

Mobilizing the Co-Benefits of Renewable Energies

Lessons to be learned from Germany and China

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“中德协同效应方法学研讨会”

会议通知



协同效应研究为量化评估和统筹制定区域环境政策、能源政策与气候变化政策提供了新视角与新思路，成为区域可持续发展的重要政策工具。本次研讨会旨在通过中德双方科学家、地方政府、企业及有关部门的创新交流，共同探讨进一步加强中德双方关于协同效应及其计算模型的创新协作研究，讨论在地方尺度的具体实施路径及可持续发展策略。

会议主题： Sino-German Workshop on Mobilizing the Co-Benefits of Climate Change Mitigation in Urbanizing China: *Visualizing regional benefits related to Energy, Water, Air Quality and Value Creation*

会议时间： 2016年9月23日（周五）至24日（周六）

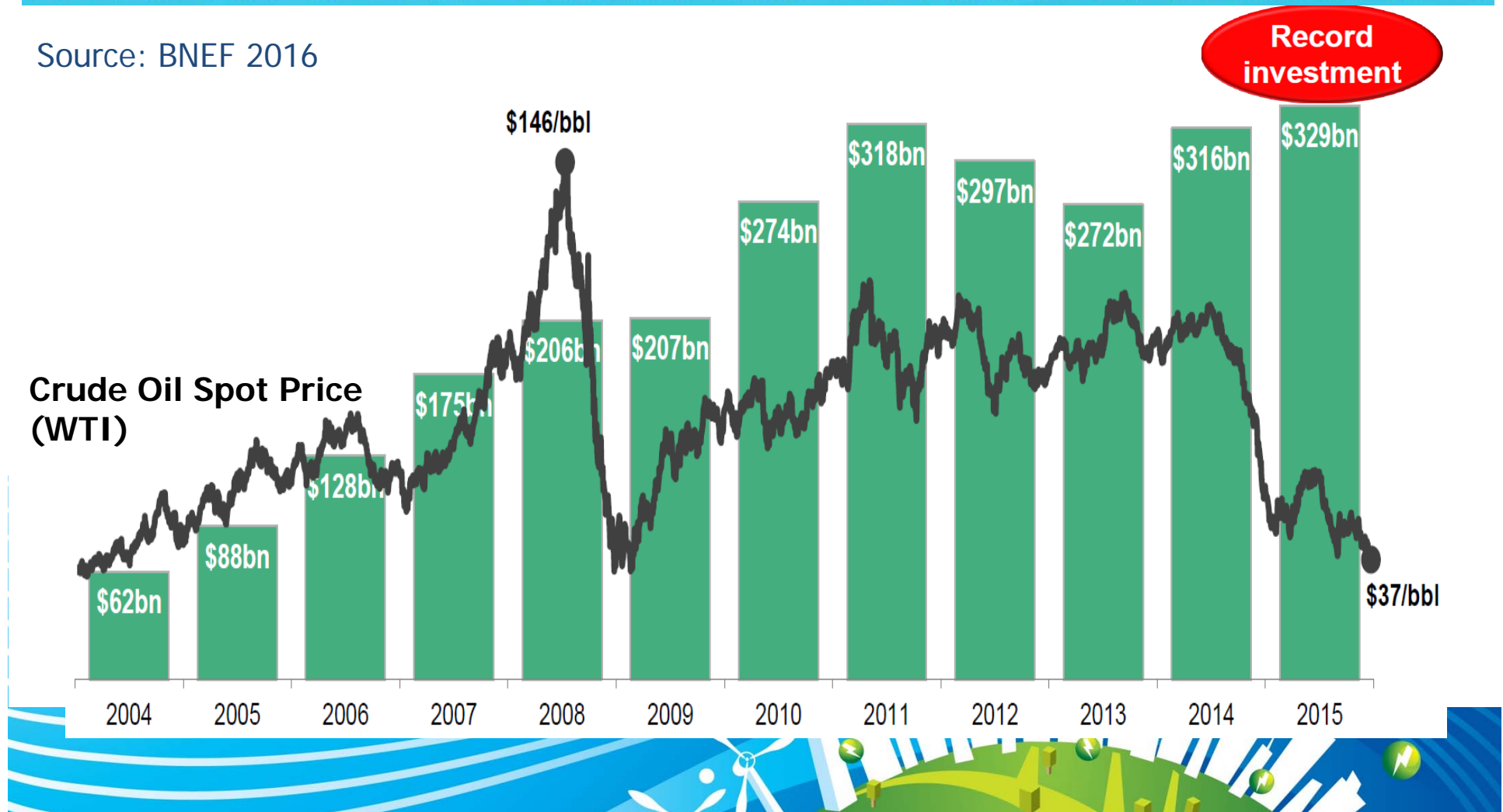
2015

Record Investment
329.000.000.000 \$
in renewable energy technologies



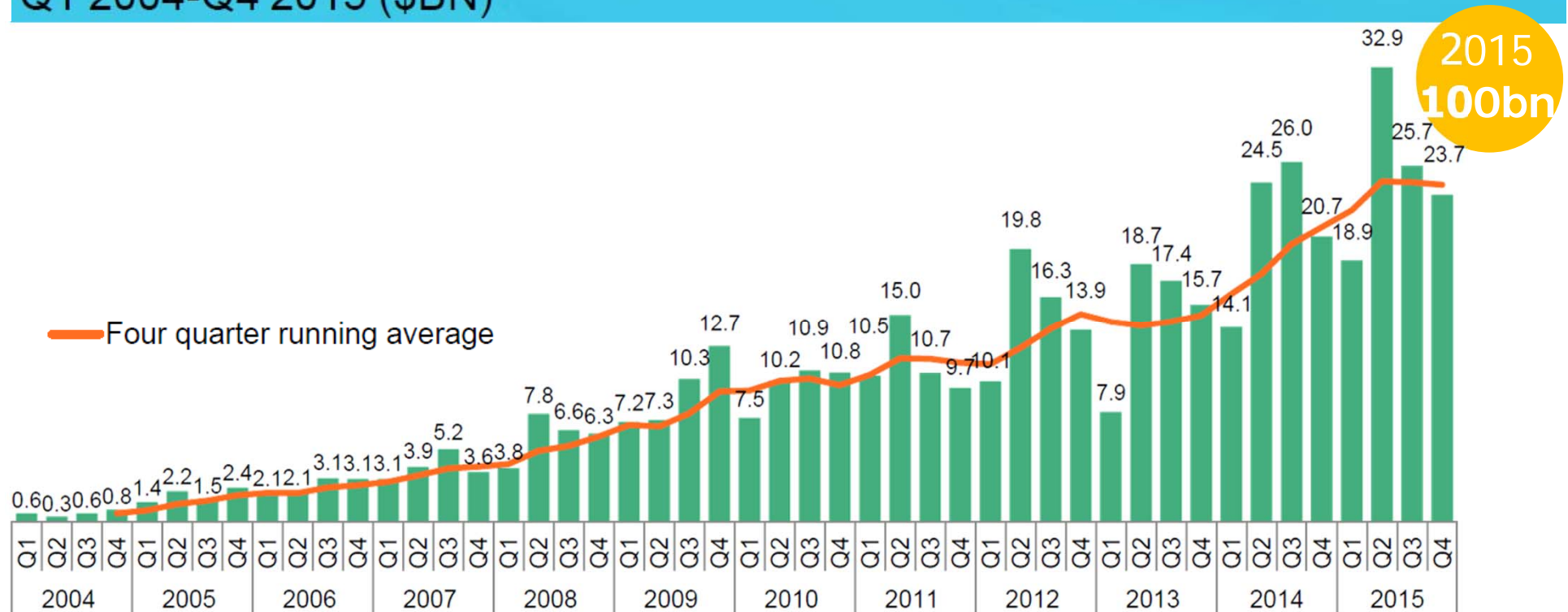
CLEAN ENERGY INVESTMENT ROSE WHILE OIL PLUMMETED

Source: BNEF 2016



NEW INVESTMENT IN CHINA

Q1 2004-Q4 2015 (\$BN)



Source: BNEF 2016



Has the world suddenly gone green?

Are we all climate-activists now?





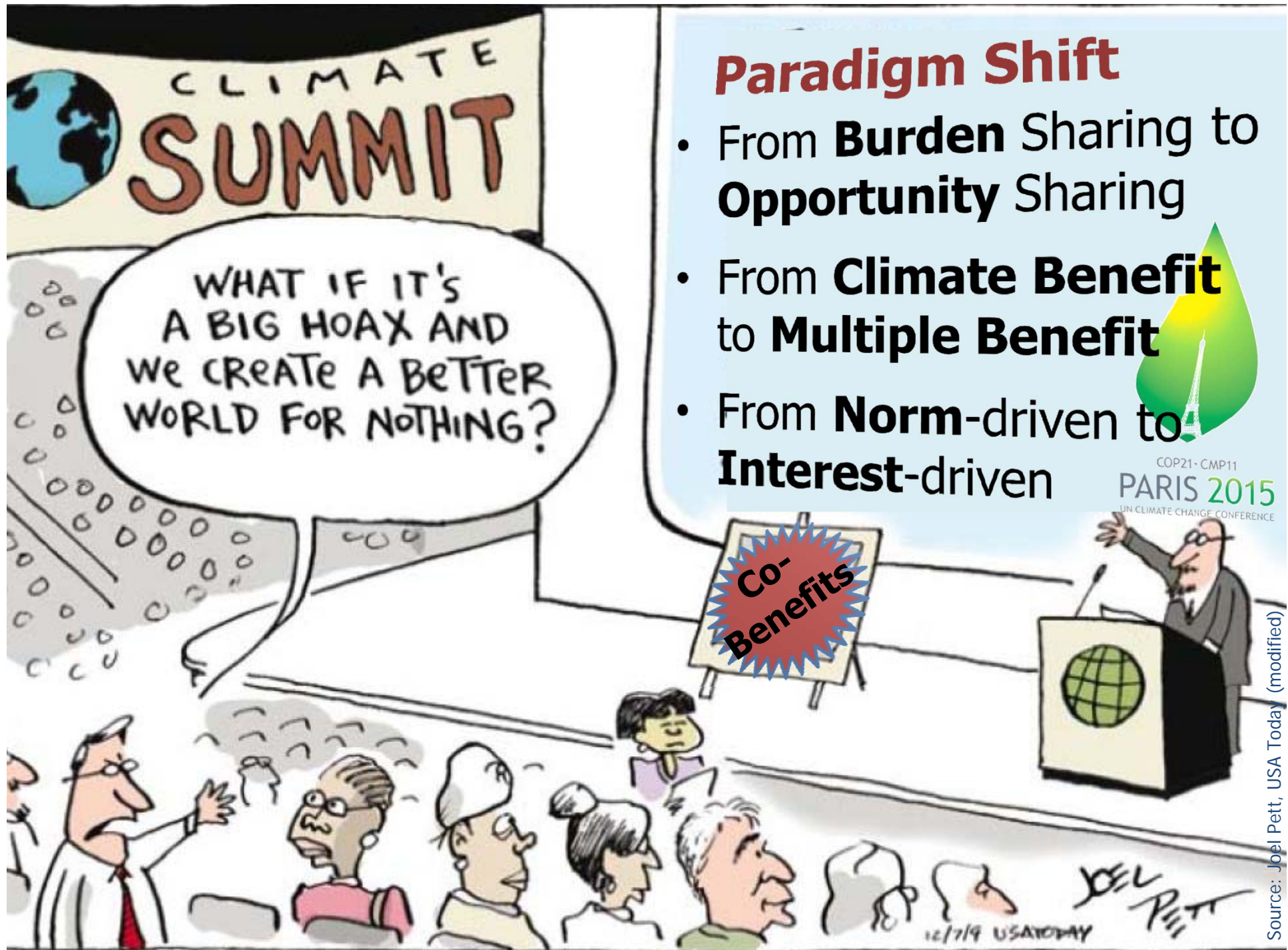
CLIMATE SUMMIT

WHAT IF IT'S A BIG HOAX AND WE CREATE A BETTER WORLD FOR NOTHING?

- ENERGY INDEPENDENCE
- PRESERVE RAINFORESTS
- SUSTAINABILITY
- GREEN JOBS
- LIVABLE CITIES
- RENEWABLES
- CLEAN WATER, AIR
- HEALTHY CHILDREN
- ETC. ETC.

Co-Benefits

Source: Joel Pett, USA Today (modified)



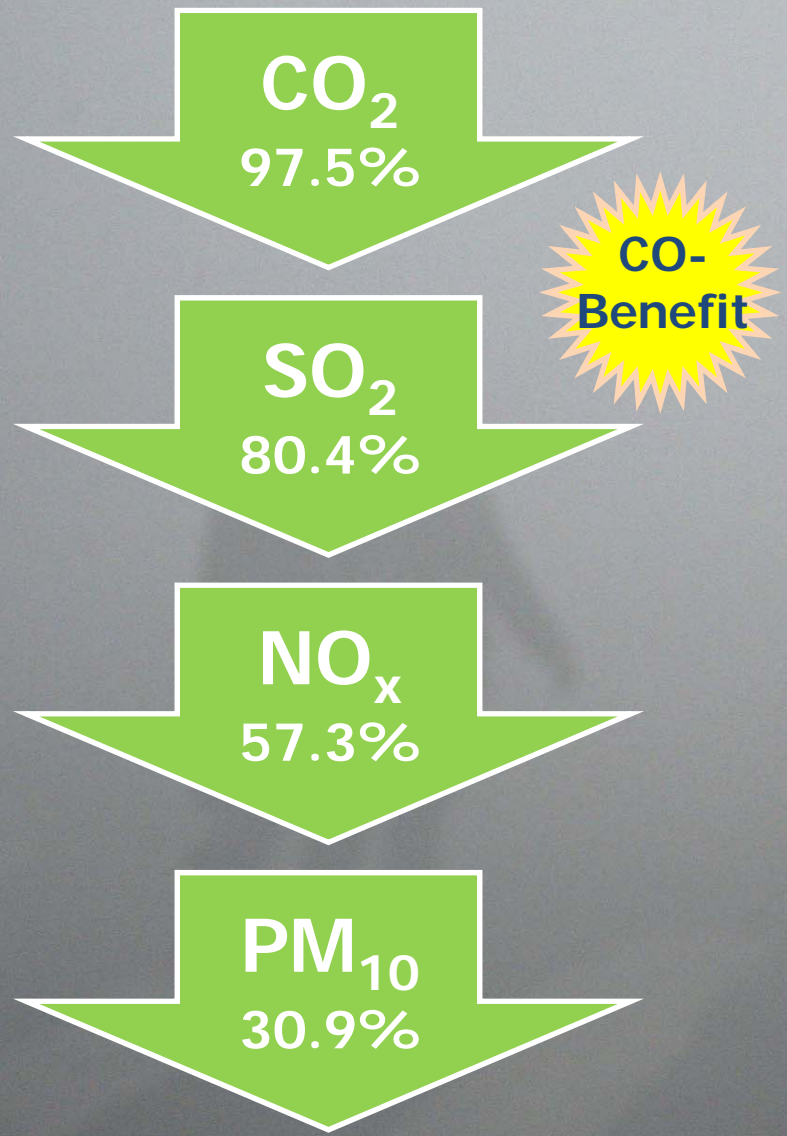
Paradigm Shift

- From **Burden** Sharing to **Opportunity** Sharing
- From **Climate Benefit** to **Multiple Benefit**
- From **Norm-driven** to **Interest-driven**



COP21-CMP11
PARIS 2015
UN CLIMATE CHANGE CONFERENCE

Emission reduction through wind power (vs coal)



Source: Xue et al. 2015

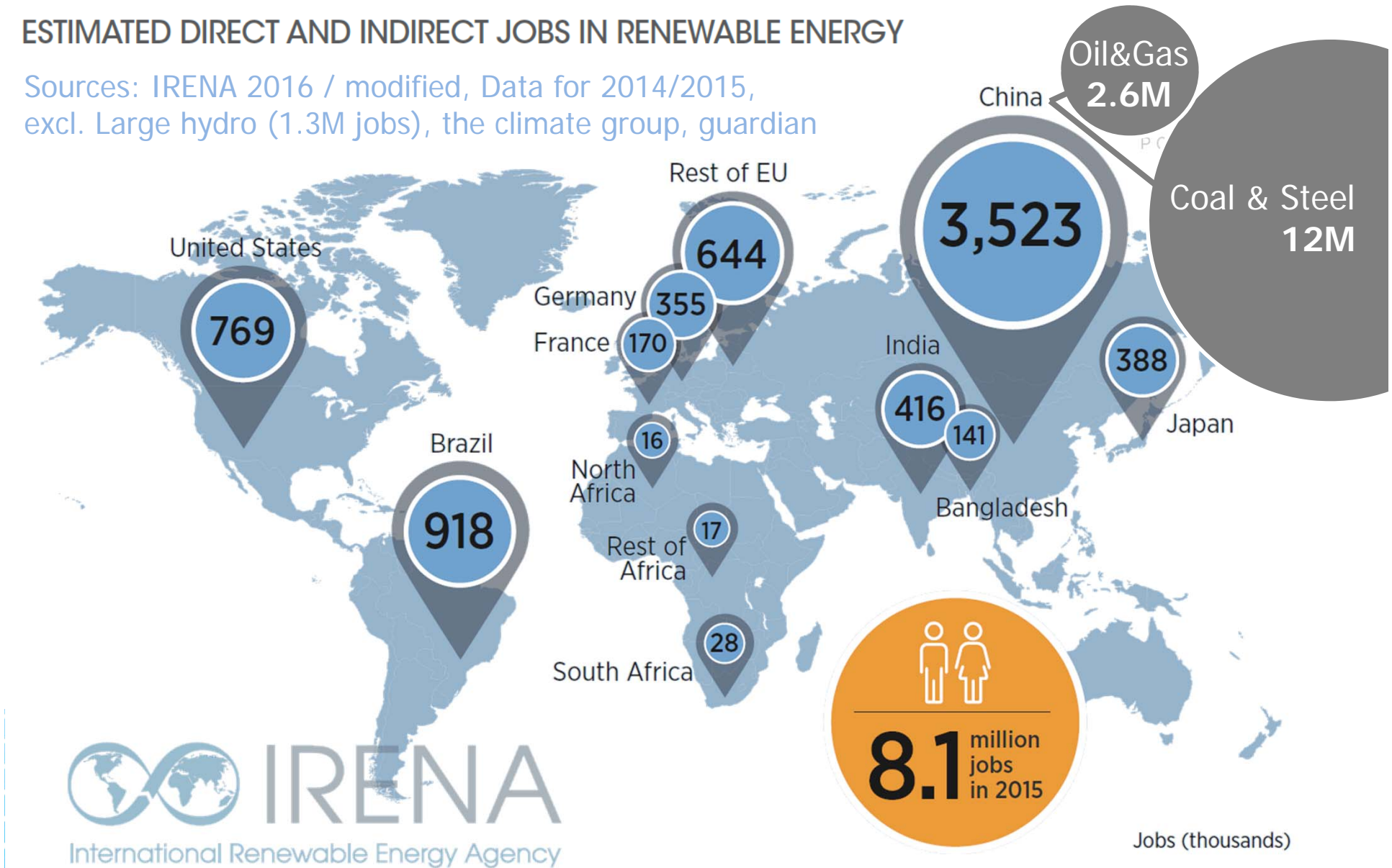
It's the economy, stupid!

B.Clinton, 1992



ESTIMATED DIRECT AND INDIRECT JOBS IN RENEWABLE ENERGY

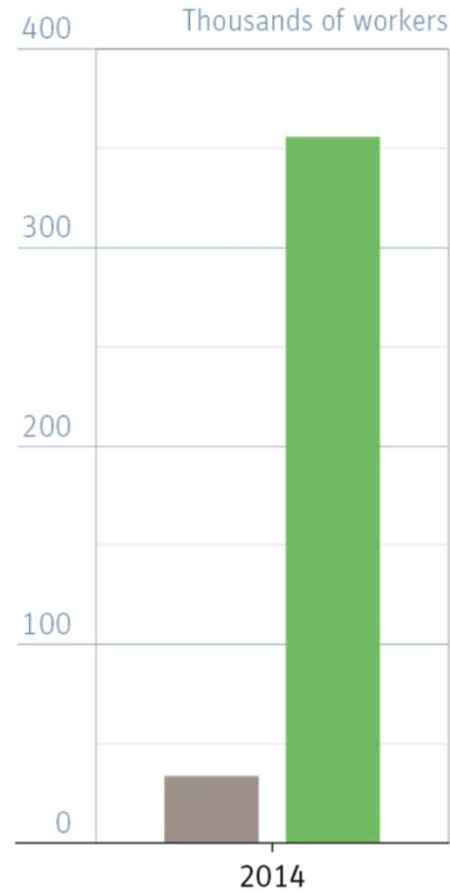
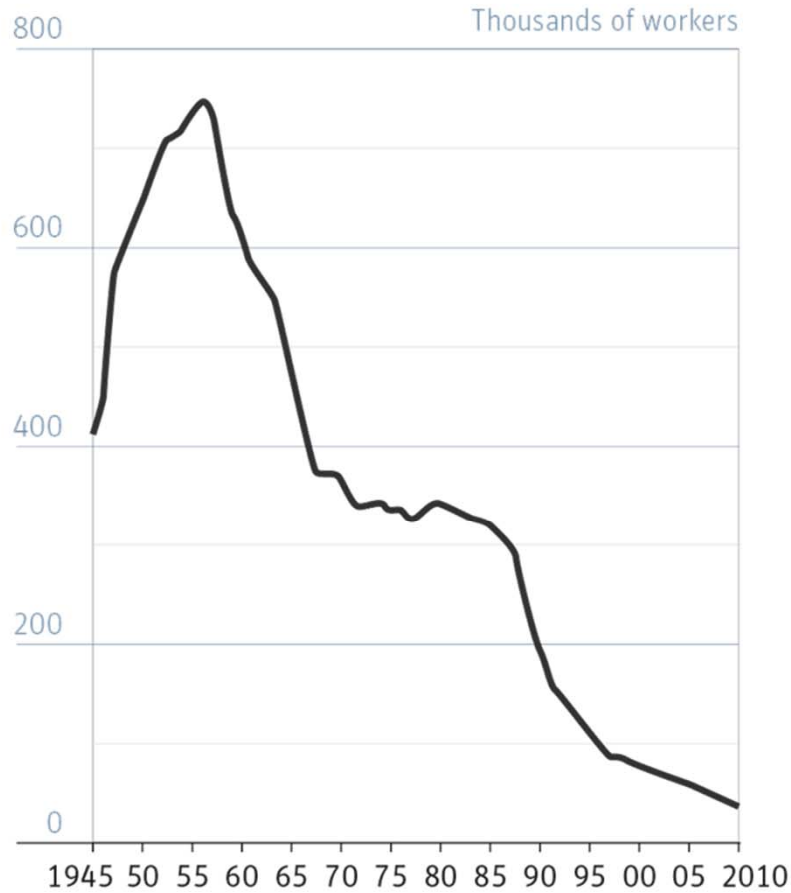
Sources: IRENA 2016 / modified, Data for 2014/2015, excl. Large hydro (1.3M jobs), the climate group, guardian



Renewables create more jobs than coal power does

Employment in Germany in renewable and conventional energy sectors

Source: DLR, DIW, GRS, Kohlenstatistik.de. Renewables data from 2014.



Source:
German Energy Transition
2015

- Jobs in coal sector
- Jobs in coal mining and conventional fuels
- Jobs in renewables



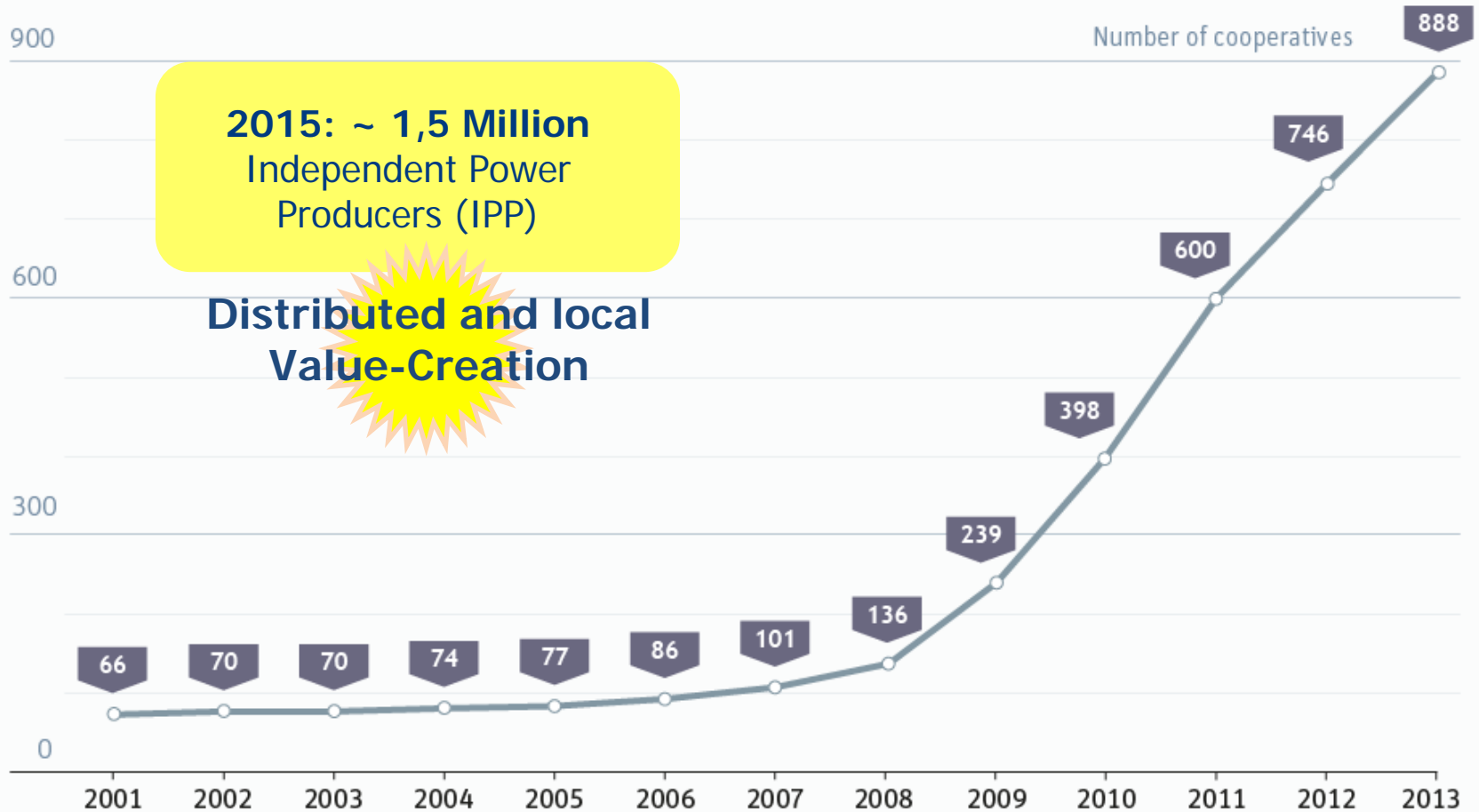
Feldheim, Germany near IASS



Citizens form cooperatives to drive the energy transition

Number of energy cooperatives in Germany, 2001-2013

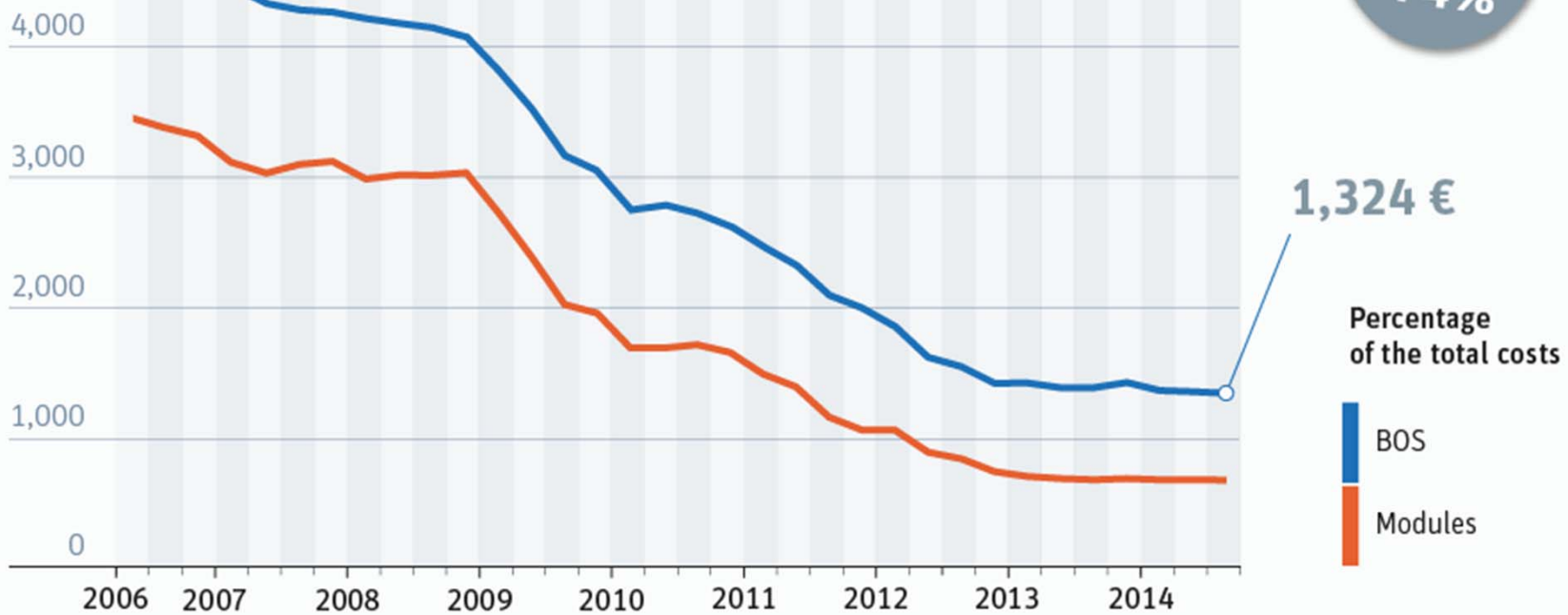
Source: www.unendlich-viel-energie.de



Fossil Fuels Losing Cost Advantage Over Solar, Wind, IEA Says

August 31, 2015

DECREASE
IN PRICE
-74%



IASS POLICY BRIEF 1/2016

Institute for Advanced Sustainability Studies (IASS)

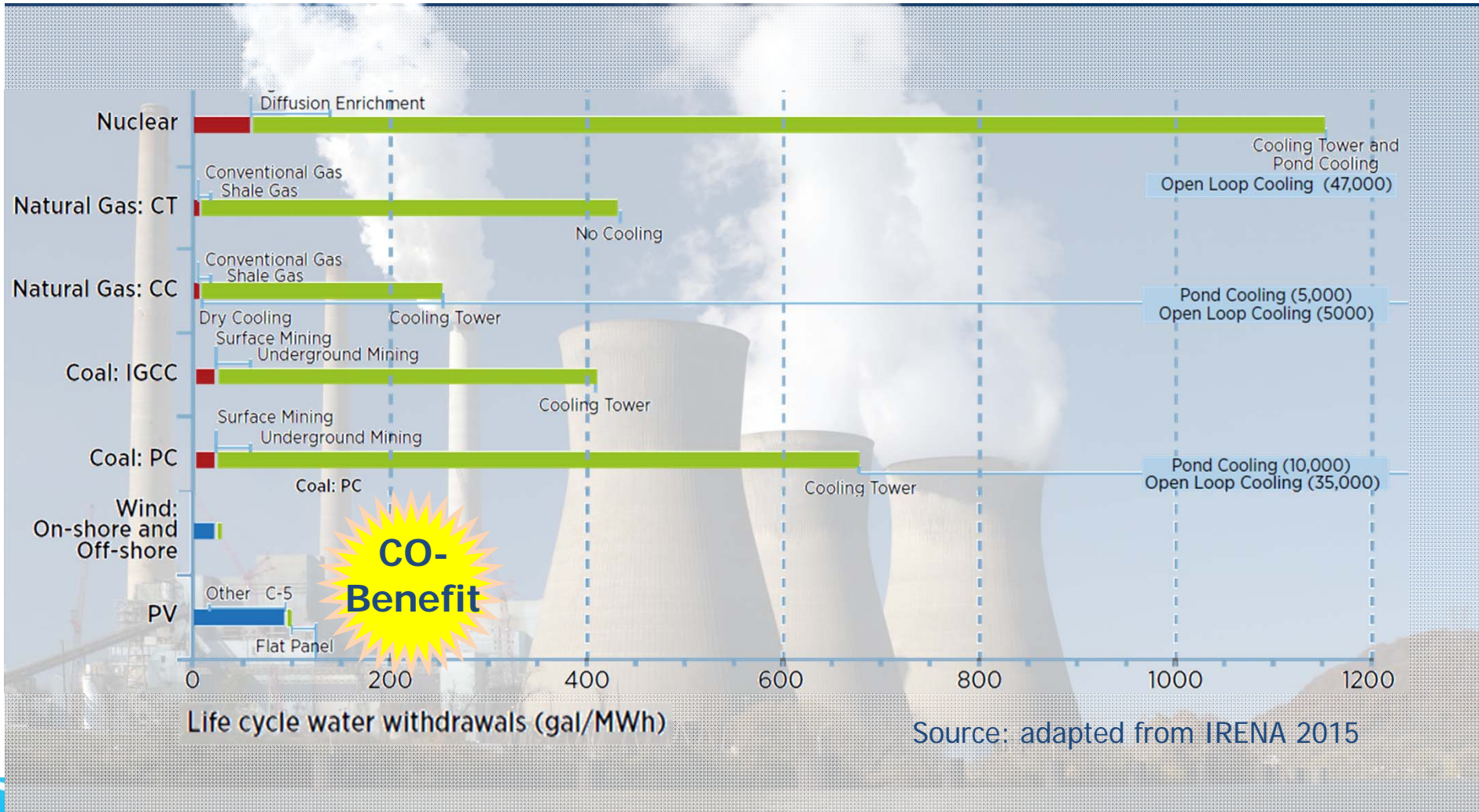
Potsdam, February 2016

Secure and Sustainable Energy in a Water- Constrained World

Sybille Roehrkasten, Dominik Schaeuble, Sebastian Helgenberger



Generating Power needs a lot of Water



Life cycle water withdrawals (gal/MWh)

Source: adapted from IRENA 2015

Already today, water is an energy security risk.



2010 Longtan Dam /
nearly shut down

2011 Three Gorges Dam /
major capacity reduction

Sources: IASS 2015, Wilson Center 2015

Current Water // Energy Security Risks in China



Making sound energy choices today to achieve water security tomorrow

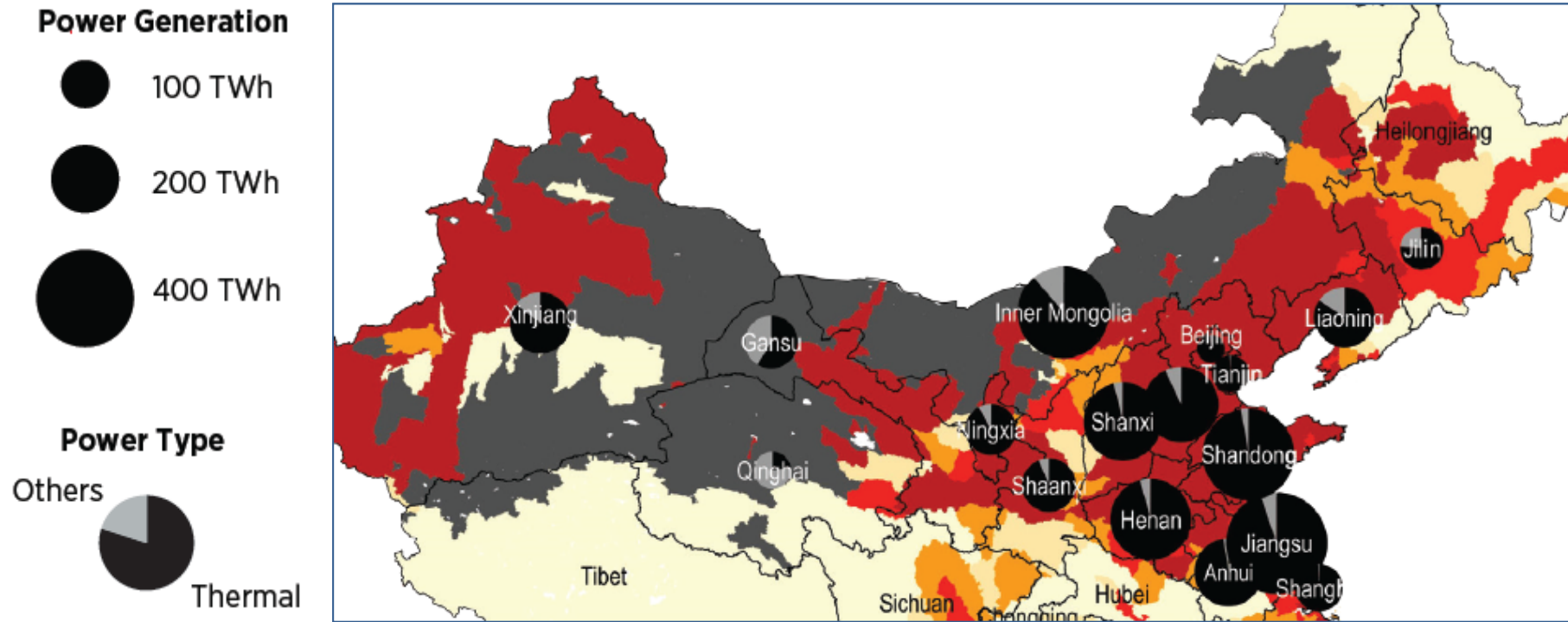
Date: 1 September, 2016

Time: 09:00 – 10:30

Location: NL 357



Current Water // Energy Security Risks in North China



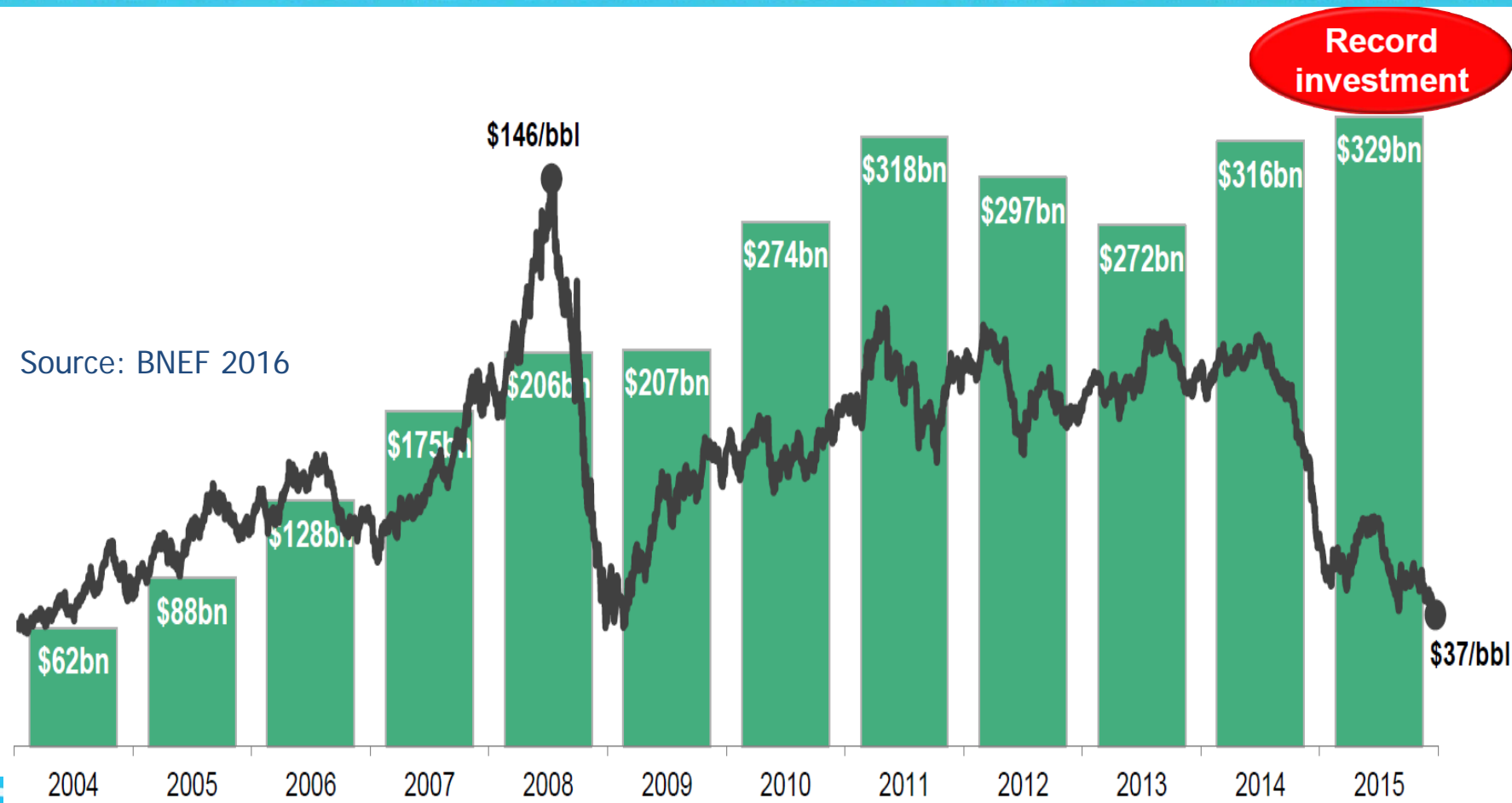
Source:
China Water Risk /
IRENA 2016

Renewables: a multiple-benefits opportunity



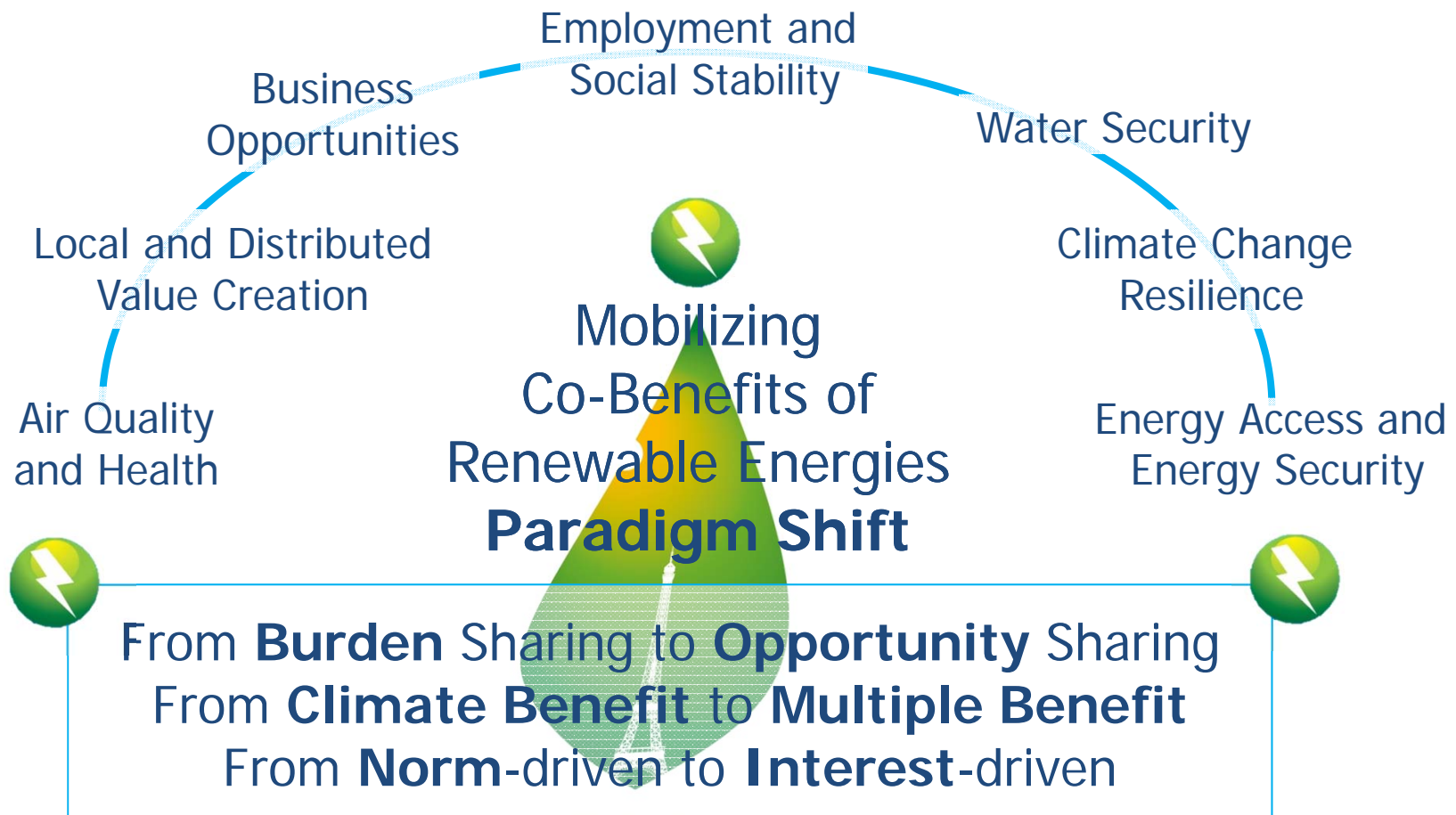
CLEAN ENERGY INVESTMENT ROSE WHILE OIL PLUMMETED

Source: BNEF 2016



Record investment

Renewables: a multiple-benefits opportunity

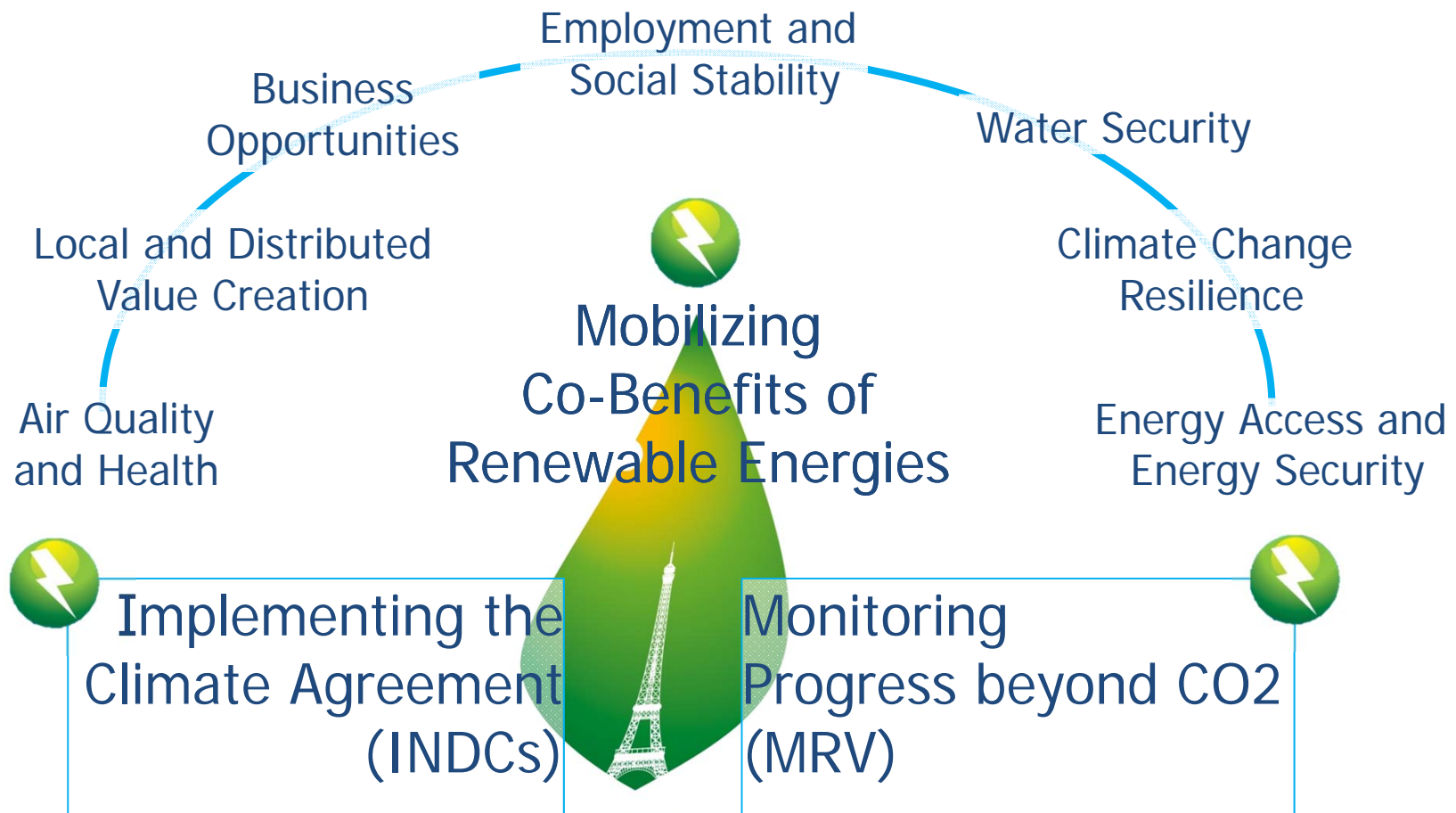


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Renewables: a multiple-benefits opportunity



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Thank you! 谢谢



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