Warming Up Schools and Hospitals in Montenegro

Dragana Varezic of the World Bank Office in Montenegro offers this story.

Cold classrooms, frozen feet and an icy blast through poorly fitting windows make it hard for school kids to focus on learning. But conditions, at least on the inside, are improving at the Boško Buha primary school. Boško Buha is in Pljevlja, in Montenegro's north, where winters are fierce and temperatures can plunge to minus 20 degrees Celsius. And until recently, the weather inside school wasn't much better.

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Bundling Up

Students know the poor conditions in their classrooms make it hard to concentrate on lessons. "I am very cold in the wintertime, even with my jacket on. My feet are freezing and I am often absent because I tend to get sick," says Eldar Salihovic.

"We are extremely cold and we can feel the cold air coming in," Sara Zivkovic says. "We have to wear our jackets all the time, and this is not very comfortable when you have to write. Students often quarrel about who is to sit where, because no one wants to sit near a window, because it is so cold."

Retrofitting to Learn


Eldar Salihovic

The Boško Buha School was constructed in 1955, and time had worn it down. But things have improved.

In 2010, with support from the World Bank, workers replaced loose windows with high quality PVC glass, caulked up holes, insulated the roof and façade, and upgraded the aging heating system. The energy efficiency project aims to plug up the holes and retrofit public buildings to make them warm, inviting places.

Now the school is a warm and welcoming place on a dark winter day, a place to take refuge from the conditions, not a place to simply endure them.

Boško Buha's principal, Miodrag Vakirević, is delighted with the results. "Not only do we use less coal during winter, and spend fewer resources on heating, but more importantly being energy efficient means having more satisfied students and teachers that can work an operate in a better working and studying environment that improve students' performance and reduces the risks of getting sick. I wish the same for other schools in Montenegro."

Saving Energy and Money


Sara Zivkovic

The Olga Golović primary school is in Nikisic. It is one of the busiest schools in town, educating over 900 students, including some with special needs. This building is more than 30 years old, and it used to leak heat all winter long.

Retrofitting here meant replacing incandescent bulbs, windows, radiators and existing boilers with new, more efficient ones. Workers also insulated part of the roof. School authorities say the retrofitting saves them about 40 percent in expenditures on energy. That's compared with pre-retrofitting spending three years ago.

Wearing Extra Layers in Hospitals

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Meanwhile, the project is also helping hospitals become more energy efficient. The busy General Hospital in Berane sees around 7,000 patients and over 2,000 surgeries a year, and it serves about 40,000 people. But, in order to grow into a regional medical center, local government needed to tackle the hospital's 50-year-old building. Poor insulation and an out-of-date water heating system made the task a priority.

Conditions were so bad that patients would bring their own electric heaters to warm up their rooms. However, if the nights were particularly cold, not even that would help. So patients would wear extra layers of clothes and wrap their heads in towels while sleeping. Even though the radiators were hot, it was still cold in the rooms because the insulation was so poor that the heat flowed out of the building.

No More Towels as Hats

Now the hospital boasts a new thermal insulated façade. Workers replaced old rotting wooden windows with new PVC windows. They removed the old water heating system and replaced it with a new, more efficient one. And hospital authorities say the retrofitting saves energy and money, adding up to a total annual energy savings of 16.2% in electricity and 37.3% in fuel. Best of all, no one needs to wrap their heads in towels to stay warm anymore.

A Warmer, Less Expensive, Future

So far, Montenegro has retrofitted three schools and two hospitals. The government plans to upgrade another six schools, three hospitals and the Clinic Center of Montenegro in Podgorica. The government estimates the retrofitting project will directly touch about 15,000 students and patients. And the savings in cost and fuel will benefit everyone.

But, just as importantly, the retrofitting will serve as model for other projects. Similar projects in other countries show that when the government invests in and promotes energy efficiency in the public sector, local authorities and communities tend do so as well.