

## A “green” future: how Polytechnic students are changing the world around them

Three years ago, the student eco-community ReGreen appeared within the walls of Polytechnic University. During this time, the guys have already managed to organize a system of separate waste collection on campus, are active in eco-education activities, and in the spring of this year will start a recycling workshop PolyCycle, in which the collected lids can be used to make souvenirs and accessories.



As part of the Polytechnic Project grant competition, the guys from ReGreen, a student eco-community of the SPbPU trade union organization, are assembling a plastic recycling machine to make pellets that can be used in construction. And they will also be able to produce souvenirs of the university for the benefit of the environment.

ReGreen activists plan to create a plastic waste recycling facility at Polytechnic University. They are based on the experience of the Dutch startup Precious Plastic. The founder of the startup made publicly available the blueprints of the recycling plants with explanatory video instructions. The guys used the blueprints, made

some adjustments, and got to work. And if you, too, want to build your own plastic recycling machine when you have a spare minute, they recommend starting with this channel.

Students assemble three units: a shredder, an injector, and a drying cabinet. It sounds creepy, but it's actually pretty simple. The shredder shreds plastic lids into flakes, the injector allows you to melt the flakes into molds, and the drying oven is an "oven" for producing large complex items.



ReGreen is based on students from the Polytechnic Institute of Civil Engineering. In their activities they are very helped by the study of special construction disciplines, such as waste management and work with building materials. And even work on equipment for the future workshop unfolded on the basis of the educational laboratory of "Building materials". In addition, students have the opportunity to seek help from researchers and professors at Polytechnic University, who are very supportive of their endeavors. The ReGreen team regularly refers to scientific research to understand the properties and capabilities of certain materials. This is facilitated both by their own research activities in the course of their studies and by the research that the laboratory staff and instructors at the Institute do.

That's why one of the workshop's ideas is to produce aggregate for concrete used in construction from recycled materials. The guys also want to experiment with raw

materials and produce related materials, such as paving tiles. “Now the entire building materials industry is moving to a circular economy, as the industry has a negative impact on the environment at all stages, from the extraction of raw materials to the disposal of construction waste,” explain the activists from ReGreen.

Besides, it will be possible to make souvenirs, accessories, interior items, and even to equip the urban environment - benches, poles, art objects - from raw materials recycled in the workshop. The future workshop is an interdisciplinary project. Now students from the Institute of Civil Engineering and the Institute of Physics Nanotechnology and Telecommunications are working on it, as well as graduate students from the Institute of Machinery, Materials and Transport. Each is responsible for his or her own profile: electronics, “iron”, work with plastic waste, etc. If you are close to the idea of making the world around you cleaner, you can always join the guys and make your contribution to the “green” future of the planet.

If you are close to the idea of making the world a cleaner place, you can join the ReGreen movement

We have already started collecting caps from plastic bottles and plastic bags for new souvenirs. Are you with us?

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