WORLD Sustainable Built Environment Conference 2017 Hong Kong

Transforming Our Built Environment through **Innovation** and **Integration**: **Putting Ideas into Action**

Date: 5-7 June 2017 (Mon-Wed)

Venue: Hong Kong Convention and Exhibition Centre

www.wsbe17hongkong.hk

Roundtable 1

Emerging Perspectives for Transforming the Build Environment

moderated by Thomas Lützkendorf

HONG KONG WORLDSBE 2017

WORLD Sustainable Built Environment Conference

Organisers:

CONSTRUCTION INDUSTRY COUNCIL 建造業議會

HKGBC 香港綠色建築議會

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UNEP Sustainable Buildings and Climate Initiative

FIDIC

Global Alliance for Buildings and Construction

Ar. TAI Lee-siang

(Chairman of World GBC)

Winning the Battle against Climate Change

- graduated with honours from NUS in 1987
- practiced as architect and urban planner since 1990
- elected as President of Singapore Green Building Council in 2011
- officially appointed as a Board Director of World Green Building Council in 2013
- elected as Chairman in 2016

Mr TAI graduated with honours from NUS in 1987 and has practiced as architect and urban planner since 1990. His key projects won both local and international award and was featured in URA exhibition “20 under 45” in March 2004.
In 2011, he was elected as President of Singapore Green Building Council. Under his leadership, the first green building product certification scheme in Singapore was established. In 2013, he was officially appointed as a Board Director of World Green Building Council and was subsequently elected as Chairman in 2016.

WANG Youwei

(Chairman, China Green Building Council)

Emerging Trend of Green Building Development in China

- Chairman of China Green Building Council
- Member of the Science and Technology Council of the Ministry of Housing and Urban-Rural Development (MOHURD)
- Member of the Expert Consulting Group for the Beijing Municipal Government
- Deputy Director of Expert Committee of the China Construction Industry Association

Ir. Youwei WANG is currently the Chairman of China Green Building Council, Member of the Science and Technology Council of the Ministry of Housing and Urban-Rural Development (MOHURD), Member of the Expert Consulting Group for the Beijing Municipal Government, and the Deputy Director of Expert Committee of the China Construction Industry Association. Ir Wang's main research interests include the Evaluation Standard for Green Building in China, Low Carbon City Development, Utilization of Urban Underground Space and the Earthquake Structural Engineering.

Ar. Bryant LU

(Vice Chairman of Ronald Lu & Partners)

Disruptive Innovations transforming Sustainable Built Environment

- graduate from Cornell University
- twenty years of experience in architectural design, management and business development
- RLP receiving over 130 design awards
- RLP being selected as a Top 50 architectural firm by “bd” in 2016

Bryant is Vice Chairman of Ronald Lu & Partners (RLP); an architectural practice housing over 600 staff across Hong Kong, Beijing, Guangzhou, Shanghai and Shenzhen. He is a graduate from Cornell University and possesses twenty years of experience in architectural design, management and business development.
Bryant is instrumental in leading development and driving changes at RLP and is honoured to contribute in shaping Hong Kong. Under his leadership, RLP gained great recognition – receiving over 130 design awards and being selected as a Top 50 architectural firm by “bd” in 2016, one of the most recognised magazines in the architecture industry.

Prof. Arno SCHLUETER

(Professor, Architecture and Building Systems
ETH Zurich;
Principal Investigator, Future Cities Laboratory,
Singapore ETH Centre)

Towards Buildings as Active Agents in Low Carbon Cities

- holds a degree (Dipl.Ing.) in Architecture from the Technical University of Karlsruhe, Germany
- holds a postgraduate degree in computational design and a PhD in building systems from ETH Zurich, Switzerland
- he was appointed Assistant Professor in 2010 and Professor of Architecture and Building Systems (A/S) at the Institute of Technology in Architecture (ITA), ETH Zurich, since 2015

Arno SCHLUETER holds a degree (Dipl.Ing.) in Architecture from the Technical University of Karlsruhe, a postgraduate degree in computational design and a PhD in building systems from ETH Zurich. In 2010, he was appointed Assistant Professor and in 2014 Professor of Architecture and Building Systems (A/S) at the Institute of Technology in Architecture (ITA), ETH Zurich. Since 2013, he is also Principal Investigator at the Singapore-ETH Future Cities Lab (FCL). In his research, he focuses on the integration of energy and indoor environmental systems into buildings and districts using computational approaches and physical prototypes. In 2009, he co-founded the design and engineering office KEOTO.ch, where he is part of the management board.

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QUESTION 1

Should sustainable construction be focused on climate protection in the future or should it continue to include <u>all</u> environmental, economic and social aspects?

A focused mainly on climate protection (mitigation)

B shall include all dimensions of sustainable development

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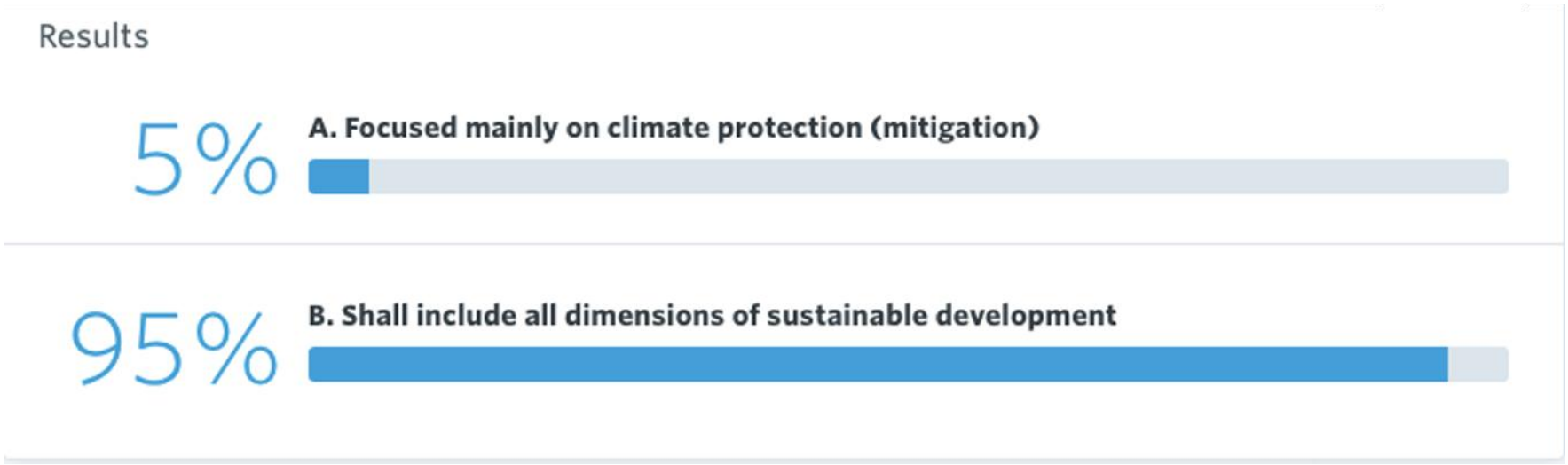
Should sustainable construction be focused on climate protection in the future or should it continue to include <u>all</u> environmental, economic and social aspects?



QUESTION 2

How should the function and purpose of sustainability assessment of buildings change over the next 10 years:

A no change necessary (will remain voluntary & used primarily on large projects)

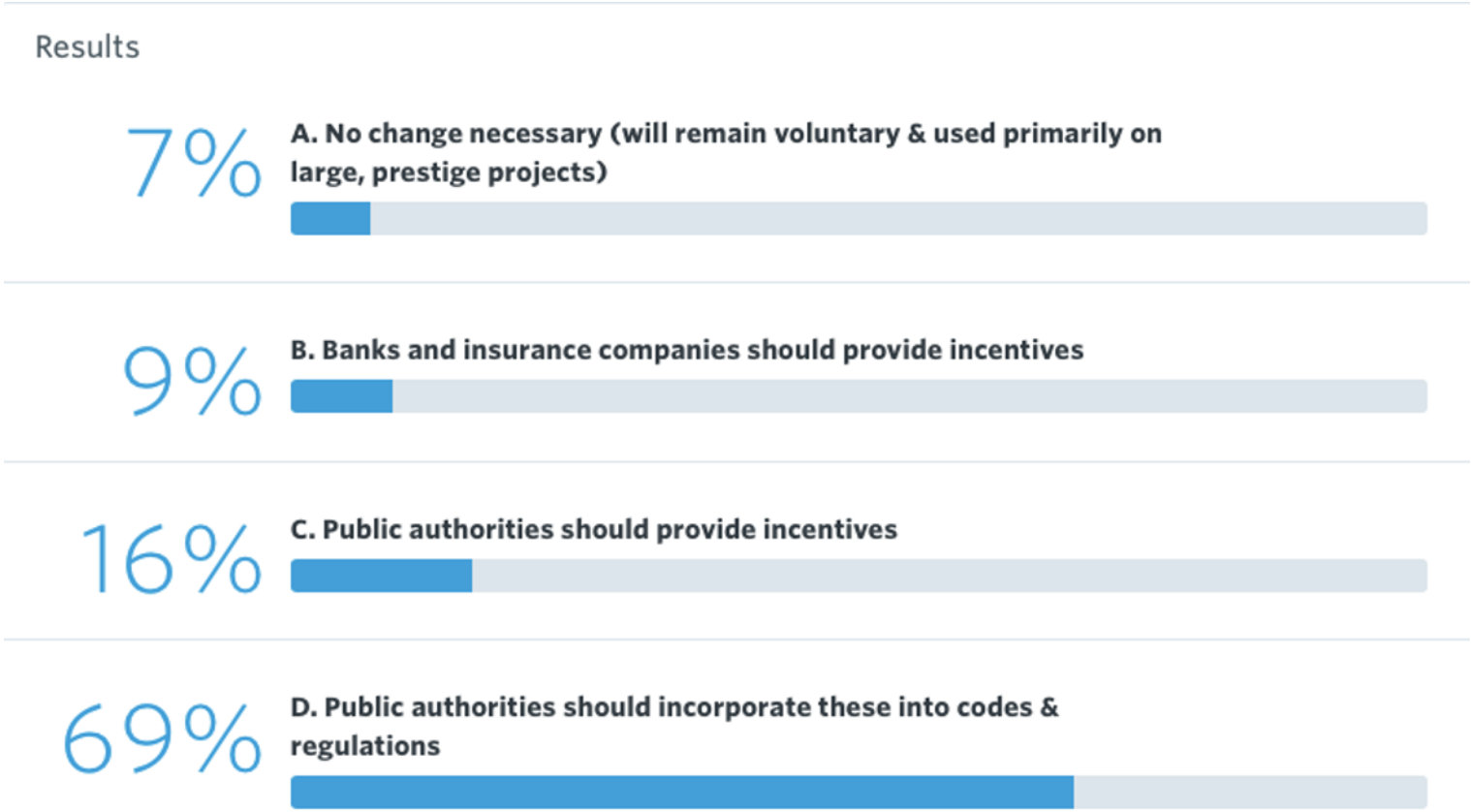
B banks and insurance companies should provide incentives

C public authorities should provide incentives

D public authorities should incorporate these into codes & regulations

QUESTION 2

How should the function and purpose of sustainability assessment of buildings change over the next 10 years:



QUESTION 3

Should environmental, economic and social aspects be given equal weighting in sustainability assessment? If not, what aspects should be given the most weighting?

A Yes, equal weighting

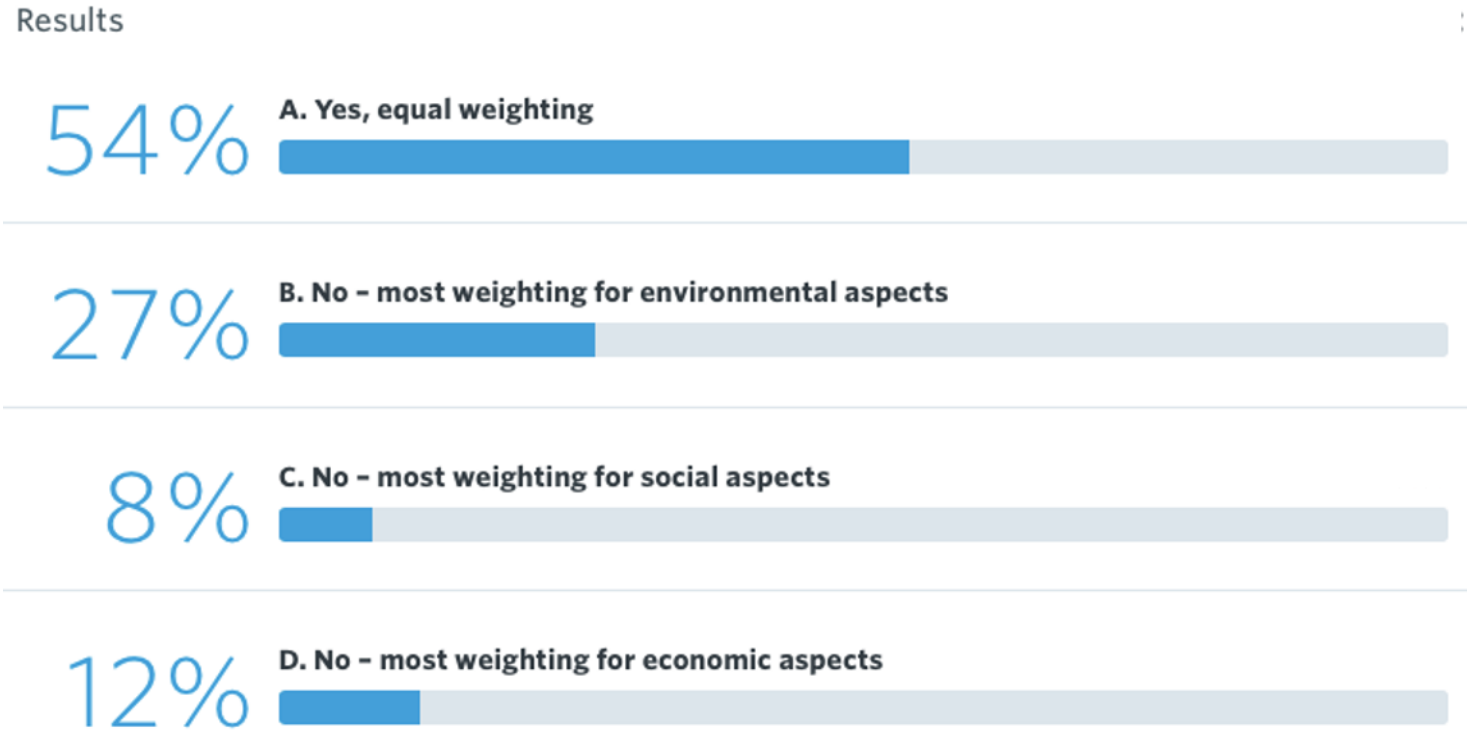
B No – most weighting for environm. aspects

C No – most weighting for social aspects

D No – most weighting for economic aspects

QUESTION 3

Should environmental, economic and social aspects be given equal weighting in sustainability assessment? If not, what aspects should be given the most weighting?



Megatrends shaping the construct. industry's future

Market and customers

Demand in developing countries

65% of the next decade's growth in construction will happen in emerging countries

Globalized markets

1 in 2 E&C companies plan to move into new geographies

Bigger, more complex projects

123km (76 miles) is the length of the Undersea tunnel that will connect Dalian and Yantai in China

Ageing infrastructure

1 in 3 German railway bridges are more than 100 years old

Massive financing need

$1tn annual investments are needed to close the global infrastructure gap

Sustainability and resilience

Resource scarcity

No. 1 consumer of global raw materials is the construction industry

Sustainability requirements

50% of the solid waste in the United States is produced by the construction industry

Energy and climate change

30% of global greenhouse gas emissions are attributable to buildings

Resilience challenges

3× as many disasters were reported last year as in 1980

Cyberthreats

90% of firms agree that information controls have an impact on front-line employees

Society and workforce

Urbanization and housing crisis

200k people are added daily to urban areas and need affordable and healthy housing

Health/comfort needs of citizens

2-5× higher than outside are the levels of volatile organic compounds found inside US homes

Talent and ageing workforce

50% of general contractors are concerned about finding experienced crafts workers for their workforce

Stakeholder pressure and organization

67k signatures were collected opposing the construction of the Stuttgart train station

Politicization of construction decisions

In 2011 the Portuguese government cancelled a 165km (103 mile) high-speed train line project as an austerity measure

Politics and regulation

Complex regulatory requirements

25 different procedures are required for a typical warehouse construction permit in India

Stricter HSE and labour laws

10% of the workforce in a public project in California had to come from the "otherwise unemployable"

Slow permit and approval process

$1.2tn of infrastructure could be added by 2030 if all countries committed to specific time limits for approvals

Geopolitical uncertainty

18 Turkish construction workers were kidnapped by militants in Baghdad in September 2015

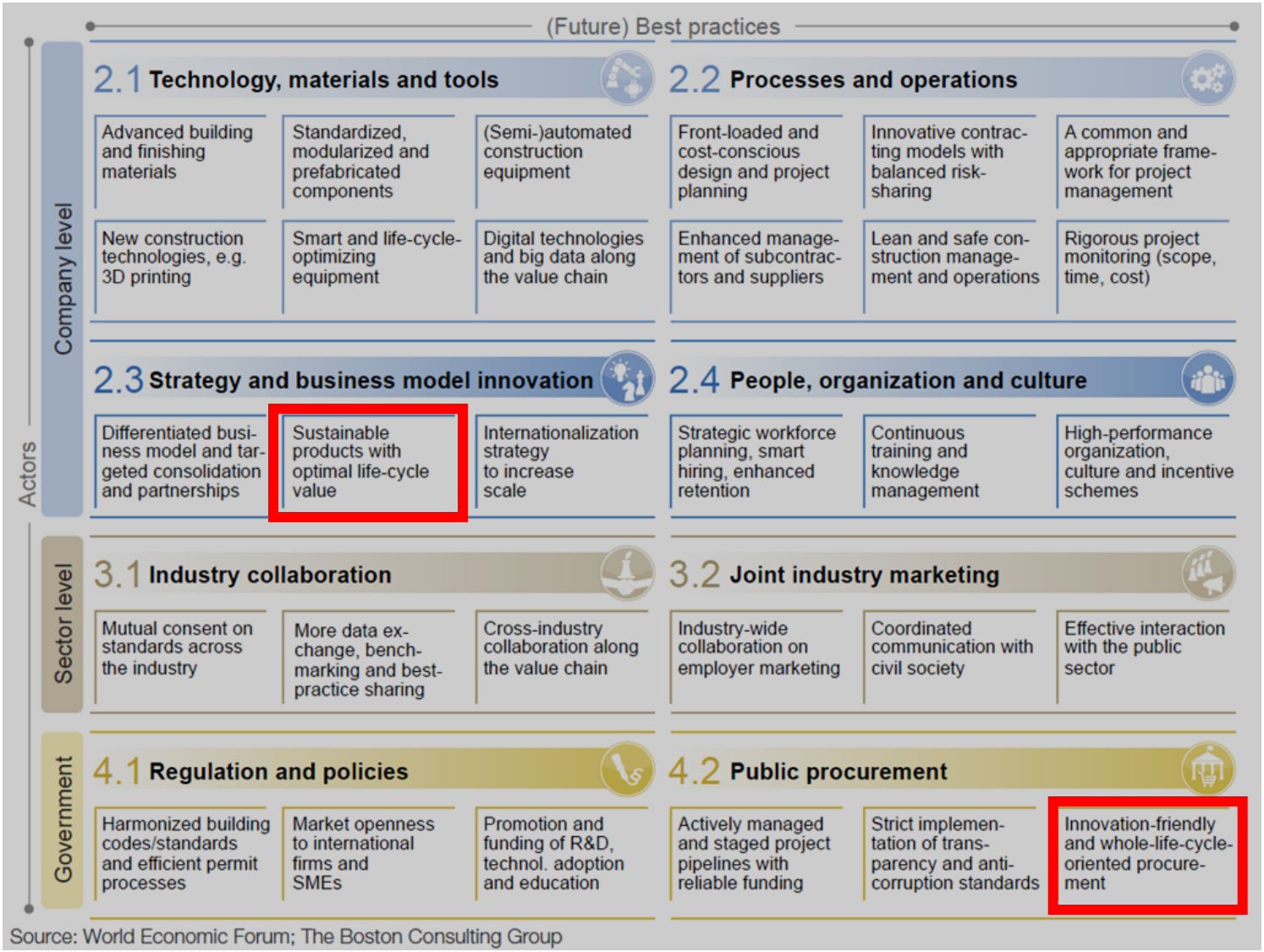
Corruption

49% of survey respondents believe corruption is common in a Western European construction market

ss reports; World Economic Forum; The Boston Consulting Group

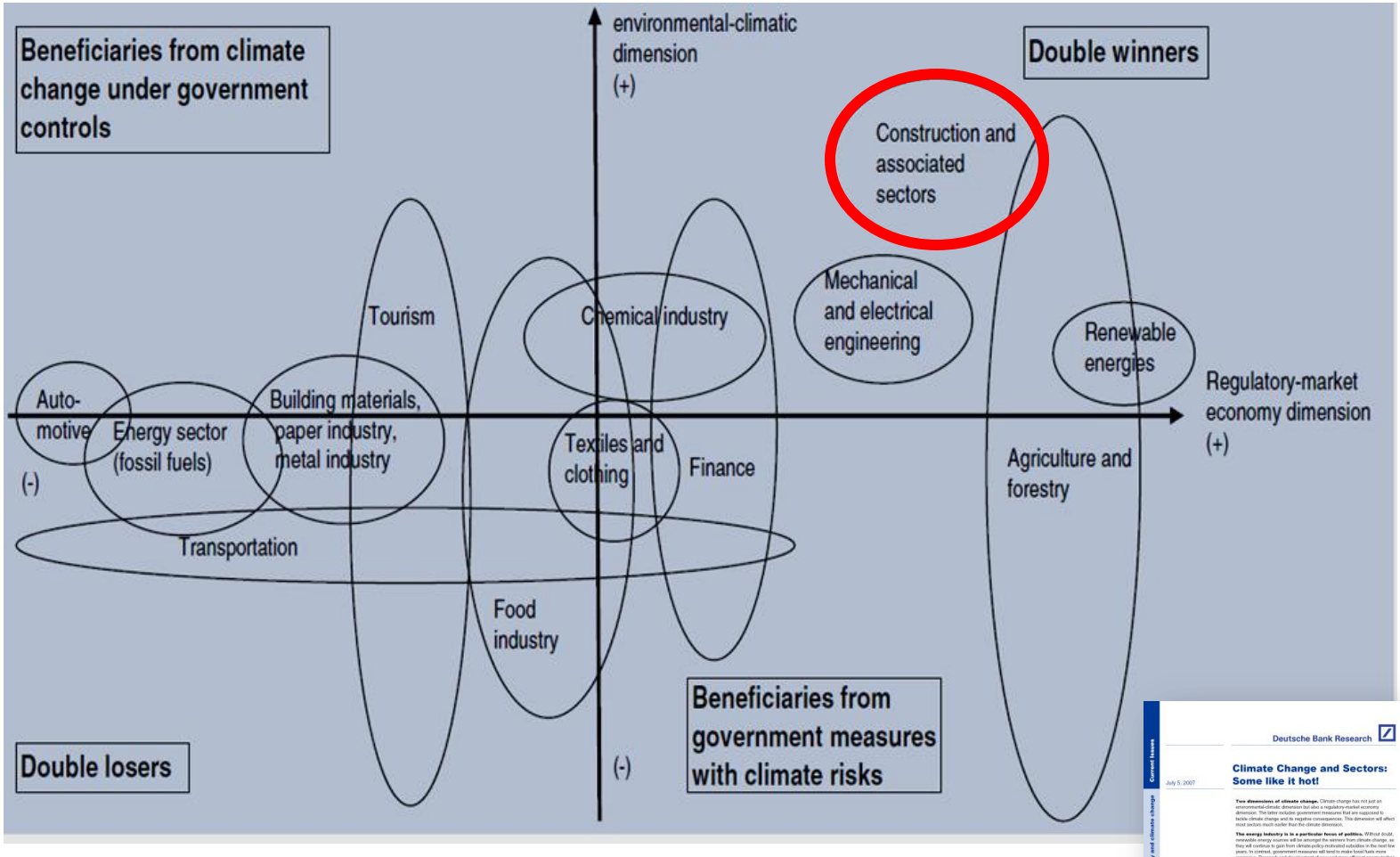
http://www3.weforum.org/docs/WEF_Shaping_the_Future_of_Construction_full_report_.pdf

Construction industry transformation framework



http://www3.weforum.org/docs/WEF_Shaping_the_Future_of_Construction_full_report_.pdf

Winning and losing sectors from climate change



http://www.dbresearch.ru/PROD/DBR_INTERNET_EN-PROD/PROD0000000000212401.pdf


Deutsche Bank Research

Climate Change and Sectors: Some like it hot!

July 5, 2007

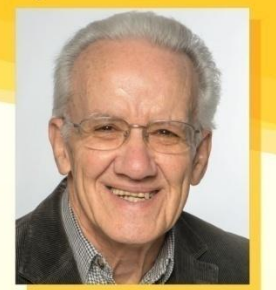
Leadership Driving

Roundtable Session 2 for the Sustainable Built Environment

Session Chair

Christine Loh
Under Secretary for the Environment, Government of the HKSAR

Speakers



George Baird
Emeritus Professor of Building Science, School of Architecture, Victoria University of Wellington

Douglas Woo
Chairman & Managing Director, Wheelock and Company Ltd.

Greg Foliente
Enterprise Professor, University of Melbourne; Regional Director in Asia-Pacific, iiSBE; Founding Director, nBLue Pty Ltd

Tan Tian-chong
Deputy Managing Director, Built Environment Research and Innovation Institute, Building and Construction Authority

Lincoln Leong
Chief Executive Officer, MTR Corporation

Roundtable 2

„Actions“

6.6.17 – 15.20

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… next session will start in 10:00 minutes !

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