APUEA
Asia Pacific Urban Energy Association

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Smart Energy Management System
智能能源管理系统

2nd International Forum on Low Carbon Development for Cities
第二届城市低碳发展国际论坛

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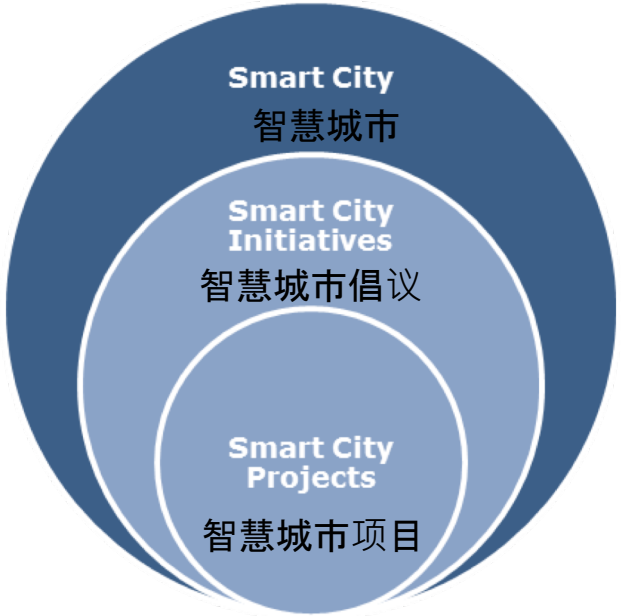
DBDH EUROHEAT & POWER INTERNATIONAL DISTRICT ENERGY ASSOCIATION IIEC International Institute for Energy Conservation

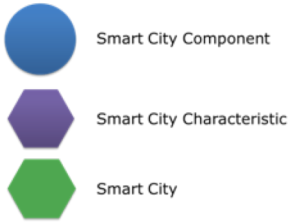
What is a Smart City?
什么是智慧城市？



Technology factors
- Physical infrastructure
- Smart technologies
- Mobile technologies
- Virtual technologies
- Digital networks

Human factors
- Human infrastructure
- Social capital

Institutional factors
- Governance
- Policy
- Regulations and directives



ECO – Smart Economy
ENV – Smart Environment
GOV – Smart Government
PEO – Smart People
MOB – Smart Mobility
LIV – Smart Living

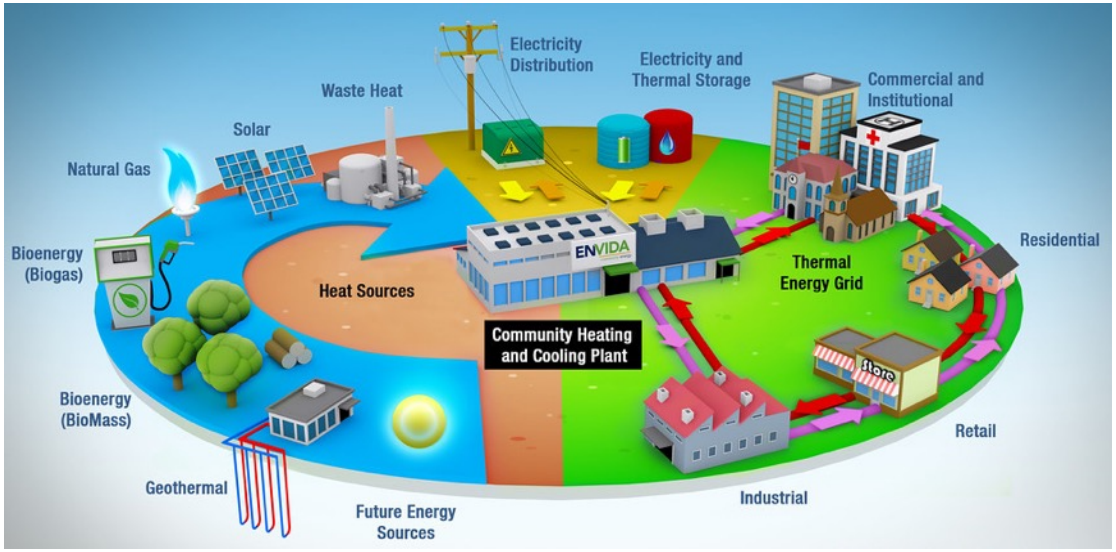
What is Smart Energy?
什么是智能能源？

Distributed
分布式

Centralized
集中

Centralized + Distributed
集中+分布式

Integrated
一体化



Generation driven
发电驱动

Demand driven
需求驱动

End-consumer driven
终端消费者驱动

What is (Smart) Energy Management System?
什么是（智能）能源管理系统？

- Framework for an organization to achieve continual improvement of Energy performance (inc. Cities)

  可以让机构实现能源效能持续改善的框架（包括城市）

- Computer-aided tool for Monitoring, Control and Optimize an Energy system

  用于监测，控制和优化能源系统的计算机辅助工具

Energy Management Systems (EnMS)
能源管理系统（EnMS）

European Energy Award 欧洲能源奖

A Quality Management System for Energy-related Activities in Municipalities, recognized as an implementation tool within the ”Covenant of Mayors” by the European Commission

城市能源相关活动质量管理体系，被欧盟委员会认可为“市长公约”中的实施工具

CoM and SEAP 市长公约(CoM) 和 可持续能源行动计划（SEAPs）

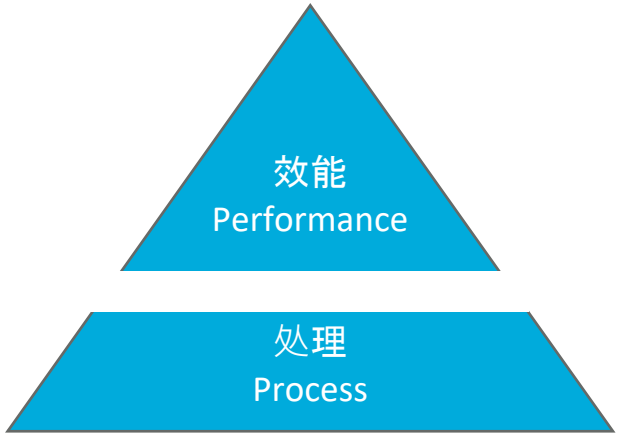
Covenant of Mayors (CoM) initiative and developed Sustainable Energy Action Plans (SEAPs) to cut CO_2 emissions by at least 20 % by 2020.

市长公约（CoM）倡议和可持续能源行动计划（SEAPs）将在2020年之前至少减排20%。

ISO 50001

Energy management system framework with requirements and guidance for use.

能源管理系统框架，具有使用要求和指导。



ISO International Organization for Standardization

european energy award

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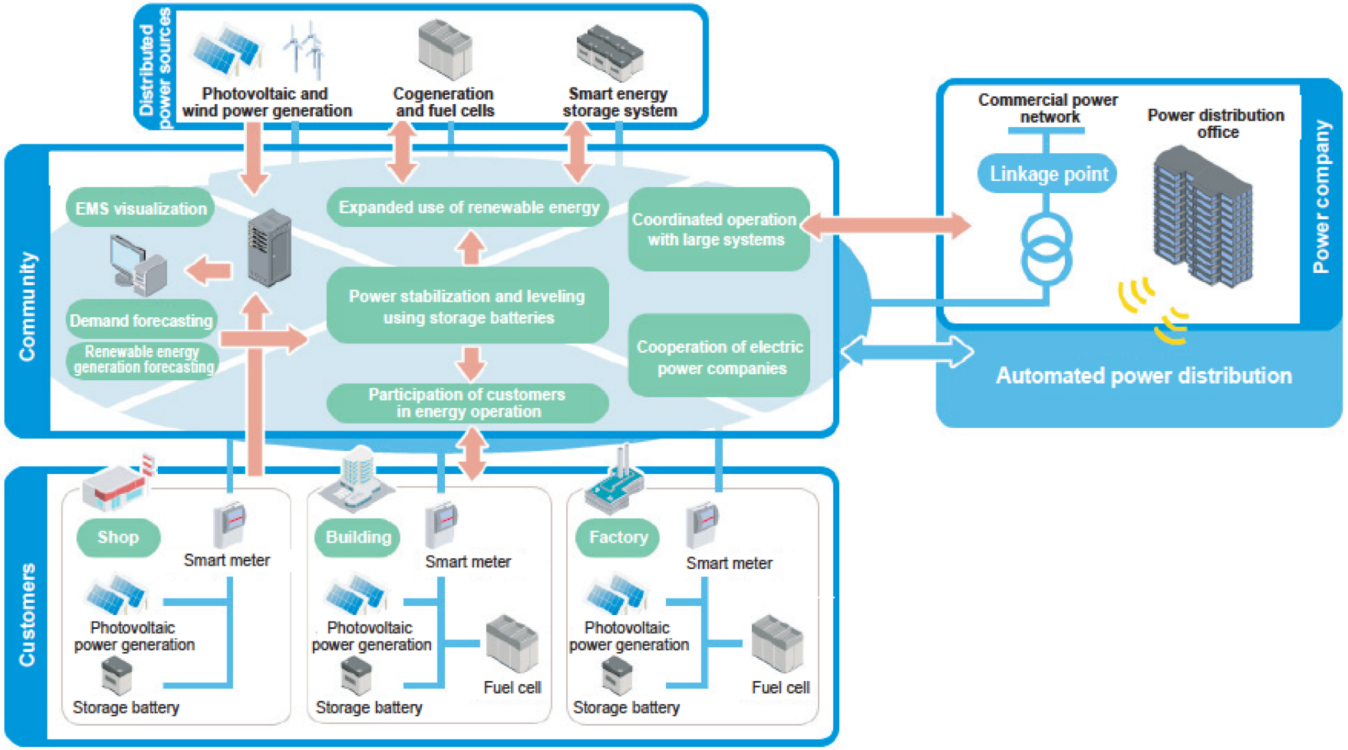
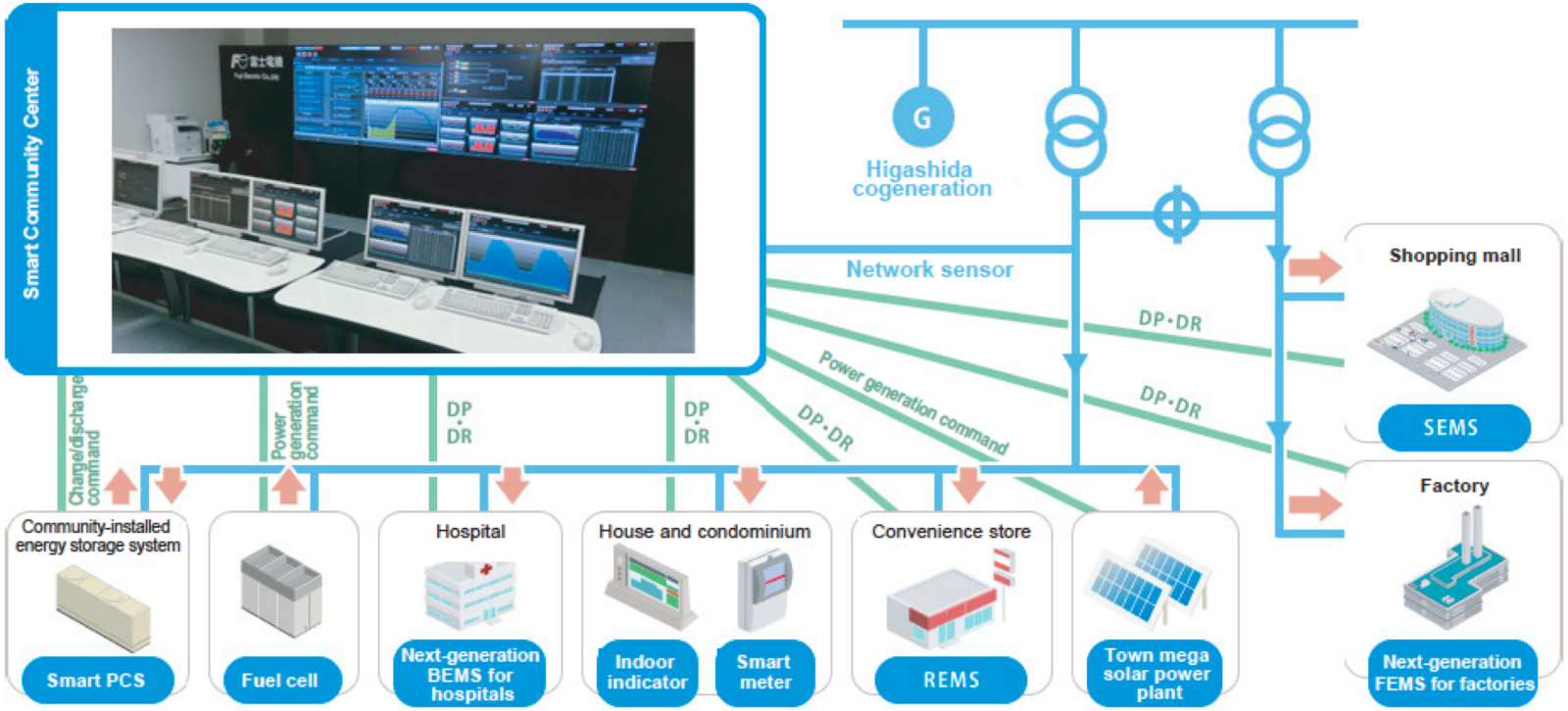
Energy Management System (EMS)
能源管理系统（EMS）



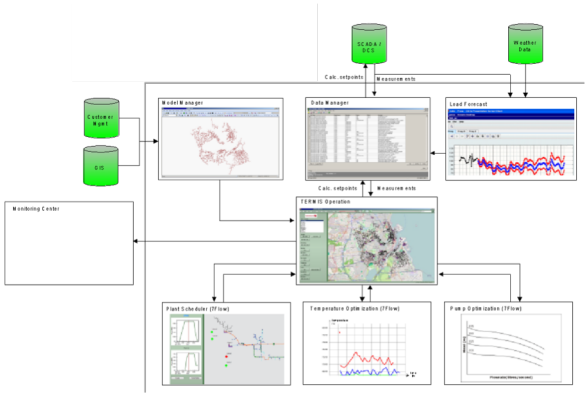
CEMS – Cluster Energy Management System
CEMS - 集群能源管理系统
BEMS – Building Energy Management System
BEMS - 建筑能源管理系统
FEMS – Factory Energy Management System
FEMS - 工厂能源管理系统
HEMS – Home Energy Management System
HEMS - 家庭能源管理系统
REMS – Room Energy Management System
REMS - 房间能源管理系统
MEMS – Mansion Energy Management System
MEMS - 大厦能源管理系统

Community Energy Management System (CEMS)
社区能源管理系统（CEMS）



The future of EMS
能源管理系统的未来

OPEN DATA



谢谢

THANK YOU

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