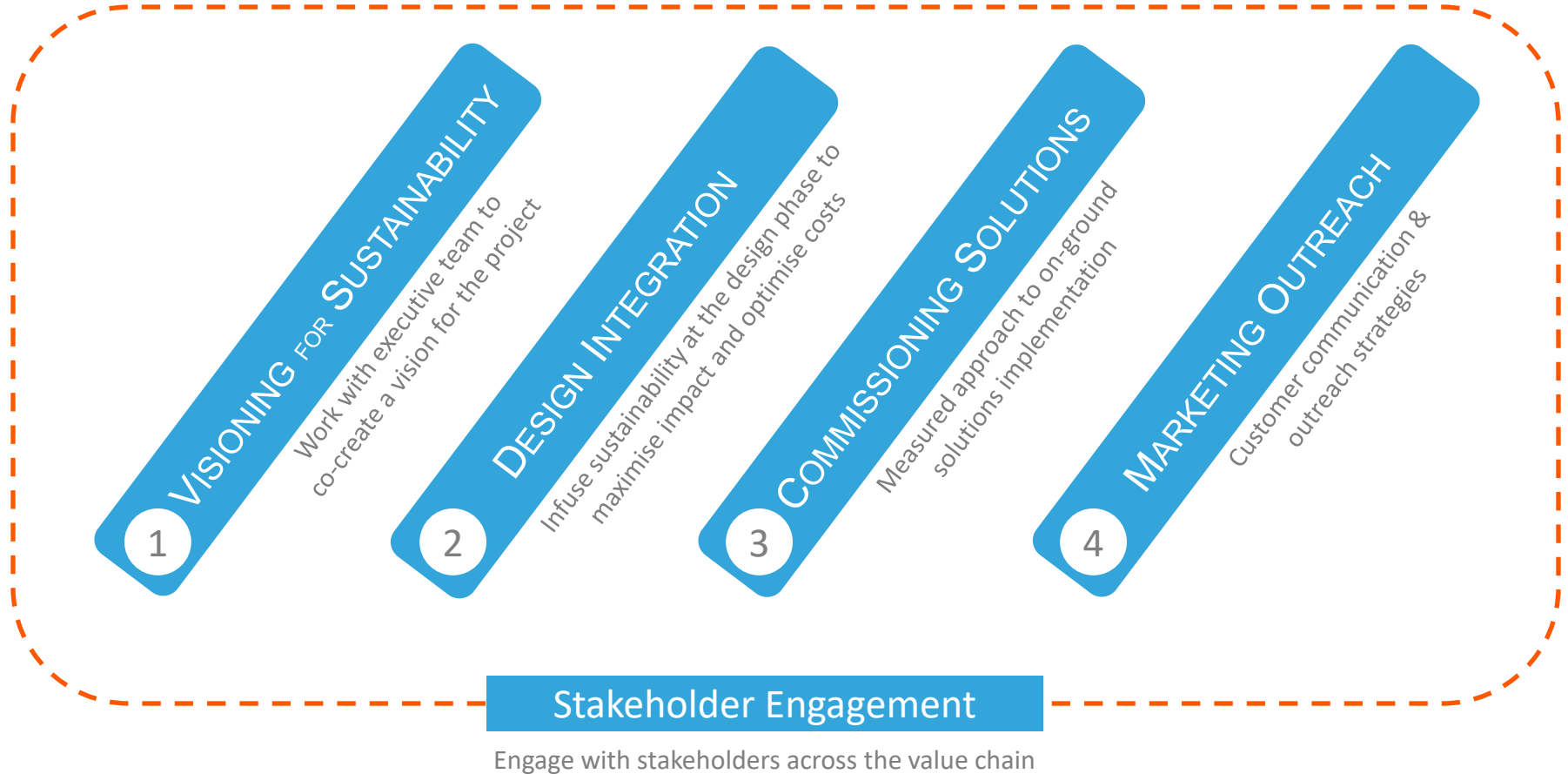
Identification
Interviews
Drivers
Action plan

SUSTAINABILITY POLICY

Vision Mission Statement
Interviews
Focused group discussions



Our Approach



Growing demand for green hotels



62% American and European tourists always consider the environment when choosing hotels

47% of business travellers prefer green hotels



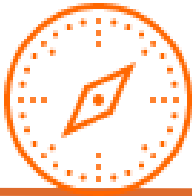
<http://www.forbes.com/sites/andrewbender/2013/04/22/survey-two-thirds-of-travelers-want-green-hotels-heres-how-to-book-them/>

Global Business Traveler Survey 2013



SDG's impact in Hospitality:

 <p>TRANSFORMING OUR WORLD: THE 2030 AGENDA FOR SUSTAINABLE DEVELOPMENT</p>	<p>1 NO POVERTY</p> 	<p>2 ZERO HUNGER</p> 	<p>3 GOOD HEALTH AND WELL-BEING</p> 	<p>4 QUALITY EDUCATION</p> 	<p>5 GENDER EQUALITY</p> 
<p>6 CLEAN WATER AND SANITATION</p> 	<p>7 AFFORDABLE AND CLEAN ENERGY</p> 	<p>8 DECENT WORK AND ECONOMIC GROWTH</p> 	<p>9 INDUSTRY, INNOVATION AND INFRASTRUCTURE</p> 	<p>10 REDUCED INEQUALITIES</p> 	<p>11 SUSTAINABLE CITIES AND COMMUNITIES</p> 
<p>12 RESPONSIBLE CONSUMPTION AND PRODUCTION</p> 	<p>13 CLIMATE ACTION</p> 	<p>14 LIFE BELOW WATER</p> 	<p>15 LIFE ON LAND</p> 	<p>16 PEACE, JUSTICE AND STRONG INSTITUTIONS</p> 	<p>17 PARTNERSHIPS FOR THE GOALS</p> 

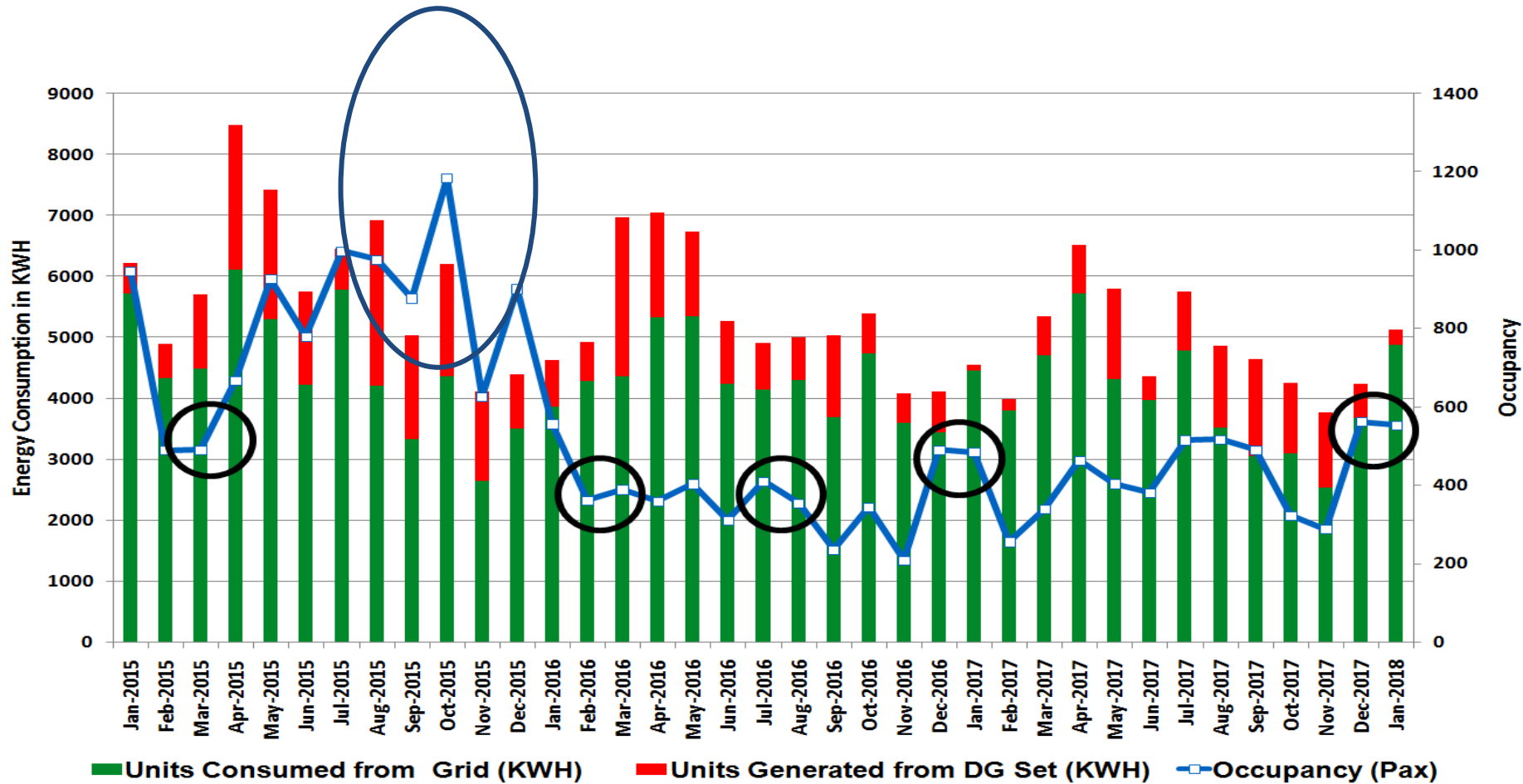


Examples on Intervention in Hospitality Sector

-Energy

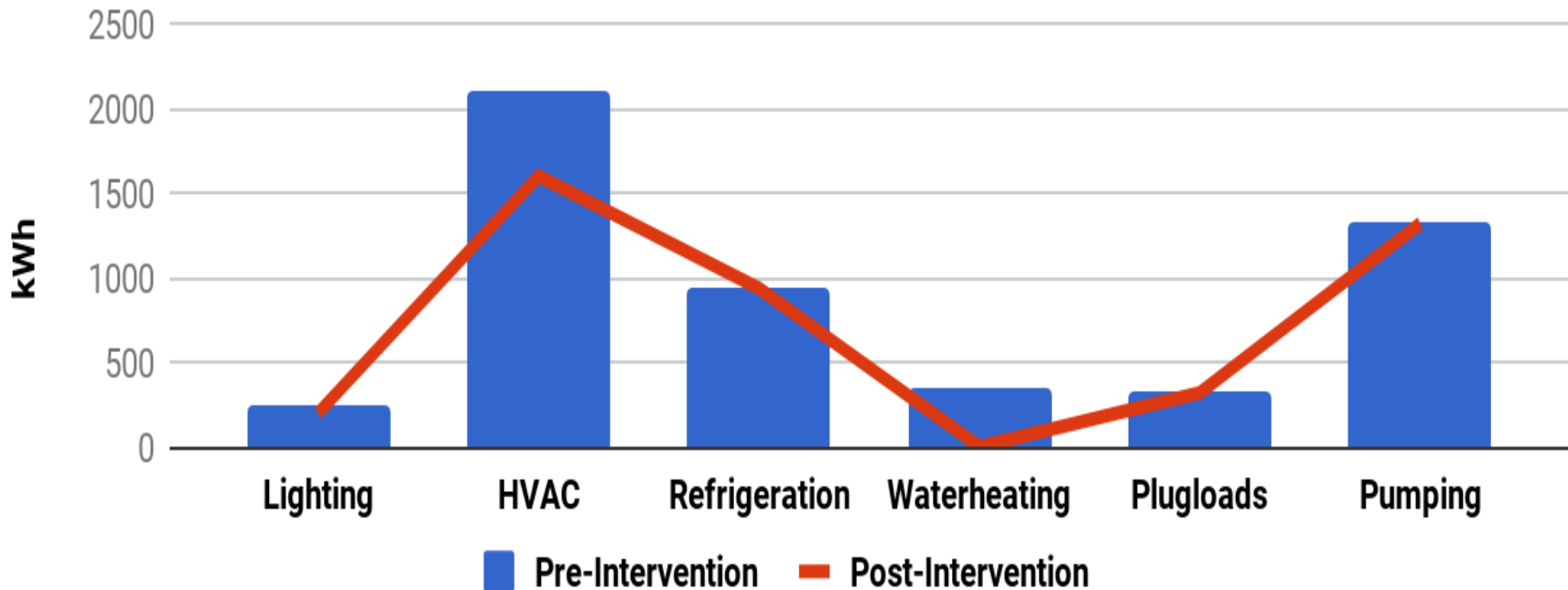


Identifying Anomalies



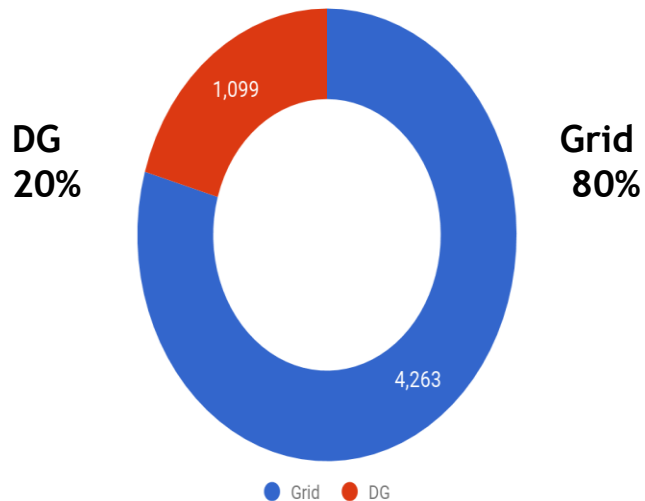
Pre & Post Intervention - Service Wise Monthly Energy Consumption

Monthly Energy Consumption per Energy Service

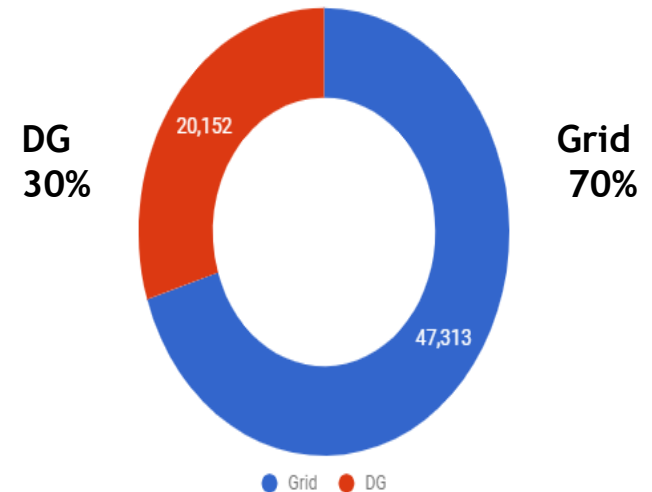


Current Energy Scenario

Monthly Average
Consumption



Monthly Average
Expense

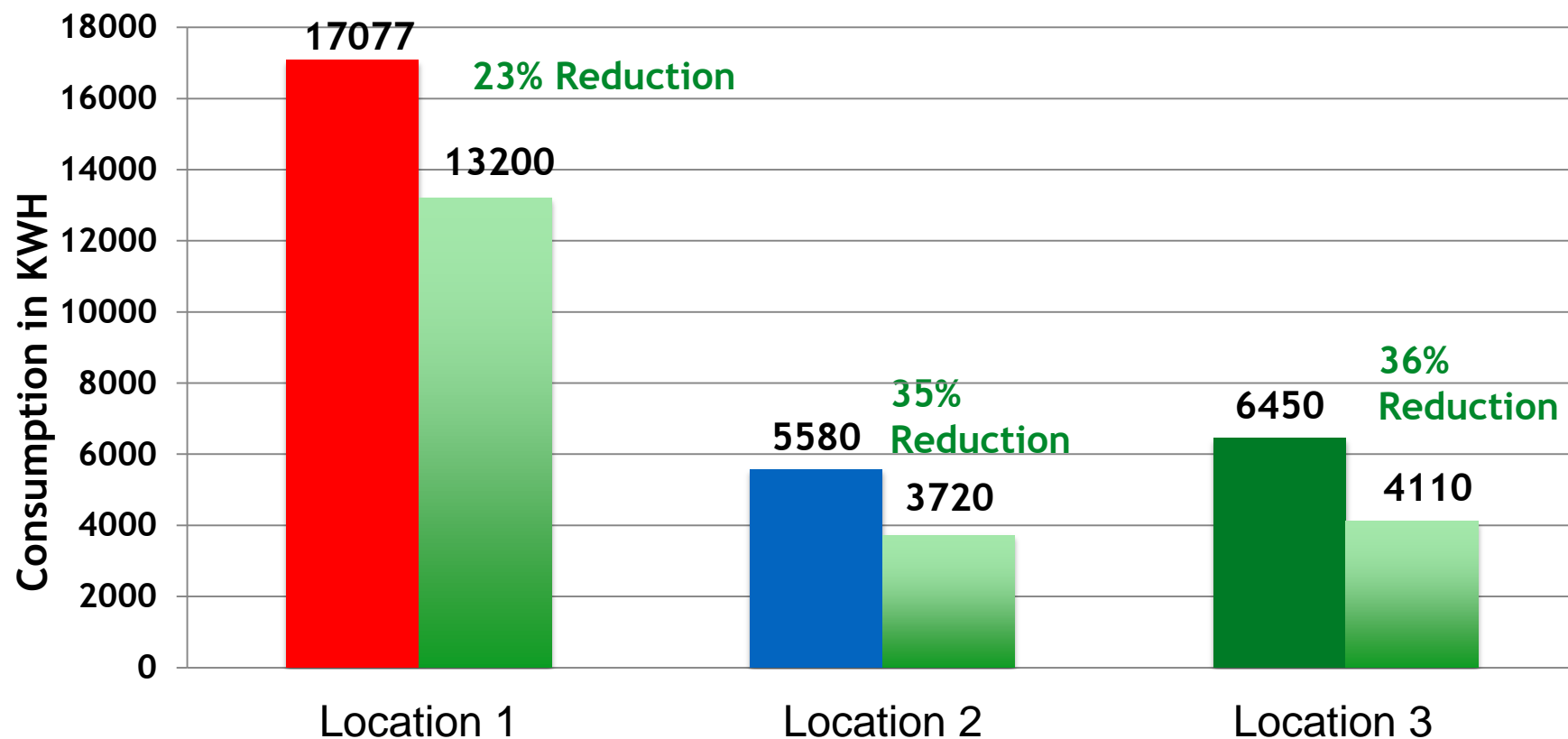


JLR Bheemeshwari spends **30%** of its overall energy cost on Diesel for just **20%** of the energy !!

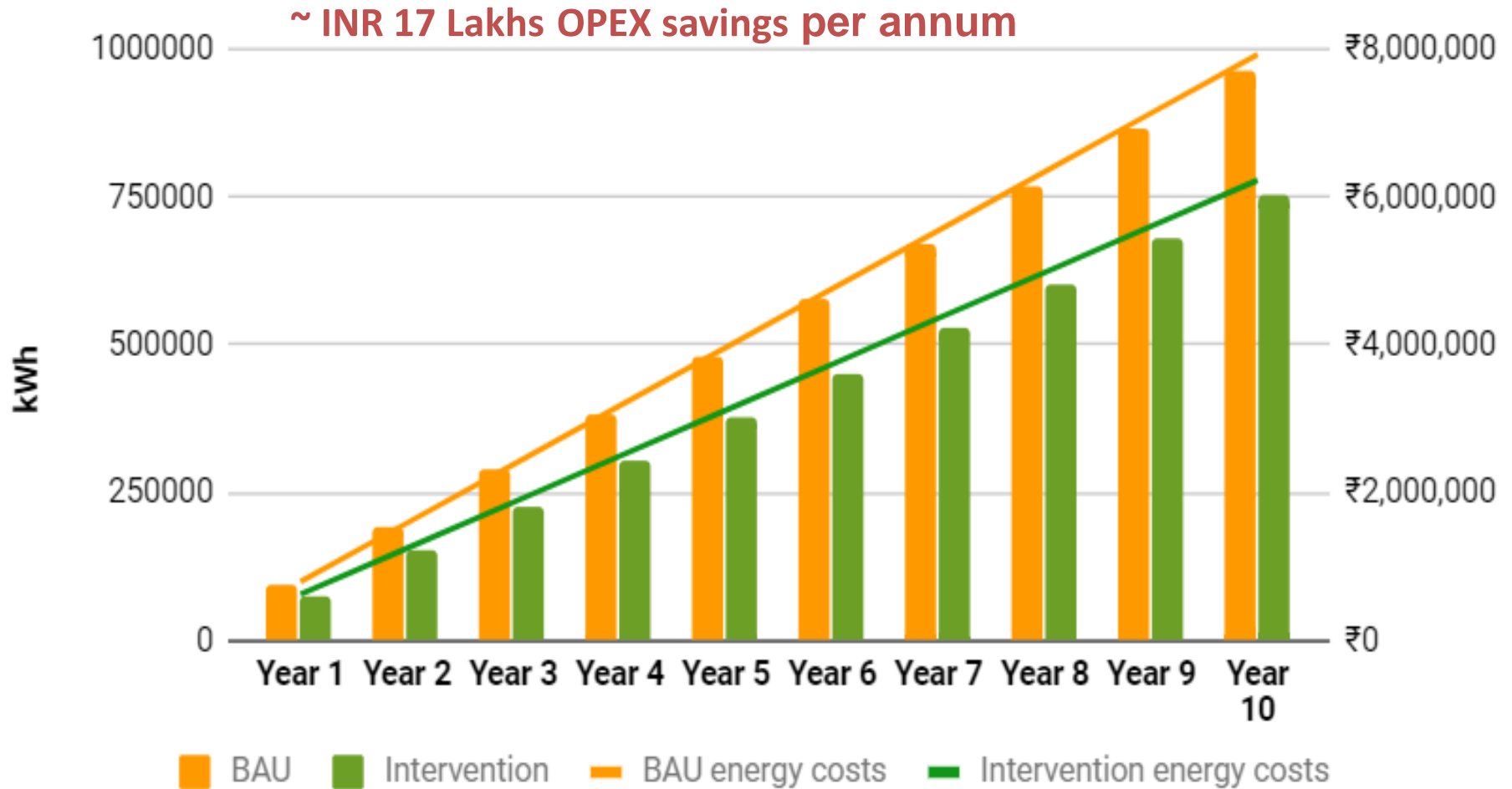


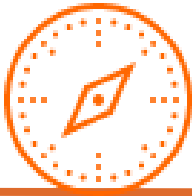
Energy Interventions

Consumption Pre & Post Interventions



Cumulative Electricity & Expenses over 10 Years





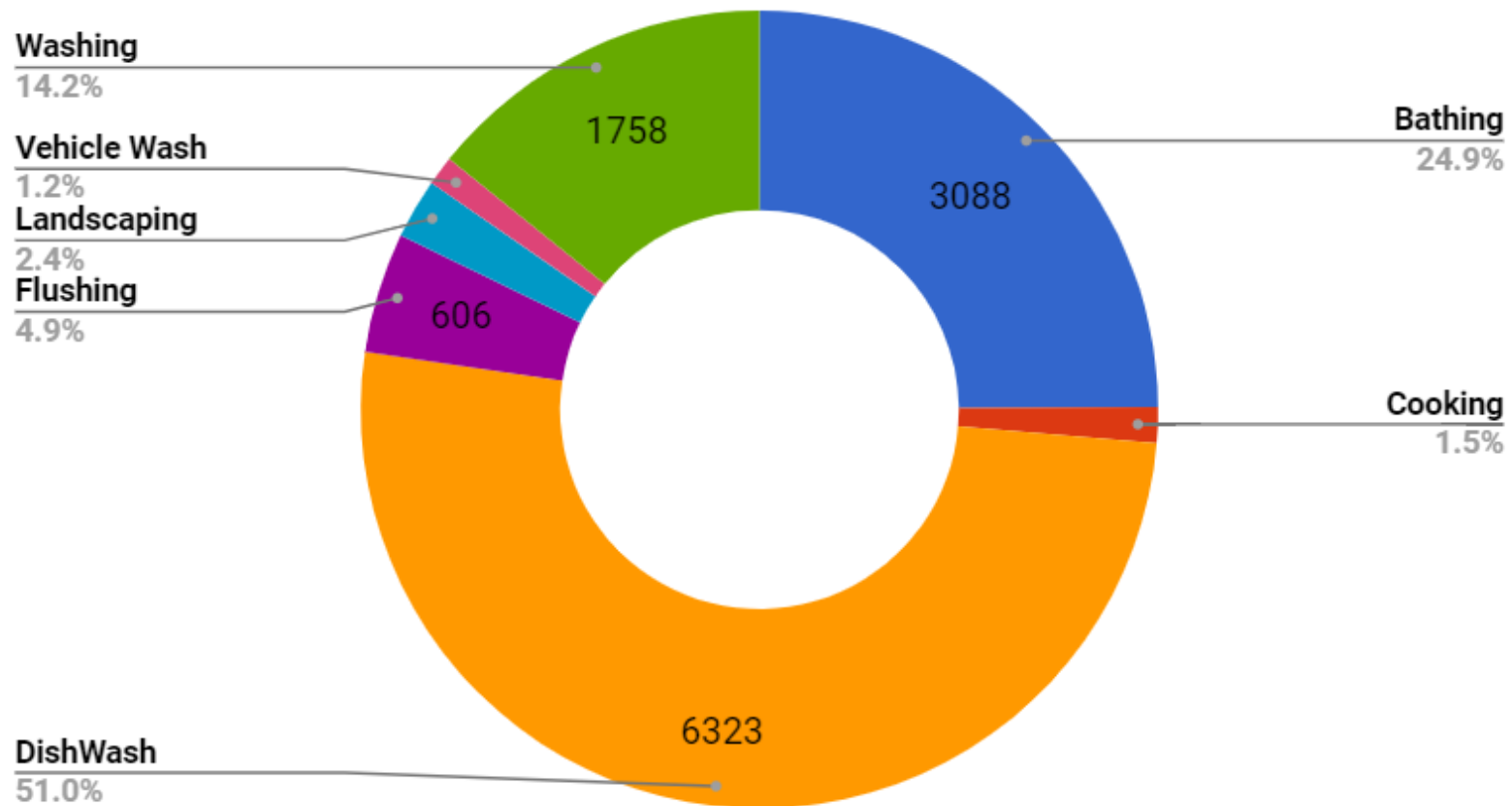
Examples on Intervention in Hospitality Sector

-Water



Estimated Daily Water Demand By Usage

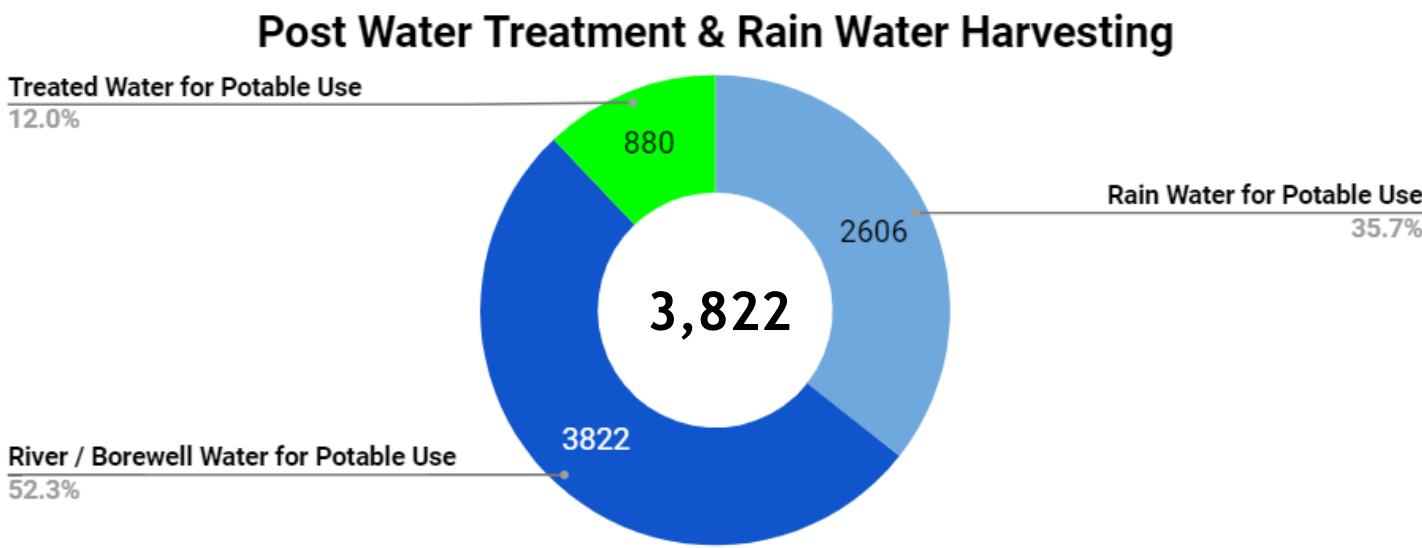
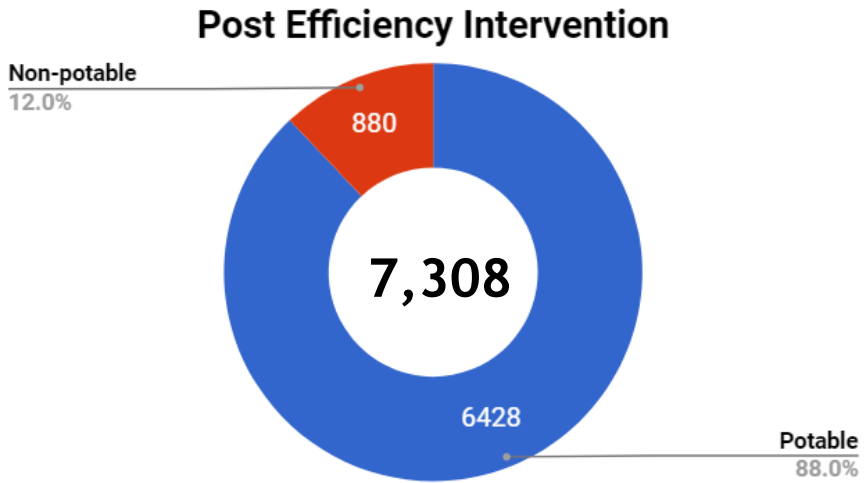
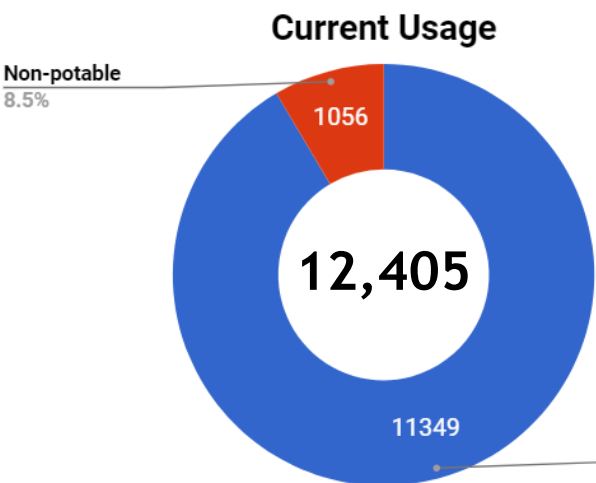
Daily Water Usage Breakup (Litres)



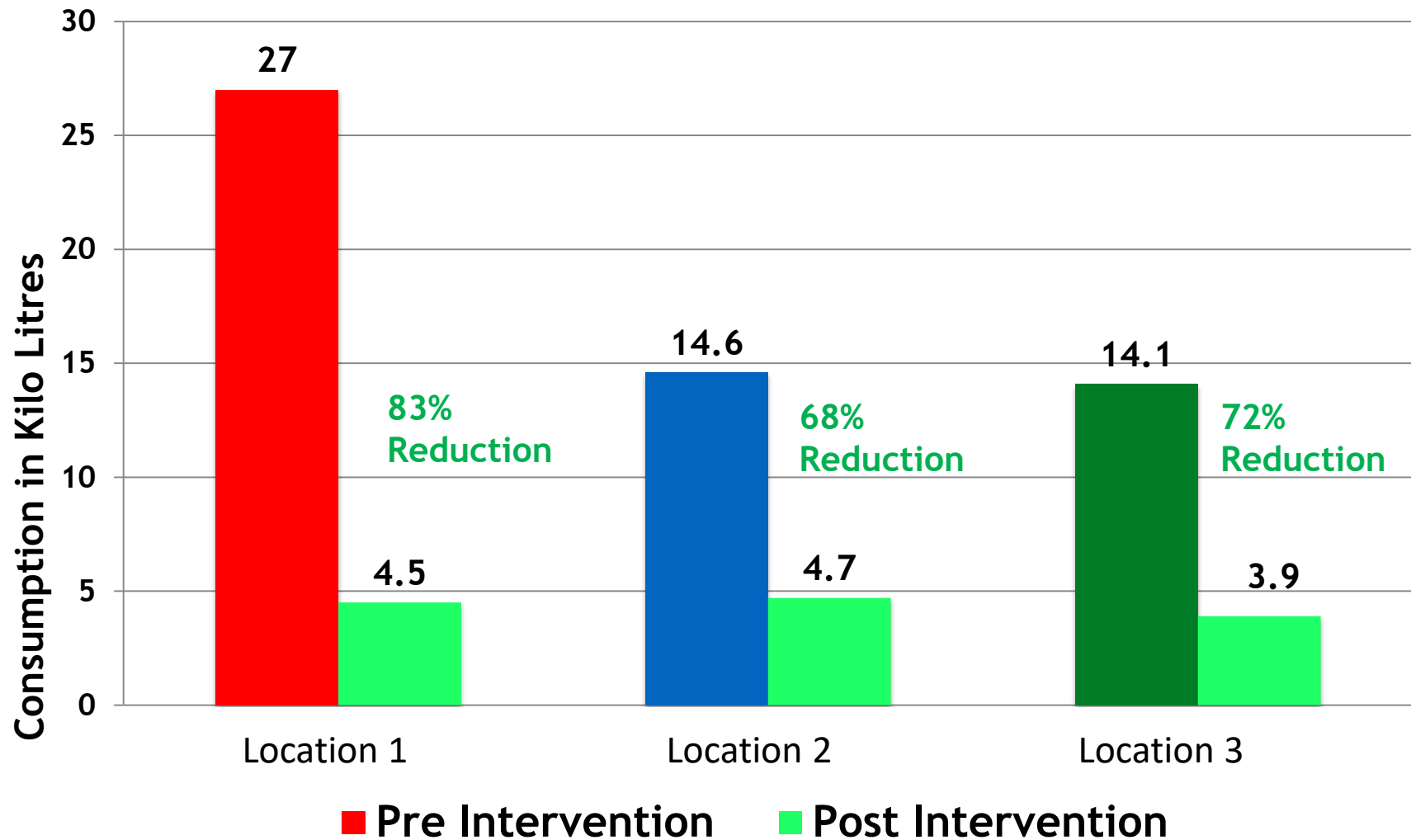
BOTH, Flushing and Fresh Water Demand is being met using “Fresh Water” !!



Fresh Water Usage Pattern Across Interventions

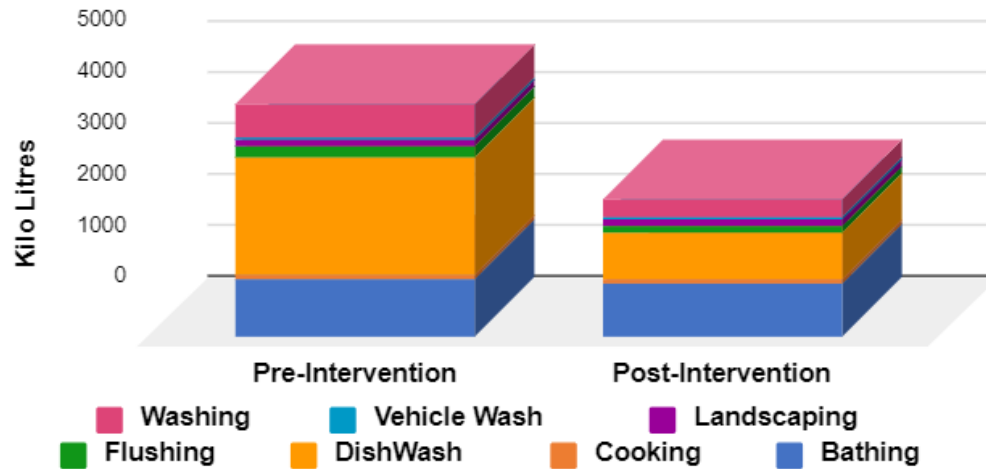


Water Interventions



Annual Water & Expense Savings

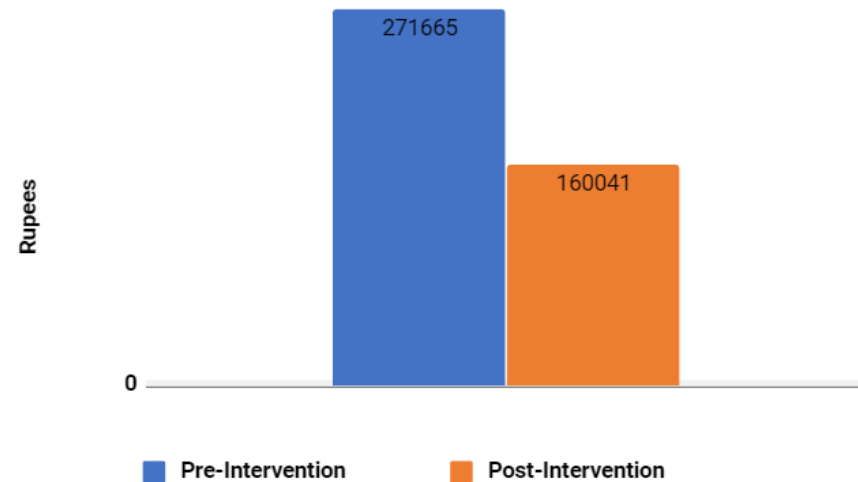
Reduction in Annual Water Consumption

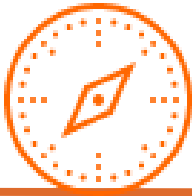


1860 KL Annually Saved

INR 111,624 Annually Saved at Utility Rates

Reduction in Annual Water Cost





Monitoring, Assessment & Global alignment





Smart Metering with IoT Sensors for Heavy Appliances

Particulars	Cost (Rs.)
Brand type - Smart Kit	xx,xxx
Oakter - Basic Smart Home Kit	6,470
Oakter - 16 AMP Leaf for Heavy Appliances	6,470



16 Amp Smart Plug
Control a plugged-in high power appliance

6 Amp Smart Plug
Control a plugged-in low power appliance

Touch Leaf
Three button wireless remote

Smart Thermostat
Temperature and humidity sensor for AC/ Heater

HUB
The heart of Oakter ecosystem. One hub can control upto 50 appliances

25 Amp Smart Box
Control a wired-in high power device

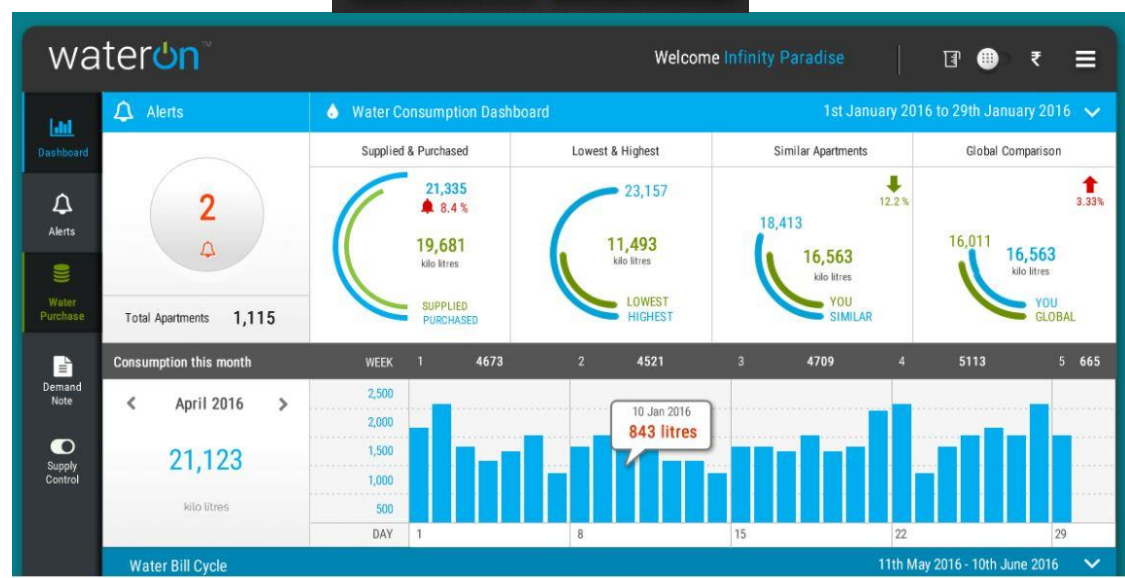
Smart You ♥ Smart Home

Oakter

Set Up SMART Water Meters in ALL Properties



- Real Time Measurement
- Leakage Detection & Control
- Tamper Detection & Alert
- Automatic Bill Generation
- Periodic Reports
- Mobile App



Platform to manage Sustainability



- Comprehensive data management system
- Benchmarking resource use against industry
- Record, identify and realise saving opportunities



Carbon Footprinting



Area	Average Monthly Resource Consumption	Monthly CO2 Emission
Electricity Usage	4262 Kwh	3.9 Tons
Diesel Consumption	613 Litres	1.65 Tons
LPG Consumption	15.5 cylinders	0.85 Tons
	Total	~ 6.4 Tons



Sustainable Events

The Round Glass Festival of Wellbeing was an event held at the Bangalore that was made carbon neutral by measuring, mitigating & offsetting carbon emissions.

Reductions



1,800 KG
OVERALL CO₂



43.3 %
FOOD MILES CO₂
EMISSIONS



100 %
WASTE



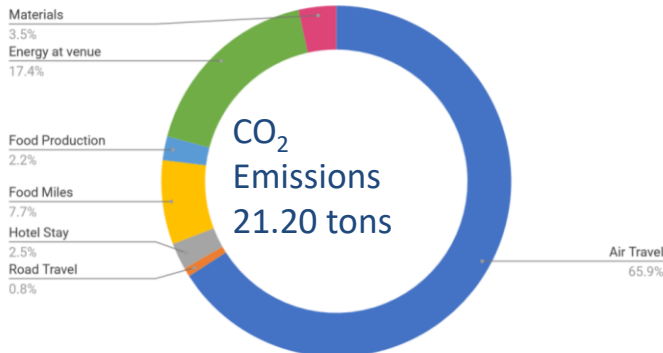
37.8 %
MATERIALS CO₂ EMISSIONS



Travel
Energy
Hotel stay
Materials
Waste



Awareness
Education
Local organic food
Carbon calculation



Sustainable Development Goals



THE PEOPLE



Team

Sriram Kuchimanchi

Founder & CEO

Ashoka Fellow

Technology Solutions & Leadership



- Technology & Sustainability work in the US & India
- Sustainability Management, Presidio School of Business, US
- USGBC LEED-GA certified
- Autodesk Social Leader
- Co-founded 500gallons.com, 500eco.com

Karthik Ponnappa

Co-founder & Principal

RoundGlass Fellow

Policy, Solutions and Outreach



- Master's in Public Policy from IIM-B
- Master's in Marketing & International Business
- 14 Years of industry experience
- Managed marketing for IT Product co's globally

Ifthi Javed

Technology Head

Products and R&D



- Technology & Sustainability
- Energy Solutions expert
- Master's in Business from Germany
- Years of industry experience

Jaya Narula

Lead Architect

Design and Solutions



- Drives Design and Solutioning
- Passive Design Expert
- Master's in Renewable Energy from TERI
- Keen on simplistic & holistic solutions
- Many years of designing and teaching architecture



Team contd.

Snehal Munot
Analyst
Material Analysis

Varun Rupela
Principal
Education, Water Solutions

Lavanya P. Arun
Environmental Economist
Water & Policy

Shashank Suresh
Analyst
Field Work, Material Analysis

Karan Rannorey
Analyst
Field Work, Data Analysis

Meera Rajesh
Principal
Operations, Bio-diversity

Aarabhi Balasubramanian
Analyst
Civil Engineer

Advisors



Niranjan Khatri
Hospitality Consultant

- Ex-Sustainability Head at ITC Group of Hotels
- Numerous years building eco-tourism and responsible hospitality ideas
- Member of various CII committees on Environmental change



Dr. Charles Savage
Professor and Consultant

- Professor at Technology University of Munich
- Sustainability Management Consultant
- Visiting professor at multiple universities
- Bringing sustainability & spirituality together



Ryan Zizzo
Green Building Consultant

- LEED AP - Neighbourhood Development
- Involved in multiple green building projects across Europe



Dr. Viji Krishnamurthy
Data Scientist

- Phd in Operations Research
- Innovator in Product Design & Development
- Passionate about marrying Technology and Climate Change



Please visit our website for more case studies and other information

Thank you!

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