

Global Sustainability Perspective

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Urbanization and Sustainability: Focus on Asia

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Our Global Chairman of Energy & Sustainability Services, Dan Probst, recently spoke about the trends impacting real estate sustainability practices – improvements in transparency, consistency in standards, public-private partnerships and growth in solar. Across Asia Pacific, these industry trends are encountering a set of regional dynamics that are likely to increase the probability that Asia will soon become the world leader in environmentally sustainable business practices. The impact on the real estate sector is immense, and is encouraging property investors and occupiers to fundamentally change the way they approach the procurement of assets or the acquisition of space.

The region is in the middle of a building boom unprecedented in human history. This is driven by perhaps the single most seismic change under way, the rapid transition to urbanization. At present only 40% of Asia's population lives in cities, compared to over 70% in most Western countries. As the region develops and the population moves to the cities for jobs, demand for built space seems insatiable. In China and India alone, over a half billion people are expected to move from the countryside to cities by 2050. Such a rate of development, unless planned correctly, will lead to risks in the quality of that development and adverse impacts on the environment.

The migration of people to cities, and the growth of companies and industry that follow, will place a huge strain on the region's natural resources. The economic and social ramifications of this resource squeeze have thus far been mitigated by the leaps in 'quality of life' stemming from rapid growth. However, after a decade of development, the equilibrium between improvement in 'quality of life' from economic growth and deterioration in 'quality of life' from unchecked development is shifting. Local communities are becoming increasingly vocal over the impact on the environment and their 'quality of life'. This is leading property developers and corporates around the region to aggressively improve and market their green credentials to the point where building certifications will soon be the new 'normal' for prime properties.

These threats of mass urbanization and resource constraints are leading Asia into progressive environmental policy. The pressure is forcing policy makers to view sustainability as a vehicle for growth rather than a hurdle, encouraging them to leverage proven economic models, such as caps with trading options, to integrate sustainability into the fundamental underpinnings of the region. The examples of these initiatives are many. Australia has introduced a carbon tax and property disclosure requirements; China's 12th Five-Year Plan is centered around clean tech industries and carbon trading; and Singapore is mandating green buildings - to name just a few.

As increasing resource constraints and recent legislative policies accelerate the shift to greener buildings, and the rate of urbanization multiplies adoption into an historic scale, we expect the next few years will demonstrate the region's emerging role as the leader in environmentally sustainable business practice in real estate. As a committed partner to this shift, Jones Lang LaSalle will continue to advise our clients and the community through channels like this publication on how they can align these trends with their own business strategies

China's Five-Year Plan: Banking on Sustainability as a Growth Engine

Since 1951, the Chinese government has issued a Five-Year Plan (FYP) as a strategic guideline for economic and social policy in the upcoming half-decade. Though not officially mandatory, FYPs have always been closely adhered to in shaping subsequent legally-binding policy, and they can be reliably treated as a blueprint for future planning in China.

Priorities have changed dramatically as China's economic structure has evolved into a more market-driven 'state capitalism' model, and the two most recent FYPs in 2006 and 2011 have embraced sustainability. While this is significant in itself for one of the world's two largest carbon emitters (the other being the United States), the most recent plan is notable for not only the 'what' of its green goals but for the 'why'. Sustainability is being viewed not as just an environmental necessity but as one of the most viable paths to business growth and job creation in the world's largest nation – soon to have the world's largest economy.

This analysis explores the major sustainability goals of the 12th FYP, the Chinese government's incentives to meet those objectives, and the impact on real estate and industry, including greentech, in China and beyond. We also take a look at Australia, another Pacific Rim country entering 2012 with some of the world's most aggressive new green legislation.

Green means 'Go' in China

For over 60 years the FYP has been China's largest policy-making event, generating the country's social and economic road map for the next five years. It covers a wide range of social and economic issues including growth, industrial policy, healthcare, environmental issues and energy. It dictates 'end goals', and primarily relies on regional and local stakeholder groups to achieve them. The one constant over the years is that state and local officials who contribute to achieving the FYP priorities are rewarded with recognition and political advancement, so this makes achieving them a very high priority.

The 2006 FYP ushered in China's first important strides toward transparent sustainable measurement and reporting. For the first time, the nation not only reported on but set aggressive **greentech targets** to reduce:

- Energy use per unit of GDP
- Water use per unit of value-added industrial output
- Sulfur dioxide emissions

From 2006-2010 China exceeded all of those targets except one, achieving 19.1 of a mandated 20 percent reduction in the energy/GDP goal.

The 12th FYP, rolled out in 2011, established new metrics for continued improvement in all of these areas, but also added **specific goals** for:

- Reduction of carbon emissions per unit of GDP of 17 percent by 2015 over the 2010 level
- Increased share of non-fossil fuel in primary energy consumption
- Reduction of nitrogen from ammonia and nitrogen oxides

2016 green targets in China's current FYP (based on 2010 levels)

- Reduction in energy use per unit of GDP: 16%
- Reduction of carbon emissions per unit of GDP: 17%
- Reduction of water use per unit of value-added industrial output: 30%
- Reduction of chemical oxygen demand: 8%
- Reduction of sulfur dioxide: 8%
- Share of non-fossil fuel in primary energy consumption: 11.4%
- Reduction of nitrogen from ammonia and nitrogen oxides: 10%
- 'Strategic Emerging Industries' as percentage of overall GDP: 8%
- Annual energy consumption: 4 billion TCE (Tons Coal equivalent)

Also included as non-mandatory targets are 8 percent GDP growth for 'Strategic Emerging Industries' (such as cleantech) and annual energy consumption of 4 billion ton of coal equivalent.

Perhaps the most sweeping of the new mandates in the 12th FYP is the carbon reduction requirement. China's planning agency, the National Development and Reform Commission, has informed seven provinces and cities that they need to set emissions caps to prepare for sustainability measures such as a carbon trading program. Guangdong province, China's main manufacturing hub and largest emitter, has already received approval for its own plan, which exceeds FYP requirements by cutting carbon intensity by 19 percent and increasing non-fossil fuels to 20 percent of its primary energy mix by 2015.

Sustainability equals growth in the new China

There are **three key themes** running through China's most recent FYP:

1. Economic restructuring:

- Promote a GDP growth rate target of 7 percent
- Move from investment and export-led growth toward domestic consumption
- Promote the service industry
- Consolidate specific sectors
- Support China's 'Strategic Emerging Industries'

2. Social equality:

- Close the urban/rural divide and promote urbanization
- Support regional development in western and central China
- Close the income gap with higher minimum wages

3. Energy and environment:

- Create more mandatory 'green' targets
- Promote industries for energy savings and clean energy
- Set green development indicators to hold local officials accountable
- Expand renewable energy such as hydro, solar, wind and nuclear

China's Premier Wen Jiabao said in 2011: ***“We can no longer sacrifice the environment for the sake of rapid development and rash construction.”*** In reality, however, the drivers behind the FYP's embrace of sustainability reach far deeper than altruism. China needs to create a whopping 25 million new jobs each year to maintain its growth level within its 1.34 billion population. The nation's leadership clearly believes that sustainability and greentech industries are among the most opportunistic routes to that economic success.

Unlike in some nations, recent years have proven that China's sustainable goals are not just 'greenwashing' ideals that are ultimately ignored. During the recent recession, the Chinese government pumped a massive infusion of cash into state-owned industries, creating a surge in manufacturing production. By late 2009 leaders realized that this boost threatened the green goals of the current FYP. In 2010 they ordered regional authorities to get sustainability numbers back on track, enabling local leaders with 'Iron Fist' authority, such as ordering 'brownouts' of heavy industrial districts. Many factories were forced to close until the power was turned back on. This dramatic gesture demonstrated that in the world's highest producing nation, green growth now trumps unbridled consumption for future economic strength.

Aggressive green goals

China plans to ramp up power generation capacity from its 950 GW 2010 level to 1,350 GW by 2015. In doing so, the FYP calls for a renewable energy increase during that period from 26.4 to 33 percent of the overall electrical power mix. By comparison, 14.3% of overall power supply in the U.S., the world's other major consumer, came from renewables during the first six months of 2011.

Targets for 2015 among China's three largest renewable electric power sources include:

- **Hydro** (75% of the present renewable mix):
57% increase in installed capacity from 2010 levels, from 211 to 331 GW
- **Wind** (23% of the present renewable mix):
200% increase in installed capacity from 2010, from 35 to 105 GW
Offshore installations are planned for 15 GW of the new capacity
- **Solar** (1% of the present renewable mix):
733% increase in installed capacity from 2010, from 0.6 to 5 GW capacity

Water has been similarly targeted for sustainable improvement. The current FYP calls for reducing economic loss from flood by 0.7 percent of GDP; improving management of water supply and waste water; and controlling phosphorus, nitrogen, heavy metals and ammonia nitrogen pollution.

Specific water targets include:

- **Water supply:**
60% water intensity reduction by 2020, and 30% consumption reduction in industry.
Also, 40 billion cubic meters addition to urban water supply capacity, & 70% improvement of large irrigation districts
- **Waste water:**
Nearly 50% more standards by 2015, incl. more urban wastewater treatment plants & rural small-scale treatment systems

The current FYP also includes aggressive targets for green building such as:

- **New buildings:** A 65 percent reduction in energy consumption compared to 1980 building stock, an increase in the number of buildings that qualify for China's 3-Star sustainability rating, and a housing industrialization program
- **Retrofits:** Secondary energy audits for large urban public buildings, and continuation of national energy efficiency programs

While China's FYP mandates exponential growth for most renewable energies, it is also slowly putting the brakes on fossil fuel sources.

The plan calls for differences from 2010 to 2015 including:

- 30% reduction in total oil consumption and carbon intensity from new vehicles
- 15% emissions reduction and 30% lower energy use for passenger operators such as buses and taxis
- 20% emissions reduction and 12% lower energy use for freight operators such as trucks and barges

Coal, the backbone of China's energy supply (at 47% of the world's total consumption), is not going away anytime soon. Although its share of the energy mix is mandated to reduce from 70 to 63 percent, consumption is projected to grow by 18 percent, from 3.2 to 3.8 billion tons. Much of this demand will be met by new generation 'clean coal' plants replacing older ones. The government is expected to increase capacity for other conventional energy forms such as oil and

natural gas, and nuclear as well. Nuclear alone is forecast to increase from 11 GW production capacity in 2010 to 50 GW by 2015, with the help of a \$75 million investment from the United States.

“What I love about China is that it's transparent... you don't have to guess. You just say, 'What's the next Five-Year Plan? Okay, here's our company strategy... here's where we're going.’” - General Electric CEO Jeffrey Immelt, speaking at the 2010 Shanghai World Expo

Green pastures for cleantech players

All of this means a huge playing field of opportunity for greentech manufacturers, energy suppliers and investors. Though many of the ‘how tos’ of the current FYP are being worked out, the Chinese government has used a ‘carrot and stick’ approach in recent years to help achieve its sustainability mandates. It is easier to apply for loans and purchase land for an industrial development that will run on renewable energy. And thanks to government tax credits and other incentives, prices are competitive with – sometimes even lower than – rates for power from conventional sources. As a result, mandates to meet FYP goals through required use of renewable energy seem less onerous because the price is frequently more attractive.

For those wishing to make the most of China's sustainability drive, opportunities abound for greentech companies that supply components and technological expertise for renewable energies, as well as lower-carbon fossil fuel solutions such as clean coal. Among those cited in the FYP as ‘**Strategic Emerging Industries**’ are:

- Energy saving equipment, energy service companies and recycling providers
- Renewable energies, nuclear and clean coal
- Hybrid and electric vehicles and advanced batteries
- LED lighting and green building materials
- High-speed railway equipment
- Smart grid and smart metering

Understand, though, that the Chinese themselves have given a green light to domestic renewable energy initiatives such as solar plants and cell manufacturers, as well as wind farms and windmills over the past few years, as much of the rest of the world was backing away due to the recession. By the end of this year, while China is expected to be the world's largest consumer of both wind and solar energy, it is also the largest producer of windmills and solar cells. Other nations entering the Chinese market may find it tough to establish a foothold, since they will be jumping on an already-rolling bandwagon.

Foreign companies establishing plants or offices in China will have to be as sustainable as their domestic Chinese counterparts. Offshore organizations that don't align their operations with the FYP can expect hostile local authorities, expensive and possibly scarce energy resources, and competition that will crowd them out by toeing the government's line.

Breaching China's great green wall: what foreign companies can expect

Whether you're already manufacturing or marketing in China, or preparing to venture into the nation for the first time, here's what you will encounter as a result of the 12th FYP:

- China is probably the world's greatest market for greentech products, technology and services. By the end of this year, the Chinese will be the largest consumers of wind and solar energy. Among fossil fuels, clean coal will be in demand.

- Competition for this market will be intense from the Chinese themselves, who ramped up their cleantech capability as many other nations held back during the recession. China is the largest producer of windmills and solar cells, and foreign competitors for these and many other cleantech products will find it challenging to beat their price points. Some of the best opportunities for overseas firms may be in transfers of sophisticated green technologies, or specialized expertise in areas the Chinese will need, such as offshore wind farms and utility-scale solar.
- When trying to align a China strategy for real estate with the prevailing national trends, the FYP should be the primary source for setting strategy at the highest level. Narrowing that strategy down into a portfolio or asset level or generating specific, actionable tactics can be much more difficult without clear visibility of the intricate and unique rollouts of the FYP at the ministerial, provincial, and even district level. Investors and occupiers aligning with the FYP can mitigate the risk of missed government incentive by establishing public-private partnerships with local government ministries. With support from professionals who have proven on the ground track record of working with local governments and capturing national subsidies, creating such partnerships and necessary visibility can ensure the FYP is a tool for increasing competitive advantage rather than a bureaucratic obstacle.
- Foreign companies opening manufacturing or other operations in China will likely find environmental standards for emissions tougher than those in most other locations. And there is rarely much 'wobble room': companies must comply or face stiff penalties, even potential cutbacks in power supply. The good news is that China is ahead of the curve on bringing down the cost of renewable energy and, with support from government initiatives, clean power should be competitively priced in coming years. There should be some carbon-trading opportunities as well.
- For new industrial plants and other foreign-driven developments in China, the greener the better as far as applying for loans, purchasing land, even getting basic cooperation from regional and local authorities. A plan for a sustainable facility running on clean energy will likely pass through Chinese bureaucracy much quicker than one that is not.

Not easily replicable, but not to be ignored

China's 12th FYP is 'game on' for most A-list global sustainability initiatives including carbon taxation; improved building standards and requirements; mandates for energy efficiency; several government incentives for solar, wind and geothermal power; and better access to grid connectivity. Why doesn't the rest of the world just fall in line?

For one thing, democracy, and the dissent inevitably accompanying it, creates an obstacle for Western powers such as the US and Europe. As New York Times columnist Thomas Friedman notes in his book, *Hot, Flat and Crowded*, an important advantage is "the ability of China's current generation of leaders – if they want – to cut through all their legacy industries, all the pleading special interests, all the bureaucratic obstacles, all the worries of a voter backlash, and simply order top-down the sweeping changes in prices, regulations, standards, education, and infrastructure that reflect China's long-term strategic national interests – changes that would normally take Western democracies years or decades to debate and implement." Add to that leverage the fact that the Chinese government controls its national flow of capital more directly than any other major power in the world, and the nation's fairly short history of capitalism makes it less tradition-bound and more nimble than its Western counterparts.

It is true that most of the world's economic leaders cannot mandate broad sustainable gains with the unequivocal alacrity of the Chinese. That doesn't mean that the nation and its mandates shouldn't be held up as a model for linking sustainability to economic growth, a major goal of virtually all industrialized nations. At the very least, China should be closely watched as a laboratory to see how well a green economic machine can work.

Australia's aggressive new green mandates

China isn't the only Pacific Rim nation with a government bullish on sustainability. Australia enters 2012 with tough new green mandates of its own. Among them, beginning in July 2012, is a carbon tax of \$23 (Australian) per metric ton on about 500 companies accounting for about 60 percent of the nation's greenhouse gas emissions. Most of the companies subject to the tax are producers of non-renewable fuels such as coal, oil and natural gas; power companies that rely heavily on fossil sources; and members of industries emitting high carbon levels in production such as steel, cement and aluminum. Few commercial properties such as office buildings, which account for only about 10 percent of Australia's carbon emissions, should be directly subject to the tax.

While 'the jury is still out' on the full impact of the carbon tax on commercial portfolios, here are some **likely scenarios**:

- Cost of building supplies such as cement and steel could rise 2-5 percent at the source, but expected government assistance to polluters in their efforts to become more sustainable should reduce that impact to an actual price increase of about 0.5 percent, or less, for new construction and renovations.
- After a decline in real expense for the past 50 years, Australian electricity costs will rise for most commercial users as energy companies invest in green production technologies. For example, in 2011 electricity generated from wind farms cost approximately \$100-125 per megawatt-hour (MWh), compared to existing coal-fired generation at approximately \$30-40 per MWh. This disparity will decline steadily with increases in renewable production efficiencies and potential government subsidy increases, but expect to see higher electricity costs in the near term.
- As with all cost increases, investors and landlords that provide some or all of utilities in their leases will have to determine whether to absorb them or, most likely, pass them on to tenants. Tenants paying their own utility costs will have increased motivation to seek energy-efficient buildings where their expenses will be lower.

Another measure that will directly impact office stakeholders will be Australia's Commercial Building Disclosure (CBD) program, which went into full effect at the end of 2011. CBD requires the disclosure of a Building Energy Efficiency Certificate (BEEC) during the sale, lease or sub-lease of commercial office space greater than 2,000 square meters.

The BEEC must include:

- A NABERS Energy rating, Australia's efficiency measurement that awards buildings between 0 and 6 stars in half star increments
- A tenancy lighting assessment that provides a nominal lighting power density measurement in watts per square meter, and grades the result on a scale of excellent to poor
- General energy efficiency guidance not specific to the disclosure affected area

The NABERS rating system – comparable to ENERGY STAR in the US – has already been implemented in many Australian office buildings. The new requirement will not only make it mandatory, but will strengthen the role of sustainability in commercial property transactions. Potential buyers and lessees can now determine at a glance how buildings compare in energy efficiency. Though owners are not required to reach a particular NABERS level, highly-rated buildings already use their achievement as a marketing tool, while those that disregard it, do so at their peril. At this early stage, CBD seems to be affecting leasing more than sales transactions, but as NABERS triggers full energy efficiency transparency in buildings, it is expected to be a larger consideration in all office deals.

CBD will complement Australia's Green Star measurement system for new buildings (comparable to LEED in the U.S.), but is forecast to have an even greater impact since only about 2 percent of the nation's building stock is replaced each year. Like China, Australian businesses and investors have, for the most part, supported the majority of the nation's sustainable measures to position Australia among the leaders on many global green indexes.

LEED's International Impact: An Insider's View

Jennivine Kwan joined USGBC in 2010 as Vice President of International Operations. She previously held regional responsibilities in energy and green solutions for Johnson Controls, working in China and Chile.

The US Green Building Council's (USGBC) LEED program is the world's most widely followed green building rating system, as owners, developers and tenants in more than 30 countries have sought and received LEED certification; however, it is not the only system. Countries around the world have their own rating systems designed to address their national priorities, and owners seeking green building certification must decide whether to pursue the national system, LEED or both. Those that choose LEED may face special challenges in interpreting and applying the system.

The USGBC is the first to recognize the need for guidance to practitioners outside the US, and has a dedicated International Operations Division not only to work with its own members and LEED Accredited Professionals (AP) throughout the world, but also to provide cooperative support for non-affiliated green building organizations at national and regional levels.

Global Sustainability Perspective recently asked USGBC Vice President of International Operations Jennivine Kwan to share her insights on LEED's relationship to other certification initiatives throughout the world, and how different organizations can work together toward common green building goals. Here are some excerpts from our conversation:

Q. How would you characterize USGBC and LEED's accord with other green building groups and systems in different parts of the world?

A. We definitely see our relationship as symbiotic, not competitive. All the groups coexist toward the same end result of increasing green building initiatives, regardless of the impetus. Our own goal is to enable LEED to be a catalyst for sustainability however it can best be utilized in any particular location throughout the world. If that's determined to be LEED certification, fine, but if LEED can be used as a benchmark or facilitator for another group's effort, that's just as valuable as far as we're concerned.

For example, the measurement tool preferred by China's government is its Three Star System, with One Star and Two Star versions geared to regional and local markets. We support that system in any way we can, because it encourages the entire green building industry to grow in China. From my perspective of working in China for several years, I think that LEED's international reputation as an effective tool helped the China Green Building Council in developing its own preferred system. And it's notable that over 300 Chinese buildings have received or applied for LEED certification, which demonstrates how LEED and USGBC can contribute to and learn from sister initiatives throughout the world.

Q. USGBC has some chapters in other countries, but it seems to be somewhat limited, even though LEED is internationally recognized. Is this your preferred approach, and why?

A. Our international strategy is not really to develop as many chapters as possible. It is to make LEED the common language of green building; to provide a sense of unity, community and a common way to talk about the same thing. We know that there are different regional characteristics and issues, and we try to make LEED adaptable for use itself, or as a benchmark for a nation's own system.

By the same token, our overall strategy behind forming international USGBC chapters is that we want to support the local green leaders as effectively as we can, while making the best use of our resources. We take a case-by-case approach. If the local interest is high but the organization level is not, then a new chapter might be in order. If the area already has a strong green building network, it makes more sense to support their efforts than to devote our time and resources toward forming a chapter that, instead of helping the overall effort, may even be

seen as divisive by the local leaders. Most often, the most productive path for us seems to be supporting the local infrastructure with LEED and other assistance we can provide.

Q. Is there confusion internationally about the difference between USGBC, the World Green Building Council (WGBC) and other worldwide councils and green building organizations?

A. You bet. And the confusion extends beyond USGBC to LEED itself. A surprising number of outsiders think that both LEED and the USGBC are run by the US government, and as such are biased toward “American” interests. Needless to say, one of most important tasks is to remove that type of misconception, and convince them that we are totally transparent in partnering toward whatever best serves their sustainable goals.

And yes, we do get confused with WGBC. As the name infers, WGBC is an umbrella organization for green building councils at national, regional and local levels throughout the world. USGBC did have an important development role as one of the eight national councils that launched WGBC in 1999, and we’re gratified that with the support of WGBC, green building councils are on the ground partnering with industry and government in more than 80 countries. I think that as the market matures, so will the understanding of distinctions among LEED, USGBC, WGBC and other green building councils.

Q. How do LEED practitioners share ideas in countries where LEED is not the primary system?

A. Until a couple of years ago, even though we had LEED chapter members and APs in many countries, the personal motivation and sense of urgency to bond together to share information wasn’t always there. The situation has changed a lot in recent years. Sustainability has proven to be more than a fad, and it is becoming government mandated in many places. Though some markets are more mature than others, there’s a hunger for green building information at some level almost everywhere in the developed world.

LEED interest has always been very much a grassroots movement. It’s a voluntary system and its practitioners are in it for their passion for sustainable living. Increasingly, I’m seeing LEED APs getting together informally with non-LEED people with green interests as professional colleagues, or just groups of friends with a shared environmental commitment. They talk about LEED and other green facilitators, sharing ideas and experiences and discussing how sustainable building can best move forward in their part of the world. It really mirrors the scenario in the US that led to the USGBC and LEED, and it’s very satisfying to see that initial enthusiasm rekindled in so many new places.

Q. Many LEED credits are based on standards set by other organizations, such as the American Society of Heating, Refrigeration, and Air-Conditioning Engineers (ASHRAE), which may not be the applicable standards in every country. How adaptable is your system in allowing standards other than ASHRAE to be used in LEED certifications?

A. That’s a complex issue that USGBC is discussing right now. We really want to make LEED as flexible as possible, and one way we’re doing that is by establishing alternative paths for LEED pursuits outside the US. The challenge is to achieve this without either raising or lowering the measurement bar, because LEED’s utility is based on its consistency everywhere it is used. We look at the outcome and what we want the building to do in the end through LEED certification, rather than try to micromanage the steps in getting there. For some of the LEED credits, it’s a simple matter of a change in the credit language that enables people to use something that is an apples-to-apples equivalent.

With ASHRAE, that might not be so easy. LEED is not a standard itself, but a measurement tool that relies on other standards USGBC has chosen as benchmarks for sustainable building excellence. ASHRAE is a great

standard that predates the development of LEED. A lot of work went into creating the ASHRAE standards, and we don't need to re-create it. If people want to use another standard for measurements covered by ASHRAE like the energy credits, we have to make sure that it is fully compatible with the ASHRAE standard requirements; otherwise LEED loses its validity as a measurement tool. That's not saying that other standards might not be as demanding as ASHRAE, some may indeed be more stringent. LEED is neither the easiest nor the toughest measurement system around. What is critical is that any other international standard used must really align with the LEED standard it is replacing for our tool to remain consistent.

Q. Are LEED materials available in multiple languages?

A. Currently much of our information is available in English, Spanish, Chinese, Portuguese, French and Italian versions. These cover a large percentage of the world's population, especially where there is green building going on. We'll certainly consider other languages as the demand occurs.

Q. Our LEED APs in countries with other systems sometimes run into difficulty getting construction and design professionals to guarantee compliance with LEED criteria. The same issues arose in the US at first when LEED was not well-known. Overall, how has the international reception toward LEED compared to that of the US?

A. The initial reception is almost the same. When people in both the US and other nations are getting acquainted with LEED, there are some enthusiastic supporters and, quite frankly, a larger number of skeptics. There are always those who say that it just can't be done in their organization; that the necessary green products and technologies cost too much, or are not adequate for their operational needs; that they'll be over budget and in trouble with their executive leadership; that they don't have time to spend learning and fulfilling LEED requirements.

USGBC faced the same hurdles when they introduced LEED into the US in 1999 because people were doubtful of the unknown. Now we have a strong American track record, and we can demonstrate as proof that LEED certification can be achieved by almost anyone if they make the commitment, and it's not a budget breaker. It's the same story elsewhere in the world as green building emerges. We try to communicate with and educate people to help them make the right decisions upfront for the green building process. If they do, it is possible, for little extra effort and often no extra expense, to create a green building that will save money in reduced energy costs, and be a marketing tool in satisfying tenants or employees.

What we need in every new region is that first success story. I worked in Chile for a company that originally stonewalled green building, except for one charismatic leader who kept championing a LEED pursuit for a new facility until it became a reality. This company has since become one of the biggest leaders of sustainable building in that region and a leader of the emerging Chile Green Building Council.

Q. What's ahead internationally for USGBC and LEED?

A. Our tangible goals include a greater outreach toward our existing USGBC members and LEED APs throughout the world. We want to bridge any gaps, assure our international stakeholders that they are valued, and set up channels such as a forum for their insights and questions to make sure this happens. On the technical side, we're working on making LEED more user-friendly for people of all nations. And since China is surging in LEED interest and applications, we are hiring someone who will focus specifically on our member and AP base in that nation. We also want to integrate the entire life cycle of a building more fully into our process, so LEED more automatically becomes the first step of an ongoing sustainability effort where it is used.

Beyond outreach, we are trying to become more international ourselves by learning from our colleagues in other nations, and trying to create a more international voice for everything we do. We want to effectively connect with green building advocates everywhere so they can understand the thought and complexity that goes into developing the LEED system. We want to help them understand that LEED is not a tool to push American interests, but a system developed by volunteers who care very deeply about sustainability. We hope to augment our world-class tool with insights from those with an international point of view to make LEED as valuable as possible for everyone in the green building community, all around the world.

Legislative Update

USA

U.S. Federal level

In December 2011, the U.S. government announced \$2 billion in energy retrofit subsidies along with pledges by private-sector firms to engage in energy efficiency capital projects totaling an additional \$2 billion over the next eight years. In January 2012 the U.S. federal government announced an additional \$5 billion in clean-energy manufacturing tax credits as part of a broader manufacturing tax break plan.

The U.S. Congress passed a Department of Defense (DoD) Reauthorization bill banning the use of funds to pursue Gold or Platinum LEED certification in DoD buildings in the fiscal year 2012, except in cases where the DoD seeks a waiver from Congress.

State of California

In January 2012, California instituted a Mandatory Commercial Recycling program to reduce greenhouse gas emissions by diverting commercial solid waste from landfills, a program considered necessary because commercial enterprises generate nearly three-quarters of all solid waste in landfills, much of it easily recyclable. Under the law, that goes into effect on 1 July 2012, public and private-sector entities that generate more than 4 cubic yards of solid waste per week must engage in recycling, either by separating waste at the source or by retaining services to collect, haul and process mixed waste. Apartment buildings with five or more units are also subject to the law, and owners of leased property can require tenants to separate waste. The law also requires local governments to develop compliant programs.

The California Air Resources Board has approved an Advanced Clean Car program requiring 15 percent of new cars sold each year - an estimated 1.4 million vehicles - to run on batteries, hydrogen fuel cells or plug-in hybrid technology by 2025, with 70,000 zero-emission vehicles targeted by 2018. The measure is expected to halve current greenhouse gas emissions by 2025. Although the program has no stated requirements for commercial real estate, implementation will create demand for a large number of vehicle-charging stations at buildings over the next several years.

State of Maine

Maine, a U.S. state with a population of 1.3 million and about 3,000 building permits in 2010, has become the first U.S. state to ban the application of LEED in developing and renovating state government buildings, overturning a nine-year-old requirement of LEED compliance. The change came by Executive Order of the Governor of Maine at the request of state timber interests, who are concerned that Maine's extensive timber supply is not Forest Stewardship Council certified and would not therefore be favored in state construction projects.

Washington, DC

A requirement passed in 2006, that all new commercial buildings of 50,000 sq ft or more must conform to LEED certification guidelines, took effect in January 2012.

USA / Canada

The U.S. and Canadian governments have signed a five-year agreement to set a common system for benchmarking energy performance in institutional and commercial buildings, based on the U.S. Environmental Protection Agency's ENERGY STAR system. Running from 1 October 2011 to 30 March 2016, the agreement enhances ENERGY STAR Portfolio Manager software to include Canadian reference data such as weather, energy and emissions factors, and metric units. The tool will be available in English and French Canadian.

Canada

Canada remains a laggard in terms of environmental legislation and its full support of the oil industry's exploitation of the oil sands, known to be the second largest pool of carbon on the planet, continues to cause controversy.

So far the only federal environmental initiative is the implementation of the Federal Sustainable Development Strategy 2010-2013 which, as of 1 April 2012, requires that new construction and build-to-lease projects and major renovation schemes will have to achieve an industry-recognized level of high environmental performance. Such recognition will require a level of 'Silver' for LEED New Construction certifications or '3 Globes' if the Green Globes Design rating system is used.

As of 1 April 2012, existing Crown buildings over 1,000 sq m will also need to be assessed for environmental performance using an industry-recognized assessment tool such as BOMA BEST (Green Globes Existing Buildings).

Provincial green building policies, such as those of Manitoba and New Brunswick, also call for LEED (Silver) or Green Globes Design (3 Globes) certification for new buildings.

United Kingdom

In November, the Localism Bill received Royal Assent to become the Localism Act 2011 bringing changes to planning regulations. Its aim is to draw power away from central government to local communities, and to give local authorities new freedoms and flexibility. Some parts of the Act are for immediate implementation, but the majority of measures will come into effect in April 2012, including the National Planning Policy Framework (NPPF). From a sustainability perspective, the key development to watch out for will be the NPPF which includes a presumption in favour of sustainable development. The consultation on the proposed NPPF is now closed and the government's response is awaited.

Further details are available here:

<http://www.legislation.gov.uk/ukpga/2011/20/contents/enacted>

In Scotland, the government has just closed a consultation on measures to improve the energy performance of existing non-domestic buildings which, if brought into force through section 63 of the Scottish Climate Change Act 2009 (as currently suggested in October 2012), could have significant implications for Scottish real estate. The measures proposed include:

- Any building over 1,000 sq m would need to (a) provide for the assessment of their energy performance and greenhouse gas emissions (via an EPC rating process), (b) take steps to improve the energy performance and carbon emissions according to a specific improvement plan, to be implemented in a period limited to 3.5 years. It is

proposed that this floor area threshold would then be reduced to 500 sq m and then 250 sq m over time – although a timescale is not specified.

- The measures outlined above would be required at the point of sale, grant of lease or lease renewal.
- It is worth noting that buildings participating in the 'Green Deal' (a finance method of energy efficiency improvements) of commercial real estate by third party organisations to recuperate investments from occupiers through service charge contracts) from Autumn 2012, as part of the UK Energy Act 2011, would be exempt from the above requirements.

Full consultation documents are available here:

<http://www.scotland.gov.uk/Topics/Built-Environment/Building/Building-standards/publications/pubconsult>

The Renewable Heat Incentive opened to applications on 28 November 2011 and will provide applicants with quarterly payments for heat generated over 20 years. The first phase targets the non-domestic sector, in particular industrial, business and public sector users, which together are responsible for 38% of the UK's carbon emissions. Phase 2 (timetable currently unknown) will include scope for more technologies and support for households.

Further information and tariffs are available here:

http://www.decc.gov.uk/en/content/cms/meeting_energy/renewable_ener/incentive/incentive.aspx

Following speculation in the previous edition of the Global Sustainability Perspective about whether the UK government would put into practice its Carbon Plan, this was formally launched during December and included an updated timeline of actions and milestones for the next five years. While the government has not committed to extending Display Energy Certificates (DECs) to commercial buildings by October 2012, it does set out a number of goals which include:

- To encourage voluntary uptake of DECs by the commercial sector by March 2013
- Develop policies to enable application of the 'Green Deal' to the commercial sector
- Consult on planned revisions to Part L 2013 Building Regulations and improve the content
- Support the 'Green Deal' through format and quality of Energy Performance Certificates (EPCs)
- Begin roll-out of smart meters across the UK

The full plan is available here: <http://www.decc.gov.uk/assets/decc/11/tackling-climate-change/carbon-plan/3750-carbon-plan-annex-c-dec-2011.pdf>

France

The French 'Grenelle' package of environmental laws, voted in 2009 and 2010, continues to generate decrees that define, in more detail, a series of requirements impacting the real estate industry. Two of the more noteworthy decrees deal with energy performance in buildings for new constructions and introduce the obligation to add an environmental annex to commercial lease agreements.

The decree on energy efficiency ('Réglementation Thermique 2012') came into force on 28 October 2011 and covers office and retail buildings. It introduces an average energy consumption level that should not exceed 50kWh/sq.m/year. This performance requirement will be adjusted for buildings in specific geographical areas with different heating and cooling requirements, and could therefore oscillate between 50 – 80 kWh/sq.m/year. Compared to the previous regulation (in force since 2006), this new level corresponds to an extremely ambitious reduction of 50% of building energy consumption.

The Environmental Annex obligation concerns newly leased office or retail premises over 2,000 sq m and came into force on 1 January 2012. It requires contracting parties for new leases to add an annex containing a mutual agreement

to exchange environmental performance data about the building, with a focus on energy consumption. The intention is to formalise communications between landlords and tenants so that environmental performance can be established for the whole building. It also allows for the mutual definition of performance improvement agreements over the lease term.

Australia

On 1 July 2012 the federal government will introduce into Australia a price on carbon. The starting price will be A\$23 per tonne of CO₂-e emitted and will directly affect around 500 of Australia's highest polluters. The direct impacts on the property industry will be minimal as construction material costs will be heavily compensated and the relative proportion of building outgoings attributable to energy consumption is low. However, as the price on carbon filters through the supply chain, there will be subtle impacts on operations and construction. This provides an opportunity to review the return on investment of energy efficiency improvement programs and any additional cost burden may shorten the payback periods of some projects. Parties should also be reviewing lease structures, as gross leases will result in landlords bearing any flow-through costs of the carbon price, whereas in a net lease arrangement those costs are more likely to be picked up by the tenant.

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