



Green Building Planning

John A. Herbert
Kelcroft Consulting

28 October 2011
Eco Expo Asia 2001

<http://www.kelcroft.com.hk/GB2011.pdf>

KELCROFT

Building
Services E&M
Consulting

Energy &
Carbon
Management
Consulting

Training

Green
Building
Design
Consulting

about John A. Herbert

- ❑ BEAM Professional
- ❑ BEAM Faculty
- ❑ BEAM Technical Committee
- ❑ BEAM Director
- ❑ BEAM Chairman F & I
- ❑ BEAM Technical Review Panel



challenges



buildings

demand

98

per 100ml

barcode points too

INNOCENT P/APPLE
BANANA & COCONUT
SMOOTHIE 1 LITRE

850435008-0012/5038862380609/51



Tesco 100% Pure Squeezed Orange Juice 1L

The carbon footprint of this juice is 360g CO₂ per 250ml serving and we have committed to reduce it

By comparison, the footprint of Tesco long-life orange juice is 240g per 250ml serving

This is because more energy is used to chill and transport 100% pure juice

working with the Carbon Trust

360g

CO₂

per 250ml
serving

Compared
to Long-Life
Juice

240g

CP-18

innocent
pure fruit smoothie

pineapples,
bananas &
coconuts

never, ever from concentrate

innocent
smoothie for spring
lychees & purple
fruits

looking after your
innocent smoothie

Keep refrigerated 0-5°C
Suitable for consumption until
the expiration date. For more
info visit us online. Once opened,
keep refrigerated. Ready
prepared, the risk for
contamination is low.

2

100%

100%

100%

100%

100%

100%

100%

100%

100%

100%

100%

100%

100%

100%

100%

100%

100%

100%

100%

100%

100%

100%

100%

100%

100%

100%

100%

100%

100%

100%

100%

100%

100%

100%

100%

100%

100%

100%

100%

The image shows two blue industrial electric motors in a workshop setting. The motor in the foreground is larger and more prominent, mounted on a metal base. It has a blue cast-iron frame with cooling fins and a circular fan grille on the front. A black flexible hose is connected to the side. In the background, another similar motor is visible, also on a metal base. A yellow emergency stop button is mounted on a stand between the two motors. The floor is concrete, and various metal parts and tools are scattered around.

motors



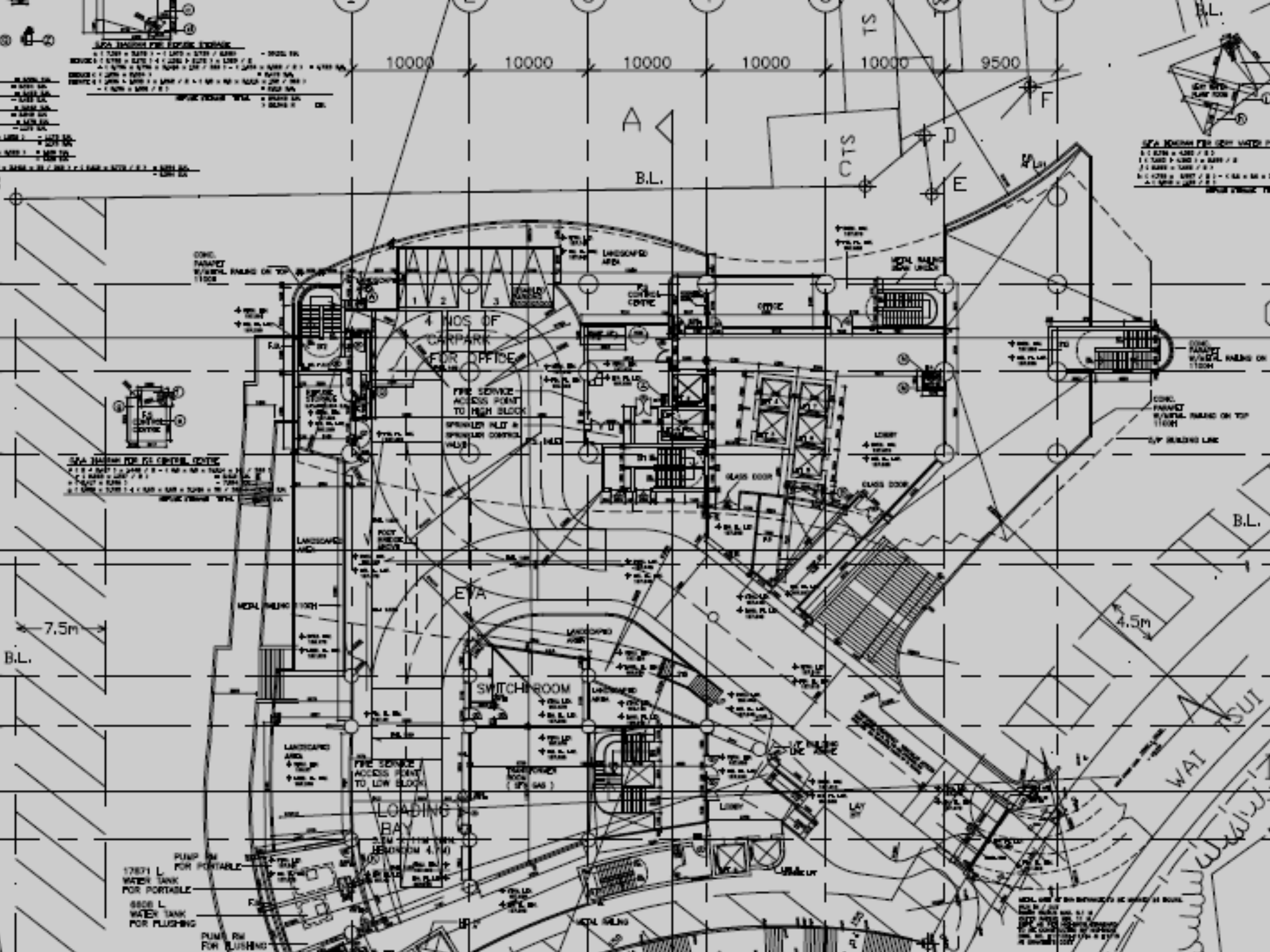
maintenance

lighting

standby

waste

please green
me



Green building is one of the most urgent environmental issues of our time.

Buildings produce 63 % percent of our carbon emissions, and consume 89% percent of our electricity.

Now, they must also lead the effort to save the planet.

- 1 Integration
- 2 Charrette
- 3 Certification
- 4 Fee Scales
- 5 Future Proofing

INTEGRATION

1



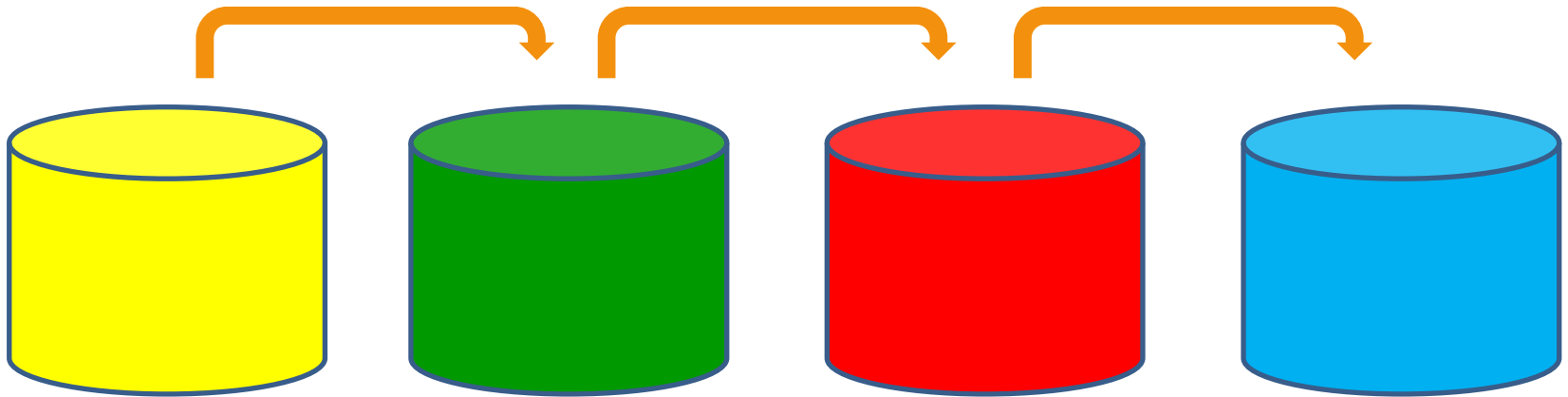
A word cloud featuring various terms related to construction and architecture. The words are arranged in a dense, overlapping manner, with some words appearing larger and more prominent than others. The colors of the words include shades of yellow, green, orange, red, and dark green. The words are oriented in different directions, some horizontal and some vertical.

surveyor
contractor
sub-contractors
vendors
user
quantity
structural
landscaping
suppliers
services
interiors
architect
client planner

traditional

| Months | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
|--------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|
| planning | | | | | | | | | | | | | | | | | | | | |
| design | | | | | | | | | | | | | | | | | | | | |
| construction | | | | | | | | | | | | | | | | | | | | |
| operation | | | | | | | | | | | | | | | | | | | | |

traditional

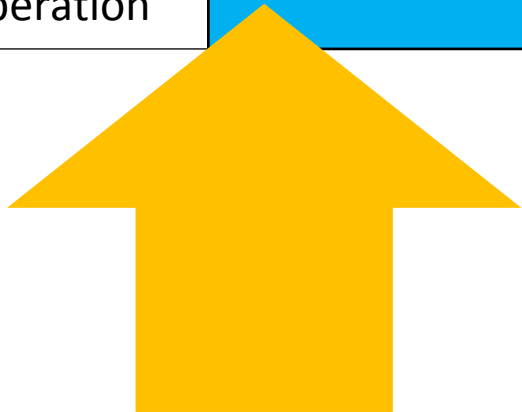


integration

Bringing all stakeholders together early in the process to align objectives and provide expertise from day one...

integration

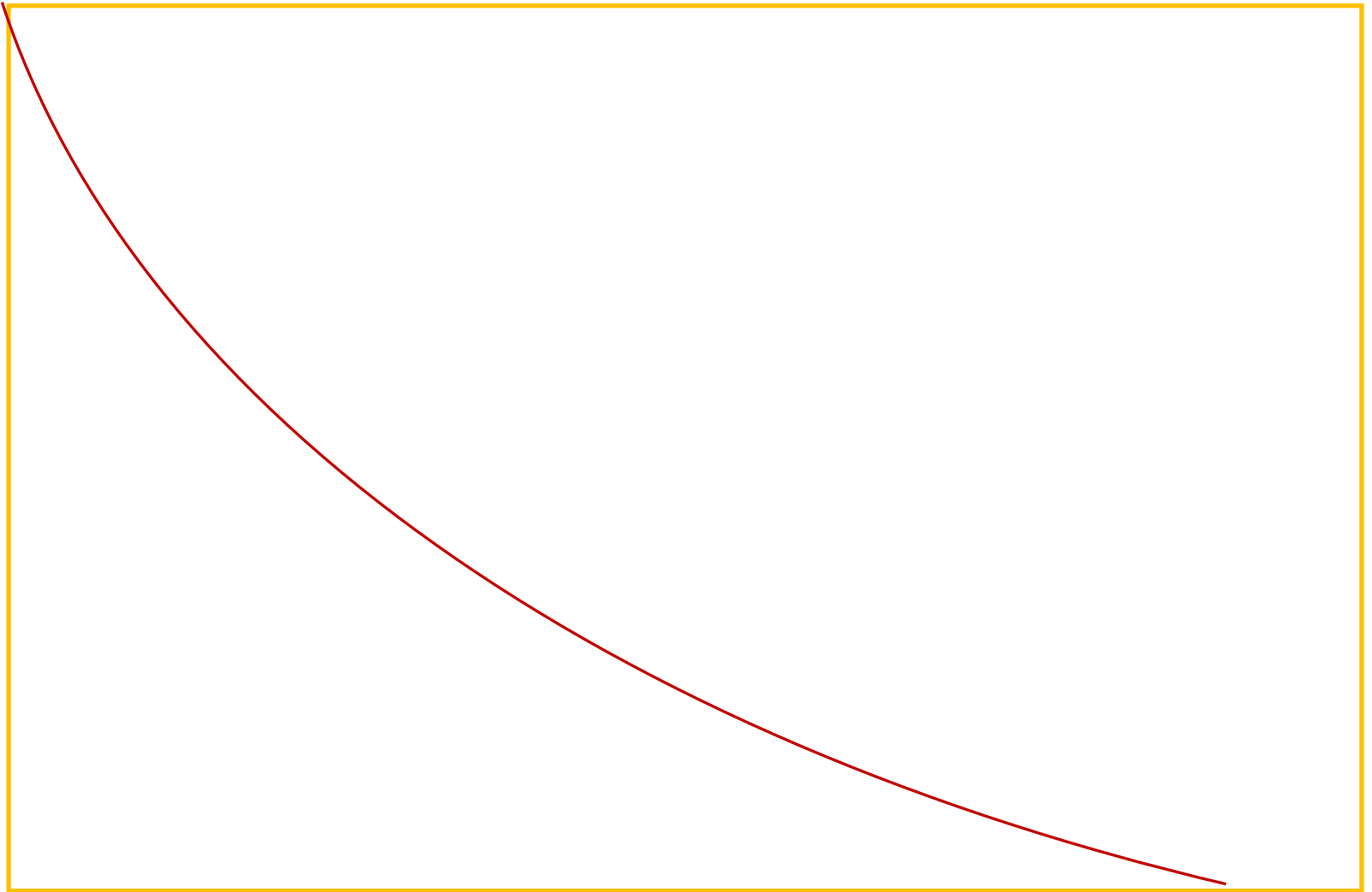
| Months | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
|--------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|
| planning | | | | | | | | | | | | | | | | | | | | |
| design | | | | | | | | | | | | | | | | | | | | |
| construction | | | | | | | | | | | | | | | | | | | | |
| operation | | | | | | | | | | | | | | | | | | | | |



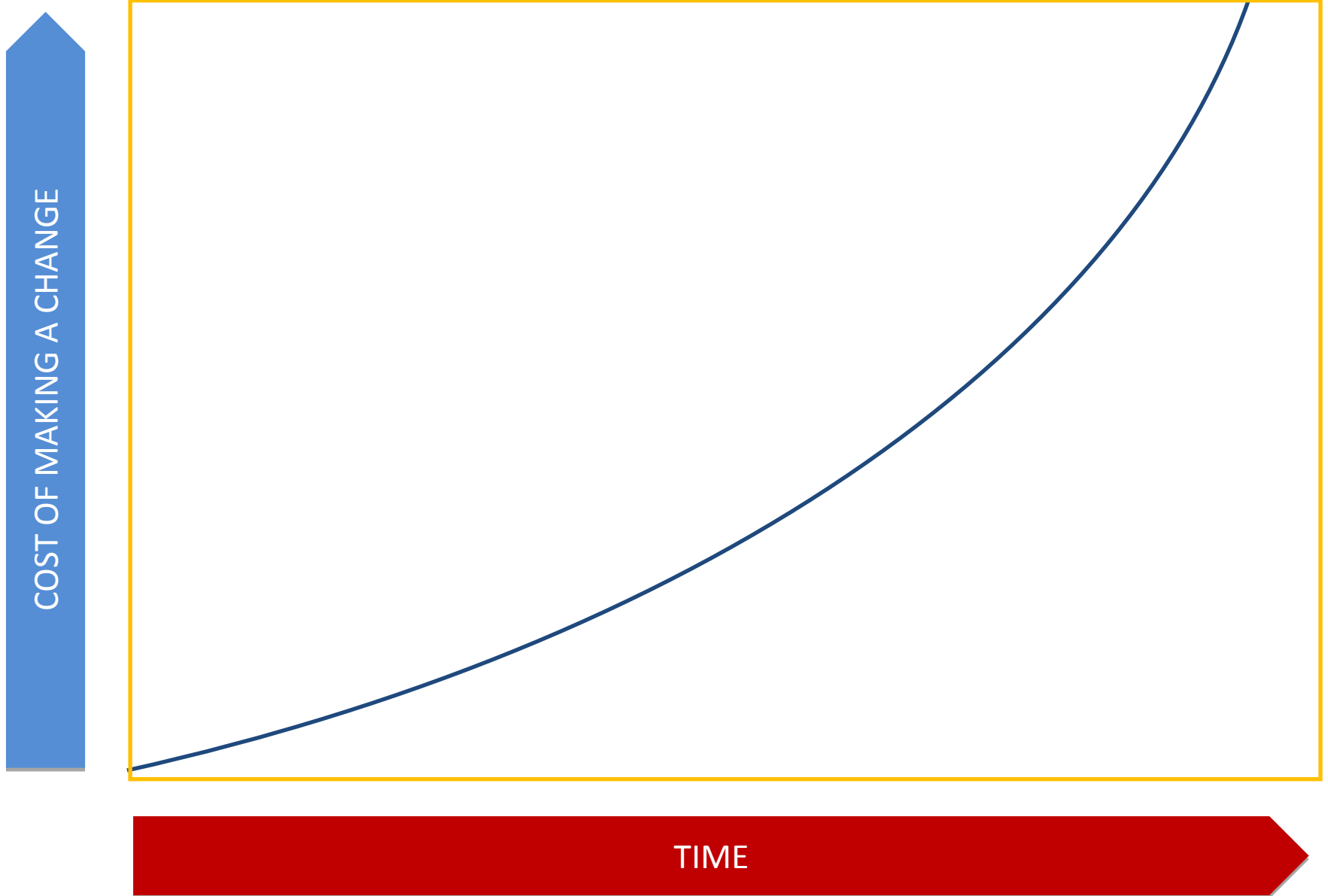
Impact

DESIGN IMPACT

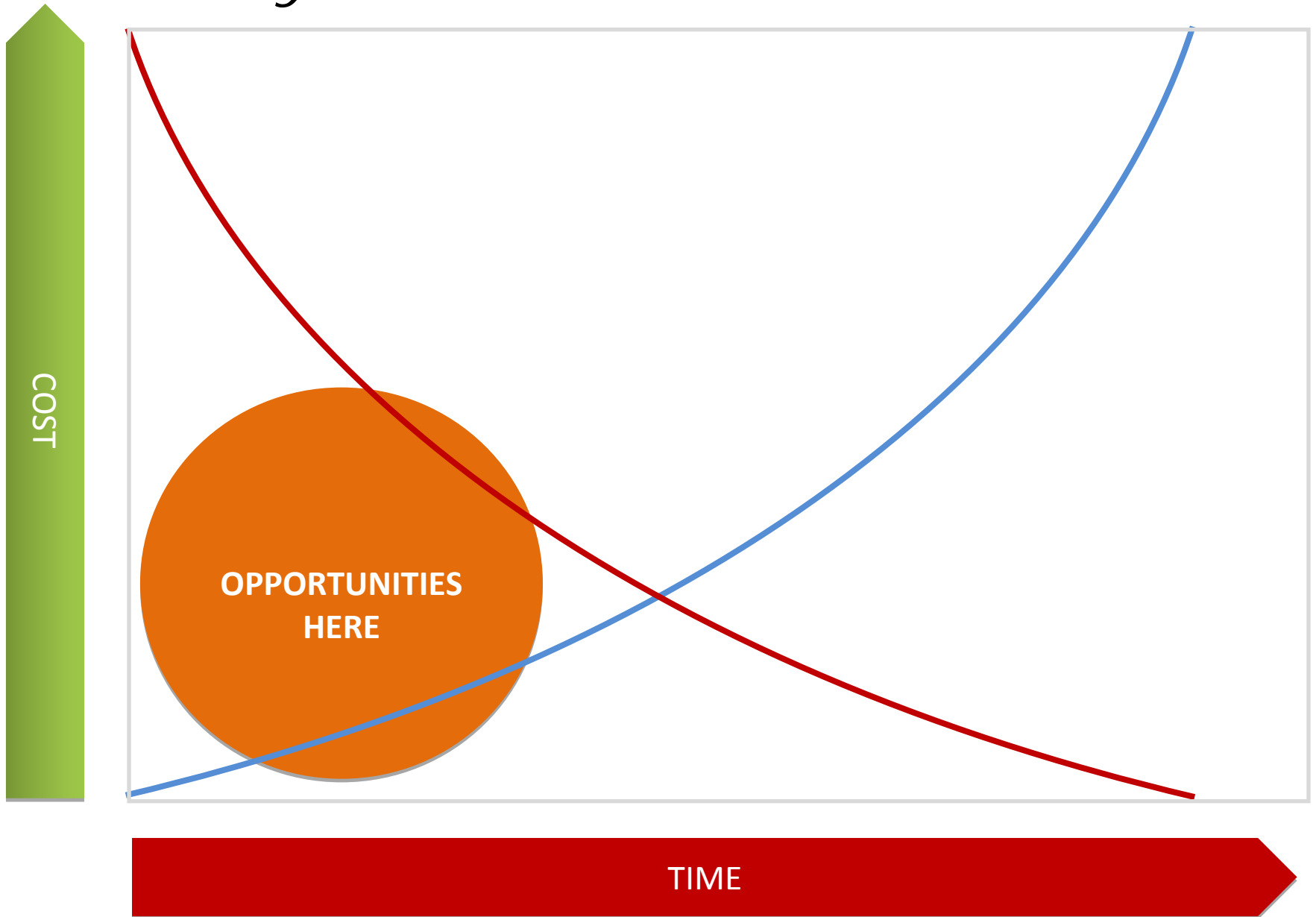
TIME



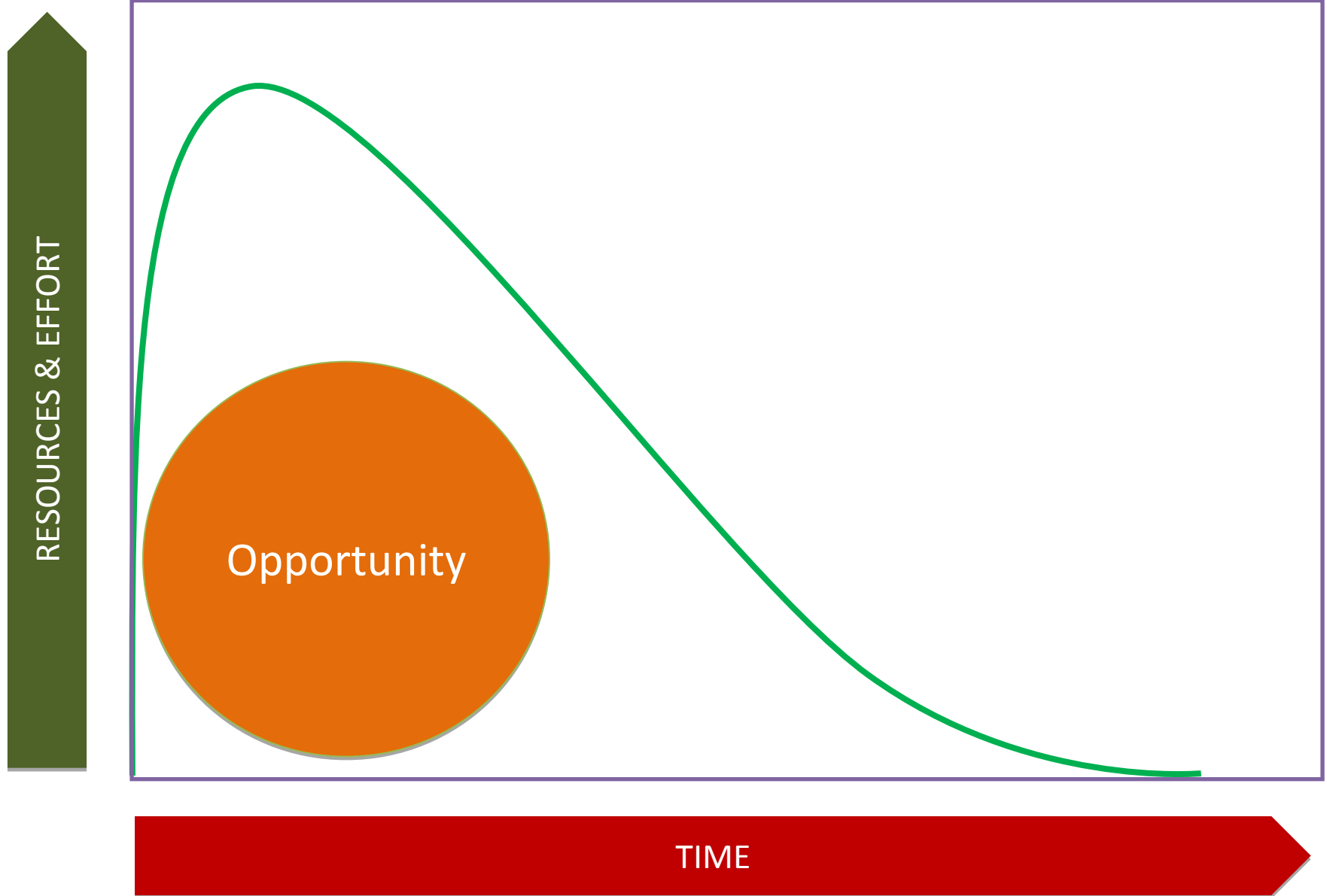
Change Cost



Early Decisions



Integrated Design



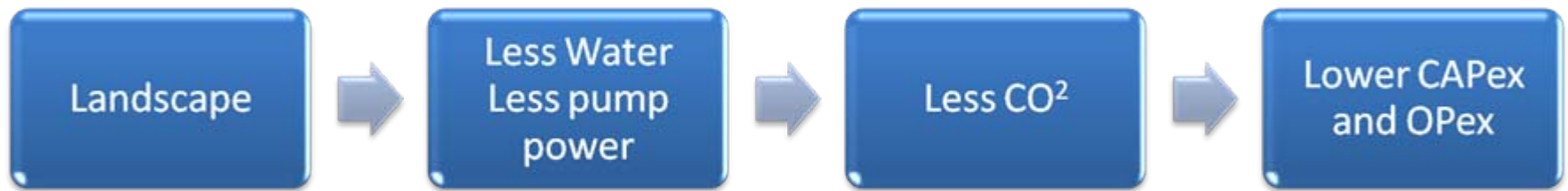
CHARRETTE

2

charrette



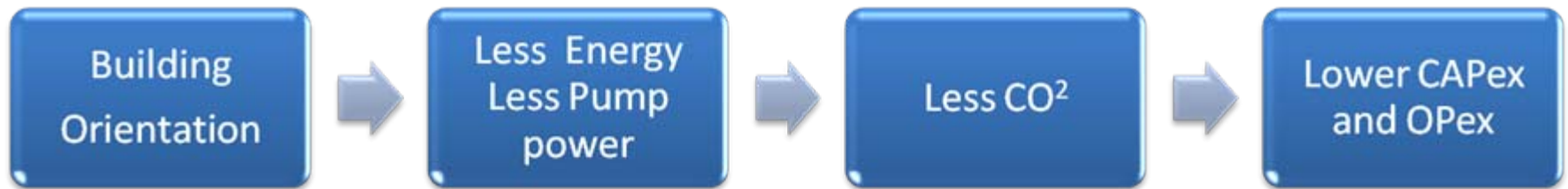
charrette



Lower Power
Smaller Pipework
Smaller cables
Smaller Tank
Less Material

charrette

Micro Climate



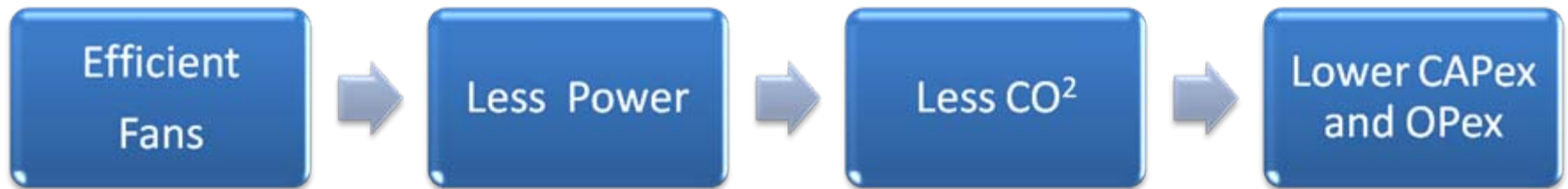
Less AC power;
Smaller ductwork;
Smaller cable;
Less material;

charrette



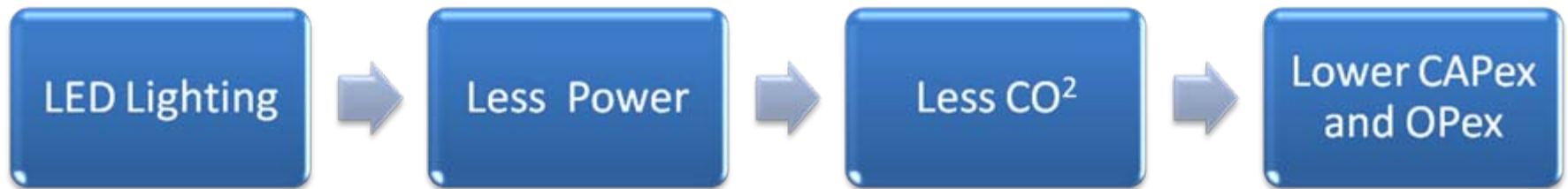
Lower fan power;
Lower pump power;
Smaller ductwork;
Smaller cables;
Less material;

charrette



Off peak load;
Small transformers;
Smaller distribution;
Smaller cables;
Less material;

charrette



Off peak load;
Smaller AC Load
Smaller distribution;
Smaller cables;
Less materials;

charrette

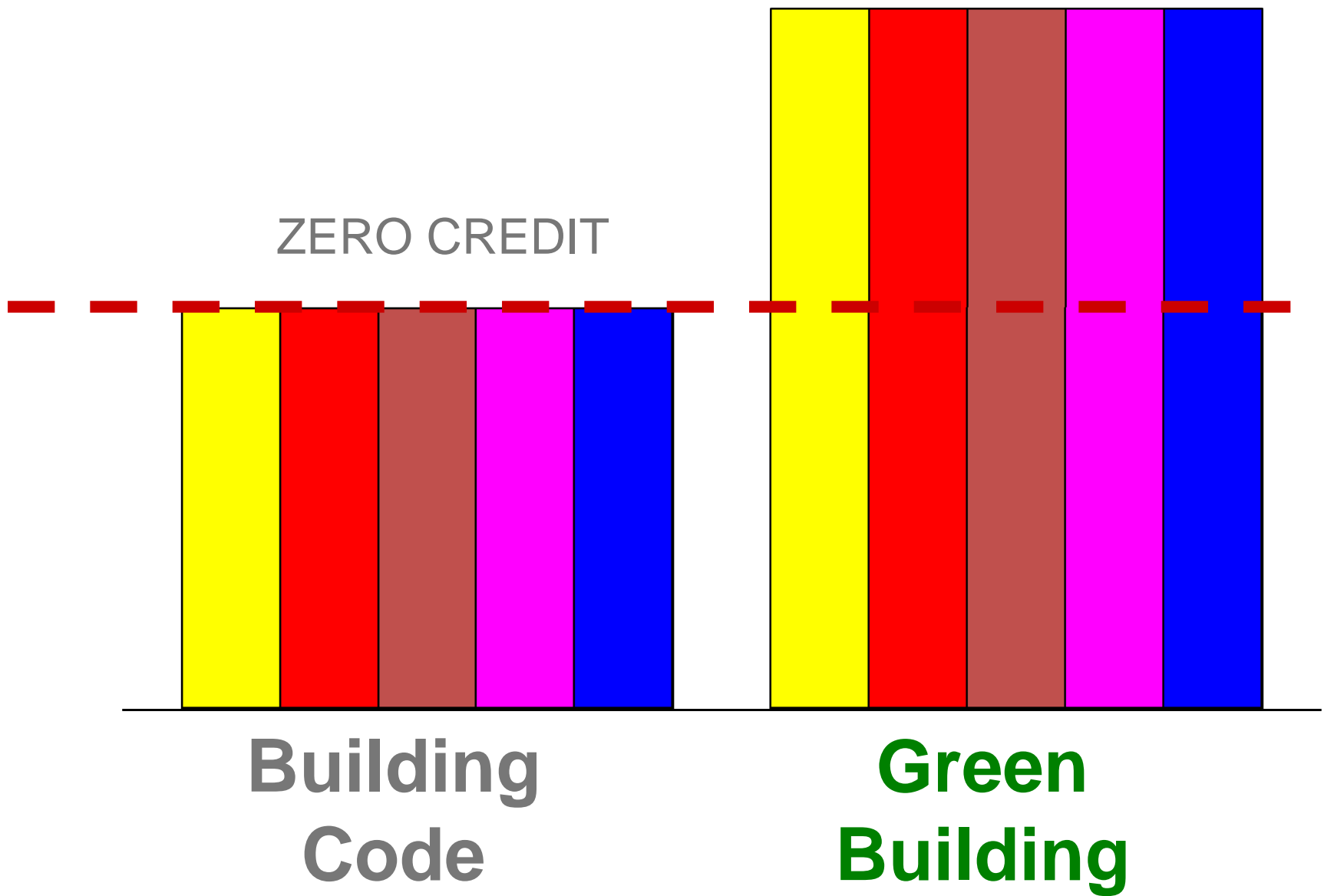


Less pump power;
Smaller distribution;
Less materials;

CERTIFICATION

3

*“ Green certification will
change the competitive
landscape of industries
vendors and the players ”*





WORLD GREEN BUILDING COUNCIL



BREEAM®



What is BEAM ?

BEAM (Building Environmental Assessment Method) Green Building Rating System is a voluntary, consensus-based rating tool for assessing high-performance, sustainable buildings in Hong Kong.

BEAM is based on scientific principals and encourage state of the art strategies for site, water savings, energy efficiency, materials selection and indoor environmental quality.

BEAM recognizes achievements and promotes expertise in green building through a comprehensive system offering project certification, professional accreditation, training and practical resources.

It involves evaluating the building and its components over the entire life cycle of the building in order to accurately measure its economic, environmental and social costs.

Trust But Verify

FEE SCALE

4



FUTUREPROOF

5

“plan for tomorrow today!”

- John A. Herbert



future proofing

- Provide space
- Strengthen the structure
- Provide capped openings for future
 - PV panels cabling
 - Solar Water heaters piping
 - Wind Turbine cabling
 - Heat Pumps

Thank You

Kelcroft

www.kelcroft.com.hk

John A. Herbert

Director

T: +(852) 2335 9830

F: +(852) 2335 9862

E: info@kelcroft.com.hk

Download this presentation here:

<http://www.kelcroft.com.hk/GB2011.pdf>