Challenges of using charity shops to source recycled DVD cases (polystyrene)

While the idea of sourcing recycled DVD cases from charity shops in the UK is commendable for its potential environmental benefits, there are significant practical challenges in terms of feasibility and reliability for manufacturing bike components.

**Supply Availability and Consistency:**

**Limited Volume:** Charity shops are unlikely to have the large and consistent volume of DVD cases required for manufacturing on a commercial scale, notes The Donation Hub. The supply will likely be sporadic and dependent on donations, making it difficult to plan and manage production. This obviously depends on how large scale you plan on taking this, perhaps they would be feasible on a small scale such as Brighton but then when looking at breaking into new markets the scalability of your manufacturing process may be limited.

**Competition and Demand:** Other organizations might also be interested in obtaining these materials for other purposes, creating competition and potentially driving up the acquisition costs. Making use of recycled plastics is becoming increasingly popular, at the minute it isn’t the most prominent issue especially for DVD cases, but, if this becomes large scale developing a good relationship with a scalable recycled plastics provider may be more beneficial.

* <https://www.plastikcity.co.uk/recycled-material/buy-recycled> - is a website which demonstrates the best u.k. based recycled plastics providers.

**Sorting and Processing:** Charity shops are typically not equipped to sort and process large quantities of materials like DVD cases for industrial recycling purposes as they rely on volunteers.

**Cost and Logistics:**

**Collection and Transportation Costs:** Collecting DVD cases from numerous charity shops can be logistically challenging and expensive, especially if they are scattered across different locations.

**Processing Costs**: The effort and resources required for cleaning, sorting, and processing the recycled DVD cases will be considerable. This could potentially make it more expensive than sourcing recycled polystyrene from industrial recyclers.

**Low Residual Value**: The low density and residual value of post-consumer polystyrene like EPS can make the recycling and transport processes economically inefficient.

**Quality and Contamination:**

**Mixed Materials:** DVD cases may be made of various types of polystyrene, some of which may be more suitable than others for manufacturing bike components.

**Contamination with Non-Polystyrene Materials**: Charity shop donations can easily be contaminated with other plastics, labels, or dirt, requiring significant cleaning and sorting efforts, says Commercial Waste Quotes. This adds to the processing cost and effort.

**Impact of Repeated Recycling**: Repeated mechanical recycling of polystyrene (like DVD cases) can lead to the degradation of the material's mechanical strength, potentially making it less suitable for applications requiring high durability like bike parts.

**Additives and Impurities:** Polystyrene (including DVD cases) may contain additives or impurities that could negatively impact the properties of the final product or pose potential health risks, according to PureH2O. These may be difficult to remove during recycling.

Note: these are all just suggestions I am unaware of the how much research has already been done into the logistics of creating a cycle from dvd cases.

But I would also consider that RCYL has already built a cycle out of recycled plastics and have taken several years to do so. They are yet to break into the U.k. market and are not looking at running a rental scheme themselves, so I could always look at the life cycle and economic feasibility of using their bikes as a rental scheme?

Other Sources of DVD’s

Ebay seem to sell them cheaply such as a box of 50 for £10: <https://www.ebay.co.uk/itm/326681530362?chn=ps&_ul=GB&norover=1&mkevt=1&mkrid=710-134428-41853-0&mkcid=2&mkscid=101&itemid=326681530362&targetid=2361041767663&device=c&mktype=pla&googleloc=9045080&poi=&campaignid=21701203342&mkgroupid=170248984071&rlsatarget=pla-2361041767663&abcId=10027101&merchantid=6995734&gad_source=1&gad_campaignid=21701203342&gbraid=0AAAAAD_Lr1cPqkgAhN1CB-3dzYkFLH5It&gclid=Cj0KCQjwwZDFBhCpARIsAB95qO3K1zBeJepfWNiZgVYEdMk9KfrgmFPXLfCd_NQ9aYXwb3qlvOwfpXsaAvtJEALw_wcB>

Zapper buy dvds and cds – for the purpose of recycling them – have sent an email enquiring how we could get some

Same as above with World of Books (formerly known as Ziffit)

And CEX