

Universal Smart Energy Framework[®]

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Introducing myself



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WHY USEF

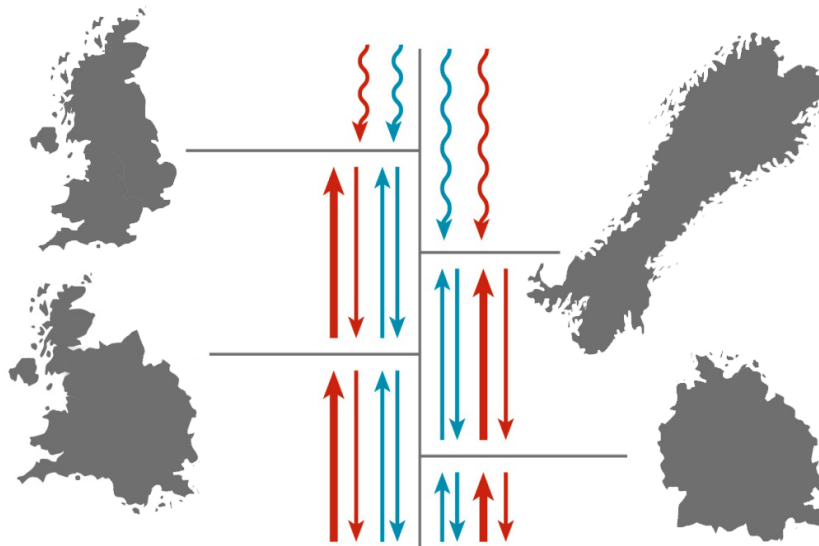
International Grid

National Grid

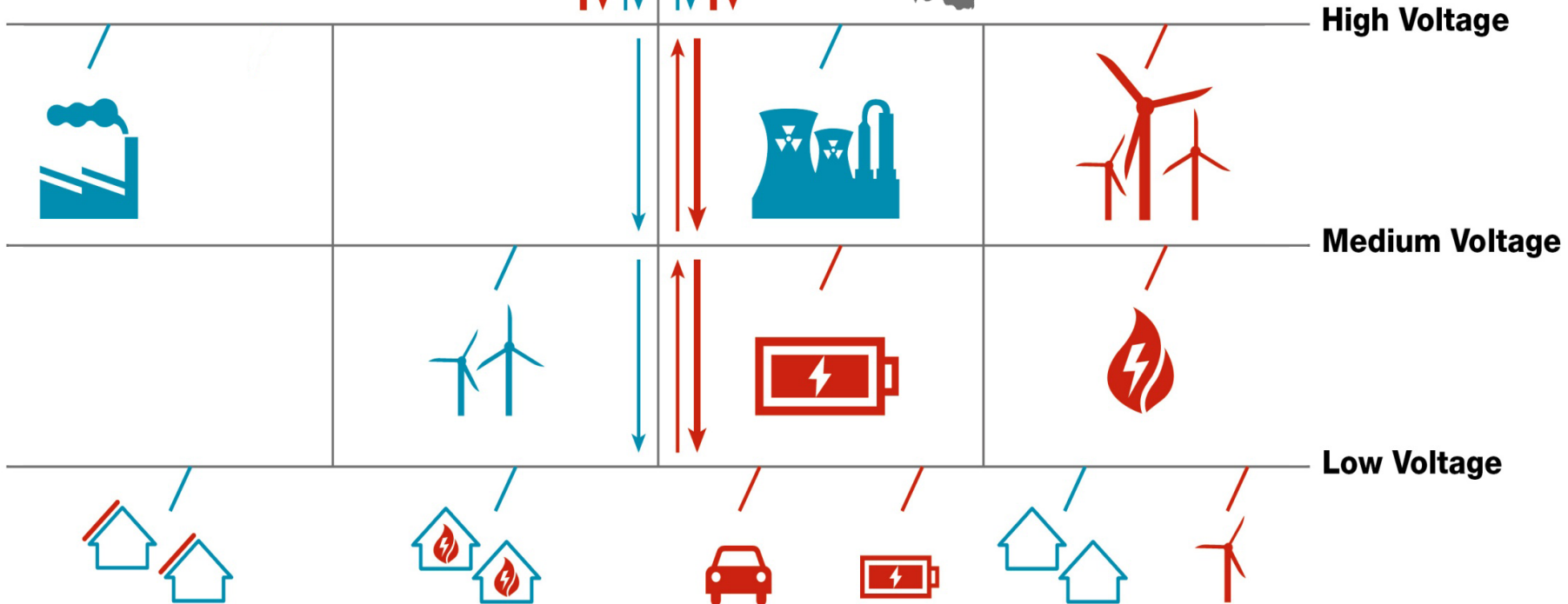


New!

International Grid



National Grid



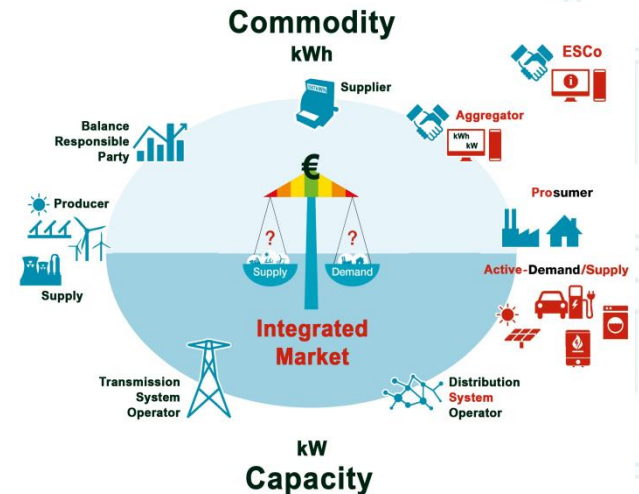
EU-Goals and Challenges

Goals

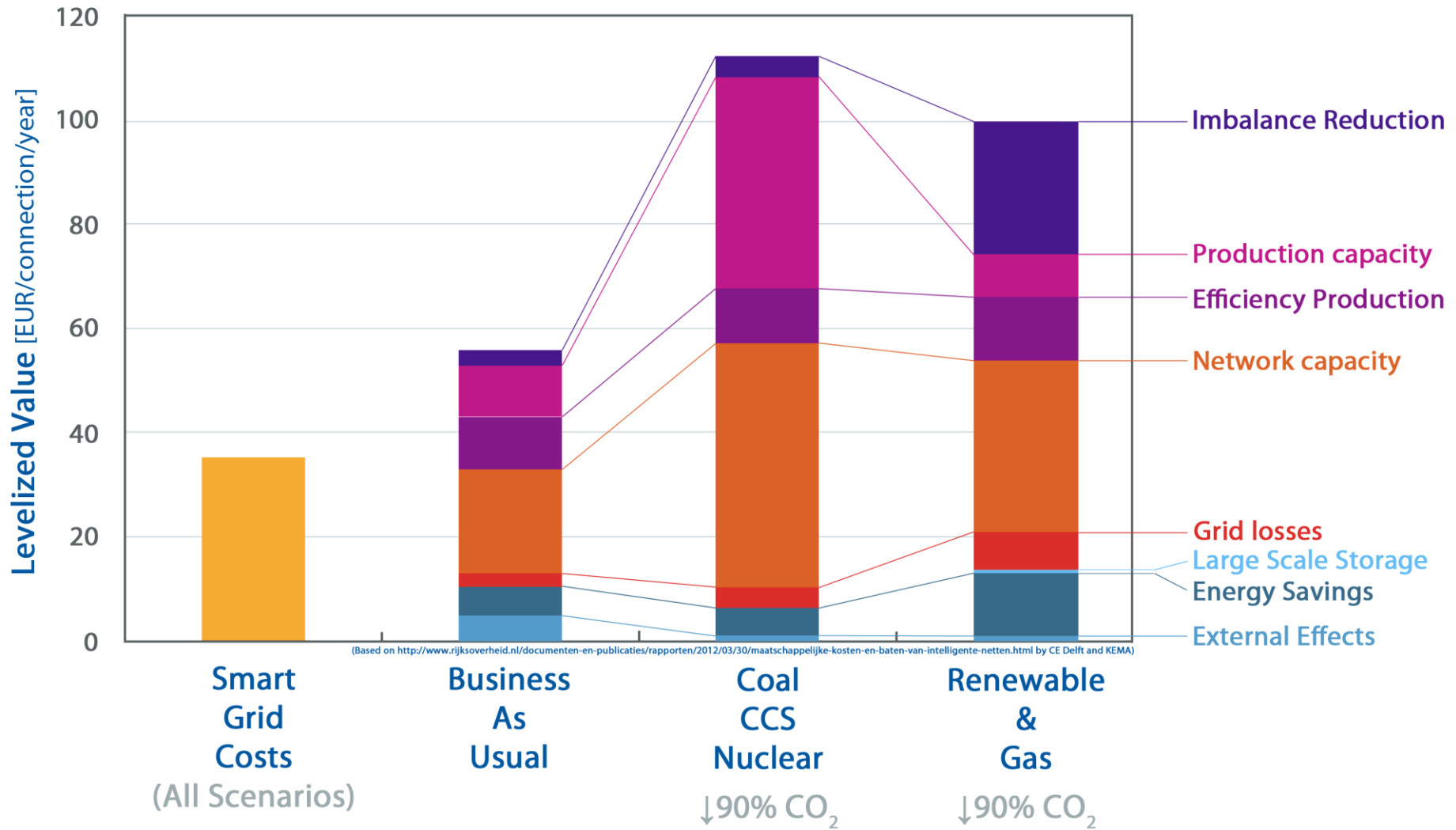
- Decrease GHG emissions
- Reduce energy (import) dependency

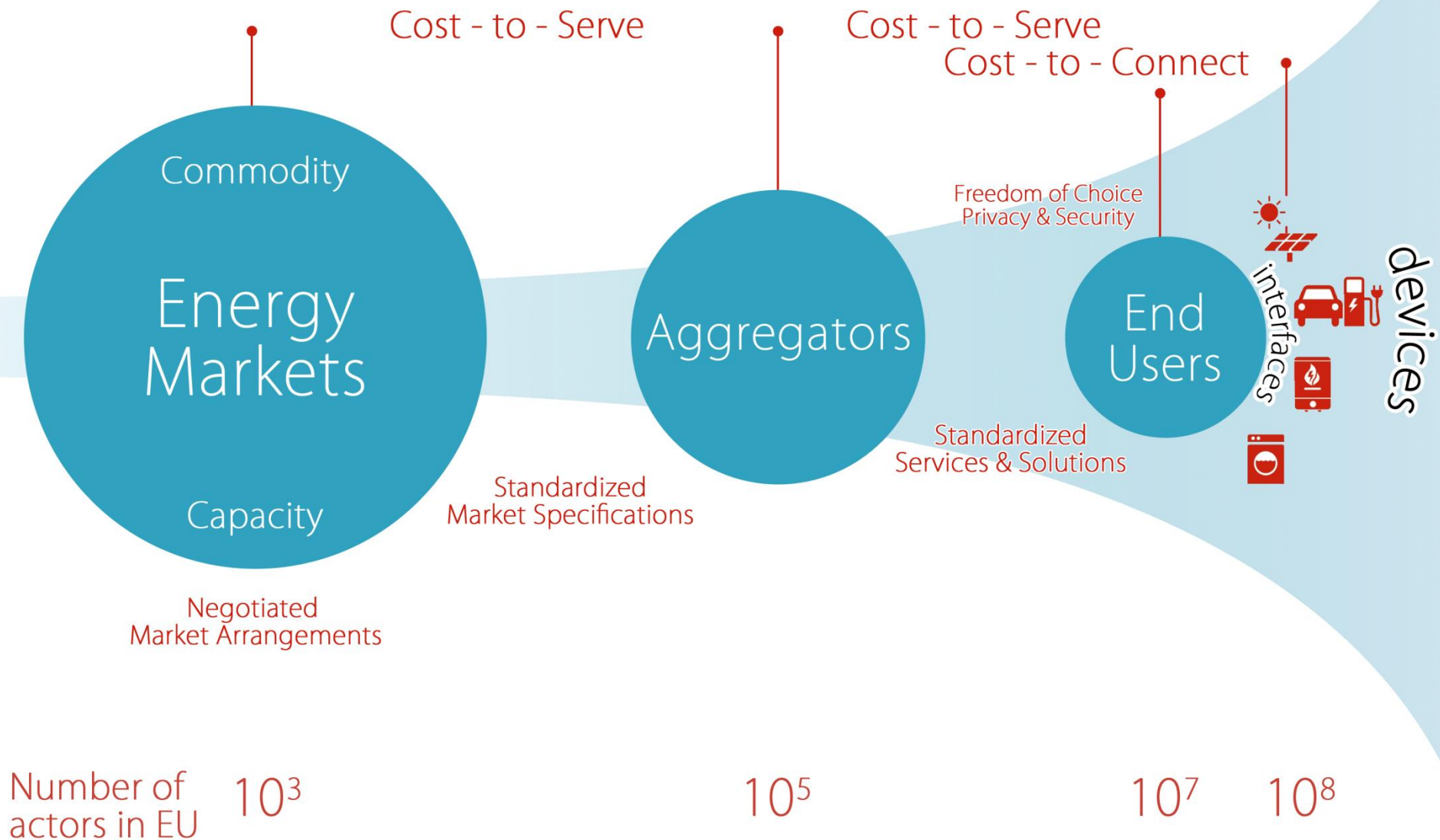
Challenges

- Keep the energy system affordable and reliable
- Integrate distributed, mainly renewable generation
- Adjust energy system to new loads, e.g. EV, HP, ...
- Enable new market opportunities, e.g. DR, storage, ...
- Facilitate new players to enter the energy market place
- Provide equal access to the system for everyone
(Freedom of connection, transaction and dispatch)



Cost & Benefits Smart Grids





THE FRAMEWORK

The Framework

USEF provides a set of specifications, designs and implementation guidelines that enable you to establish a fully functional smart energy system.

USEF provides a reference implementation that will accelerate the large scale development of smart energy products, services and solutions.

USEF will be validated and improved. Currently four demonstration projects are under development, but many more are expected to follow.

USEF Characteristics

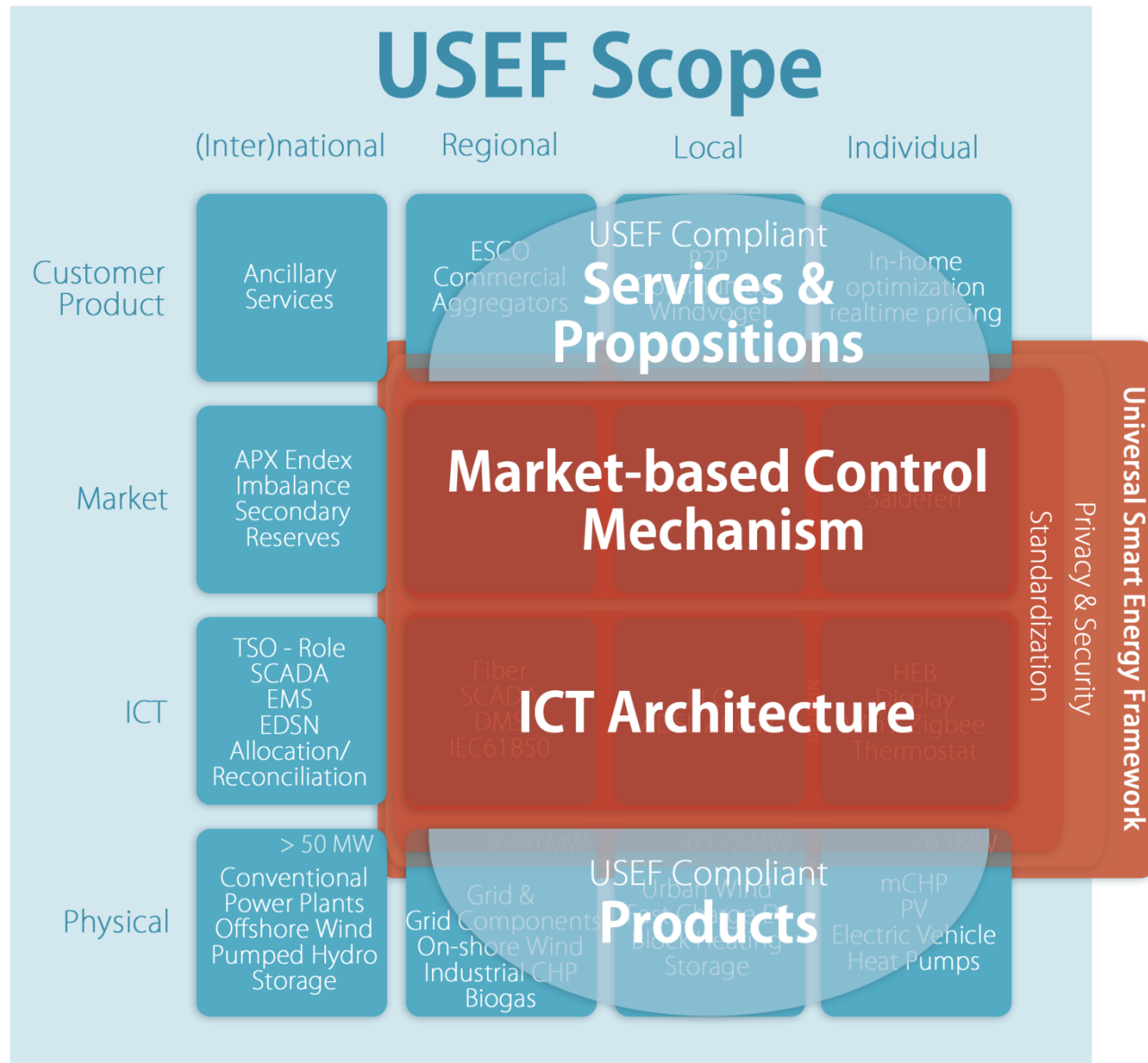
Design approach

- Scalable and replicable market design
- An integral smart energy solution
- An open, consistent, and coherent framework that is freely available
- Link local energy market mechanisms to those of (inter)national ones

Opportunities

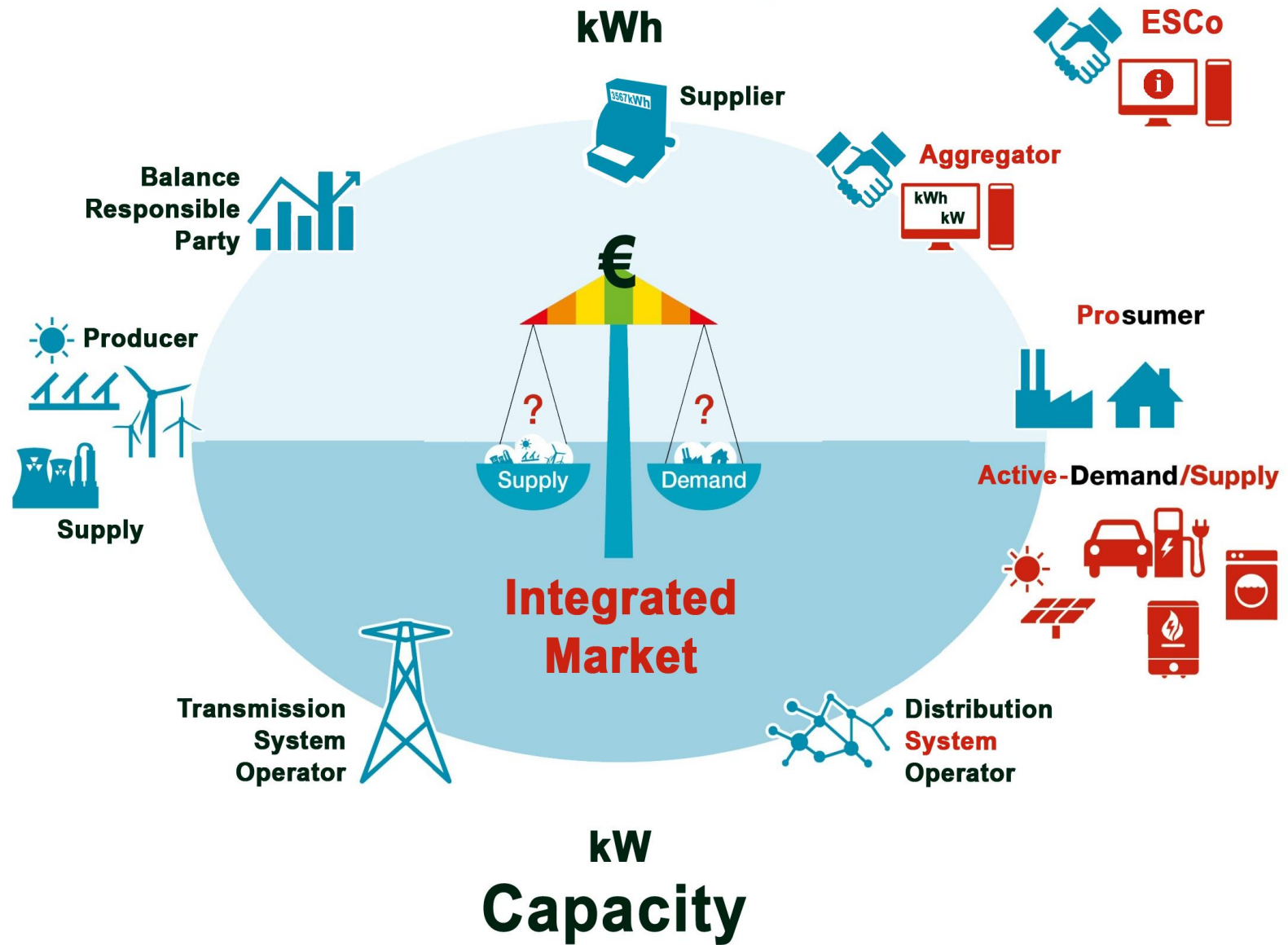
- Provides local energy markets for both commodity and capacity
- Catalyzes commercial feasible smart energy solutions
- Enables choosing for active participation of energy consumers

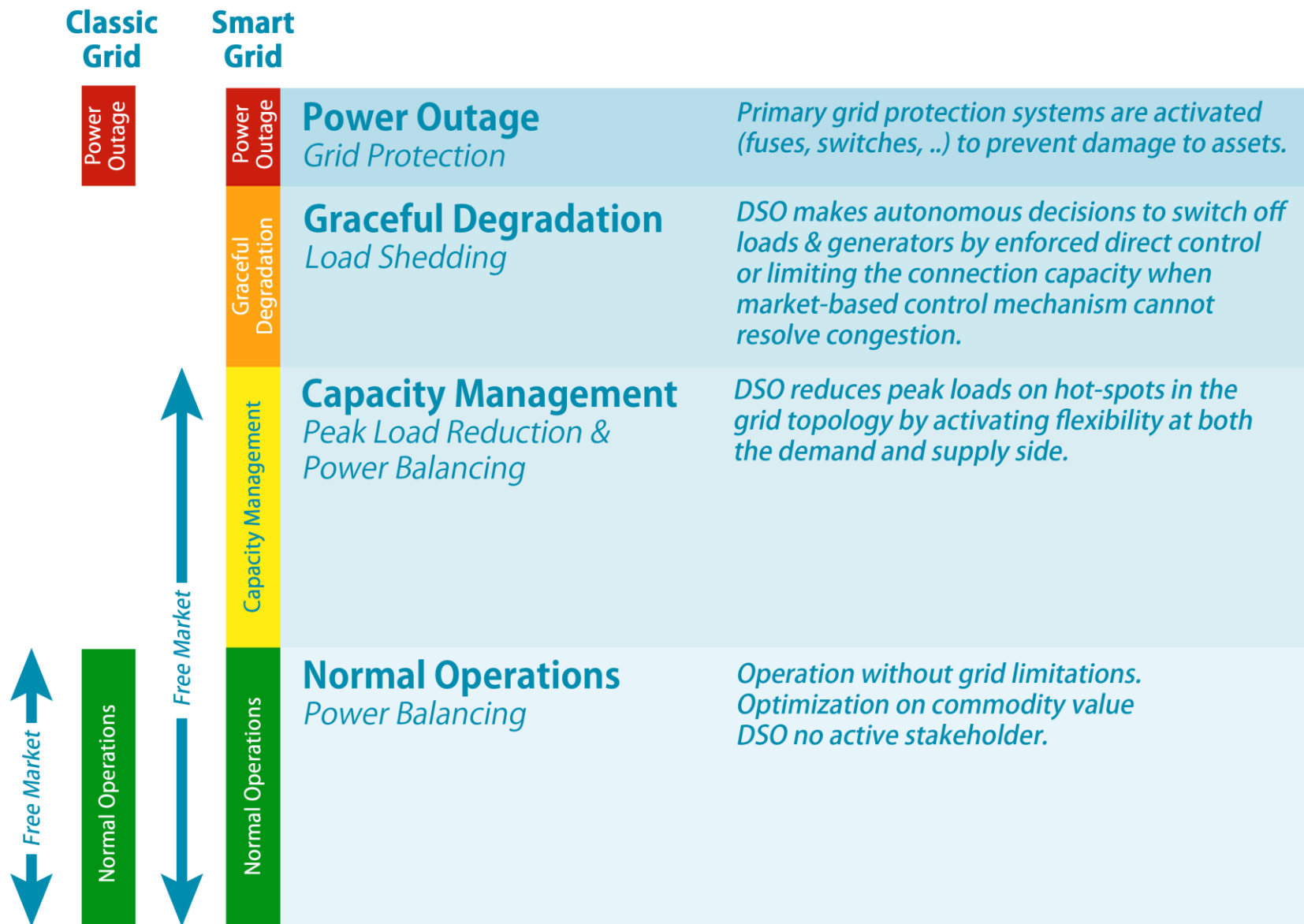
USEF Scope

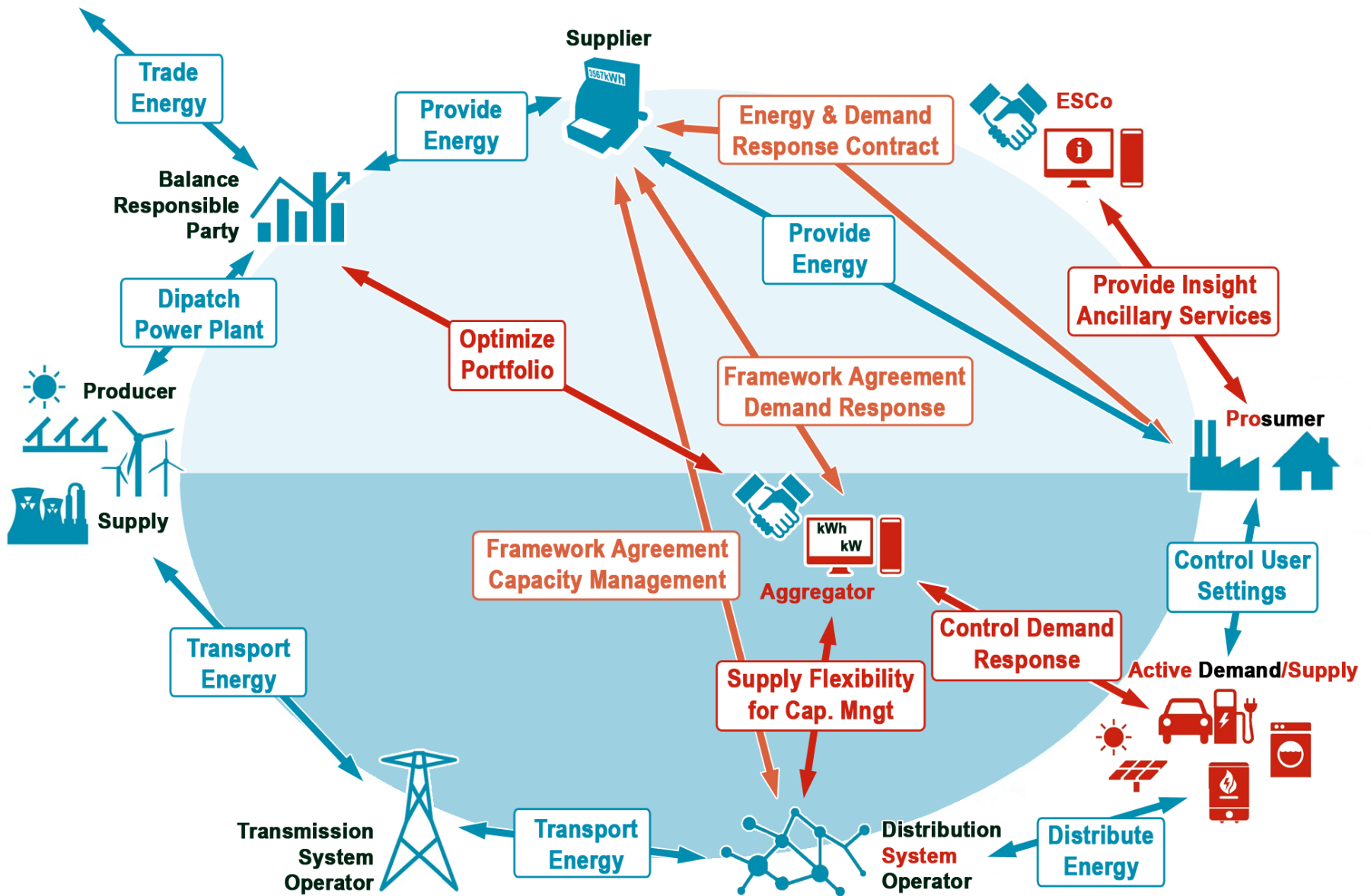


Commodity

kWh







THE FOUNDATION

The USEF foundation

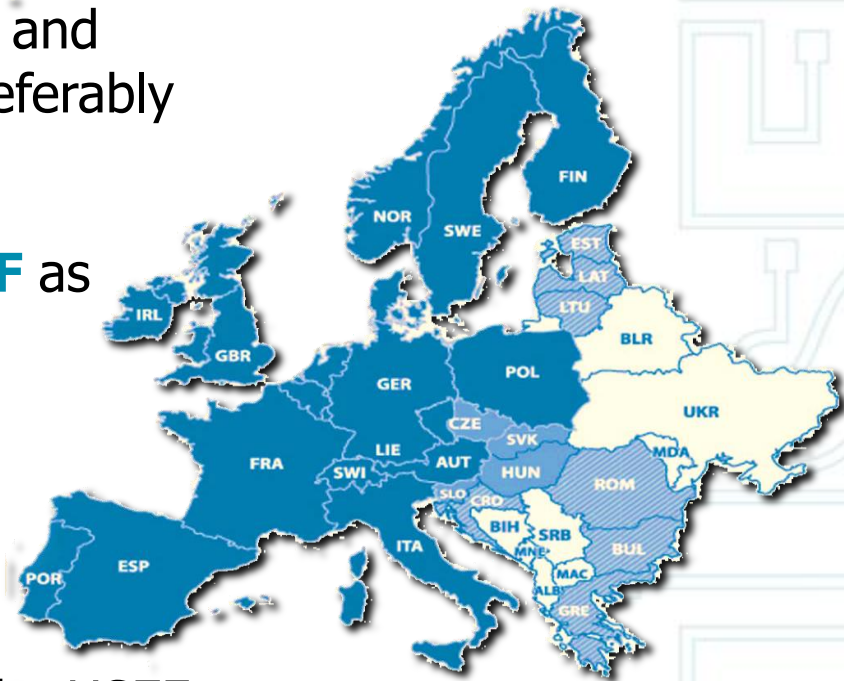
The Universal Smart Energy Framework (USEF®) enables you to seamlessly co-create a fully functional smart energy system and provides an open and consistent framework of specifications, designs and implementation guidelines.

The USEF foundation acts as the steward of the framework and has the ambition to establish it as the de-facto framework for smart energy products, services and solutions.

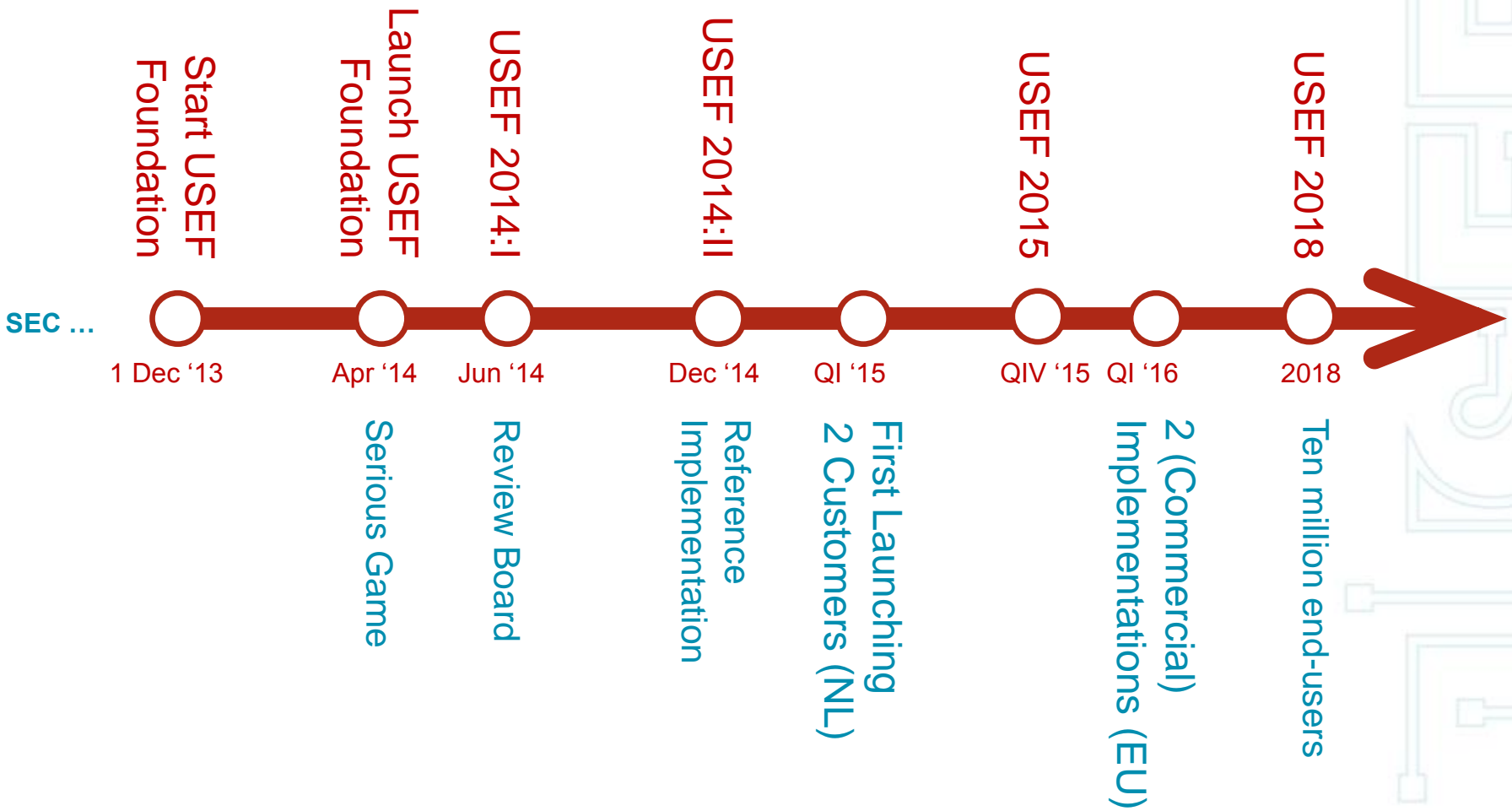
Vision & Ambition

In 2018...

- **Ten million end-users** use USEF compliant energy products, services and solutions throughout Europe and preferably abroad.
- At least **3-5 countries adopt USEF** as market model
(primary targets: NL, D, B, GB, IRL, I, E, DK)
- **USEF 3.5** is released
- USEF hosts 1000 local E-markets
500-1000 E co-operations powered by USEF



Roadmap for USEF



Overview of USEF



building blocks	portfolio	specifications
scalable market solution	specifications	definitions
grid operations	implementation guidelines	design criteria
service model	reference implementation	interaction model
smart buildings and appliances	validation & certification	process model
	recommended practices	role model
		data model
		interface descriptions
		privacy & security guideline

BACKGROUND MATERIAL

