

## The polystyrene issue in the Ha Long-Cat Ba coastal area of Vietnam – More effort and cooperation needed

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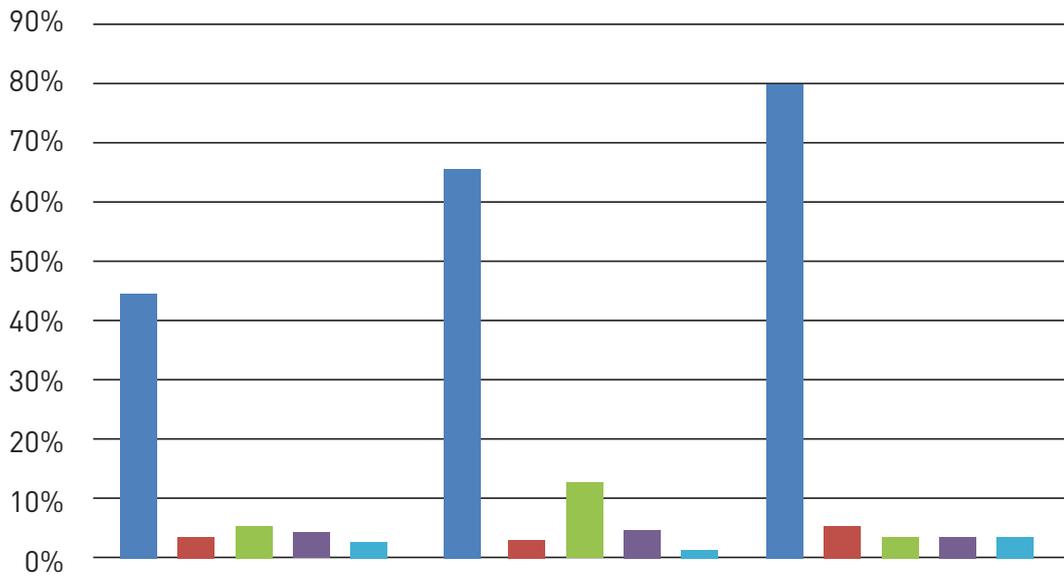
Only 10% of all waste generated in Vietnam are recovered for recycling or reuse (Ministry of Resources and Environment). Some reasons for this include the lack of treatment facilities, lack of community participation in waste management and recycling practices, poor coordination between collection, transportation and treatment, and a lack of regulations and enforcement (Pariatamby and Tanaka (eds.), 2014). Plastic marine debris, and specifically polystyrene, cause significant environmental issues, including injuring and killing sea-life, as well as public health concerns from the accumulation of persistent organic compounds in the food chain (Moore, 2013).

Vietnam has participated in international coastal cleanups (ICC) annually since 2003, especially driven by enthusiastic Vietnamese youth. In 2016 and 2017 results indicated around 50-70% of marine debris were polystyrene plastic, with the remainder being both recyclable and non-recyclable materials.

So far, GreenHub, IUCN and partners have organized three coastal clean-ups in the Ha Long beach with the enthusiastic participation of more than 300 volunteers. 4 tons of trash got collected from 3.9 km of beach.

After the first coastal clean-up, the Ha Long City People's Committee issued Decision No. 349/TB-UBND banning the use of polystyrene in floating structures of Ha Long Bay.

*"The Decision has been strictly enforced by the local authorities of Ha Long City. Currently, there are 55 floating structures in Ha Long Bay. Since the promulgation, 50% of individuals/households providing aquaculture and tourism services have replaced polystyrenes with sustainable materials. 3,520 out of 4,141 buoyancies have used composite barrels instead of styrofoam. This shows the strong commitment of the Ha Long City People's Committee,"* said Pham Dinh Huynh, Deputy Director of Ha Long Bay Management Board.



	Jun 2016 in Vung Ha	Jan 2017 in Vung Ha	Aug 2017 in Ang Ha
■ Nhựa xốp/(Polystyrens)	44%	66%	80%
■ Nhựa cứng (Hard plastic/mảnh; piece)	3%	2%	5%
■ Chai nhựa R/Beverage Bottles(Plastic)	5%	12%	3%
■ Túi nhựa (ni-lông)/Grocery Bags (Plastic)	4%	4%	3%
■ Dây thừng/Rope (1 yard/meter = 1 piece)	2%	1%	3%

Figure 1. Details of trash components

However, action by Quang Ninh alone can not solve the problem. There is no boundary for polystyrene between Hai Phong and Quang Ninh. While Quang Ninh has acted to control polystyrene, floating farms in Lan Ha Bay continue to use polystyrene for buoyancy.

In Cat Ba, Polystyrene accounts for more than 50% of all garbage, tainting its World Biosphere reserve icon. As known, the main income of households living in those farms comes from fish and mollusk culture. A combination of polystyrene and plastic drums are used within the farms for floatation (IUCN, 2016). Statistic report of Cat Ba Bay Management Board shows that in February 2016, there were 486 floating farms with more than 8,600 cages and 463 orchids mainly in Lan Ha Bay, Ben Beo, Cat Ba, Gia Luan and Tra Bau Bay in the Cat Ba Archipelago. Polystyrene is known as a material for making floats used in fishing boats in Cat Ba. Floats made of this material are low cost and are very popular for use by residents here. However, this is also a serious environmental pollutant and affects human health as well as marine life, because of the toxic components produced in it. Also, polystyrene in the environment can damage the aesthetics of the area since the foam from polystyrene drums are released into the environment and will blight the beauty of the bays as well as create a bad impression to tourists.

Cat Hai District People's Committee has a plan to reduce the number of floating farms to 150 by 2020 and ensure that these farms meet certain environmental standards before being allowed to operate. It is vital that Hai Phong, like Quang Ninh, bans the use of polystyrene in flotation devices. At the same time, more effort should be made to raise awareness from fishing communities and to start replacing polystyrene with more environmentally friendly materials.



Figure 2. The third clean-up in August, 2017 in Ha Long