INTEGRATED ENVIRONMENTAL SOLUTIONS

< Virtual Environment >

BUILDING IT LEAN, CLEAN, GREEN

Integrated performance analysis for sustainable design

With climate change so high on the global agenda, few of us need persuading about the importance of sustainable building design. But making it happen is another matter.

If sustainable strategies are really going to result in better buildings, issues must be addressed from the earliest concept stage – well before key design decisions are made. Indeed, sustainable strategies should be a critical factor in the decisions that shape the entire design process.

It's an exciting challenge, and right now it probably sounds like a bit of a tall order.

But just imagine a new way of working that's about collaborative thinking, multidisciplinary decision making, creativity and innovation – and of course, great design. Then imagine how powerful it would be if you could assess and evaluate every aspect of your building's performance, from the start, as part of an integrative design process.

THE GOOD NEWS IS THAT IES <VIRTUAL ENVIRONMENT> MAKES ALL THIS POSSIBLE, TODAY.

Our unique suite of integrated building performance analysis tools enables design teams to undertake advanced analysis right from the start. High quality information is available from the earliest stages of design, so that the project team can work effectively to develop creative solutions. The ripple effect of any design changes – from major modifications to fine tuning – can be assessed at the touch of a few buttons.

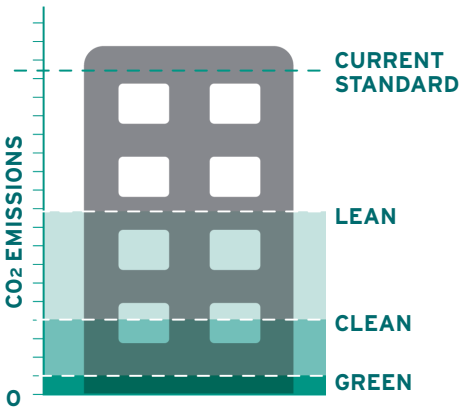
"an integrated design approach is required to ensure that the architectural elements and the engineering systems work effectively together"

IPCC report 'Climate Change 2007'

THE RESULT? More productive, economical and sustainable buildings that cost no more to design and a lot less to run.

The benefits of this approach are not hard to see. Good design becomes affordable design; elements that have a major impact on energy use and carbon emissions can be assessed at an early stage and throughout the design process; the later stages of design are speeded up; and costs can be monitored constantly. We call it the 'Lean, Clean, Green' approach.

- **LEAN:** using good design to make passive and hybrid strategies part of the solution.
- **CLEAN:** applying low carbon technologies.
- **GREEN:** leveraging renewable technologies to a higher degree because the energy requirements of the building are now greatly reduced.



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BUILDING IT LEAN, CLEAN, GREEN WITH IES <VE>

BUILDING PERFORMANCE MODELLING IN CONTEXT

Globally, buildings account for a massive 40% of total greenhouse gas emissions. So it's not surprising that building design and performance are under scrutiny in just about every country in the world.

Pressure groups, public opinion, official guidelines and legislation – we're all driving towards the same goal of zero carbon emissions. Whether it's IPCC reports, AIA, CIBSE and/or ASHRAE standards, the 2030 Challenge, zero carbon targets or LEED/ BREEAM ratings you're aiming for, IES **<Virtual Environment>** will help you rise to the challenge:

- Pick from a range of multidisciplinary and specialist performance analysis tools to suit your commercial and technical needs
- Undertake detailed, integrated performance analysis from the earliest stages of design and throughout the lifecycle of your building
- See how factors like orientation, form, fabric, glazing levels and solar shading impact energy efficiency and carbon
- Maximise the potential of renewable and passive approaches, (like natural ventilation and night-time flushing)
- "What if" the effect of design changes on performance
- Bring in the appropriate level of detail as your design progresses – such as internal airflow, occupant comfort and HVAC systems.

With IES **<Virtual Environment>**, 'green design' is within everyone's reach. And we're extending our product range all the time to make it even easier for you – enhancing the way you work within an integrated project team.

BEYOND BIM

Building Information Modelling is a significant move towards integrated design – but if you really want to strive towards carbon neutral and energy saving, you need to integrate performance analysis right from the start. IES **<Virtual Environment>** does exactly that – ensuring that architectural elements and engineering systems work effectively together from concept stage onwards; optimising the collaborative workflow and putting sustainability right at the center of the discussion. And with our range of links and plug-ins – including our direct link to Google SketchUp™ and Autodesks Revit platform and gbXML import capabilities - it really is achievable to take advantage of everything 3D design tools have to offer and raise the bar towards the true definition of sustainability.

CAN BUILDING PERFORMANCE MODELLING REALLY MAKE SUCH A DIFFERENCE?

Simple answer, yes. The impact of early stage analysis can be extremely high value. If you adopt the traditional approach and leave it until later, you'd be lucky to cut energy consumption by 20/30%. But working holistically from concept stage, you should be able to achieve 50% and beyond!

IES allows you to choose your level of engagement from:

- **VE-Ware** (free energy/carbon analysis tool)
- **VE-Toolkits** (works with Google SketchUp and Autodesk Revit providing daylighting/energy analysis)
- **<Virtual Environment>** (integrated performance analysis) and not to mention superb graphics and outputs.

WHAT TO DO NEXT

To learn more about IES **<Virtual Environment>** integrated building performance modelling software, training and consulting services, you can download copies of our overview brochure and find out more about what we do by visiting our website at **www.iesve.com**. Alternatively, get in touch by phone or email **enquiries@iesve.com**

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