CLAIMS

What is claimed is –

1. A method of recycling a mixed plastic waste comprising:

(a) feeding a quantity of PET, PVC and polyolefin (PO)-containing reclaimer flake reject separated from said plastic waste to a chemical recycling facility; and

(b) depolymerizing in said chemical recycling facility at least a portion of said PET-, PVC- and PO-containing reclaimer flake reject,

the method further comprising feeding at least a portion of said reclaimer flake reject into at least one density separation stage before said depolymerizing (b), in which a PET-enriched stream and a polyolefins-enriched stream are produced from a waste plastic stream comprising said reclaimer flake reject.

2. The method of claim 1, wherein said flake reject comprises at least 1 weight percent of PVC on a dry basis.

3. The method of claims 1 or 2, wherein said flake reject comprises at least 0.1 weight percent PET on a dry basis.

4. The method of claims 1 or 2, wherein said flake reject comprises at least 0.1 weight percent and/or not more than 20 weight percent polyolefins on a dry basis.

5. The method of claim 1, further comprising feeding at least a portion of said PET-enriched stream into a solvolysis facility.

6. The method of claim 1, further comprising feeding at least a portion of said polyolefins-enriched stream into a partial oxidation (POX) gasifier.

7. The method of claim 1, further comprising feeding at least a portion of said polyolefins-enriched stream into a pyrolysis facility.

8. The method of claim 1, further comprising feeding at least a portion of said polyolefins-enriched stream into an energy recovery facility.

9. The method of claims 1 or 2, further comprising feeding at least a portion of said flake reject into a mechanical dewatering apparatus before said depolymerizing (b).

10. The method of claim 9, wherein said flake reject is fed into a thermal dryer after said mechanical dewatering apparatus.

11. The method of claims 1 or 2, wherein said flake reject is fed directly into a solvolysis facility within said chemical recycling facility.

12. The method of claim 11, wherein a caustic component or caustic solution is introduced along with said flake reject to a dissolver and/or a solvolysis reactor within said solvolysis facility.

13. The use of PET, PVC and polyolefin (PO)-containing reclaimer flake reject separated from a mixed plastic waste as a feedstock to a chemical recycling facility to produce a PET-enriched stream and a polyolefins-enriched stream,

wherein at least a portion of said reclaimer flake reject are depolymerized in said chemical recycling facility,

wherein at least a portion of said reclaimer flake reject are fed into at least one density separation stage before being depolymerized.