

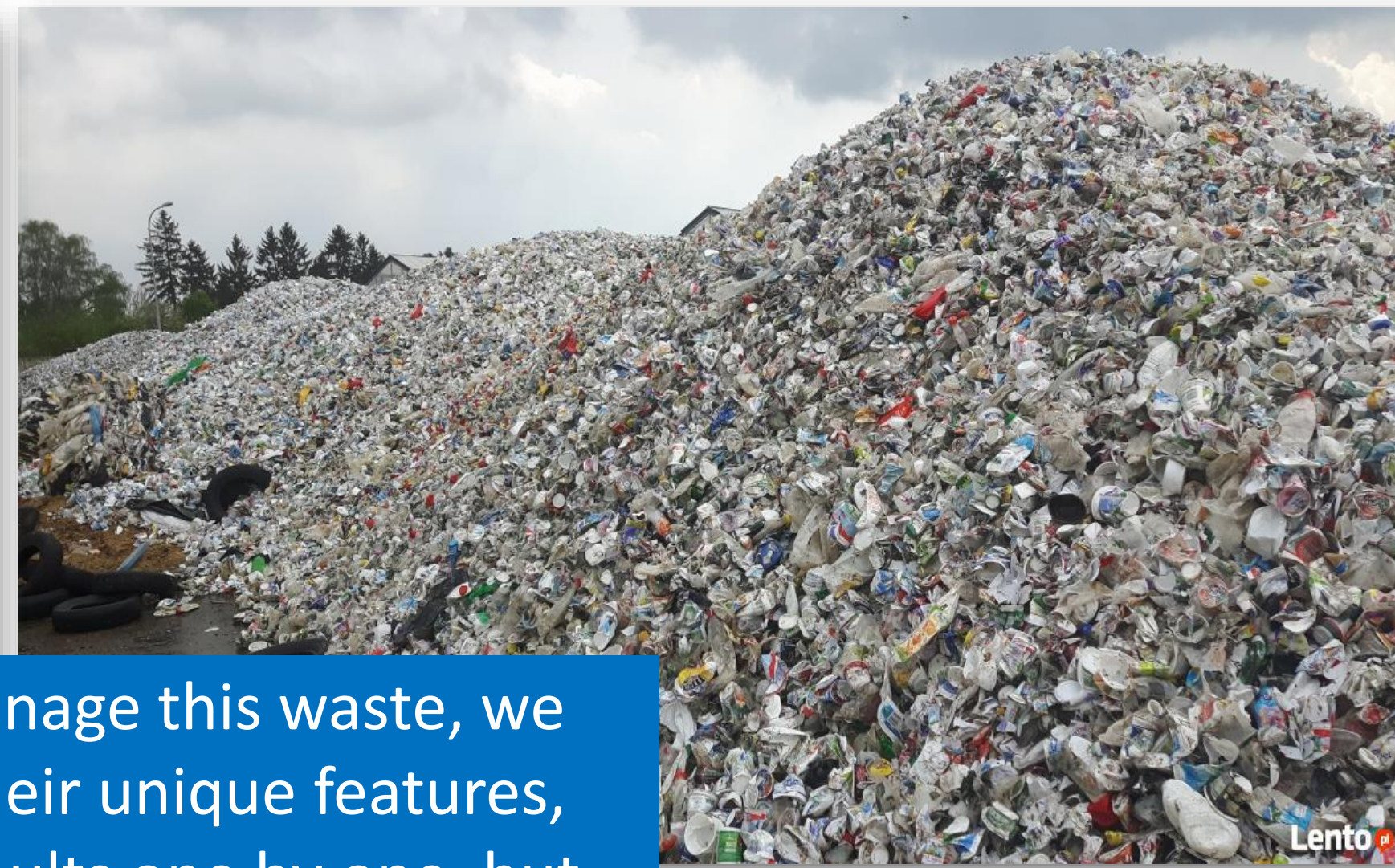
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Innovative composite aggregate made from recycling of ash and plastic waste

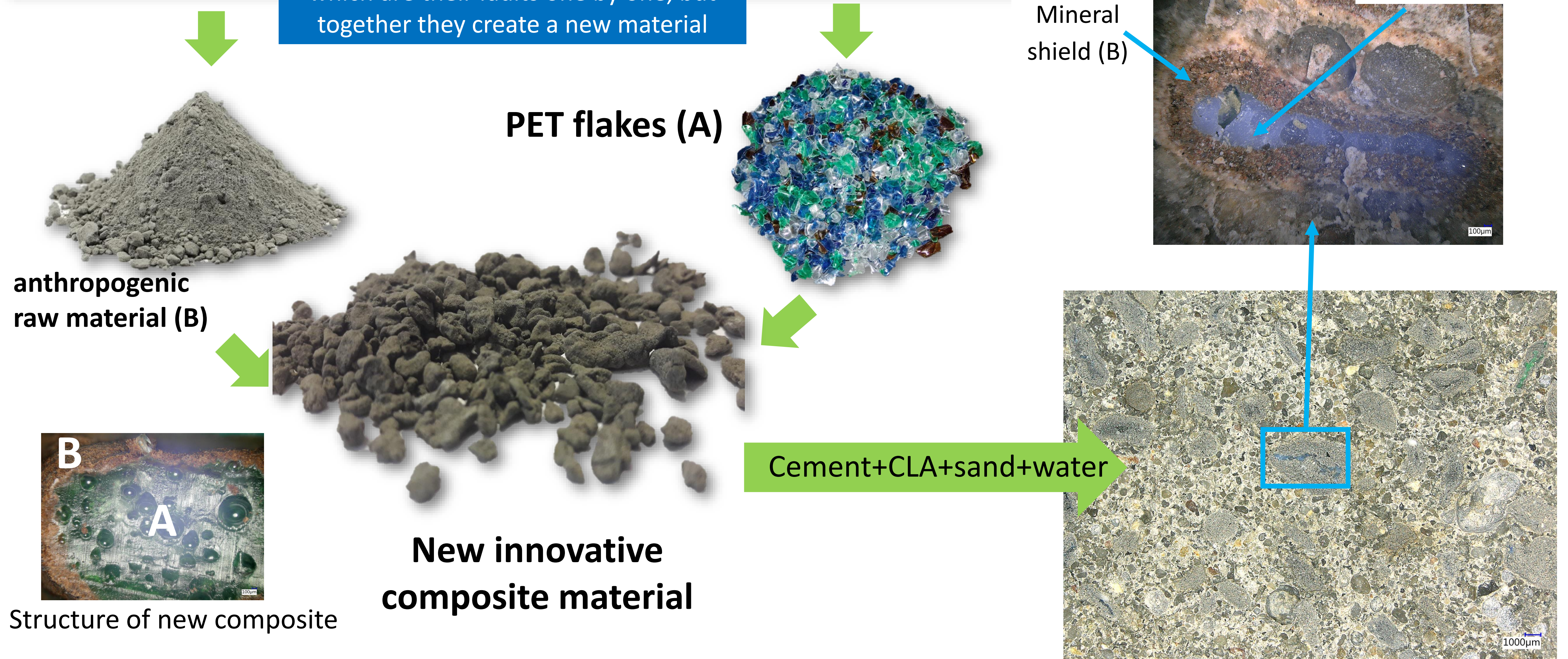
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If we want to manage this waste, we must combine their unique features, which are their faults one by one, but together they create a new material

Sustainability now is the philosophy of life of modern civilization, the direction of new scientific development that is being carried out, it is the necessity to use the potential of interdisciplinary teams, it is the duty of our generation in the aspect of the future of our planet.



Indication of technical field (the invention relates to):

The subject of the invention is a lightweight composite aggregate. The product of such a reaction, while maintaining the specific conditions of the process, may be a composite aggregate lightweight (CLA). As a matrix in the created composite the flakes from recycling of a post-consumer thermoplastic polymer PET (polyethylene terephthalate) were used (any thermoplastic polymer can be used in that technology). The filler's role was fulfilled by fine-grained anthropogenic raw materials.

What problem the invention solves:

- waste management of PET, PE, PP plastic,
- management of waste of combustion processes (fly ashes)
- the possibility of using waste heat from other processes for their production, reduction of energy compared to current methods of producing lightweight aggregate by 60-70%

Defined problems:

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- millions of tons of mineral and plastic waste, and no idea what to do with them
- no possibility of multiple recycling of plastic waste (max 5 times)
- problems with mineral waste management

Purpose and application areas:

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- architecture (concrete, light mortars, insulation)
- road engineering,
- chemical industry (fillers mortars and resins,
- gardening (filtration layers)

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