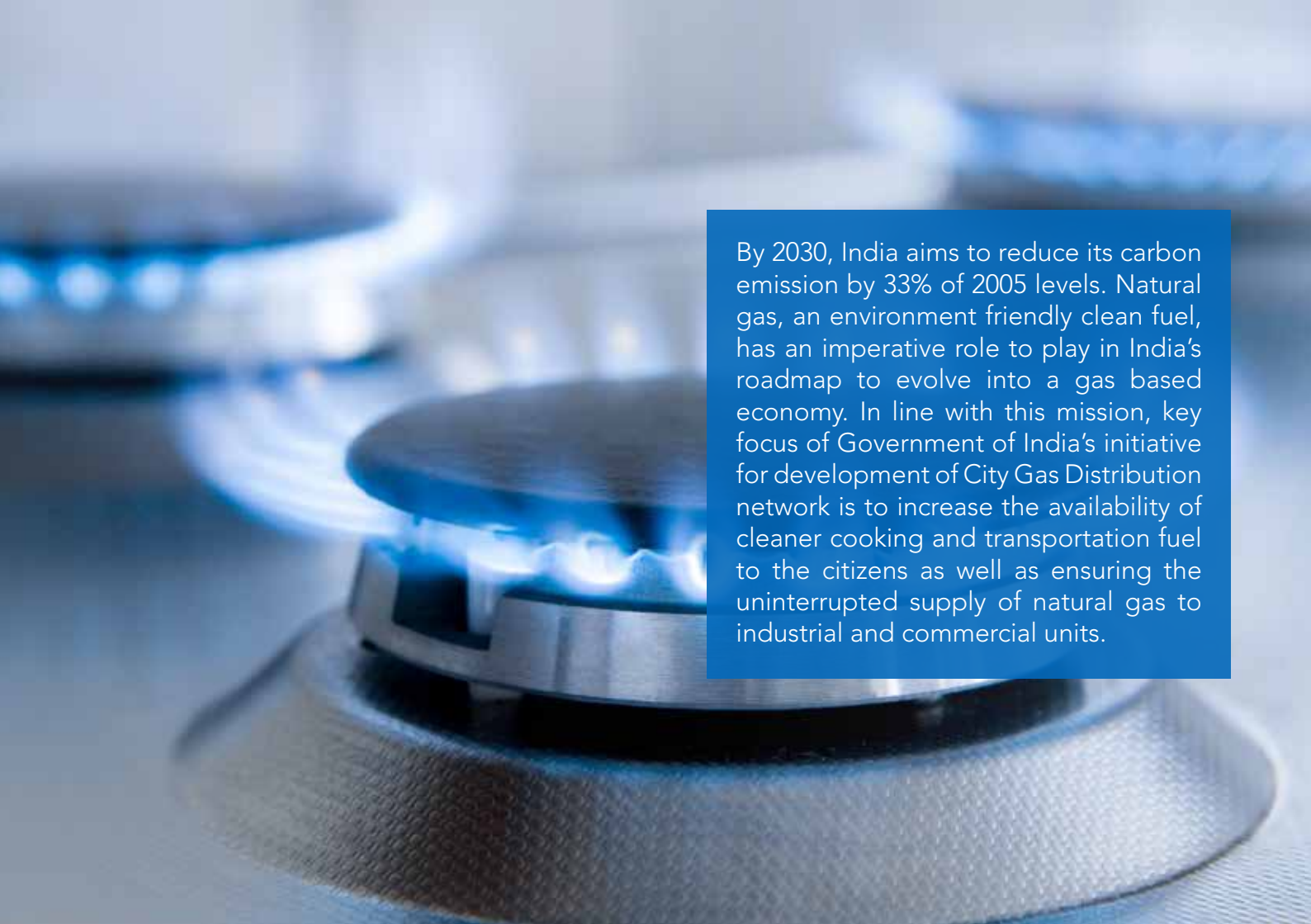
FUTURE UTILITIES

GIS: A technology imperative for a Gas Distribution Utility

esri India
THE SCIENCE OF WHERE



By 2030, India aims to reduce its carbon emission by 33% of 2005 levels. Natural gas, an environment friendly clean fuel, has an imperative role to play in India's roadmap to evolve into a gas based economy. In line with this mission, key focus of Government of India's initiative for development of City Gas Distribution network is to increase the availability of cleaner cooking and transportation fuel to the citizens as well as ensuring the uninterrupted supply of natural gas to industrial and commercial units.

The “Location” Imperative

Gas distribution is a geography-based business. A gas utility has an underlying network of pipelines to distribute natural gas from a source (e.g. a regulator station) to the destination i.e. end customer premises. Since the network is a widespread asset that serves customers and stakeholders over a large distributed area, spatial information has a critical role to play. This makes the role of a Geographic Information System (GIS) central to all the utility business processes be it planning, compliance, operations, monitoring, management or customer service.

GIS supports the 5 common “business patterns” of a utility.

- Asset Management
- Planning and Analysis
- Operational Intelligence
- Stakeholder Engagement
- Field Mobility

GIS supports these business patterns by providing a centralized system for records, engagement, insights and IoT.

Asset Management

Distribution network is a core asset for any utility. Knowledge about the network is essential to help them determine how best to manage an asset, its whole lifecycle costs, risk to the organization if it cannot perform its function, or how long it will remain a viable asset. GIS provides a System of Record where utilities can centralize asset information into a single authoritative database. A comprehensive spatial view of the network not only helps utilities identify new areas for network expansion but also manage the existing assets while being compliant to regulatory and safety needs.

Planning & Analysis

GIS supports distribution network planning and analysis by transforming asset and operational data into actionable information. GIS based planning allows to model pipeline routes and determine rights-of-way that respect the land and landowners. Analytic tools within GIS helps identify vulnerabilities, ensure regulatory compliance, weigh asset investments, and understand customer satisfaction.

Field Mobility

Utilities have mobile workers that are out in the field for many responsibilities such as surveying, network planning, meter reading, customer service, installations, maintenance, repair work and valve exercising. GIS brings managers, employees and fieldworkers together by providing a common operating picture to all. Whether online or offline, field staff can access maps and view real-time information, making it easy to report problems, complete work orders, and update maintenance records. With GIS, location and status of crews can be identified quickly; scheduling, dispatching, and managing service staff can be done more efficiently. Street-level routing with GIS reduces fleet costs and saves time, giving them the ability to handle more service calls.

Operational Intelligence

GIS provides a System of Insights and a System for IoT that integrates live operational data, multilayer geospatial data, data from CRM, BI and big data systems into a single view for enhanced situational awareness. Streamed data feeds from a wide range of sources (SCADA, IoT devices, mobile devices, and even social media) can be incorporated into GIS applications, transforming them into frontline decision-making tools. Live filtering and processing enables the detection of critical events and their locations as and when they happen. By setting appropriate thresholds, operations can be monitored by exception and without interruption. When locations change or specified criteria are met, multiple activities can be triggered including alerts to key personnel, map updates, event recording, and interactions with other enterprise systems. Whether planning for the future or providing timely emergency coordination, live, embedded operational data in geographic context enables faster response times, saves money, and possibly saves lives.

Stakeholder Engagement

GIS provides a System of Engagement for utilities to interact with multiple internal and external entities. GIS interface can be extended for public facing web mapping applications to support customer self-service, capital project coordination, service interruption incident management and transparency into utility performance. For customer service agents, a map-based view of the critical information in a customer's area allows them to answer questions with authority and confidence, reducing callbacks and average handling time. With GIS enabled customer apps, customers can easily report issues directly from their mobile devices and submit a photo along with an accurate location of the incident or problem. An online web map that shows maintenance activities/outages and provides expected restoration time scales can answer many customers' questions without their needing to get in touch with service providers. Integrated real-time GIS based dashboards give a comprehensive view of the utility's business performance to decision makers.

Increased Insight into Assets
Workers can have an up-to-date picture of asset performance, maintenance history, improvement projects, and inspection plans. Integration with business systems enables tracking of the financial performance of assets.

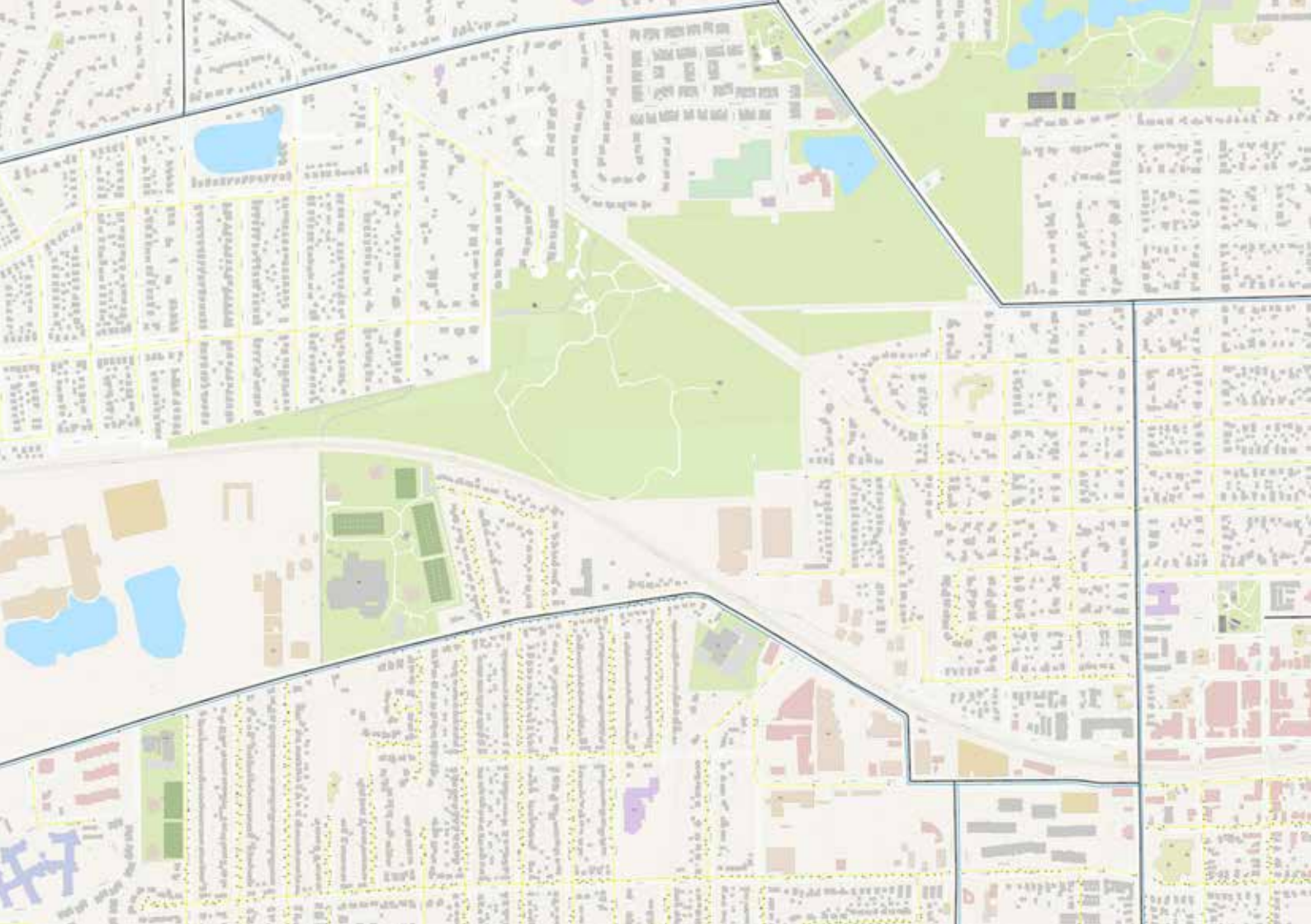
Bringing the Field and the Office Closer Together
Whether online or offline, field staff can access maps and view real-time information, making it easy to report problems, complete work orders, and update maintenance records.

Operational Intelligence
A picture can be built up of services, deliveries, people, vehicles, weather events, and social media and then shared with a chosen group of people, inside or outside the organization.

By applying innovative thinking and leveraging the power of location, utilities can rest assured that location technology is evolving with them and supporting them on their radical transformation.

Better Community Engagement
A map is a powerful way to communicate an idea, a plan, or what is currently happening. Public can actively collaborate using maps that are quickly and easily created and shared.

To discuss how this way of thinking can be applied in your business, please contact Esri India.



About Esri

Esri inspires and enables people to positively impact their future through a deeper, geographic understanding of the changing world around them.

About Esri India

Esri India is an end-to-end Geospatial Information Systems (GIS) solutions provider and enjoys a leadership position with Esri ArcGIS suite of software and other related products. Esri India has successfully delivered GIS solutions to more than 5000 customers for applications in Land management, Utilities, Infrastructure, Disaster Management, Telecommunications, Urban / Municipal, Transportation, Defense and Natural resources.

Esri India is headquartered in Noida, Uttar Pradesh and has multiple regional offices across India.

Our Focus

Esri software is used by hundreds of thousands of organizations that apply GIS to solve problems and make our world a better place to live. We pay close attention to our users to ensure they have the best tools possible to accomplish their missions. A comprehensive suite of training options offered worldwide helps our users fully leverage their GIS applications.

Esri is a socially conscious business, actively supporting organizations involved in education, conservation, sustainable development, and humanitarian affairs.

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