

Why Distributed Energy Systems Becoming More Popular in Remote Areas, City Districts and Industrial Facilities

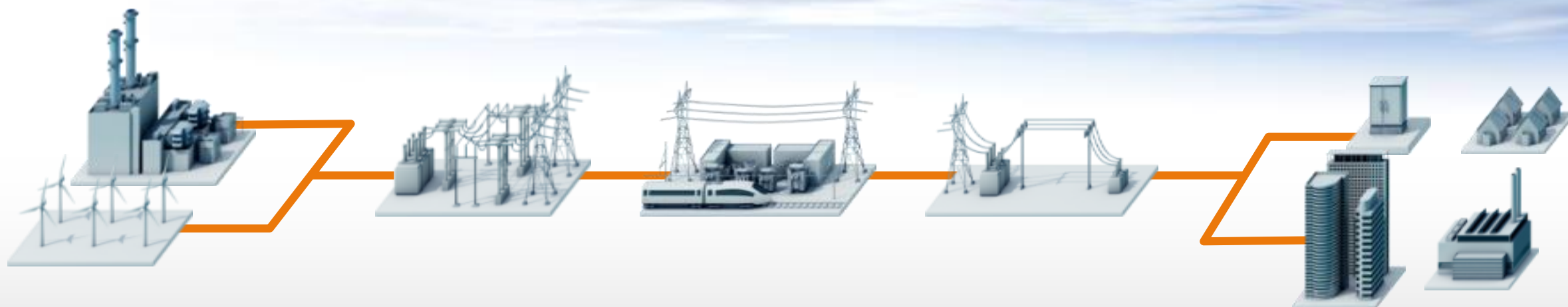
ACEF 2017, Decentralized Energy Systems

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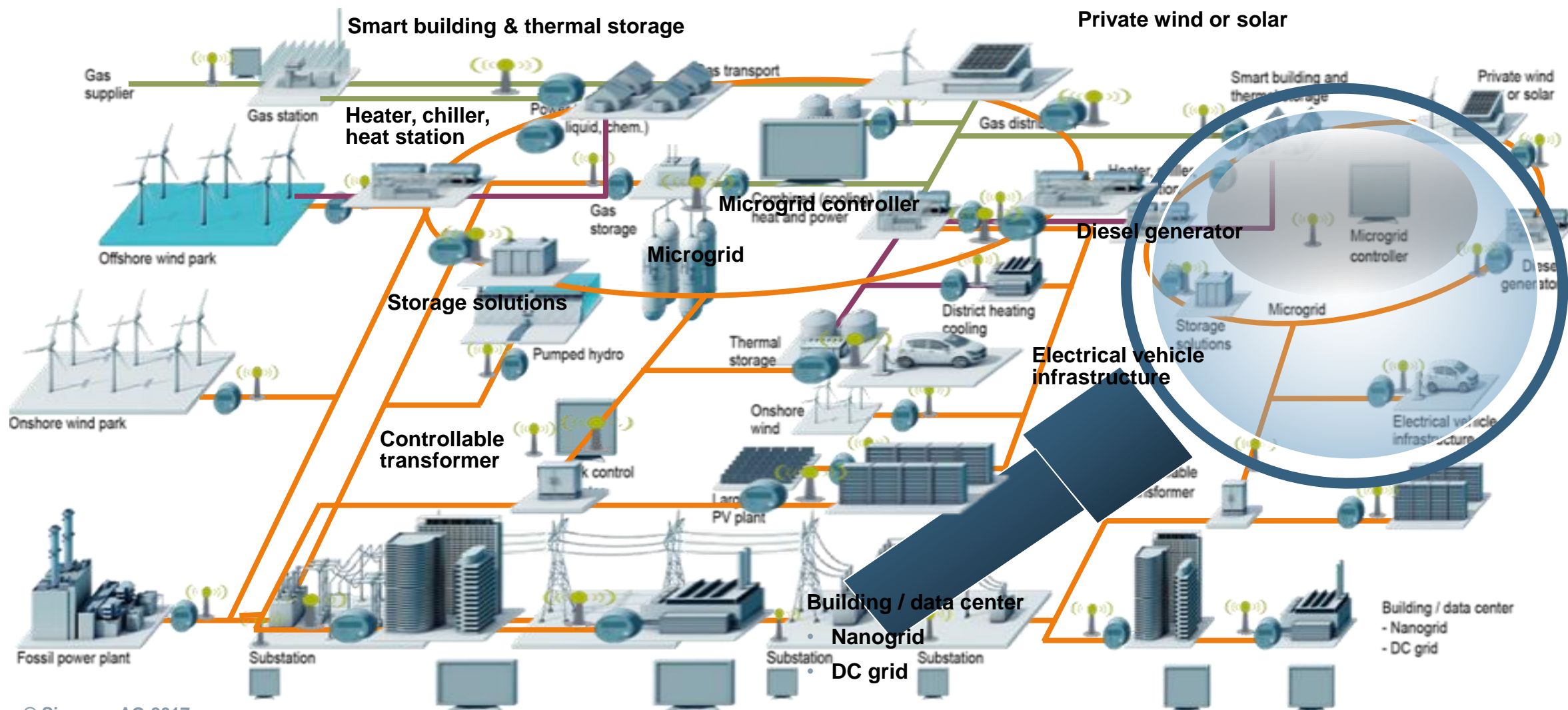


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From centralized, unidirectional grid ...



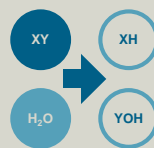
... to distributed energy and bidirectional energy balancing



Distributed energy systems market grows faster



Shift in fuel mix



Competitiveness of new technologies

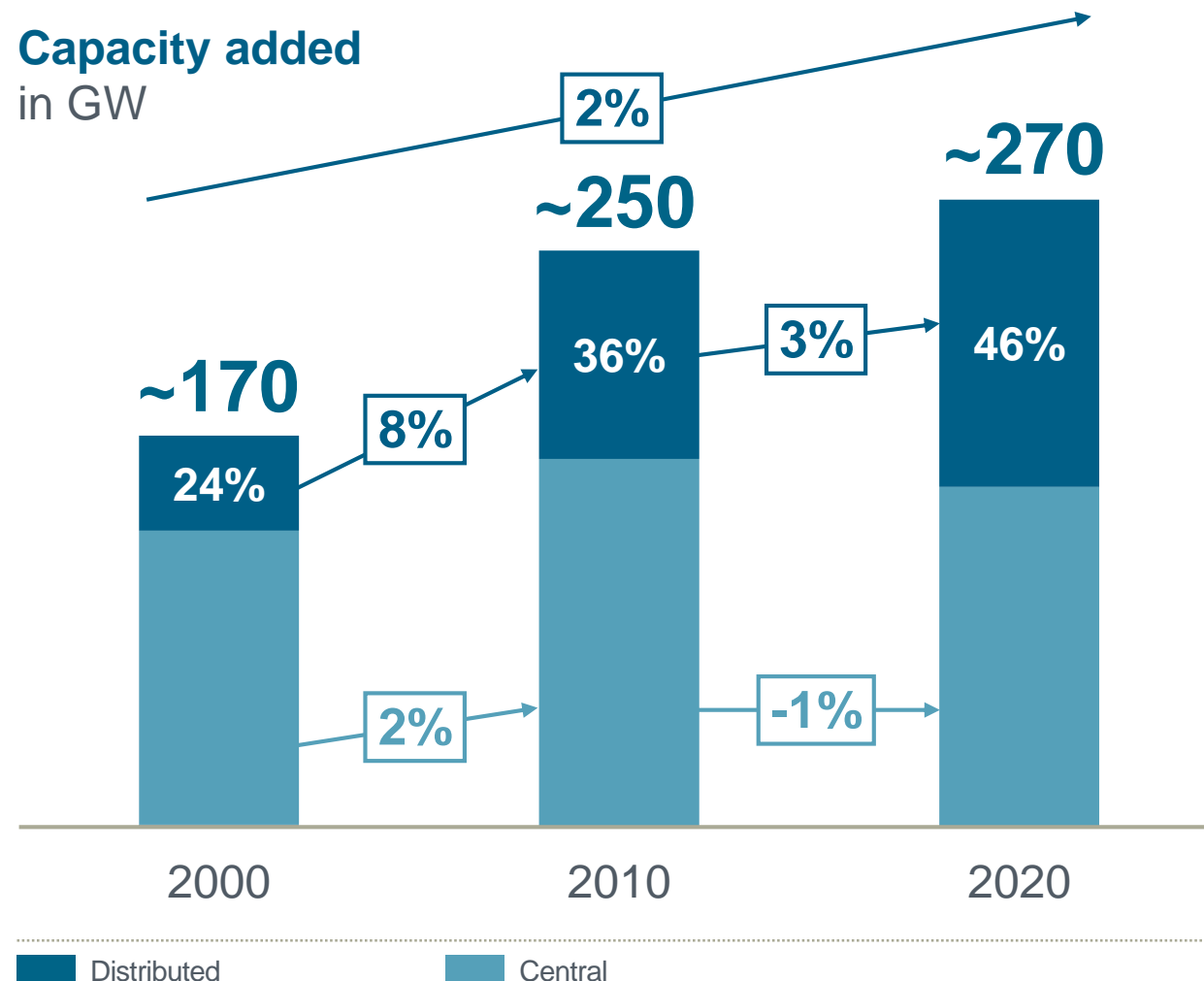


Favorable regulation



Capacity build-out: Renewables overtaking fossil

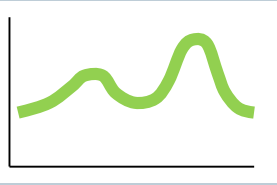
Capacity added in GW



Remote areas Needs and Solutions

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Your Needs



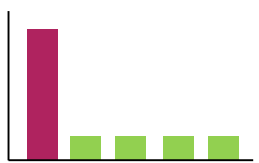
Reliable power supply



Lower energy prices



Growing energy demand



No investment costs

Siemens solutions

1

Technical and economical consulting

2

Optimized plant design for LCoE, IRR, Payback

3

Scalable plant design

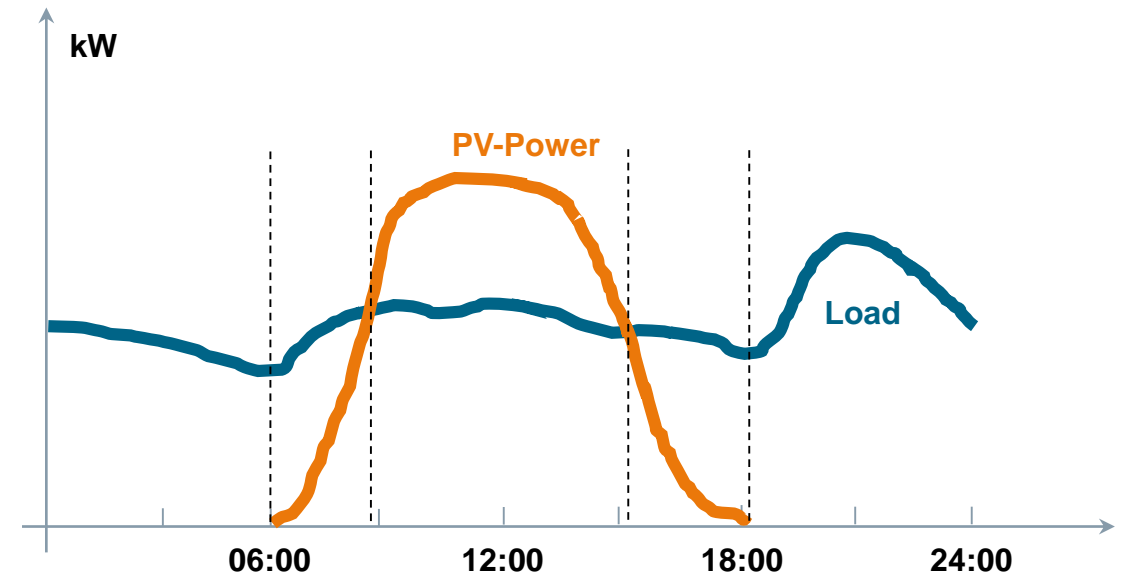
4

Financing & Performance contracting

Remote areas

Galápagos Isabela Island becomes 100% renewable with Siemens turnkey solution

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1.6MW

Reciprocating
Engines on Biofuel

920 kW

PV
Power

620kW

Battery Energy
Storage System

100%

Renewable
Energy

*) Project in execution

City district & Campus

Your challenges - our answers

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Your challenges

Energy supply security

CO₂-saving energy provision

Maintenance of residential value through stable energy costs

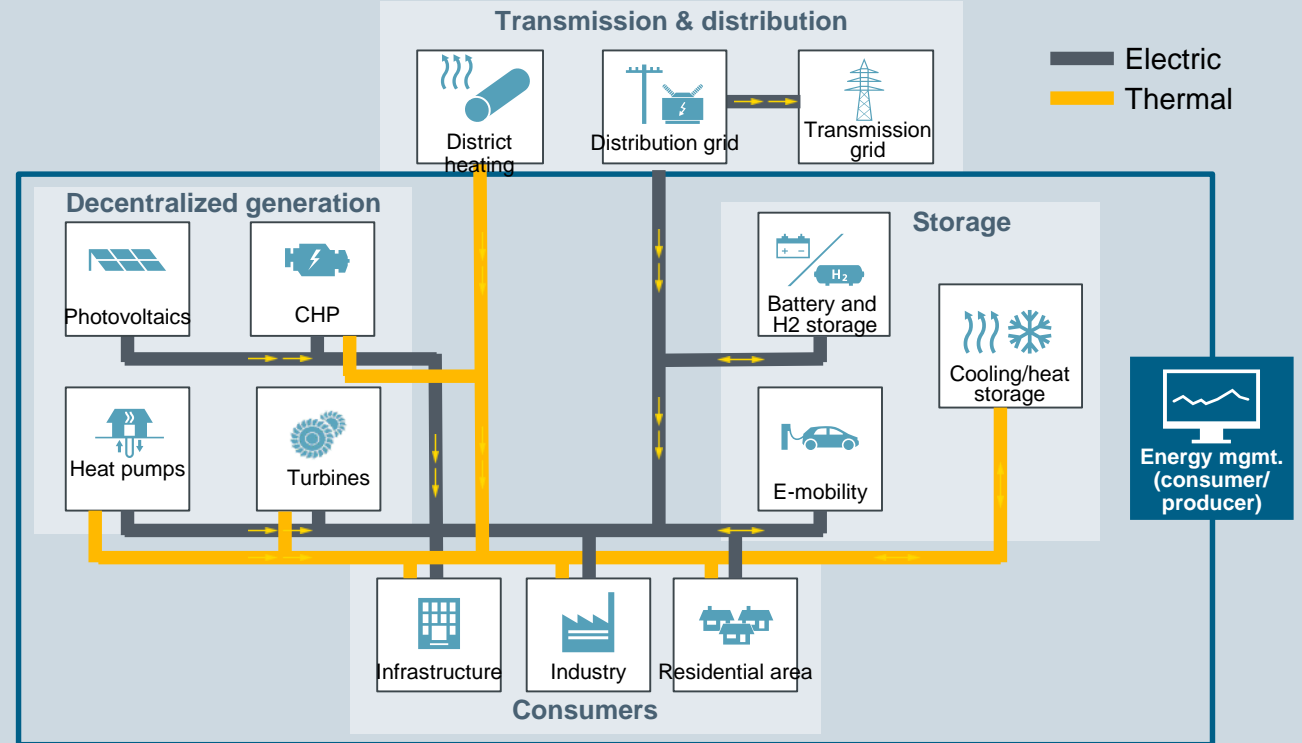
High residential quality through clean and quiet technologies

CO₂-free mobility concepts

Cyber security

Challenge of business model

Answers tailored to your requirements



Financing concepts

City district & Campus

Siemens Energy Campus Erlangen

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- **Land area:**
~540,000 m²
- **Number of current buildings:** >80
- **Current built-up area:**
350,000 m²
- **Project duration:**
2015-2030
- **Total above-ground floor space on completion:**
 - Offices: 320,000 m².
 - Hotel, restaurants: 50,000 m²
 - Accommodation: 100,000 m²



Industrial application

Your challenges - our solutions

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Your challenges

Rising energy costs

Security of energy supply

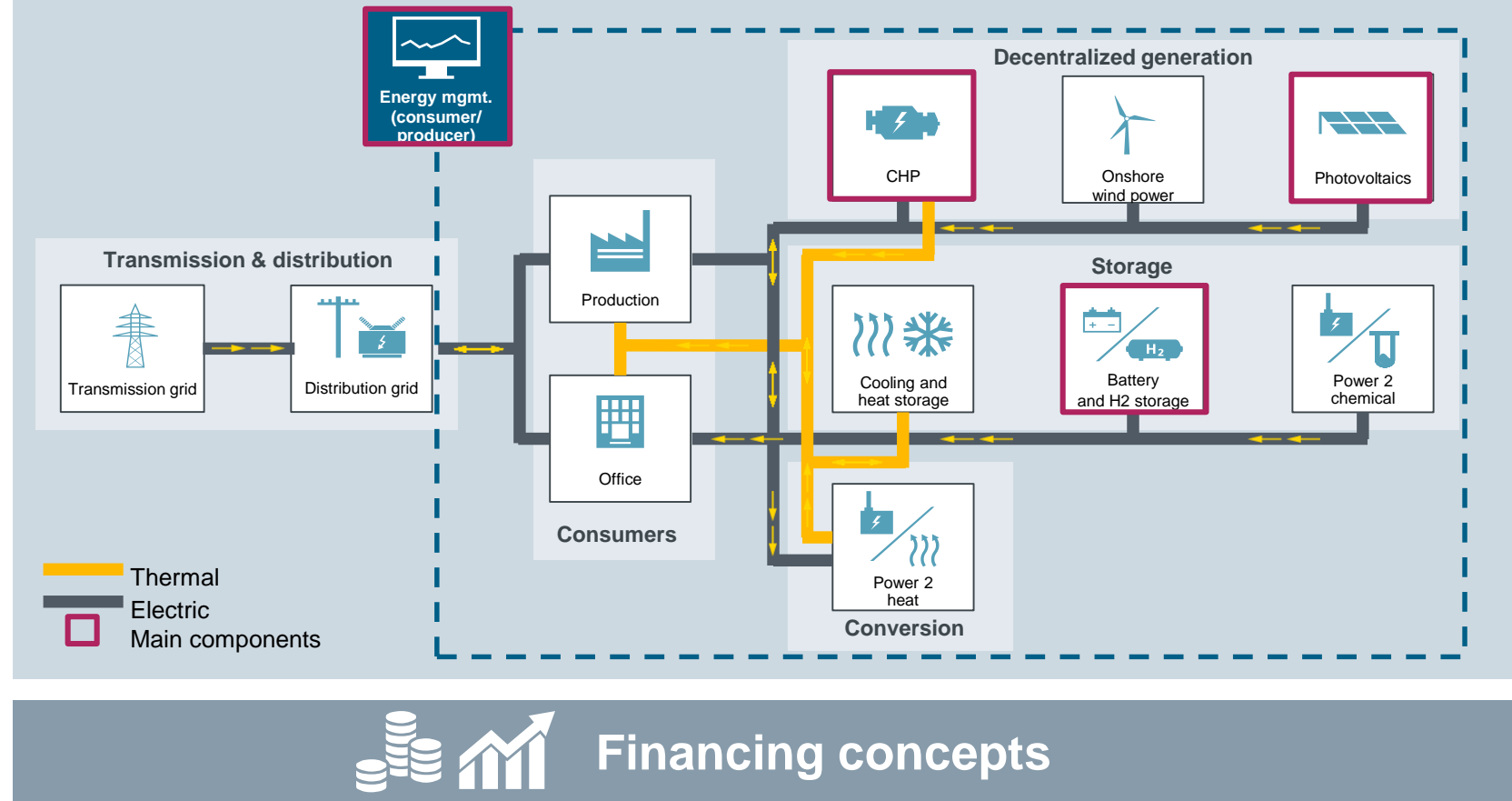
Thermal and electrical energy demand

Reduce energy consumption

Strengthening of market position

No/ low investment costs

Tailored solution for your long-term success



Industrial application

India, electrical equipment factory

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- **Land area:** ~240,000 m²
- **Use of buildings:**
 - Manufacturing, Logistics, R&D, Office
- **Demand reduction and optimized energy supply**
 - LED lighting
 - Central building management system
 - Use of back-up Diesel and electrical Storage to avoid peak tariff
 - PV installation on rooftop and canopy
 - Central AirCon and ice storage
- **Investment and savings:**
 - Invest 1'5 \$, payback ~4 years
 - CO2 savings ~1.200 t per year



Siemens contact

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