



The government intends to deliver 200 carbon-neutral “eco-schools” in the next three years, to help cut emissions. Here, **Mukund Patel** explains how the DfES is building schools of the future.

## Lessons learned

**MUKUND  
PATEL**



**A**mid all the doomsaying over climate change, education chiefs are taking positive steps towards building a greener future for the UK’s 7 million pupils.

As part of Building Schools for the Future (BSF) and the Primary Programme, the Department for Education and Skills (DfES) is encouraging design of sustainable schools that meet the criteria for an exciting and eco-friendly learning environment.

Mukund Patel, head of the Schools Capita (Assets) Division at the DfES, will be speaking at GovNet’s 3rd Annual Education Conference. He is enthused by what he calls a “once-in-a-generation opportunity” to renew school buildings

across the country.

Patel points to the fact that 15% of UK public sector carbon dioxide emissions come from school buildings. When you consider there are 24,000 schools, all of them making extensive use of computers, and often used during evenings and weekends, it is clear why they use a lot of energy.

The government has committed to spending £5.4bn annually on building schools, up from £600m per year 10 years ago, and rising to £8bn per year by 2010. Patel says: “We want to make sure we’re getting exciting and inspirational buildings that pupils and communities like, which enhance teaching and learning, but are also sustainable and have a low impact on the environment.”

### Schools for the future

It is a massive undertaking. The 15-year BSF programme is already under way and will see up to 50% of secondary schools

replaced with new buildings. Some 72 local education authorities (LEAs) and 1,000 schools are already involved. The first BSF schools will open later this year. Meanwhile, the Primary Programme will begin in 2009/10 and provide £400m per year to transform 8,400 buildings for younger children. Around 5% of these will be brand new sustainable schools. Some 800 schools have already been completely refurbished or rebuilt.

The key challenge for LEAs, designers and constructors is to meet criteria set out in the Building Research Establishment Environmental Assessment Method (BREEAM) that will result in a “very good” rating for the new or refurbished schools. The DfES wants several to achieve “excellent” scores, and also has an eye on carbon-neutral buildings.

Patel explains: “BREEAM is not just about energy efficiency, there are a lot of other environmental issues. For example, if a school is located close to a transport hub, such as an underground or bus station, it gets credit for people avoiding the use of cars. But for some schools that will not be possible.”

He continues: “Our long-term aim is to build carbon-neutral schools. It’s not going to be easy. We’ve got three sustainability demonstration projects at secondary schools in England. We hope they will be “excellent” under BREEAM, and one of them just might be carbon neutral.”

### Modern design

Many of the basic designs of sustainable schools, such as including more daylight, natural ventilation levels and high insulation, may be obvious steps to energy efficiency. But besides cutting consumption, schools will need to use renewable energy sources which might be able to feed electricity into the grid, such as by installing wind turbines that continue to work at night. Recycling is encouraged, and “harvesting” rainwater can provide an interesting project for pupils, while electricity generated by solar panels can be displayed on LCD screens in reception.

Patel has been impressed with pupils’ attitude towards the step change in school provision. He says: “The children are really interested in the environment. This is the world they have to live in. If you have a school which is sustainable you are sending the right messages to future generations as well.”

“But sustainability is not just about the building, it should be an integral part of learning. We want the input of pupils and teachers into design and development of their new school because they have to use these buildings day in, day out. We’d also like the authorities to involve the local community, because they’re going to be using the building, too.”

### Built to last

While those inside the school learn about a greener future, others are keen to contribute as well. LEAs want to be seen as environmentally friendly, and the construction industry is demonstrating it can develop suitable buildings – some major firms have even appointed sustainability experts.

Another key driver for the programme is to ensure the sustainability of school buildings is long term. Patel says: “A lot of Victorian schools are over a century old, but they’re still in use and very good compared to some of the prefabricated



buildings of the 1950s and 60s, which are in poor condition.

“It’s important we develop buildings that last. We can’t keep replacing them every 20 to 40 years, it’s not a very good use of resources. We have developed 11 Exemplar Designs, using leading architects, producing concepts of the sort of buildings we need.

“We have also funded 26 projects in a

“classrooms for the future” programme, giving complete freedom to designers and LEAs to create innovative learning spaces. It’s important that we learn these lessons as we go forward.” ●

*Ian McCawley, editor*

*To see Mukund Patel speak at GovNet’s 3rd Annual Education Conference in London on May 24, visit [www.govnet.co.uk/events](http://www.govnet.co.uk/events) See page 17 for case study*