Enviro-Friendly Filament

Idea of the project:

After sorting used plastic bottles according to their types and color. It goes through cleaning and draining process then into a shredder. The small shreds will go in a hover into a melting room with temperature according to its type. The melting room will contain a drill that pushes the melted plastic through an extruder. The filament from the extruder will then goes into water basil to control its diameter and finally rolled on roller for packaging.

It’s eco-friendly, environmental project that will help sustain plastic problem.

Estimated Cost:

|  |  |  |
| --- | --- | --- |
|  | Item | Price L.E. |
| 1  2  3  4  5  6  7  8  9  10  11  12 | Plastic waste types (HDPE- PLA- PET)  Mechanical Structure  Power Supply  Shredder  3 DC Motors  Drill  2 Fans  Metallic Heating room ( up to 190 C)  Extruder  2 Temperature Sensors  Arduino UNO  Water basil for diameter control | -----  -----  40  -----  3\*20  -----  2\*20  -----  400  2\*15  100  ---- |
|  | Total |  |

Refrences:

<http://www.instructables.com/id/Build-your-own-3d-printing-filament-factory-Filame/>

<http://3dprintingforbeginners.com/how-to-make-diy-filament-for-your-3d-printer/>

<https://www.youtube.com/watch?v=S_C4x-jjZBc>