



Alternative Energy Investments

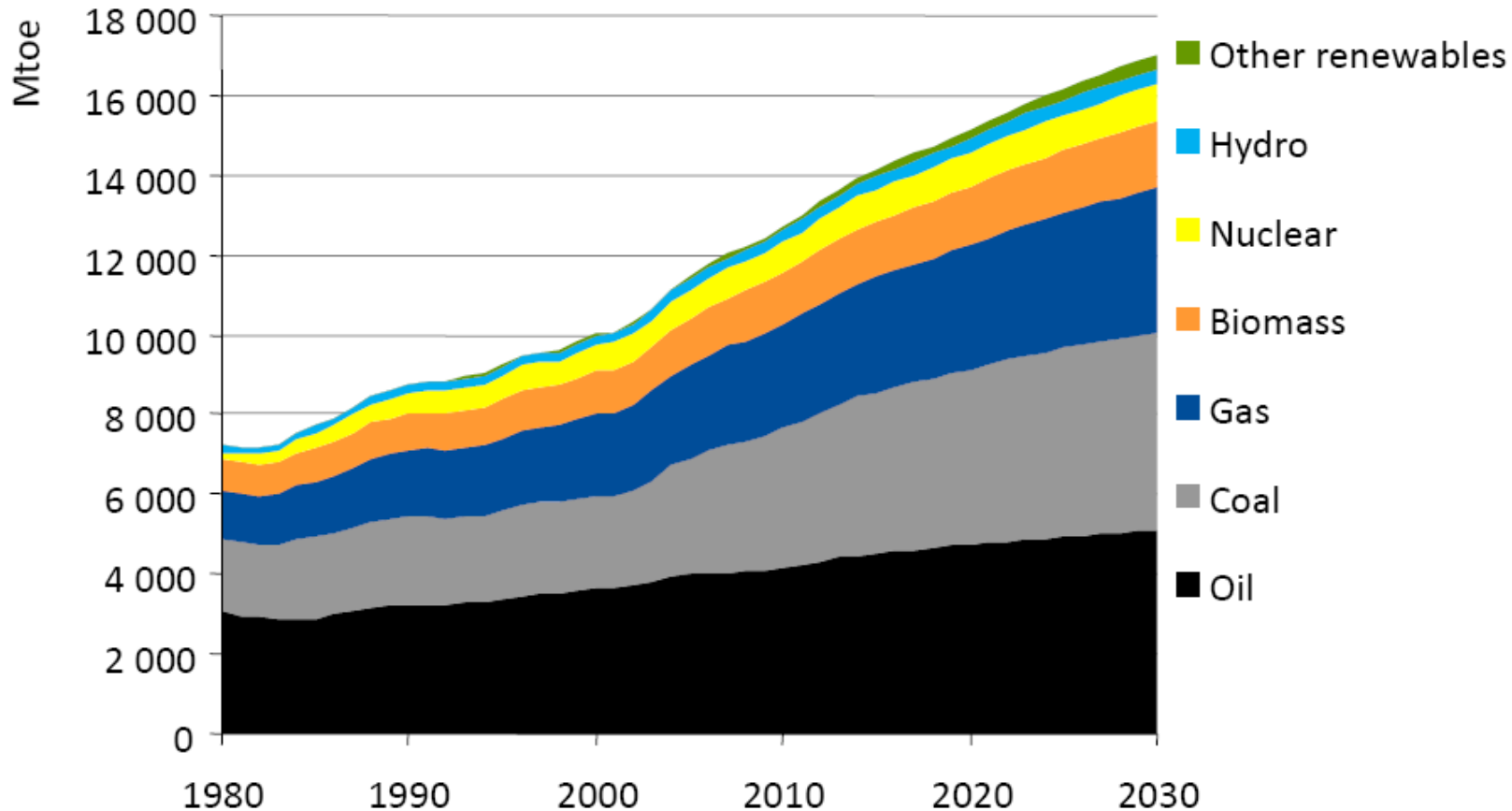
Cleanpower 2009
Katrina Landis

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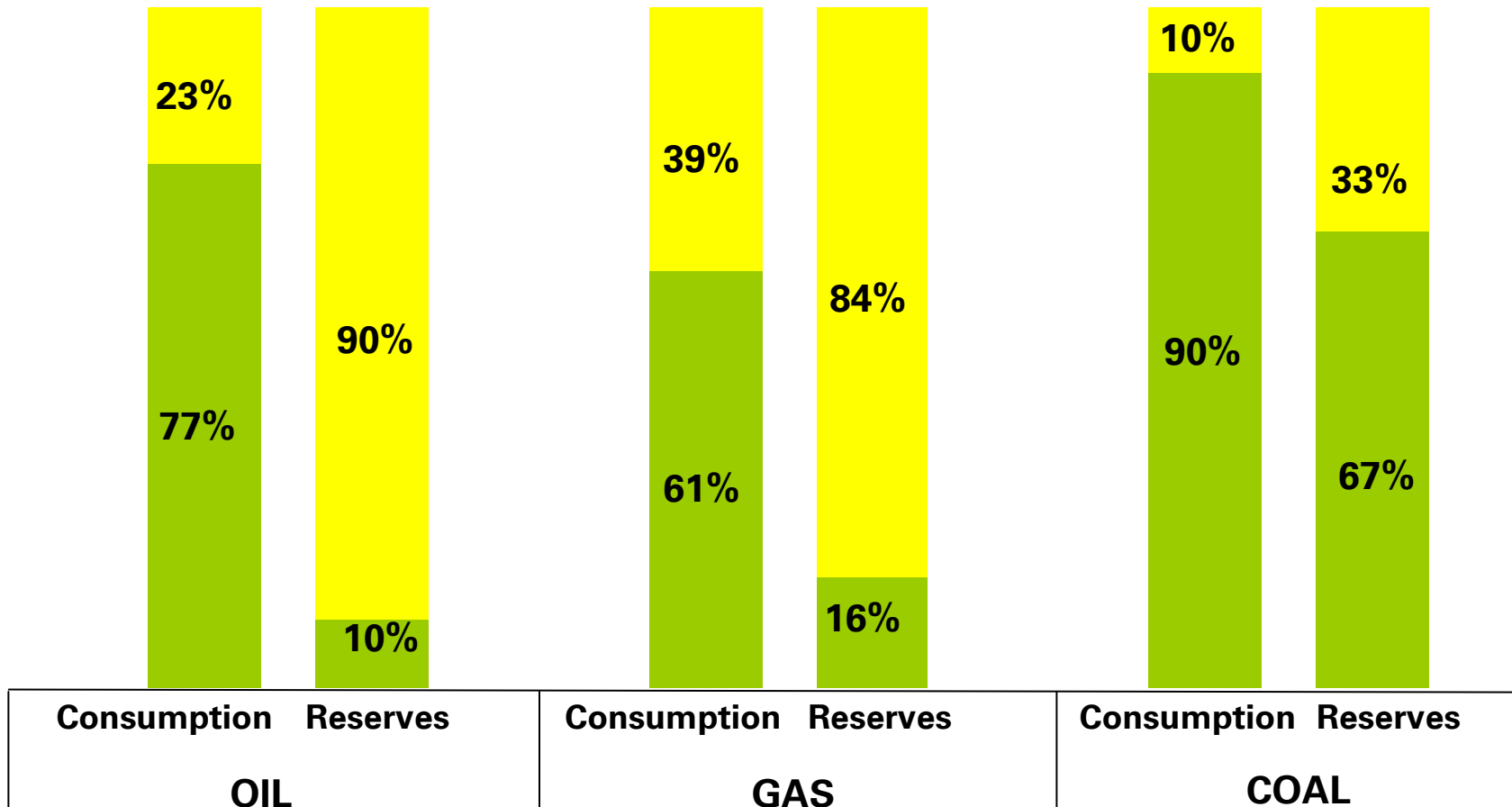
1. Why Alternative Energy?
2. Technologies and business models?
3. What does BP Alternative Energy look like?
4. Our philosophy
5. What have we learnt?

World primary energy demand will grow



World energy demand expands by 45% between now and 2030 –an average rate of increase of 1.6% per year –with coal accounting for more than a third of the overall rise
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Dislocation of supply and demand



■ 3 Largest energy markets (N. America + Europe + Asia Pacific) ■ ROW

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Diversification is key



Generating capacity

+50%
US Wind

+69%
Solar

+31%
Ethanol

Global Consumption

-0.6%
Oil

+2.5%
Gas

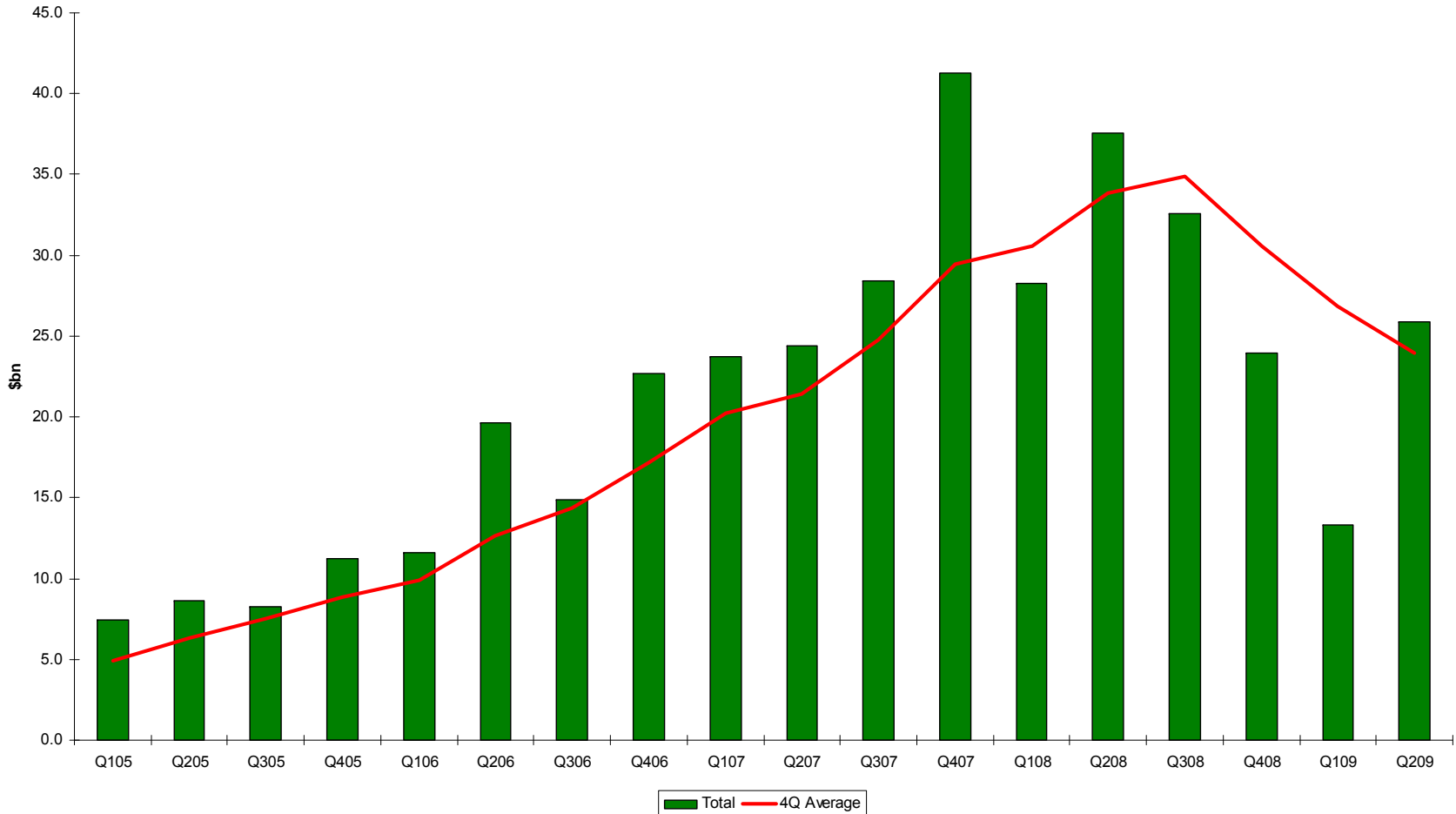
+3.1%
Coal

-0.7%
Nuclear

Global new investment in clean energy



Clean Technology Investment



The commercial case for clean energy has never been stronger



Rising climate change concerns



Demand growth



Energy security challenges



Oil, gas and coal supply constraints



Evaluating technologies and business models



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Materiality and competencies



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Scalability



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Viability



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Biofuels



- Technology leadership
- Leverages existing capabilities
- Access to high growth and competitive markets

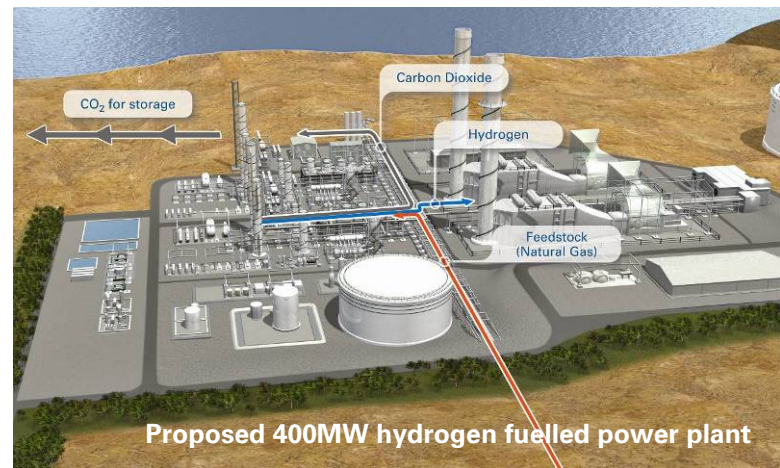


- Verenium - accelerating the development of cellulosic ethanol
- Topical Bioenergia – an investment of \$1bn
- Partnership with Dupont
- Investing \$500 million in EBI

Carbon management



- Significant role for CCS to meet climate and energy needs - potential to become a material industry
- BP has distinctive skills and experience
 - Subsurface skills
 - Hydrogen Energy projects
 - InSalah storage project
- CCS technologies may be needed to enable future BP growth



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Wind power



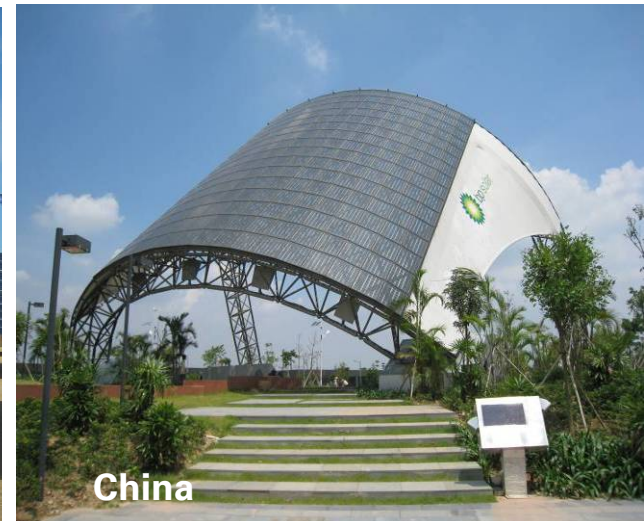
- Adds diversity to existing revenue streams
 - We have 6 operating wind farms of > 1GW capacity
 - A pipeline of over 20GW
- Provides BP exposure to a high growth, low carbon sector
- Leverages BP's experience and core capabilities
- Achieves quick return of investment due to favorable policy incentives



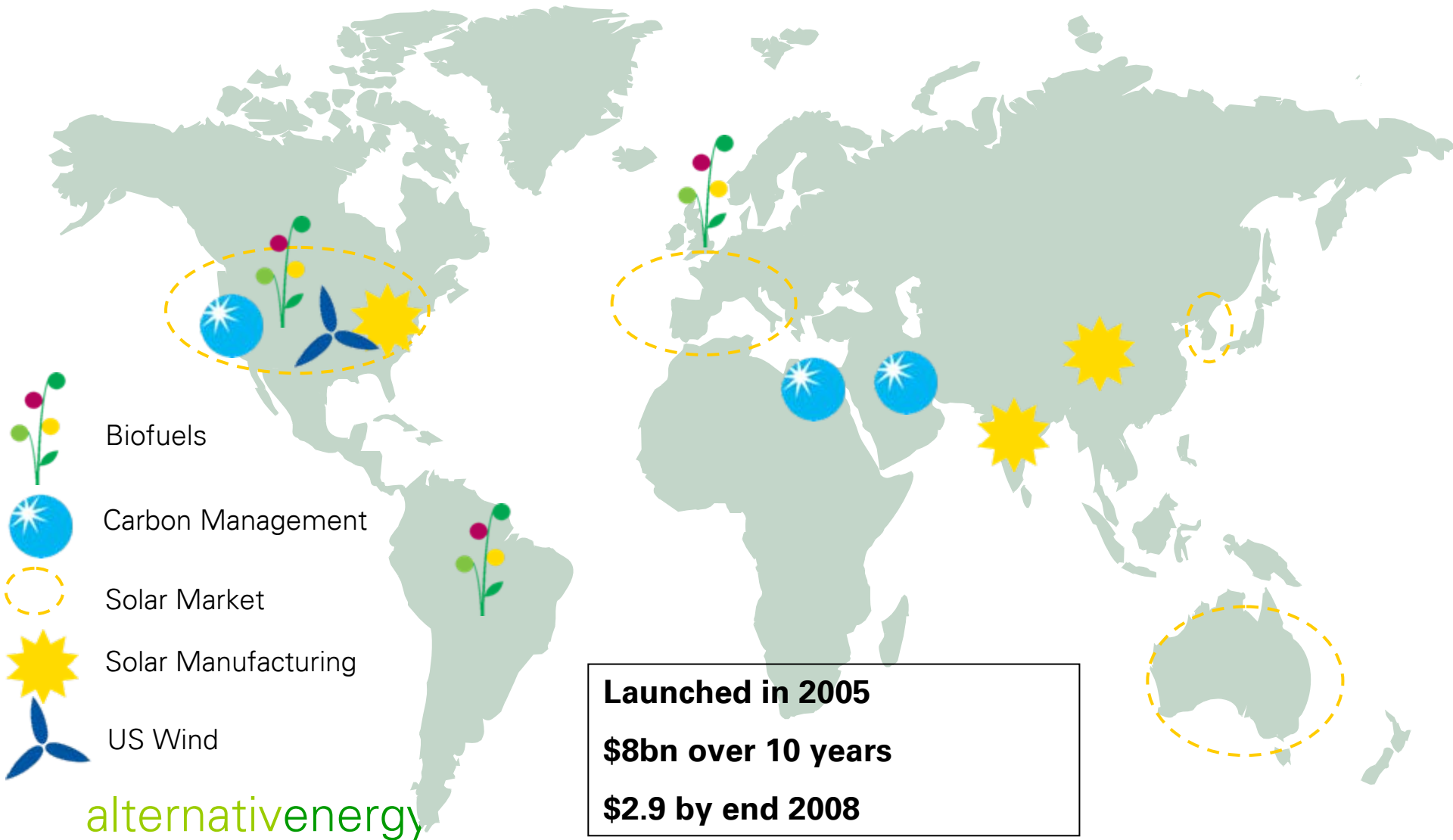
Solar power



- Reaching grid parity
- Growth, growth, competitive growth
- We produce quality products that give both “lowest lifetime cost and highest lifetime value”
- Transforming our business to achieve greater competitiveness
 - Cumulative Sales 1 GW- supplying 10 million solar power modules.



What does it look like?



Our philosophy



Our role and purpose is to build material profitable new businesses in energy value chains which facilitate BP's transition to a low carbon future.

Alternative Energy is the low carbon technology frontier of the Group.

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What have we learnt?



- Focus and discipline
- Understand all key enablers
- Be paranoid about the competition and know who they are
- Partner in innovative ways

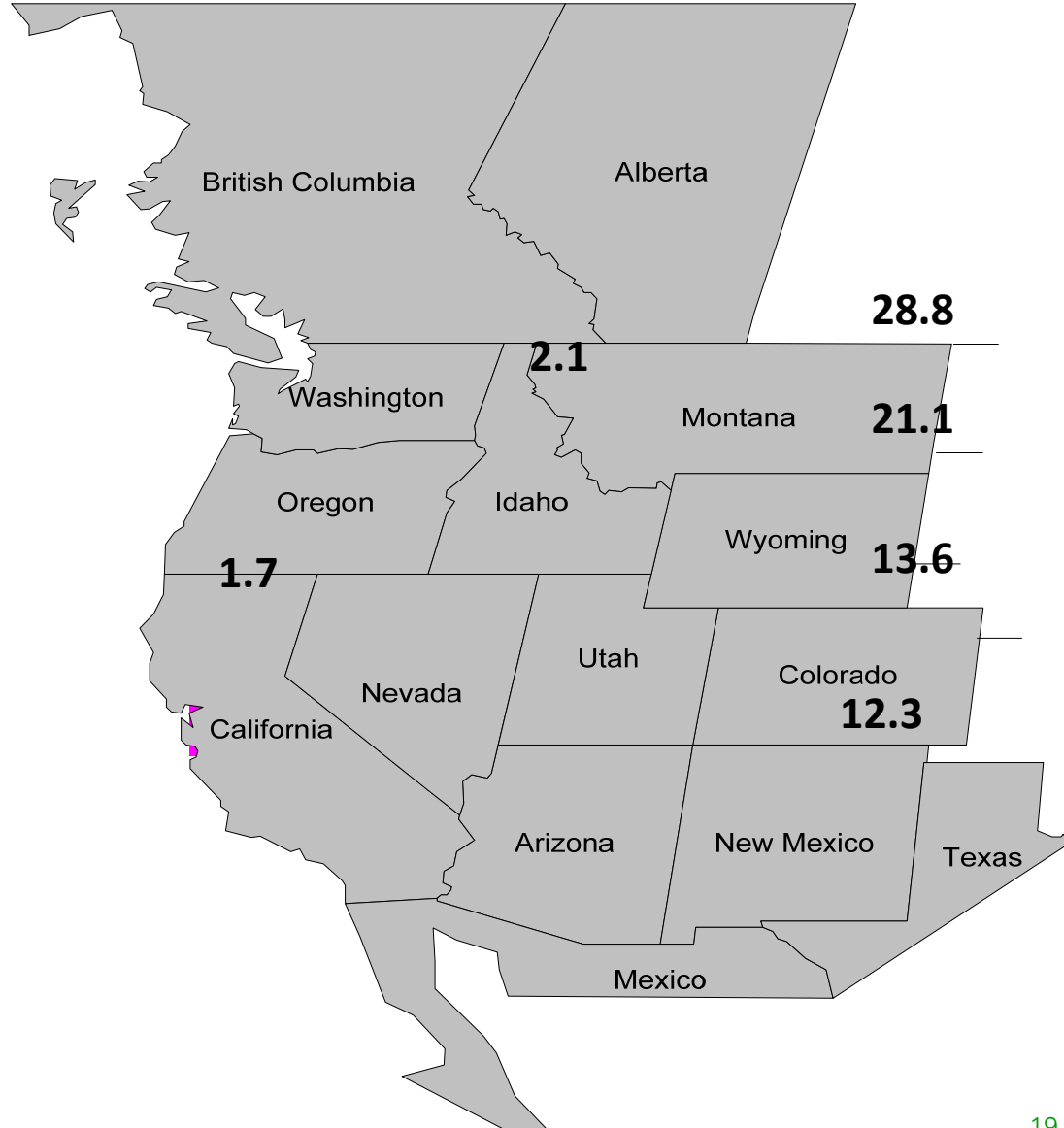
Example - potential wind generation in west

Western Systems Coordinating Council
WSCC



Wind Generation by 2030

State	Installed	Energy Production
	Gigawatts	Millions of MWHrs
Montana	28.8	1020
Wyoming	21.1	747
Colorado	13.6	481
New Mexico	12.3	435
Idaho	2.1	73
California	1.7	59
Total	79.6	2815



Questions



Committed to growing material businesses in the cleantech space.

Thank you.

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