

Recycling When the Chips are Down

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About EPI

- Specialists in global environmental packaging & product stewardship requirements

- Our clients include:



J.CREW



PEPSICO



Microsoft

Johnson
FAMILY COMPANY



Johnson & Johnson



How Recycling Markets Impact EPR Programs

or How EPR and Other Market Trends Impact the Cost to Recycle

- Recycle commodity markets are global markets
- Lower oil and natural gas prices
- Strong US dollar
- Traditional plastics (PET & HDPE) are plentiful and “reasonably” priced
- What’s in the recycling stream
- Waste Hauler are losing \$\$\$
- CPG packaging goals: Use of recycled content and packaging recyclability (but are these changing)
- Expansion of EPR (but not in the US)

Global Export Markets

It is estimated that today's average individual generates 4.43 pounds of trash daily.

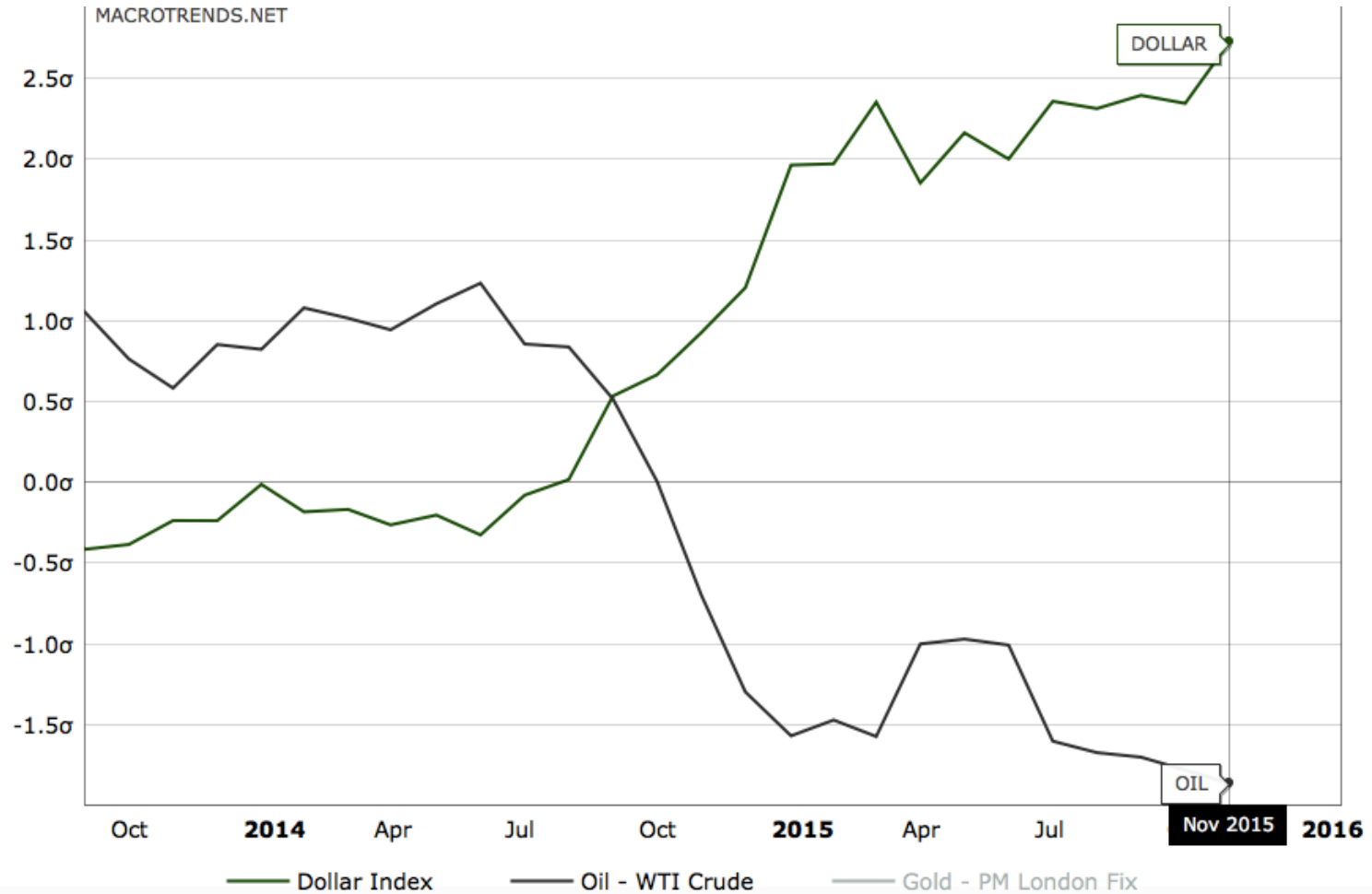
- 1.51 pounds of it is recycled
- Where does this 1.51 pounds go? Approximately half of these recycled materials are exported.
- **Metal:**
 - From January-May of 2015, Turkey was the largest export market for US scrap metal (34.1% of market share)
 - Taiwan (14%), South Korea (11.6%) and India (9.9%) were second, third and fourth largest, respectively
- **Plastic:**
 - For 2014, China was the largest export market for US scrap plastic (with USD 433 million in purchases)
 - Hong Kong (\$219M), Canada (\$93M) and India (\$59M) were second, third and fourth largest, respectively

Global Export Markets

- PET Bottles:
 - In 2014, the US exported 414 million pounds of PET bottles
 - Of the total PET bottle exports, 369 million pounds were exported to the Far East, predominantly China
- Paper:
 - About 65 million ton of paper was recycled
 - Exports of recycled paper to China and other nations account for about 35% of US recycled paper.



Oil and Dollar Index



Effect of Oil Prices on Plastics Recycling

- When oil and virgin plastic prices fall, the market for recovered plastics shrinks
- Price and demand for recovered plastics drops, making it increasingly difficult for recyclers to sell recovered plastics at a profit and stay in business
- Some municipalities opt to send recyclables to landfills because of rising costs of recycling

EPA Report on US Recycling 2013: The Changing Waste Stream

- The composition of materials in the waste stream has changed drastically since 2000
 - From 2000 to 2013, the amount of paper and paperboard discarded in the municipal waste stream decreased from 50,180,000 tons (28.8%) to 25,200,000 tons (15.1%)
 - Discarded plastics rose from 24,070,000 tons (13.8%) to 29,520,000 tons (17.7%)
 - Since 2000, the amount of plastic containers has increased from 4,150,000 tons to 5,380,000 tons (more than 25%) even though the weight of the average container has been greatly reduced
- Flexible packaging (pouches) is also becoming a greater component of the waste stream and replacing other easily recycled materials

Recyclers Continue to Lose Money on Recycling

- Despite stable revenue for Q3, the largest waste hauler were not able to slow losses from recycling operations
- According to an analysis by Resource Recycling, Q3 recycling revenue for Progressive Waste Solutions, Republic Services, Waste Connections and Waste Management were down an average of 13%
- Progressive Waste Solutions: Q3 2015 recycling revenue was down 15.7% from Q3 2014
- Republic Services: Q3 2015 recycling revenue was down 2.2% from Q3 2014
- Waste Connections: Q3 2015 recycling revenue was down 18.7% from Q3 2014
- Waste Management: Q3 2015 recycling revenue was down 15.2% from Q3 2014

Recyclable Packaging Goals



AS YOU SOW

has filed shareholder resolutions asking companies to reduce unrecyclable packaging:

Mondelēz
International





SAFEWAY

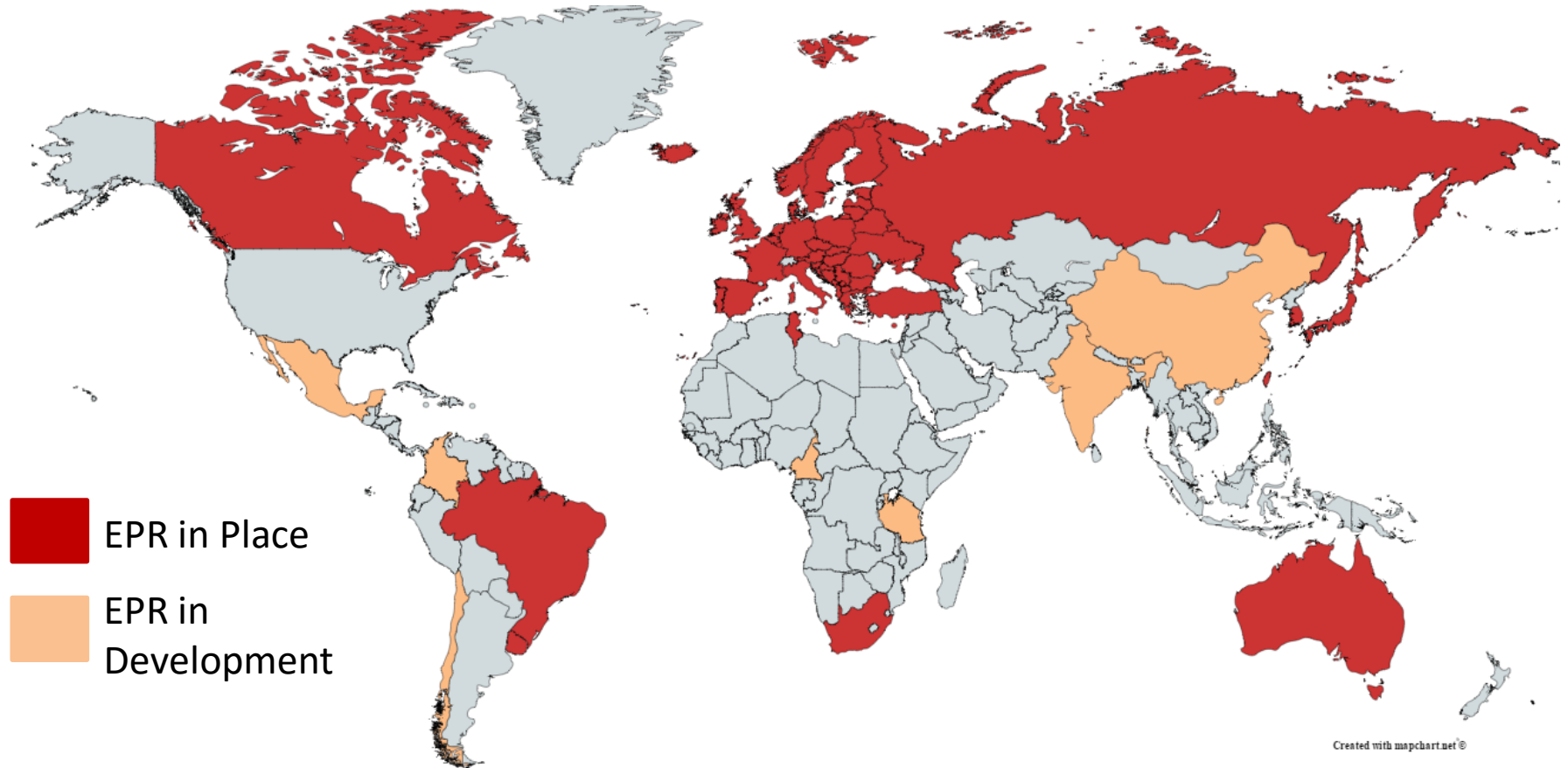
- Colgate-Palmolive commits to making 100% of its packaging fully recyclable for three out of four product categories by 2020.
- Keurig Green Mountain Coffee commits to make all K-Cups recyclable by 2020.
- CPGs are under pressure to make their film packaging more recyclable

Packaging EPR in 2000



 EPR in Place
 No EPR

Packaging EPR in 2015



Canadian Packaging Fee Comparison



Canadian Province Fees for 2013 Sales	PET Bottle	Glass Bottle	Paper + Plastic + Multilayer Combo	Plastic Pouch
Ontario	\$5.94	\$7.33	\$3.04	\$5.98
Quebec	\$9.19	\$22.50	\$5.59	\$11.76
British Columbia	\$12.94	\$57.91	\$8.49	\$12.26
Average Fees	\$9.36	\$29.24	\$5.71	\$10.00

Per 1000 Units



France Disruptor Materials and Eco-Design Incentives

- Packaging that present problems for recycling incur additional fees:
 - Glass packaging with ceramic or porcelain cap - 50% Fee
 - Liquid food packaging made from a majority of paper/cardboard, but comprised of less than 50% fiber - 50% Fee
 - Plastic PET bottles containing aluminum (labels, plugs, caps, inks), using PVC sleeves, or silicone – 50% Fee
 - Packaging paper and cardboard reinforced with polyester - 50% Fee
 - Non-recoverable packaging or packing with sorting instructions but no recycling stream (stoneware, PVC and PLA bottles) - 100% Fee
- Packaging that is eco-designed receive discounts:
 - 8% discount for the use of on-pack labeling (additional 4% offered in 2016 for the use of off-pack messages)
 - 8% discount for source reduction (additional 4% offered in 2016 for publication of reduction actions in Eco-Emballages' catalogue)



EU Commission Adopts Revised Circular Economy Package

- On December 2 the European Commission adopted a revised Circular Economy Package
- The package includes an Action Plan and legislative proposals to amend several EU directives including those on waste and packaging
- Proposals include:
 - A common EU target for recycling 75% of packaging waste by 2030
 - Targets to reduce landfilling
 - Economic incentives to urge producers to put greener products and packaging on the market
 - Minimum operating conditions for EPR and simplification and streamlining of reporting requirements
- The Commission is now calling the European Parliament and Council to prioritize adoption and implementation of the legislative proposals

Europe's Plastic Packaging Recycling Rate Reaches 40% in 2014

- The European Association of Plastics Recycling and Recovery Organisations (EPRO) has announced that the rate of plastic packaging recycling in Europe reached 39.5% in 2014
- This rate exceeds the EU's minimum target of 22.5% and represents a 64% increase since 2006
- The recycling rate for plastic packaging is higher than for other plastic applications, which reached 29.7% for the same year
- EPRO has noted that, in general, countries with landfill bans, like Germany and Sweden, have higher recycling rates for plastic packaging than countries without landfill bans
- EPRO has also attributed plastic packaging's increasing recycling rate to EPR schemes

Can Recycling Grow with the New Realities?

- Summary
 - With low oil price and high USD\$: most MRFs are have trouble making money with the existing stream and are reluctant to take any new materials, especially films and other low-value materials
 - Many new packaging designs (e.g. full-body labels) increase processing costs
 - With single-stream recycling, glass is lowering the value of paper and plastic
 - Cities and towns do not want and cannot afford higher costs
 - The US is competing for markets around the world but most other country programs are being subsidized via EPR
 - New cost pressures regarding marine debris and “Make It, Take It” campaign

Questions?

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