



# Leveraging Smart Meters and Data Analytics

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# Impacting sustainable development at scale with data, integrated analysis, and strategic outreach

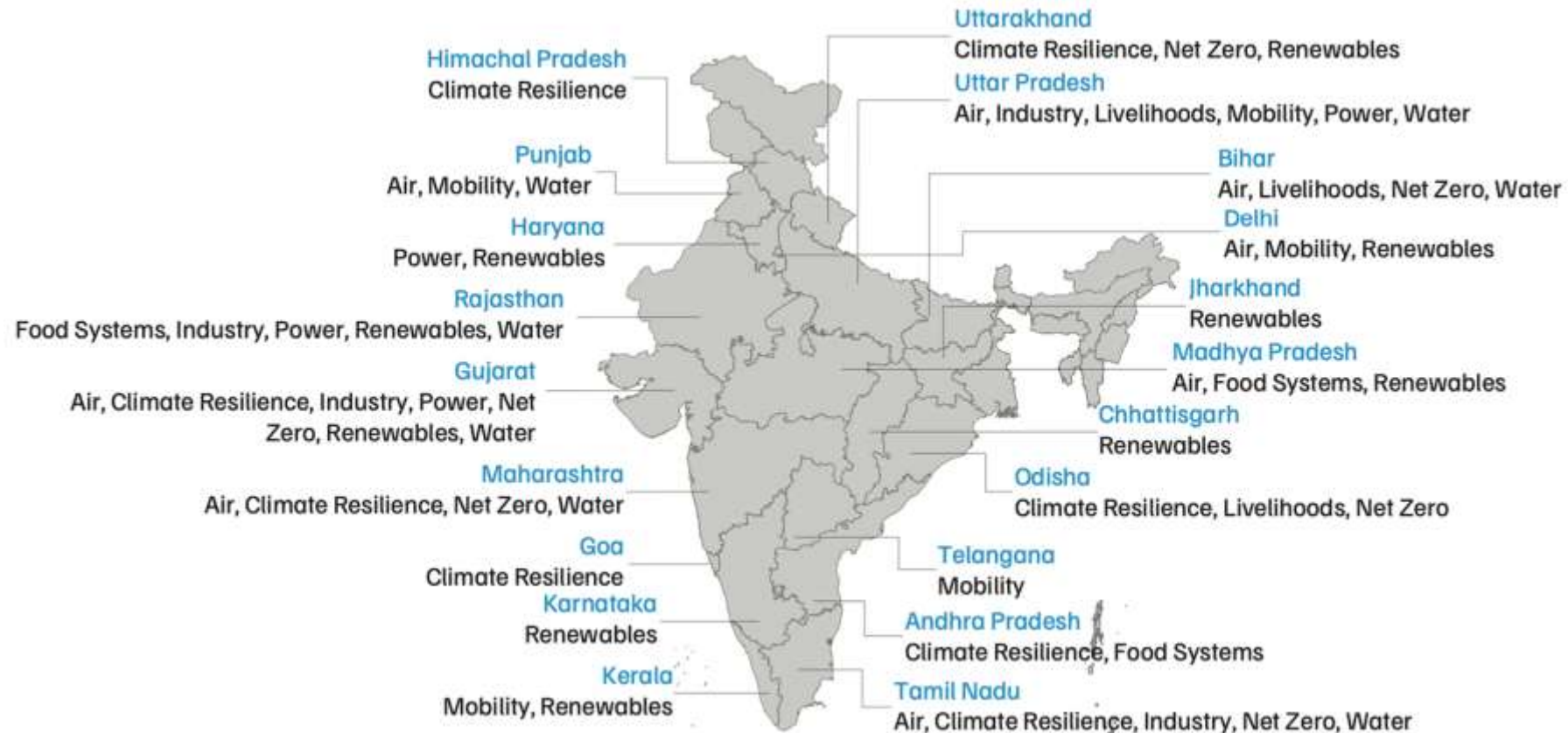
## Strategic pillars

- Clean electricity penetration
- Low-carbon industrialisation & circularity
- Fuels of the future
- Sustainable livelihoods & green economy
- Quality of life of citizens
- Sharing lessons

## CEEW in numbers

- 390+ team members
- 550+ peer-reviewed studies
- 700+ convenings
- 400+ mn lives impacted
- 62,000+ livelihoods directly supported

## 20 Indian states supported



# Smart meters for the present and for the future



## Financially sustainable discoms

- Minimise commercial and technical losses
- Improved revenue recovery
- Cost-reflective tariffs



## Excellence in consumer service

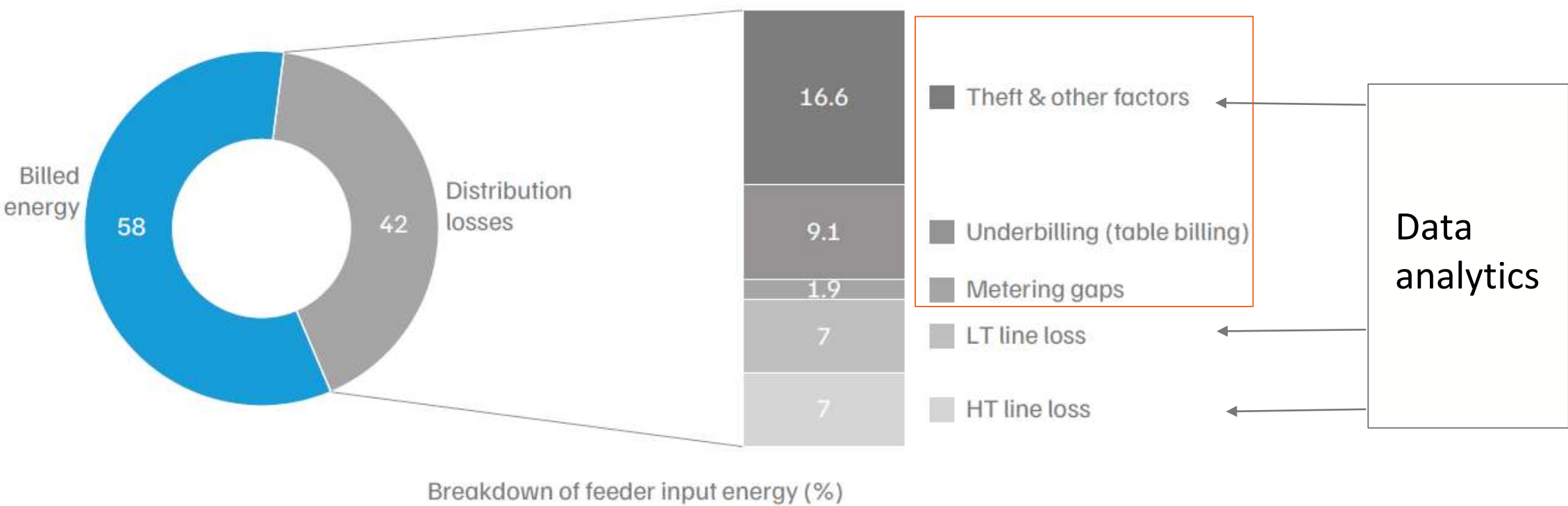
- Timely and accurate bills
- Access to consumption insights
- Outage detection and restoration



## Future-ready distribution network

- Data-driven load forecasting and planning
- Optimise capex using load flexibility
- Valuation and settlement of distributed generation

# Use case 1: Reducing distribution losses through targeted efforts



## Use case 2: Empowering consumers with insights



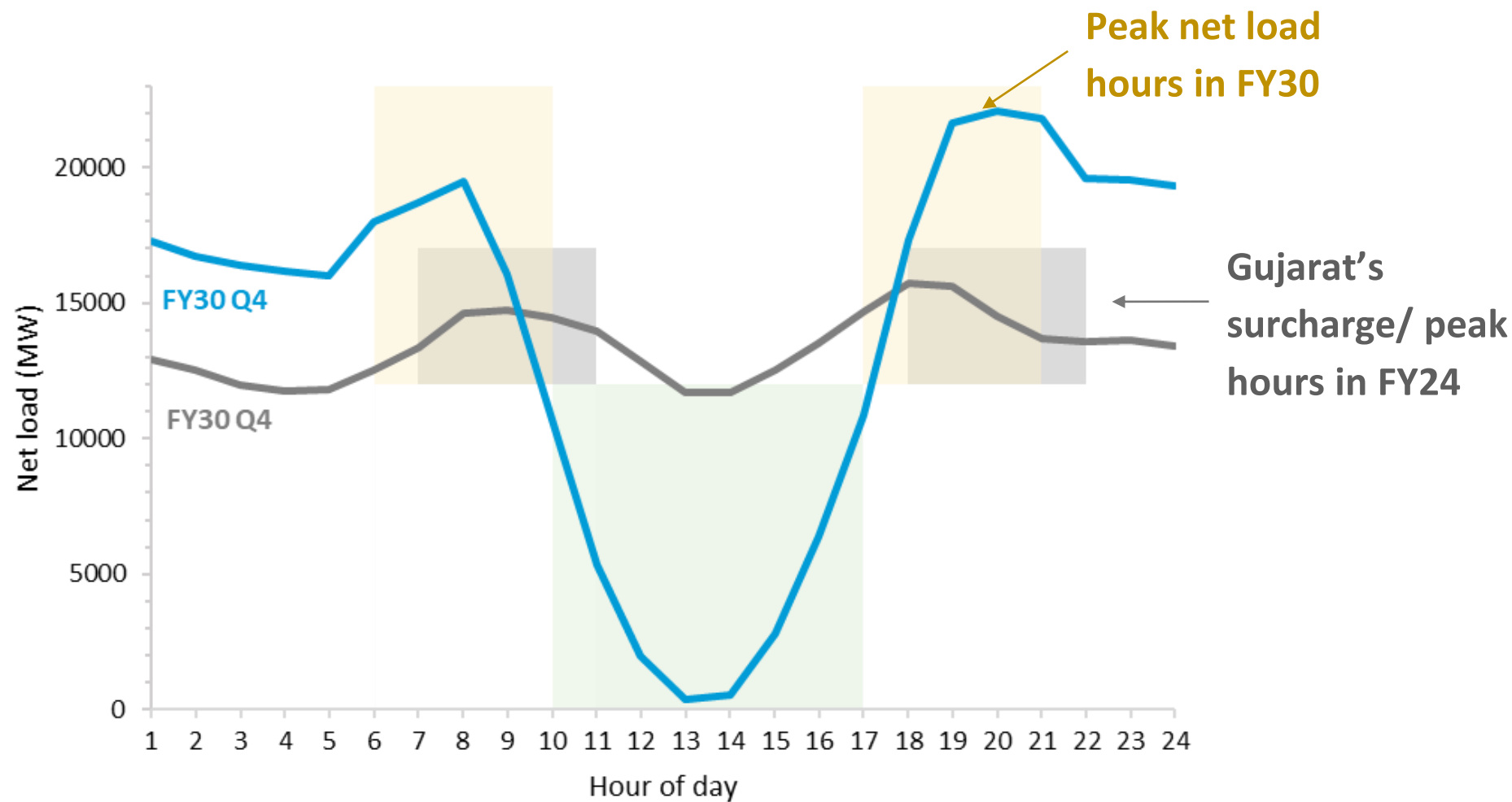
### CEEW's smart meter user survey in 6 states (2022)

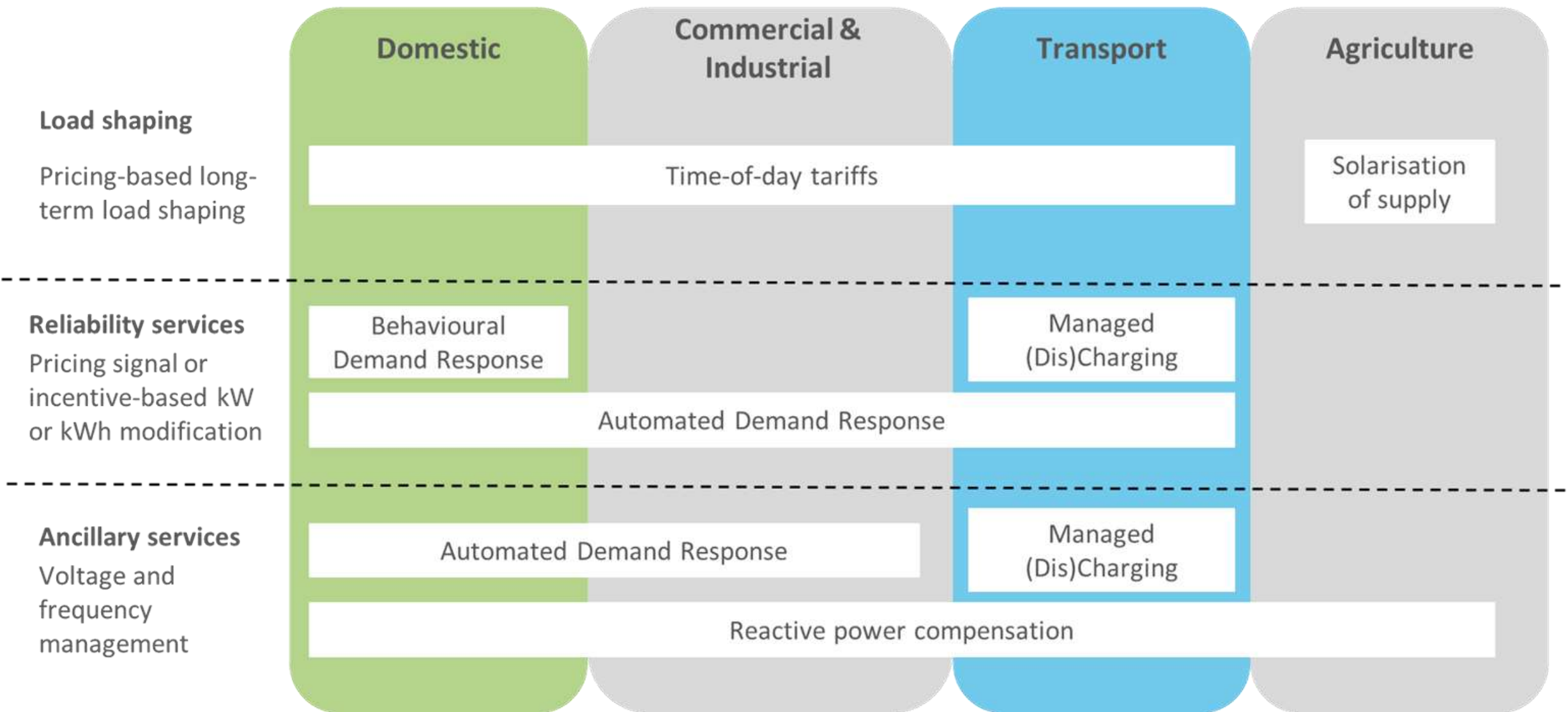
**40%** consumers reported better control on expenses (50% among prepaid users and 27% among post-paid)

**3x** higher app awareness and uptake among prepaid users

- Unified app across AMISPs -> uniform consumer experience
- Insights on average daily and historical consumption, balance deduction, view and download previous bills
- Other services: Complaint registration and tracking, new connection request, sanctioned load change, etc.

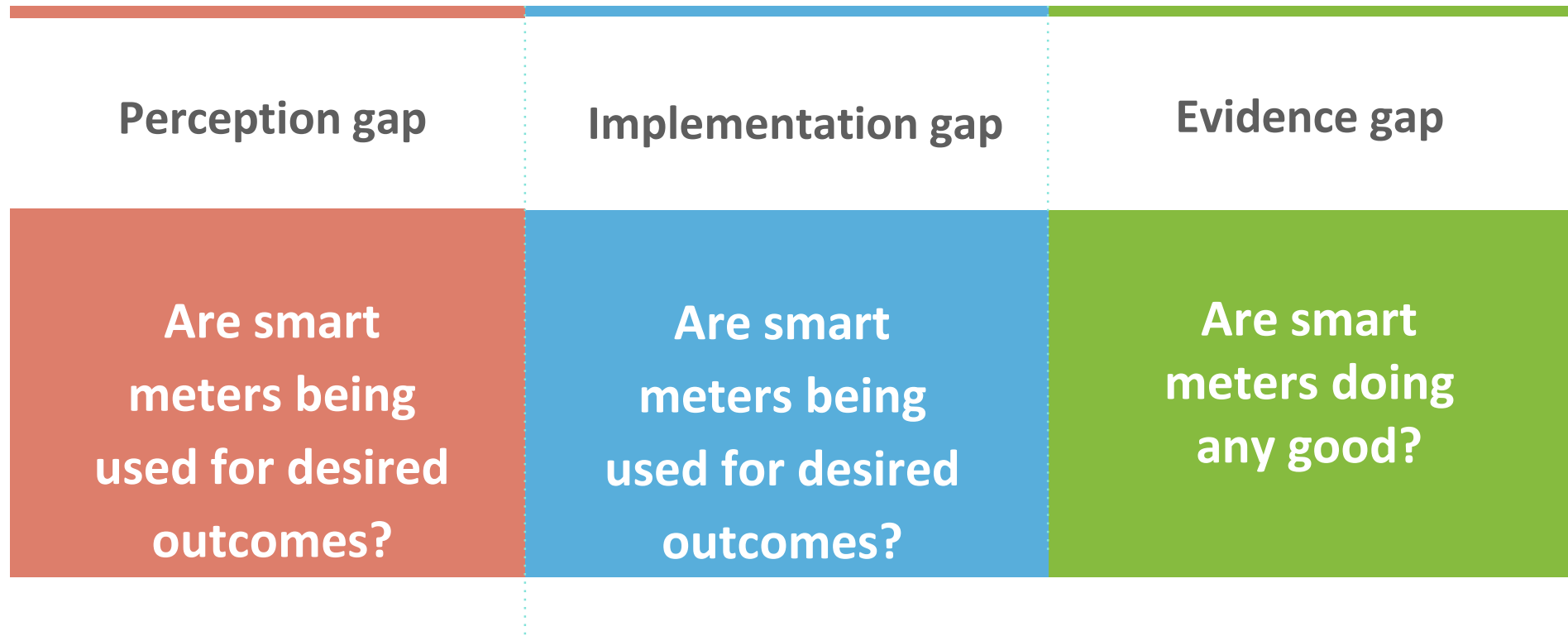
# Use case 3: Designing smart future-ready tariffs to flexiblise demand







## Three key gaps





# 1. Shift focus from output KPIs to desired outcomes from smart metering

## Installation metrics

% smart meters installed  
% smart meters communicating  
% smart meters integrated with billing system



## Consumer service metrics

% users getting MR-based bills  
% users of smart meter app  
% users paying bills through app  
% users making multiple payments  
% users on ToD tariffs

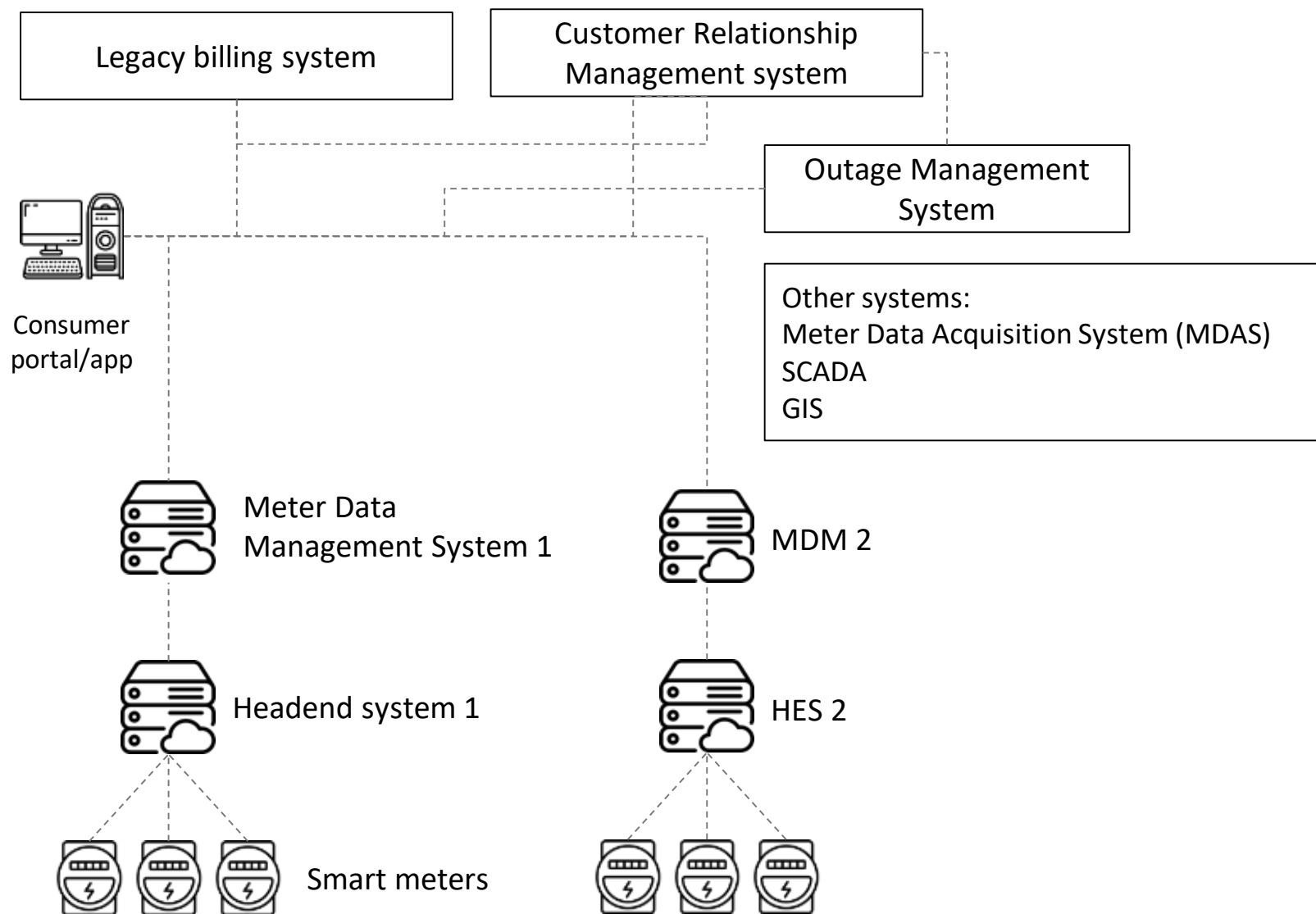


## Feeder-level metrics

% feeders with robust energy accounting  
% gain in BE & CE  
% gain in SAIDI/SAIFI  
% DTs with good health parameters



## 2. Integrate smart meter data with legacy systems to deliver outcomes



### Potential integration issues:

- Indexing errors/mismatch across systems
- Poor data quality requiring further VEE or site inspections
- Operational/logic updates e.g., missing rooftop solar flags

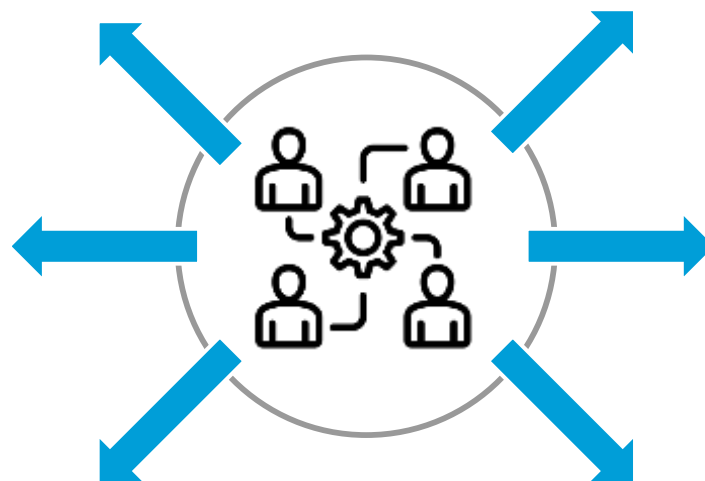
### 3. Build capacity within discoms to scale analytics

**Create a cadre of IT/AI professionals** for the discoms trained on the latest tools and data science techniques

**Dedicated smart metering teams** to solve system integration and document cross-functional use cases

**Longer tenures** for IT professionals to provide continuity in operations and use case development

**Career progression pathways** for the IT cadre



**Regular upskilling** beyond using AMISP dashboards

**Train SDO-level staff** in using dashboards and acting on data-driven insights

# Thank you

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