

VOL.3

SUSTAINABLE ARCHITECTURE

Energy-Efficient & Environmental Friendly
— New Tendency of Current Buildings

MEDICAL + PUBLIC + RESIDENTIAL

可持续建筑（下）

节能环保——现时建筑新方向

医疗+公共+住宅

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It's evident midway into the second decade of the 21st-century that climate change is a global phenomenon and that the design sector has a moral obligation to address its myriad consequences. There are many tools available to the architecture profession to implement sustainable design solutions. It's more a matter of choosing the right ones.

Where sustainable design is truly succeeding is not in the use of complex technologies, but in the use of passive, natural and low-tech approaches to healthy environments. Many of these measures are low cost as well: well insulated thermal envelopes to reduce energy consumption; natural ventilation to reduce fan energy; daylight harvesting to reduce electrical consumption; integration of natural and recycled materials; and the use of green roofs to reduce storm water impacts, extend natural habitat and reduce the heat island effect. These are all strategies, rather than technologies, which use natural systems to create greener, more sustainable environments.

As you will read in this edition of Sustainable & Green Building Design, there is a renewed sense of collaboration among architects, clients and consultants to achieve exemplary performance. After all, it's in everyone's best interest. Two projects from Diamond Schmitt Architects demonstrate this. The new Peter Gilgan Centre for Research & Learning at The Hospital for Sick Children in Toronto is the largest paediatric research tower in the world. Laboratories are not typically associated with energy conservation. By taking an integrated design and a 'whole-building' approach, significant savings were realized in energy and water consumption, in sourcing local materials, landfill diversion and improved indoor air quality.

The New Mexico Highlands University Student Union building employs one of the first

motorized sun tracking louver systems in North America - a direct response to the climate conditions of southwestern USA. Geothermal energy sourcing, high insulation values of roof and wall assemblies, high efficiency lighting, water harvesting and renewable wood sourcing round out this highly sustainable facility.

The big opportunities in the next years are to pull net carbon zero and net energy zero design more into the mainstream of architectural design. LEED Platinum, the highest rating for sustainability in a widely recognized green design rating system, can be achieved using conventional mechanical systems and conventional building budgets. We've done it. The key is intelligent design and collaboration with specialists. Making the investment in design, while setting the highest green standard can transform the built landscape around the world. It is clearly an important step towards reducing our energy consumption and to mitigate the effects of climate change.



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