CLAIMS

What is claimed is –

1. A method of recycling a plastic waste comprising:

(a) feeding a quantity of PET-containing dry fines from said plastic waste to a chemical recycling facility; and

(b) depolymerizing in said chemical recycling facility at least a portion of said PET-containing dry fines,

wherein said dry fines are waste plastic particles from a PET reclaimer facility and/or a manufacturer of PET articles, having an average particle size of less than 0.32 cm (1/8 inch) and a moisture content of less than 2% by weight; and

wherein said dry fines are recovered from a solid-liquid separator and/or dust collector in a PET reclaimer facility and/or a manufacturer of PET articles, in which dust is generated from conveying, drying, densification, centrifugation processes, and/or grinding PET-containing plastic material.

2. The method of claim 1, wherein said quantity of PET-containing dry fines comprises at least 90 weight percent PET on a dry basis.

3. The method of claim 1, wherein said quantity of PET-containing dry fines comprises at least 0.1 weight percent co-polyesters on a dry basis.

4. The method of claim 1, wherein said quantity of PET-containing dry fines comprises not more than 50 weight percent polyolefins on a dry basis.

5. The method of claim 1, wherein said quantity of PET-containing dry fines comprises not more than 20 weight percent PVC on a dry basis.

6. The method of claim 1, wherein said dry fines comprise dust formed during a PET reclaimer densification, extrusion, and/or packaging process.

7. The method of any one of claims 1 to 6, wherein said dry fines are fed directly to said chemical recycling facility by a conveyance system interconnecting said chemical recycling facility to a PET reclaimer facility.

8. The method of any one of claims 1 to 6, further comprising densifying said dry fines within said chemical recycling facility to form densified plastic particles having a D90 particle size of 0.32 cm (1/8 inches) to 2.54 cm (1 inch) before said depolymerizing (b).

9. The method of claim 8, further comprising feeding said densified plastic particles into a solvolysis facility within said chemical recycling facility.

10. The method of any one of claims 1 to 6, further comprising feeding said dry fines through a screener and separating at least a portion of said dry fines having a D90 of less than 1,000 μm.

11. The method of claim 10, further comprising densifying said portion of dry fines having a D90 of less than 1,000 μm to form densified plastic particles have a D90 particle size of 0.32 cm (1/8 inches) to 2.54 cm (1 inch)

12. The use of PET-containing dry fines from said plastic waste as a feedstock to a chemical recycling facility, wherein at least a portion of said PET-containing dry fines are depolymerized in said chemical recycling facility,

wherein said dry fines are waste plastic particles from a PET reclaimer facility and/or a manufacturer of PET articles, having an average particle size of less than 0.32 cm (1/8 inch) and a moisture content of less than 2% by weight; and

wherein said dry fines are recovered from a solid-liquid separator and/or dust collector in a PET reclaimer facility and/or a manufacturer of PET articles, in which dust is generated from conveying, drying, densification, centrifugation processes, and/or grinding PET-containing plastic material.