ebrc
TRUSTED DATACENTRE, CLOUD & MANAGED SERVICES

European Business Reliance Centres

when Commodity serves Green IT

www.ebrc.com
www.TrustedDataCentre.com
www.TrustedCloudEurope.com
www.TrustedManagedServices.com

ebrc – COMPANY PROFILE

- 5 datacenters = 17.000 M2, including
  2 Tier IV Design certified, **a World Premiere**
- Serve National & International clients
- Manage very critical application systems on 24/7
- **Continuity** with DRP/BCP activities,
- Integrated Support through **Managed Services**,
- **Cloud** complete delivery model (IaaS, PaaS, Saas)
- Largest **carrier hotel** in Luxembourg
- ebrc subsidiary of P&T, the historical & leading telecom provider of Luxembourg (strong shareholder)

EUROPEAN AWARDS

2008	Best DataCentre Operator Europe
2009	Best Risk Mitigation Services Provider
2009	Best Managed Services Provider
2010	Best Regional European DataCentre Facility
2010	EU Code Of Conduct Participant Award
2011	**Best Case Study of Cloud Services for Public Sector by EUROCLOUD Europe (PARIS)**
2012	**Best Cloud Services by Broadgroup (LONDON)**

LOCAL MARKET AWARDS

2008/9	Best Hosting & Managed Services Provider
2007/8/9	Best Information Security & Data Management Company
2010	Outstanding Contribution to Luxembourg ICT
2010	Best Commitment for European Data Centre Service
2011	Best Case Study of Cloud Services for Public Sector by EUROCLOUD Luxembourg
2012	**Managed Services Project of the Year**
2012	**Outstanding Contribution to Luxembourg ICT**

ACTIVITIES & PORTFOLIO

TRUSTED DATA CENTRES

- Housing and colocation
- Basis or advanced Data Centre Services like CRS

TRUSTED MANAGED SERVICES

- Selective or complete service to support infrastructure within SLA/KPI
- Adaptable service within support time frame (Hands & Eyes; 24/7 operations)

TRUSTED CLOUD EUROPE

- Cloud services built with our twin Tier IV certified infrastructure
- Compliant with the Cloud Security Alliance (CSA) recommendations
- End-to-End cloud operator (from Data Centre to IT Managed Services)
- A complete Cloud offering to bring the right value

TRUSTED RESILIENCE SERVICES

- Recovery solutions with best in class Infrastructure/Services

TRUSTED ADVISORY SERVICES

Trusted Data Centre overview




	Resilience Centre Luxembourg City 2 (1),	Resilience Centre Luxembourg West,	Resilience Centre Luxembourg South,	Resilience Centre Luxembourg East,
State of the art ICT environment	Tier III +	Tier IV	Tier IV	Tier IV
Private & shared modular IT rooms	1.000 m²	5.000 m²	5.000 m²	5.000 m²
IT rooms height	2,70 m	3,40 m	3,50 m	3,40 m
Raised floor	0,50 m	1,00 m	1,00 m	1,00 m
Floor charge	1.500 kg/m²	1.500 kg/m²	2.000 kg/m²	2.000 kg/m²
	Separate corridors for technical structure			
Business Continuity positions	-	Approx. 500	Approx. 500	-
Trading rooms Emergency Command Centres	Equipped with the major information providers for the financial sector 24x7x365 accessible			
All our Top Tier centres offer additional services such as car parks, conference & archive rooms, dedicated goods lifts… Other services may be provided on request (reception, catering, test & invocation convenience, …)				
UPS systems	Redundant D-UPS Systems 2*N	Redundant D-UPS Systems 2*(N+1)	Redundant D-UPS Systems 2*(N+1)	Redundant D-UPS Min systems 2*N+1
Integrated Diesel power autonomy	96 hours	96 hours	96 hours	65 hours
Electrical power	600 to 720 W/m²	750 to 1.000 W/m² Green Power	1.000 to 4.000 W/m² Green Power	1.000 to 2.000 W/m² Green Power
Redundant air cooling supply chain	2*N	2*(N+1)	2*N+1	2*N
Cooling power	600 to 720 W/m²	750 to 1.000 W/m²	1.000 to 4.000 W/m²	1.000 to 2.000 W/m²
Humidity	Absolute humidity 9,30 g/kg dry air	Absolute humidity 9,30 g/kg dry air	Absolute humidity 9,30 g/kg dry air	Absolute humidity 9,30 g/kg dry air
	Temperature at air return level 25°C (±2°C)			

Green IT – Spheres & Leverages

GREEN IT - SPHERES OF ACTION

- Energy: direct impact
- Water: direct & indirect impact

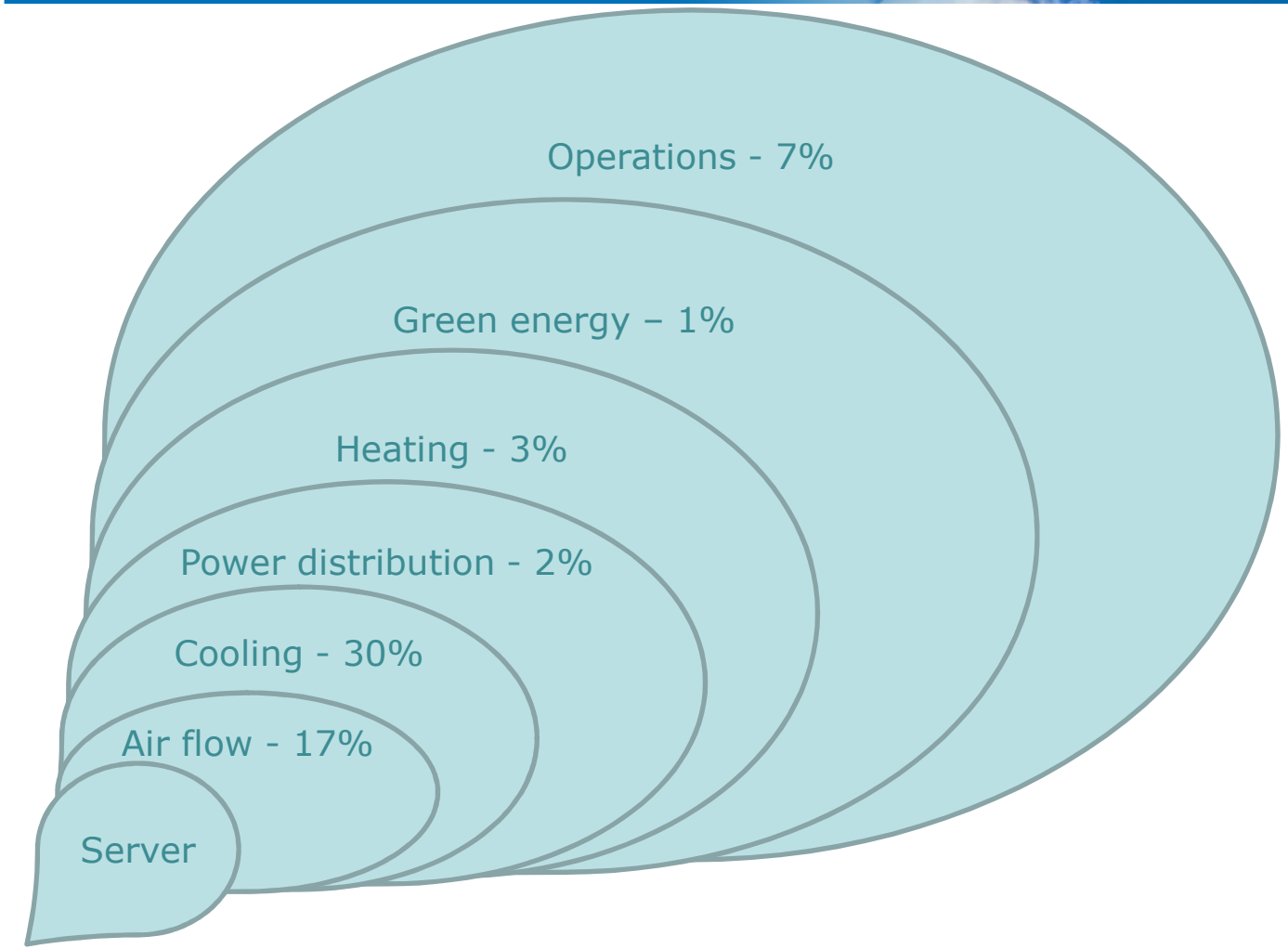
GREEN IT - LEVERAGE FACTORS

- Building technology
  - √ *Cooling system*
  - √ *Power delivery*
  - √ *Water management*
- Data Room technology
  - √ *Cold corridor*
- Servers or Storage technology
  - √ *Consolidation*
  - √ *Use what you need*

Data Centre example

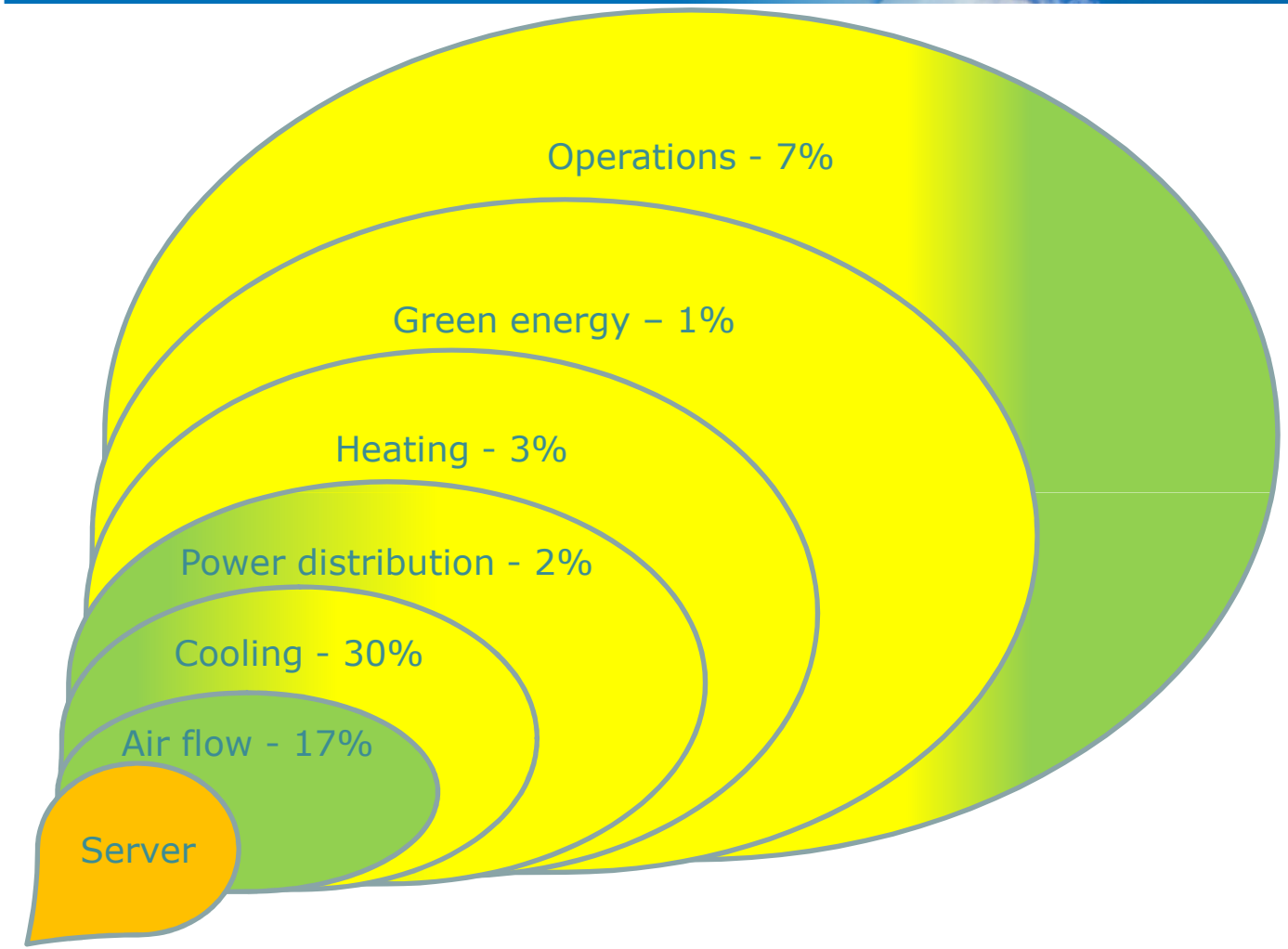
Where Green IT Efficiency is revealed

Energy Bubble Effect



Following this model, non productive keep a standby consumption
➔➔➔ the better energy is the non consumed energy
➔➔➔ Best practices to improve each component layer

Energy Bubble Effect



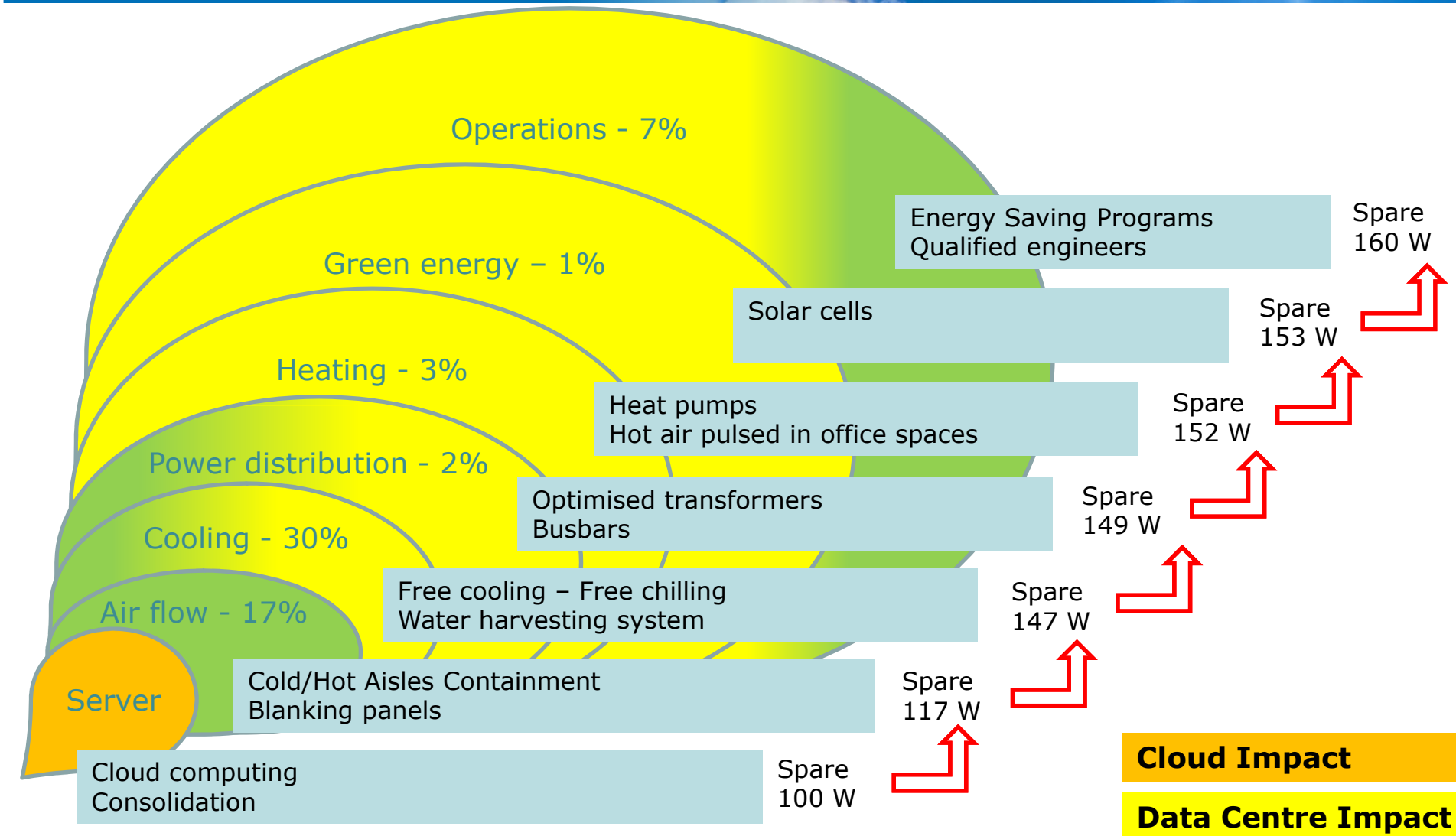
Cloud Impact

Data Centre Impact

Data Room Impact

Following this model, non productive keep a standby consumption
➔➔➔ the better energy is the non consumed energy
➔➔➔ Best practices to improve each component layer

Energy Bubble Effect



Following this model, non productive keep a standby consumption
➔➔➔ the better energy is the non consumed energy
➔➔➔ Best practices to improve each component layer

European Reliance Centre East – Figures (1)

Surfaces & capacities

- Effective surface area 20,626 m^2
- Built volume 109,096.00 m^3
- IT surface 5,000 m^2

Electrical power

- Capacity: From 8 MW to 10 MW (UPS power supply)
  - √ *Average power from 1 600 W/m2 to 2 000 W/m2*
  - √ *To 4000 W/m² upon request (liquid cooling system)*
- Rooms designed to bear a load of 2 000 kg/m2

European Reliance Centre East – Figures (2)

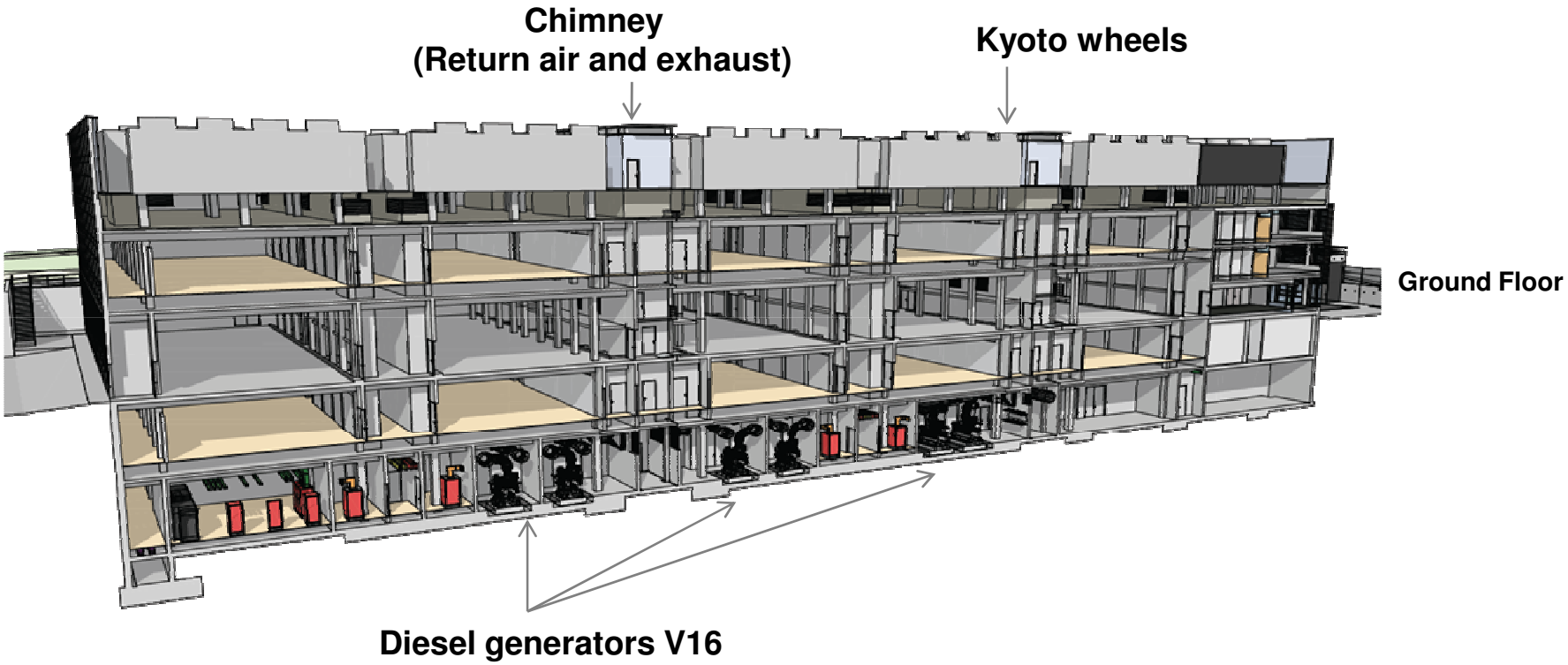
Redundancy levels

• Room cooling	2 x N
• Chilling compressors	2 x N (with energy storage)
• Air cooling	2 x N
• Power supply	2 x N
• UPS	
√ *Production*	*2 x N + 1*
√ *Distribution*	*2 x N*

Autonomy

- Fuel
  - √ *2 tanks with a 100,000-litre-capacity*
  - √ *Representing an autonomy of 65 hours while running at full load*
- Water
  - √ *In case of water shortage, the European Reliance Centre running is not stopped (2 x 160 M^3 water tank)*

Building Cross Section



Reduce the environmental impact

"About 2%
of the worldwide power consumption comes from
Data Centres"

The innovation range of the
European Reliance Centre Luxembourg East
is wide
so that its carbon footprint can be reduced

European RCE: GREEN Data Centre

Water saving

- Rainwater harvesting system (*320 M^3 water tank)*
- Harvesting system of treated water coming out of Betzdorf waste water treatment plant

European RCE: GREEN Data Centre

High investments making it possible to reduce the carbon footprint

- Reduction of energy costs thanks to the use of Kyoto wheels for air conditioning
- Improvement of the European Reliance Centre global outcome: 20% better than the former Data Centre generation built in 2007
- Cold production running time (compressors, pumps, etc.) reduced to ≈ 500 hours per year
- CO_2 footprint from air cooling reduced by 1,000 tonnes for 2,400 kW, that is 4,000 tonnes/year at full load

Optimisation of used resources

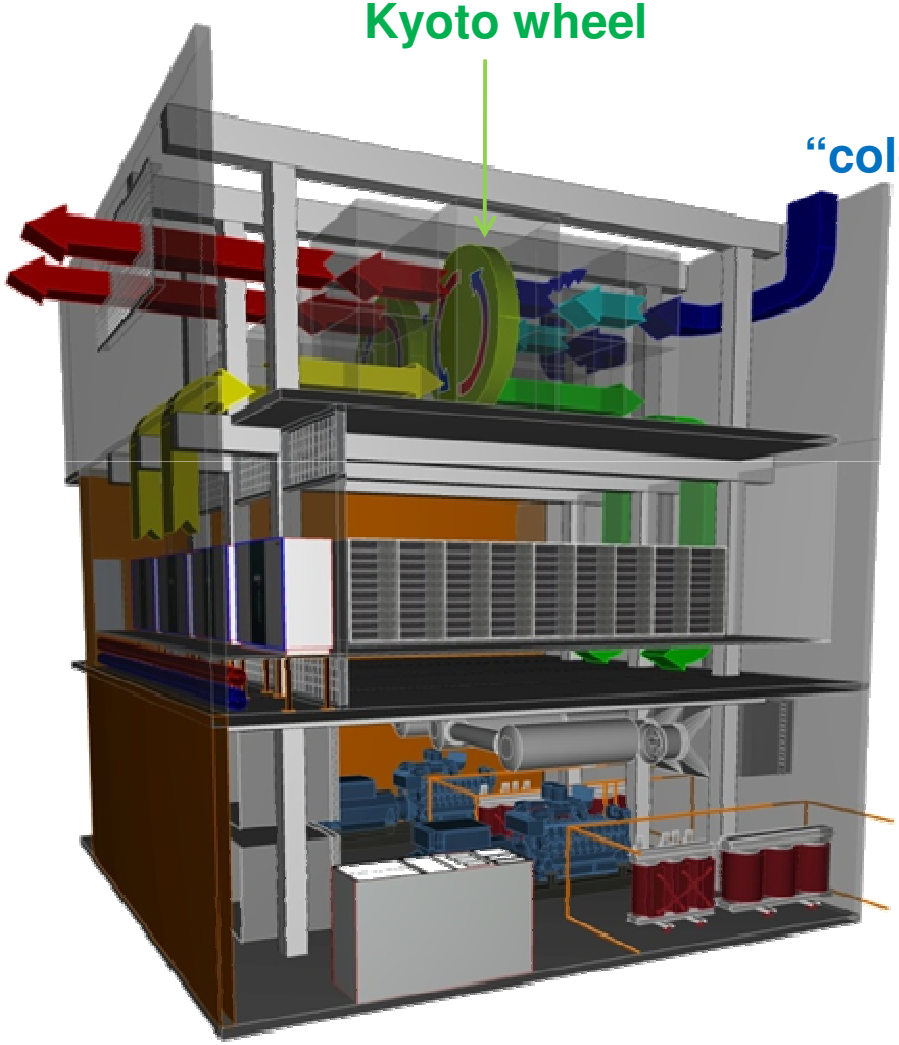
- **Free cooling** and **Free chilling**
- **Heat pumps** for the office air-conditioning through the floor
- **100% green** electrical power supply (wind or hydraulic)

Cooling with Kyoto wheels

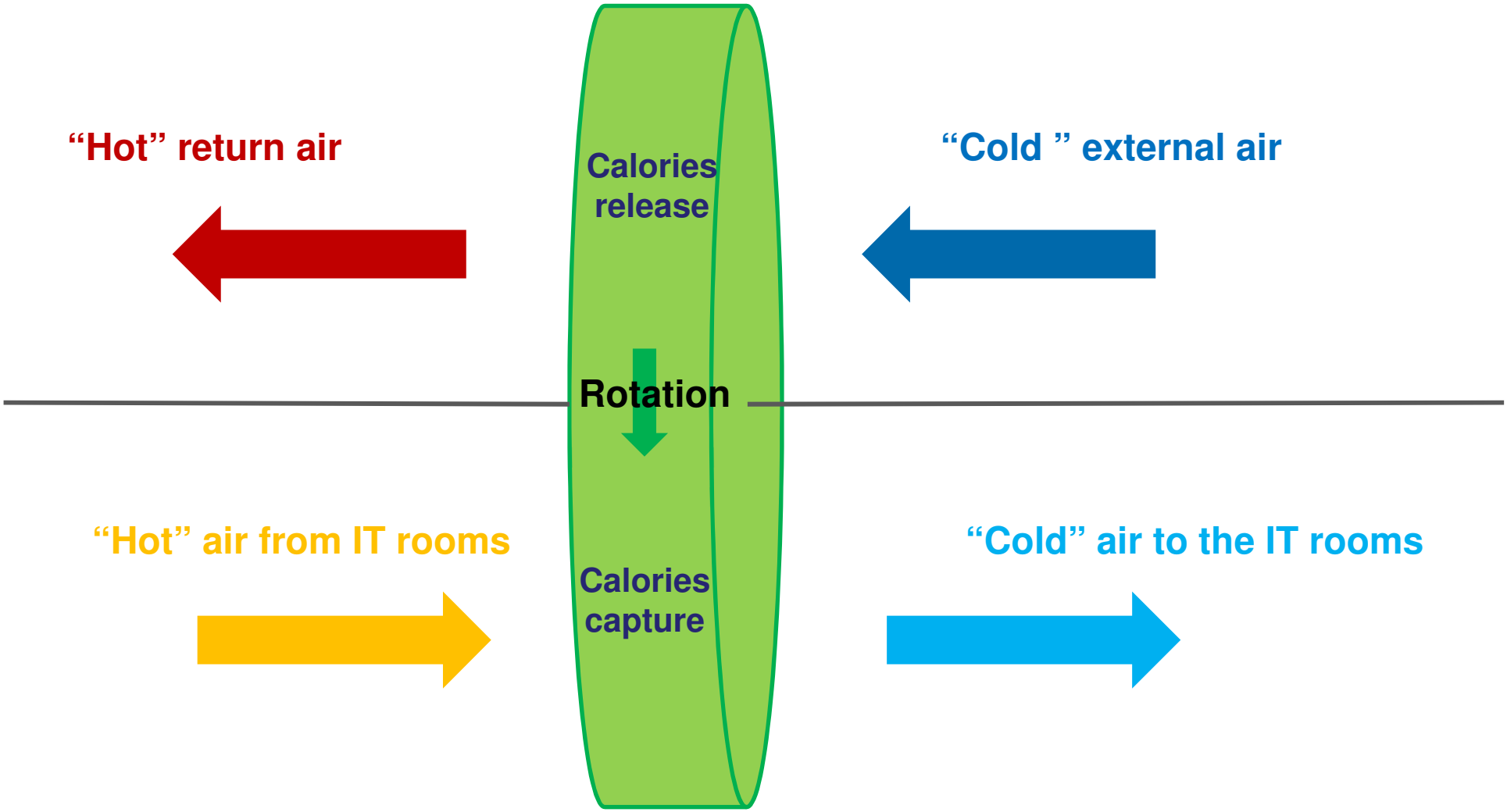
Kyoto wheel

"hot" return air

"cold" external air

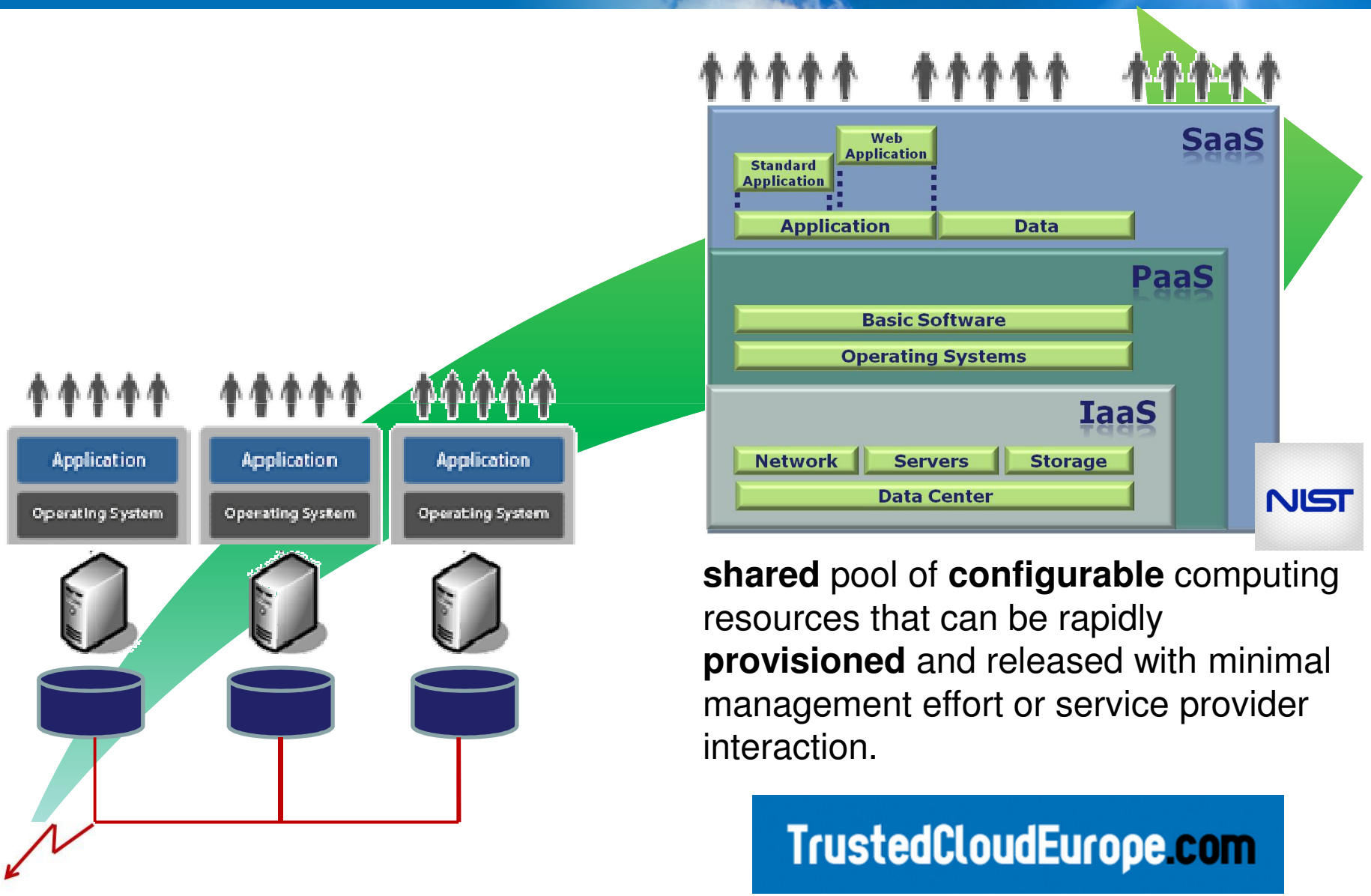


The Kyoto wheel - “heat exchanger”



Treated air circuit for the IT rooms: hygrometry level and controlled temperature

From Data Centre to Virtual Data Centre



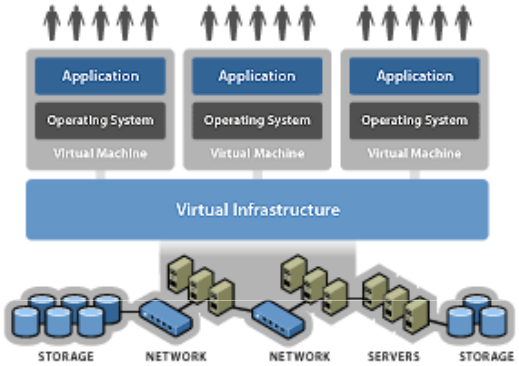
shared pool of **configurable** computing resources that can be rapidly **provisioned** and released with minimal management effort or service provider interaction.

TrustedCloudEurope.com

Cloud - The new leverage for Green IT

DIRECT WIN

- Today, everybody heard about Cloud and its corner stone, the virtualisation. Most of x86 computers use only 15% of their physical resource capacities.



5 Virtual servers

→ **1 Physical Server (600W)**

60% spare (1,8KW)

- Activation aligned with business needs ➔ Consumption aligned with business needs

Variable spare

INDIRECT WIN

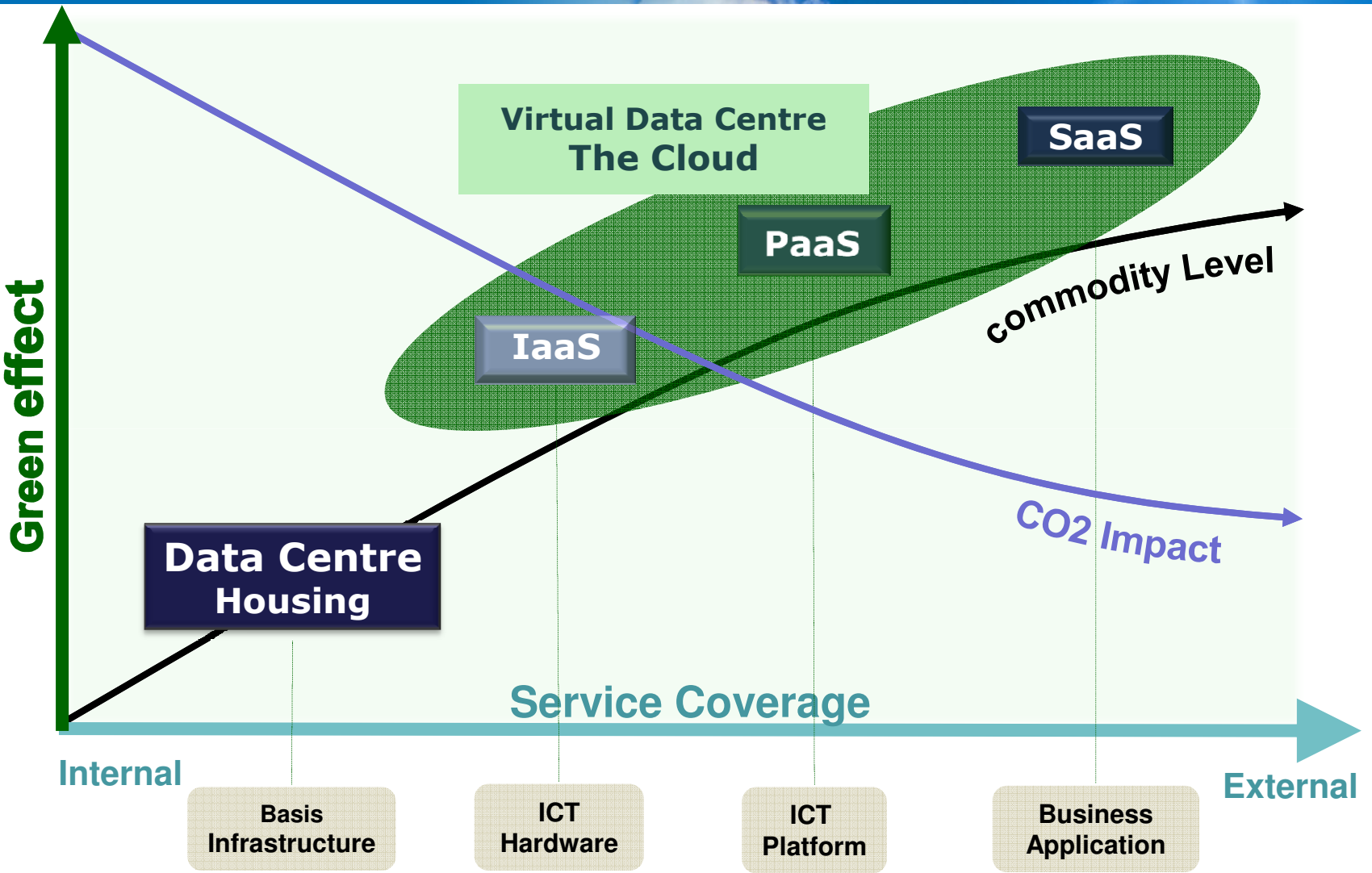
- The virtualisation provides new modalities for **high availability**. Most of Clusters can be replaced with single servers within Cloud facilities.

50% spare (300W)

- Transportation and production of HW devices (CO2 Footprint)

Rack Server 2U footprint production & transportation
=
10% of usage 4 years (Total lifetime 6340 kg CO2)

CLOUD as Green Answer thanks to Industrialisation



TrustedCloudEurope.com

THANKS!

ebrc
TRUSTED DATACENTRE, CLOUD & MANAGED SERVICES

www.ebrc.com
www.TrustedDataCentre.com
www.TrustedCloudEurope.com
www.TrustedManagedServices.com