

RIBA Small Practice Conference 18 October 2007

Keynote address, Sunand Prasad, RIBA President

Creating the best conditions for the practice of architecture is the mission of the RIBA, claimed president Sunand Prasad. He explained a raft of initiatives being tackled by the RIBA which should make life for small practices easier.

Addressing the 2007 Guerrilla Tactics conference, Prasad explained that he had difficulty classifying architectural practices by size. "I struggle with the division between small and large practices," he said. "You could talk about new or old practices, or divisions by specialism or location."

Some small practices are transitional - in that they aim to grow bigger - while others are happy to stay permanently small. Claimed Prasad: "I can tell you that a big practice doesn't make you any happier. It just makes you bigger!"

Prasad highlighted the RIBA's "huge collective knowledge bank" which needs to be nurtured and harvested. He urged small practices to make use of the RIBA Information Centre. While currently handling 36,000 calls each year, Prasad encouraged delegates to "phone them more often please." He also added that the Chartered Practice scheme offers free advice.

Addressing the main theme of the day - sustainability - Prasad said that the recent small practice survey highlighted the growing use of sustainability as a marketing tool. "More and more architects are having the confidence to say that they know about sustainability."

The conference was used as the launchpad for the first three of the RIBA's climate change toolkit publications. "Small practices have a major contribution to make regarding climate change," he said. "They reach the clients that other practices can't."

Information about the RIBA's work on climate change can be found at [**www.architecture.com/climatechange**](http://www.architecture.com/climatechange).

Session One: How to make your clients see green

You believe green is the way forward, but how do you convince your clients?

Charlotte Harrison, Mass Architecture and Emma Appleton, client, Hackney City Farm

Creating an educational resource centre at a popular city farm - and using volunteers to build it - was discussed by Mass Architecture's Charlotte Harrison and her client, Emma Appleton.

The 5 acre Hackney City Farm has been operating since 1989 and attracts 50,000 visitors a year. It features an award-winning cafe and runs arts and crafts courses. With broad community support it attracts people from a wide range of backgrounds.

The Education Resource Centre project was conceived as a "self-build" scheme, said Harrison, "as a means to empower the groups that come to the farm". The centre will be used to teach visitors about the environment and the farm's sustainable practices. Added Harrison: "It will also generate revenue for the farm."

There were "manifold" design parameters with the project, she added. Among requirements and aspirations were the use of local skills and professionals. The farm was looking for an architect that had an active interest in sustainability and knowledge of low-impact buildings. "We got to know about the project by being there, as we were regular visitors to the farm."

Harrison explained that the design strategy was to create "a unifying whole" for the various functions of the building. The design incorporates a wide range of sustainable initiatives. Three sides of the building are constructed from straw bales, while the existing farm wall has been retained for the fourth. "It is being used for thermal mass," she said. Every aspect of the building has been conceived from a sustainability perspective. "We had to aim very high. There was no compromise. We are using 100% low impact materials."

Even before Mass Architecture was appointed, the client had high aspirations. They had already investigated the use of local suppliers and reclaimed materials. As architects, part of the role is to "keep an eye on the overall design" and to "guide the client through the building process." This was particularly important as the building was largely being built by volunteers.

Harrison concluded that the choice of unusual materials "give the building a beauty that conventional materials lack."

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Client Appleton spoke about managing the build. “At the beginning all of us at the farm were complete novices, but very enthusiastic,” she recalled. As project manager, she has had to get to grips with such techniques as creating foundations from old car tyres filled with rammed earth. The tyres were sourced locally, from the Hackney Road. “The main challenge was that all the tyres needed to be exactly the same size.”

Other eco-products used on the project include sheep’s wool insulation from the farm. It has been encased in a special stainless steel mesh to prevent moth damage. The building’s timber also came from a range of sustainable source. Seasonal “green wood” was supplied from someone known to the farm. “We knew the guy who had grown the wood and when he was going to chop it down.” Other timber was reclaimed from a boat and a large beam supporting clerestory windows is actually a tropical hardwood. However, it was reclaimed from a sea wall.

The straw walls were “very quick and good fun” to build. They are pinned into place using hazel planks, and a lime render base coat applied which helps to protect the straw from water and rain. “The lime holds the water, while keeping the breathability of the straw,” explained Appleton. As a result of choosing straw “we got beautiful and well-finished walls using volunteers.” However, straw bales do settle and need to be compressed to counter the effects.

The walls are internally finished with clay plaster made from unwanted pots from the farm’s pottery.

Appleton explained that more professionals had been used in delivering the project that had been initially hoped “but apart from that it was all done by ourselves.”

www.hackneycityfarm.co.uk
www.massarchitecture.com

Jon Goodbun, Working Architecture Group

“In every case where we’ve had success in sustainability, it’s where we’ve been able to develop a complex idea of value around the project.” This was the message from Working Architecture Group’s Jon Goodbun.

Speaking about a sustainable housing project on Fenn Street in London’s Homerton, Goodbun explained that the practice was first approached by the client in 2003 to redevelop a small 6m by 6m plot of land. “There was nothing in the brief about sustainability.”

However, “in 2003, sustainability was starting to come to the fore for us as a practice” and in Goodbun’s academic lectures he had started to “run ecological briefs with my students” while simultaneously building sustainability into his practice.

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Goodbun had been introduced to the book *Mastering Architecture* by Leon Van Schaik (ISBN 9780470092422), which encouraged him to reflect upon his own experience and practice.

From the outset it yielded results. “Sustainability did appear to help us in planning.” The house features bedrooms on the ground floor, under which is a basement holding “eco plant”. The upper level houses the main living spaces. “A vertical bamboo garden drops through the house providing light and ventilation.”

In terms of construction, “traditional build was not a possibility because the site is too tight.” The Eurban structural solid timber system has been chosen instead. As a result the house will be carbon negative for the first 50 years of its life, he claimed. The external envelope features a perforated timber wall which becomes increasingly transparent the further up the building you move. “It solves complex overlooking issues.”

www.wag-architecture.co.uk

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Session Two: Retro fit reality

Refurbishment is one of the UK's biggest eco challenges.

Dan Epstein, Phin Manasseh, Steve Epstein

Sustainability and design are completely inseparable, according to Dan Epstein, who since September has been head of sustainable development and regeneration for the Olympic Delivery Authority. He was speaking in the context of the refurbishment of his own house in North London. "Iconic design that isn't sustainable isn't good design." He added: "It's increasingly important for us to work with people who share our values."

The project to create his new home began with an existing terraced house in poor shape. "It was virtually a derelict home." Converting it into a sustainable dwelling, designed by architect Phin Manasseh, was part of a wider view on life. "We cycle to work and recycle and compost and try to source local food," Epstein explained. "You can't just build a green house and that's it."

Manasseh added that the main thing he had learnt from the project was that it was really worth it. "The new technologies which we worked with I am now still using on a whole variety of projects because they work. And we were all wholly involved in the project and working in the same direction."

The project from the builder's perspective was provided by Steve Epstein. "This project introduced me to the idea of sustainable building and still stands up very well today, which is good." He urged architects to bring builders into the design process at detailed design stage. "We can tell you what works and what doesn't and what is going to save you money," he claimed.

He highlighted how a builder can lend their expertise in reducing waste by reusing materials on-site. "The best projects are where we are brought in at an early stage," he added. In Epstein's project, "we kept as much material as we could."

The new-build elements featured an FSC timber structure which was "quite simple but very exacting." It was treated as little as possible to minimise the chemicals used in the project.

Other features included larch cladding, which remained untreated and was, according to Steve Epstein, "lovely to work with, and went up really quickly in two layers." He added: "It looks more beautiful as time goes on."

As a result of his introduction to sustainable building thanks to this particular project, Steve Epstein now runs small building company Eco Build that specialises in building sustainable projects.

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During audience discussion, Dan Epstein described the enormous amount of publicity that this particular project had attracted. “It has illustrated how little is happening in this sector, it’s perverse.” Perhaps this is due to inertia with the housing industry. He concluded: “It takes a little bit more thought to do something really interesting and sustainable.”

www.ecobuild.co.uk

Mark Elton, Associate Director, Energy Conscious Design Architects

Extending his own family home with a sustainable emphasis was the subject of the presentation given by Mark Elton, who works at architectural practice ECD.

Extension of the Twickenham end-of-terraced house “focused on making sure it was done in as green a way as possible.” Among measures that were incorporated were reroofing an existing flat roof rear extension and insulating it, plus changing the plumbing and heating systems.

The aims of the project included use of sustainable materials and also creating a dwelling that “facilitated a greener lifestyle.” Features included sheep’s wool insulation, which has a low embodied energy and is easy to handle and install. “I used as much as I could,” recalled Elton. A 150mm thick layer was installed in the loft. A condensing boiler was also incorporated into the project, and the hot water cylinder swapped for a thermal store. “It gives mains pressure hot water.” A solar panel was also connected to heat the water.

Lighting was changed to LED or compact fluorescent and natural light maximised by introducing a rooflight to a new extension on the side of the house. Using glass balustrades on the main staircase also helped natural light filter through the to heart of the house.

However, Elton remained unconvinced of the performance of LCD lighting. “They are not as great as manufacturers claim,” he said. “But the performance is adequate for stairways and hallways.”

A key consideration for the project was ensuring that the house doesn’t overheat during the summer. The exterior of the building was rendered and painted white and a sedum roof installed “which has a real benefit in terms of cooling”. This planted

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roof also collects storm water and promotes biodiversity. “And it hardly needs maintaining at all,” claimed Elton.

Among a raft of additional sustainable measures included specification of natural wool carpets, reuse of existing bricks where possible and the use of low toxicity materials such as eco paints. Elton has even purchased a low energy kettle. However, the use of expensive materials - such as steel downpipes instead of PVC - has helped make the project more expensive compared to ordinary house extensions. However, Elton predicted that sustainable houses might experience a house price “bounce” which would compensate.

www.ecda.co.uk

Session two debate

Q: How do you work with clients and users so they know how to use the buildings?

A: According to Dan Epstein, “it’s a really big problem on most projects”. He added that the FM team is often not part of the design process, and the client is also not directly involved if there’s a project manager. “You need to sit down with people and take them through the process.”

ECD’s Mark Elton believed that difficulties in using a building are the result of “a problem with the brief and the architect”. He urged: “Make these things as simple as possible, and think it through properly.”

Q: How do you deal with risk issues when looking at more interesting and unusual sustainable initiatives?

A: According to Phineas Manasseh, “there’s not an easy answer with planning”. It is important to try and involve planners as part of the team and listen to their objectives. “The only consistent thing is that they are inconsistent.”

Lloyd-Jones added that when it comes to coping with risk, make sure that everyone understands what the risks are early on in a project. “We draw up a schedule of how pioneering we are going to be and the likely impacts and risks for each different aspect.” This helps to broaden the responsibility for these initiatives. He added:

“Quite often it’s the contractor who baulks because he feels responsible for the building’s performance.”

Everyone needs to take on the risk - client, builder and architect - claimed Steve Epstein.

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Session Three: Big, bold and eco

Innovative environmental thinkers using green construction techniques.

David Lloyd-Jones, Studio E Architects

Converting a picturesque 1930s' "model" farm into a benchmark-setting sustainable headquarters building was described by David Lloyd-Jones of Studio E Architects.

He said that the building was originally built for Ovaltine in 1932, to raise chickens. Completed in 2003, the conversion "has a very extensive renewables contribution" and its performance has been monitored in detail since completion.

Of course, any project of this nature helps if the client is committed to sustainability. In this case, the client's business is the development of wind farm sites, which meant that the building is a showcase of eco-friendly initiatives.

Located in Kings Langley, the Arts and Crafts-inspired complex features a U shaped building where the chickens were originally kept, plus an on-axis coach house. "It had been derelict for some time," Lloyd-Jones recalled. Ownership had passed to the Wellcome Institute prior to its purchase by Renewable Energy Systems as the site for its head office.

The 2,670 sq m offices, exhibition and conference spaces are carbon neutral. "We developed the idea that it should be a net carbon zero building," said Lloyd-Jones. "And that it should be a decent piece of architecture as well."

Fortunately, Studio E was able to transfer a £1m EU grant to the project. "This may have been one of the reasons why we were appointed," he said. In addition, post-occupation monitoring has been funded by the DTi and is ongoing.

A major challenge in the project was to find a way of extending the buildings to provide an additional 50 per cent floor area. Various options were considered before choosing to extend into the U-shaped courtyard and reducing the visual impact through the use of grassed roofs.

Other features include an on-site 225kW wind turbine and an underground crop store, used to hold biomass, which is roofed with a huge solar array. This hybrid array features photovoltaics for electricity generation as well as a thermal array for heating water. The wind turbine - which is secondhand - is not located in a particularly windy area "but payback should be in eight years time". Electricity is exported to the grid when there is an excess.

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A heat store sunk into the ground acts as a seasonal heat store, while the biomass crop is used to heat the building in winter. “The building is more-or-less self-sufficient for heat energy.”

An 80m deep borehole is used for cooling in the summer, added Lloyd-Jones. “The water is then used to irrigate the biomass crop.” Further cooling is provided by a passive system: Deciduous planting which screens exposed elevations during the summer months.

Lloyd-Jones explained that the EU funding covered the hybrid solar array, the ground heat store and space heating.

And the result? A post occupancy survey revealed that most people think the building is an improvement on what they had before, claimed Lloyd-Jones.

www.studioe.co.uk

Catherine Harrington, Architype

A visitor centre in an extremely sensitive location was the subject of the presentation by Catherine Harrington of architect Architype. The Chilterns Gateway Visitor Centre, near Dunstable, opened in January 2007 and was designed with sustainability at its heart. It is managed by the National Trust and owned by local authority Bedfordshire County Council.

Situated near Dunstable in Bedfordshire, the Centre is at a honeypot site popular for kite flying and gliding. Explained Harrington: “The project was developed in a way that consciously protects the surroundings.” Architype worked alongside structural engineer Techniker, building environment engineer XCO2 and Jennifer Coe Landscape Architects.

Extensive co-ordination was required with the National Trust “to protect the more fragile parts of the hills.” As a result, the car parks and paths were planned as permeable surfaces, and runoff from the buildings used to supply the toilets.

There was no need to cut into the ground because the buildings were placed on the crest of the hill. The Centre is planned to be as flexible as possible, with a merging of inside and out. There’s a large, paved entrance court while inside is space for cafe, shop, offices and a classroom. “The activities are flexible,” said Harrington. “The cafe can occupy much of the whole space during the annual kite flying festival held at the site.”

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The public area is covered by a roof described by Harrington as “an elegant aero wing, like a glider.” It directs air currents around - and into - the building. Glazed louvres on the external elevations permit cross-ventilation and extraction of hot air from the building.

Further cooling is provided by a 90m long earth pipe that draws air into the building, fed into internal spaces through floor grilles. A sculptural “wind catcher” structure funnels air into the pipe. Air is cooled by the constant low temperature of the earth underground.

The Building Management System assesses internal and external ambient temperatures, wind speed and direction. “The wind catcher propels air down into the earth pipe. It has been cleverly designed so that a fan is required only in times of no wind. The air temperature is reduced by 9-10 degrees.”

Harrington added that the wind catcher structure, which is made from Cor-Ten steel, “has become a focus of visitor interest.”

A “simple but effective” heating system has been implemented, added Harrington. Underfloor heating in public spaces keeps them at a low heat. Radiators in offices can be turned off when staff are out. Certain spaces are left unheated, such as the toilets. The boiler is powered by woodchips. “It’s 50 per cent cheaper than wood pellets but requires twice the fuel storage space, generates more ash and requires more maintenance.” However, carbon emissions are low when compared to mains gas. Good levels of natural daylighting have been provided to reduce the use of artificial lighting. Another aim of the project, said Harrington, was to minimise the amount of materials used. “We kept the area of the building to a minimum.” Its lightweight steel structure can be dismantled and easily reused, she added. The timber curtain wall features sustainably-sourced wood. Despite aims to source materials as locally as possible, the curtain walling came from Hamburg.

However, not all the eco initiatives were implemented. “We did have plans for six wind turbines, each 15m tall,” recalled Harrington. “But they were taken out as we didn’t think we’d get planning permission for them.” Indeed, it highlighted how the views of just a few people can affect an entire scheme. There are already electricity pylons at the rear of the site “and it seems ridiculous that these smaller turbines weren’t acceptable.”

www.architype.co.uk

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Session Four: You and Yours: Small Practice Survey

A first chance to learn what small practices had to say about working in the noughties.

Jane Duncan, RIBA Small Practice Committee

It has been seven years since the last small practice survey, explained Jane Duncan of Jane Duncan Architects and the RIBA Small Practice Committee. And there has been a significant shift in responses.

Questions were asked to find out “what life is like out there as a small practice and what the RIBA can do to help”.

In 2007, the main challenges facing small practices include recruitment, keeping up with changes in legislation and the time and cost of CPD. More than three-quarters of small practices have no health and safety policy, Duncan added, while “58% don’t have a quality system and 87% don’t have a sustainability policy”. Something must be done about this lack of health and safety, quality and sustainability policies.

When it comes to business plans, only 13% have a formal plan. “It makes you ask whether architects are taking their businesses seriously.”

More than 70% are relying on their website to promote their business “but I wonder how good their sites are”. Other major ways of finding work are recommendation and through word of mouth.

A key finding was that 71% of work undertaken by small practices is residential. “Where’s all the other stuff?” Duncan asked. This has been a major change since 2000. “My view is that we need to look into procurement. The rest of the world of work has been whipped away from small practices.”

She concluded: “We need to get the message across that small practice is best practice.”

www.janeduncanarchitects.co.uk

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Session Five: It's a material eco world

The challenge of working with traditional construction materials in a more ecological way, the importance of thermal mass and the exciting potential of innovative green materials.

Bath University's Professor of Innovative Construction Materials Peter Walker spoke about a range of sustainable materials, products and techniques. He grouped them into three broad categories:

Renewable materials

- hemp, flax, straw, sisal
- wood-based products
- bamboo
- sheep's wool

Unfired clay

- cob
- rammed earth
- green bricks

Lime, pozzolanas, stone

Walker chose to focus in more detail on four: hemp-lime, unfired clay bricks, straw bales and rammed earth. Hemp-lime, he explained, has been used in the UK for the last seven or eight years, introduced by architect Ralph Carpenter. Hemp is a renewable crop that locks up carbon, which helps to offset the manufacture of lime. Typically used as an infill for timber frames, hemp-lime was primarily developed in France. The proportions of hemp and lime are varied according to the application. In large projects it is faster to use sprayed technology rather than hand application. "Hemp-lime buffers variations in humidity and temperature within a building," claimed Walker.

He went on to discuss unfired clay masonry - also known as "green bricks". It saves about 90 per cent of embodied energy compared to fired bricks.

Straw bale construction is "very much a community hands-on process". The ModCell product brings straw bales into the mainstream by using prefabricated panels. "Straw is stacked into frames and compressed and sprayed with a lime render system."

Rammed earth is "the most difficult to achieve high quality." A lot of work is required to get a high quality aesthetic finish.

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According to Walker, the key to successful projects includes having a good relationship with the client. The design and construction team should be flexible and committed to a sustainable solution. He added that it was vital to “spend time sourcing and understanding materials”. When using new or unusual products, a structural engineer might want to test them.

“These are exciting times, things have changed very quickly over the last few years. There has been a significant change in people’s attitudes to materials,” said Walker. The number of certified materials is growing, and sustainable materials and products are becoming more cost-competitive. “There are always new materials and products coming on the market.”

www.bath.ac.uk

Modcell: www.agrifibretechnologies.com

Cany Ash, Ash Sakula

Cany Ash of architect Ash Sakula spoke about a number of recent sustainable projects including the Dartington Arts Park, located on the 1,200 acre Dartington Hall estate. Situated on the site of an old farm and car park opposite the Old Hall, the proposed project includes a range of studios built with a rammed earth wall which will be lime washed for protection and topped with a green roof.

The UK Carnival Centre, located in Luton, is a more exuberant building conceived as a place to share ideas about carnival techniques. The building needs to reflect the spirit of carnival. The brief was to create something “strange, shambolic and magnificent” and conceived a “corral” behind a textile screen wall.

A “street” would run through the site, allowing carnivals to actually process through the centre. However, when the scheme went through planning, permission was granted but the textile screen disallowed.

As a result, “we started looking what brick could do and how it could present itself as a intriguing material,” said Ash.

The final project was shared ownership flats in Silvertown, east London, the result of a Dickon Robinson competition promoting fresh ideas for low cost home ownership. The idea was to use scraps of unwanted land. “We developed some pods which could be used on differently-shaped sites.” The cladding incorporated Apollo thermofoil, which costs a bargain £1.50 sq m. Added Ash: “It became rainscreen cladding protected by a GRP sheet, you can see right through it.”

www.ashsak.com

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Brian Vermeulen

Like Cary Ash, presented three projects. The first - a cardboard house - started out with the idea of cardboard and using origami to strengthen it. "Cardboard is very sustainable and can be recycled nine times." Cardboard tubes were used as columns: "They are very stable and incredibly strong. However, they do shrink slightly after you first use them."

For the second project, Vermeulen highlight the "phenomenal" amount of waste in the demolition of buildings. "They are materials no-one else wants to touch." Vermeulen had the idea to create "really desirable house" using these materials, to create a dwelling for a vicar in Birmingham. The materials were sourced from a school being demolished in Bexleyheath, including electric cables, doors and single-glazed windows.

Vermeulen also wanted to use office desks. "A phenomenal amount of office desks are being landfilled every day. We discovered we had a free endless supply of these and had the idea to use them in a structural wall."

One of the major challenges was creating an elevation that had to be flexible to respond to whatever materials were available. Unfortunately the project was pulled before it got the go-ahead.

Finally, Vermeulen talked about a DfES research project into exemplar primary schools. "Out of that we recently got a client." The scheme for the Krishna-Avanti Primary School in Harrow (the UK's first) will use rammed earth, as "we want to try and avoid using cement-based products". Designed to be as flexible and adaptable as possible, the school is due to be completed in 2008. In the project, Cottrell & Vermeulen also plan to use recycled gypsum from Finland. "Sustainability should be integrated into building as much as possible," concluded Vermeulen.

www.cv-arch.co.uk

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Session Six: Green Dragons Den

How do you combat the effect of climate change in the city?

Three small practice finalists pitched their sustainable ideas to an expert panel of Green Dragons. Sponsored by developer Argent, the aim was to incorporate the winning idea into the Kings Cross Central development.

Barnaby Gunning

Motivated by a satellite image of the world at night, showing a vast amount of light pollution, Barnaby presented a cellular photovoltaic outdoor lighting system. Even in England - traditionally regarded as gloomy and rainy - such a system could work, he believed. "In London the incident solar radiation is pretty impressive."

His project looked at finding a way to maximise the amount of energy that can be gathered using PV and how that energy could be used. He examined the two types of PVs in production - mono and poly-crystalline. Gunning opted for the first, which has a 25-year lifespan and is produced by BP.

Most exterior lighting has metal halide or high pressure sodium fittings, he told the audience. "You get a better performance from an LED system." For this product, he selected Luxeon LEDs which have a good design life.

Gunning's lighting columns could either be stand-alone - with a rechargeable cell - or physically connected to the Grid "and could feed any excess into the Grid or pull energy out if there's not enough light". The PV/LED arrays could be clustered to provide more light where needed, such as over benches.

Panel comments:

David Partridge, joint chief executive of developer Argent, expressed surprise that no financial information had been provided in the presentation. "There was nothing about cost, payback or a comparison with conventional light fittings." In response, Gunning said that the ideal solution would be to use totally autonomous clusters of PV/LEDs, with four or five cells which would provide adequate lighting levels at 1m above ground. Lighting manufacturer iGuzzini had expressed some interest in his product, he claimed, and estimated the cost to be £125/fitting.

Patrick Bellew, Atelier Ten, felt that there wouldn't be a lot of "oomph" in the lights and questioned why the cluster of LEDs was the same size as the PV cell. Further criticism came from Building Design editor Amanda Baillieu. "I thought the

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presentation was pretty hopeless,” she complained. “It was really complicated and went straight into complex technical aspects. It left everyone pretty cold.” Baillieu concluded: “And I thought the design was pretty hideous.”

Argent’s executive director André Gibbs felt he wasn’t ready “to write a cheque” for the product. “A lot of lamp posts would be in shade for a lot of the time. I don’t think you’d get much practical light out of it.”

Studio DuB

Studio DuB’s presentation looked at fuel from renewable resources - in this case, waste, described as an “untapped stream of energy”.

More waste is being produced than ever before, and according to Studio DuB’s Rebecca Wober, rubbish from Kings Cross would be incinerated miles away in Edmonton. She added: “Raw incineration is hazardous.”

She unveiled the reCulture energy from waste system, which has been pioneered in Sweden. Waste is ground down and water added in a ratio of 96% water to 4% domestic waster. The resulting soup is circulated in a “disintegrator” at a temperature of 70 degrees centigrade, which kills any bacteria. The mixture is split into its various components because less dense materials will float towards the surface.

The mixture is then dewatered and dried, and the solid residue used for fuel. “This fuel is now clean, it beats burning unsorted waste hands down.”

By locating the plant locally, it means that Kings Cross could be self-sufficient for waste disposal and energy. “The plant could be a state of the art facility.” The combined head and power plant would be housed in a 2,700 sq m three-storey building would occupy a 30m by 30m footprint. Wober advocated a vacuum system to collect rubbish. “You would then have no vehicular emissions.”

Panel comments:

The drawings presented by the team “looked like something from a process engineering manual,” criticised Baillieu. “It was really quite boring.” She questioned the plant’s capital and running costs. In response, Studio DuB partner Gordon Duffy said that the capital cost would be approximately £17.8m.

Bellow asked about the large amount of water required, that needs to be cleaned up afterwards. “I see energy inputs everywhere. There are a lot of energetic processes going on.” He added: “I’m not convinced the net gain in the process is really a net gain.”

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Amenity Space

A building system using unwanted maps was unveiled by Amenity Space. The idea first came during Architecture Week this year. A distribution problem meant there were 30,000 spare maps that couldn't be recycled. "We salvaged them and looked at reusing them rather than recycling."

The construction system features a timber rail at the bottom of each panel, and vertical steel rods at 225mm centres. The folded maps are stacked onto the rods and compressed. "30,000 maps would create a 3m high and 4m long wall that is two layers thick."

Tests have revealed that the panels have good thermal properties. An external cladding system would make the construction waterproof and fire resistant. "And acoustically, it's amazing."

Panel comments:

Is it crucial that the infill materials are maps, asked Cany Ash. "Can any paper be used, and does it rely on the proportions of the folded maps?"

Baillieu added that the concept was "slightly ludicrous" although it was good to think that the Yellow Pages could be recycled. "I think it's really sweet in true Blue Peter tradition."

Final debate:

In the final judgement, support for the first concept - the LED lighting system - was lacking. Said Bellew: "I wanted to support it but I don't think that it's that easy or everyone would be doing it. However "it's nice to see that LED lighting is getting to the point that street lighting can be done with it."

There was much greater support for Studio DuB's CHP idea, although several panel members still expressed reservations. Gibbs said that he was concerned that the CHP building "wouldn't pay a very good rent" in the context of Kings Cross. "I'm starting to think it may be a great idea, but not sure it would work in Kings Cross." Bellew expressed doubts about the numbers presented by Studio DuB. "I have concerns that it won't stack up and pay for itself." But Argent's Partridge countered: "I think it's a great idea".

Panel chairman Roger Zogolovitch chimed in, saying that it seemed to him "that there's something very intelligent about it".

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Zogolovitch turned to the Map Compression Block idea. “One think they didn’t mention was the notion of using them for a garden fence,” he said. “It seems to have more stability for use as a fence.”

Baillieu wondered why the blocks had been presented as specifically for Kings Cross and added: “They are not really highly innovative. With all the concepts presented today, I also thought what have they got to do with this incredible site at Kings Cross?” The MCP panels could be used as part of an art installation, she pondered, and it was disappointing that the team could only think in terms of conventional buildings.

“I thought it was a spoof,” added Ash. Gibbs believed that the product could be used as a component “that would sit quietly behind a rainscreen.”

The winner

Studio DuB was declared the winner, with the Map Compression Block in second place.

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Guerrilla Tactics: tactics seminars

Business planning: what is it and how can it help architects?: Caroline Cole, Colander

Most architects find it incredibly difficult to run a successful practice. And that doesn't just mean the day to day grind of running a business, most of which seems to revolve around money. It also means the business of creating wealth from happy people working on interesting projects, that in turn feed the good reputation of the practice, of which you can be proud. That is what I mean by running a successful practice.

So why is this so hard? The main reason is that architects like being architects. Given the option of working out the cash flow for the next three months, or creating an effective new business submission document, most architects retreat to the (metaphorical) drawing board.

Which is fine, if the nice jobs still arrive at the door with a healthy fee attached, and if the best staff also magically appear to help deliver those jobs. However, my experience is that for most, the real world just isn't like that.

It is worth noting, that architecture in the UK remains a cottage industry. The RIBA has around 4,000 practices on its books. Half are one-man bands. Almost 90% employ five or fewer architects - so they are businesses of probably only six or seven people. Less than 1% of practices operate with more than 50 architects. What this means is that most architects run practices or work in practices that are too small to justify employing people to simply manage the business. As a result they have to do it themselves.

So, if you are running one of those small practices, I ask one very simple question: Are you also prepared to put the time and effort into running a business?

If, in your heart of hearts, what you personally want to do is to get up in the morning and work as an architect focused on your clients and your projects, creating fabulous buildings, then go and join an existing practice where someone else carries the responsibilities and puts in the effort required to keep the business running.

My general advice is don't set up an architectural business unless you are prepared to spend a significant percentage of your personal time focusing on the needs of your business, rather than simply enjoying the pleasures of being an architect. To give you a rule of thumb, let's say a principal in practice works 1700 hours a year, we advocate working no more than 12-1400 hours on fee earning work. This leaves 6-11 hours - around a day-and-a-half - a week on non-billable time. This is time to develop and

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nurture your business. If you don't do this, you are most likely to live a very hand to mouth existence, which is stressful in itself, and for many of you, it is unlikely to fulfil your creative ambitions either.

It is probably worth saying here that I am not necessarily suggesting that to run a successful architectural business you have to grow. Although there is an argument that says that if you are a small team you are unlikely to attract the more interesting projects. Also, if you really want to have your own show but you don't want to do the business side yourself, you do need a certain critical mass to justify paying someone else to do it for you.

What I am saying is that it is really important to understand why you, personally, are setting yourself up in business, and what you, personally, hope to achieve through your daily endeavours. Being dramatic for a moment, you are in the business, not of selling widgets, but of selling your soul – and you only have one soul, one life, so you need to make the most of it. My general impression is that too many architects, and particularly those in small practices, sell their souls for far too little reward. Setting up a small business is a lifestyle decision, and as such, it is important to make every effort to ensure that you can generate and sustain the lifestyle to which you aspire.

The key is business planning. Actually, it is business planning and then dedicating sufficient time and energy to execute that plan.

And what is business planning? Essentially it is a tool to create a link between your aspirations and dreams - and reality. Easier said than done, and of course what happens to you in the future will not be entirely in your control. However, if you can articulate a dream or vision, then you will at least be able to evaluate the things that happen in relation to that vision.

So how to do this? The best thing is to project yourself into the future. Pretend that you and those around you in your business and your life are five years older. Now, you are going to tell me what you have achieved since 2007.

- What kind of clients have you worked for?
- What buildings have you done?
- What's your reputation amongst clients or with your fellow architects?
- What are you doing with your time?

It is important that the aspirations for your business are founded on the individual aspirations of all the key people involved in that business: you, of course, your business partners, your family and so on.

Why do I say this? Primarily because, as architects, you are not creating and selling widgets. In fact, most of what you offer is service driven rather than product driven –

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it's about the people involved. Essentially, this means that you are selling yourselves - and your colleagues: your attitude of mind, your initiative, your commitment, understanding, expertise, involvement and - above all else - your enthusiasm.

I suggest you start with a vision for the future, the bigger picture, then move on to breaking this down into goals and targets, specific achievements, before finally identifying the tasks that need to be done to get there.

The important trick with business planning is not to start with today, and to work forwards year by year, but instead to throw yourself into the future, and work backwards. "This is what I want to have achieved in five years, now, how am I going to get there?" And that's the other key: Don't begin to think about how you are going to achieve your aspirations until you have a very clear idea of what you want to achieve, that you can write down, or otherwise externalise.

So, what do you need to think about to create a successful business?

People, energy, premises, expertise, money, blather, projects/clients, good luck, enthusiasm.

A business plan is simply the physical manifestation of all this thinking, a planned route for getting from where you are now, to where you want to be in say, five years time.

There is a terrible tendency for people to think that because they have an Excel spreadsheet of their financial expectations over the next few years, that they have a business plan. What they have is simply a financial projection, nothing more and nothing less.

A business plan needs to address all aspects of your business, so consider:

- Architectural aspirations
- Services that you want to offer
- Skills you need to deliver these services
- Clients and projects that you aspire to
- Marketing and new business needed to attract these clients
- Reputation you need to generate
- Premises / working environment
- IT hardware, software
- Practice structure and size
- Financial management
- Staff management

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- Working methods
- Client management
- And, most importantly, a practice philosophy and ethos

Your business plan needs to address all of these.

At the end of the day, your business plan is probably the most important job in your office. The physical task of creating it will force you – and your colleagues if you have them – to articulate your aspirations against each of these headings and to set them down in a way that allows you then to consider how they might be achieved. Without it your practice is unlikely to be the most appropriate vehicle through which to deliver your dreams.

Give your business plan activities a job number. Allocate a budget, give it time. Respect it, nurture it and do your damndest to deliver it. Don't just put it on the shelf for review in a year's time. Refer to it, talk about it, check that you are still on track, and update it annually – after all things change – be sure that it is still relevant.

Prioritise the actions on the action list - make sure they are given just as much value as the action that relate to your project work. Your business plan is the tangible link between your dreams and reality through it you will identify what is important for your specific business, and what you need to make it flourish.

That will be time well spent.

Keeping out of trouble in contract administration Keith Blizzard, Challinors Blizzard

What is “Contract Administration”?

- To carry out the administrative functions required by a contract

What is the purpose of a written contract?

- To set out the obligations and liabilities of the Parties
- To apportion risk as between the Parties
- To set out pre-agreed administrative procedures to deal with the circumstances that are most likely to arise
- An exercise in drafting a contract for both the construction of a new public lavatory block AND the reconstruction of the Birmingham Bull Ring

The selection of the correct form of contract for a project is important. The various standard forms of contract available are drafted with the intention of allocating risks and providing the appropriate contract administration procedures.

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The consideration that goes into compiling a form of contract becomes irrelevant if a type of contract is used in the wrong situation.

Standard forms all allocate obligations, risks and responsibilities and are adapted for other variables to be encountered, not least speed of construction and the availability of information. The appropriate use of a form is essential if the express terms of the contract are going to cover the situations likely to arise.

How do I know what I have to do?

- Read the contract
- The contract administrator's powers come from the agreement between the Parties
- If the contract says you "may" do something, you have a discretion
- If the contract says you "shall" do something, you must do it
- If the contract is silent, you cannot do it

It is that easy!

What trouble can I get into?

- Not doing something that you should do
- Doing something that you should not do
- Doing or not doing something at the right time
- Trying to do something that you cannot do

How do I make an "Extension of Time" award?

- What does the contract require the contractor to do?
- Notices, timing and information
- Check the contractor has followed the prescribed procedure
- What does the contract require you to do with what the contractor has told you?
- When do you have to do it by?
- You have the knowledge of what has happened on site
- Consider what the contractor has told you
- You have your own records and the site meeting minutes
- Test the information against the balance of probabilities
- Exercise your professional judgement

Where's the problem with Practical Completion?

- What is Practical Completion?
- Some contracts now try and define it.

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The thing no-one wants to talk about: setting fees and time costing: Nick Coates, Colander

- We often assume that by increasing turnover we will make more money, but profit is made by setting the right fees and managing the time delivering the project as well as the quality of service, so we get it right and client is happy;
- We sometimes assume that by working longer - or our staff harder - we will be more productive. But we don't know how much our time costs, how much is earning fees and whether that fee-earning time is productive;
- Many architects still assume that by setting a fee at, or close to, a known scale fee, they will make a reasonable return. However, they don't measure this during the project and as a result don't know if it is profitable until the end of the project, at the earliest.

The alternative: Learn

- How to very simply work out how much your time cost;
- How to construct a resource budget;
- How to use these bits of information to set fees;

And see why this is not the end of it, as the project (and the time and cost) still needs monitoring.

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