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We love our coffee, but hate the waste it causes

France Just Banned Plastic Cups and Cutlery



France is thought to be the first country in the world to introduce a ban on disposable cups, plates, knives, and forks in a bid to cut waste.

But the ban of an old French habit is the challenge of creating a new one. Some coffee shops, and a growing number of cafes, are using a biodegradable paper cup, and a growing number of cafes are using a biodegradable paper plate, all while imperfectly existing at a time when there is a disposable fork.

The plastic coffee cup and lid are made from a mixture of polypropylene and polystyrene, which is a distinct material from the plastic used in France. It is made, and contains, that single-use cups, plates, knives, and forks are to be banned throughout the country in a bid to reduce plastic production and pollution from waste.

[READ MORE: Hamburg Just Became the World's First City to Ban Hot Coffee](#)

Plastic recycling: Why are 99.75% of coffee cups not recycled?

By Reality Check team
RHC News

© 17 April 2016



Reality Check



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It's gradually becoming common knowledge that it's not as easy to recycle your takeaway coffee cup as people may have thought.

It's the mixture of paper and plastic in their inner lining - designed to make them both heat and leak-proof - that causes difficulties.

Takeaway coffee cups piling up in landfill as Australia's caffeine habit soars

7:30 By Sarah Whyte
Updated 24 Oct 2016, 2:55am



YOUTUBE: Takeaway coffee cups driving hidden plastic catastrophe

Australia's ever-growing caffeine habit could be doing more damage than we think, with environmentalists warning disposable coffee cups are fast on their way to becoming a major pollution hazard.

PHOTO: Coffee cups are estimated to be the second largest contributor to litter waste. (7:30)

RELATED STORY: Milk wars: Does choice really matter in your coffee?

RELATED STORY: Global coffee shortage could close cafes, operator says



"Starbucks can make the best compostable, recyclable cup and it'll never be composted or recycled if the rest of the system doesn't change," Packard, who is now the director of the University of Washington's EarthLab, told CNN Business. "They cannot change the system by themselves." Ben Packard, former Starbucks Vice President

Styrofoam Bans are Sweeping Across the Nation

Something amazing is happening around the country: cities and town are starting to ban Styrofoam.

Throwaway polystyrene coffee cups, soup bowls, plates, and trays have gotten the boot. So have those foamy clamshell-style cartons fast food comes in. Even packing peanuts are going the way of the dodo.

Here's a list of cities that have completely or partially banned Styrofoam, compiled by Groundswell.

- New York City (and several other cities in New York)
- Takoma Park, MD
- Seattle, Washington
- Washington DC
- Miami Beach, FL
- Freeport, Maine
- Portland, Maine
- Nantucket (City & County), Massachusetts
- Minneapolis, Minnesota
- Portland, Oregon (and several other Oregon cities)
- Los Angeles County and San Francisco, California (and many other cities and counties in CA)

And more are in the works. It's as if a big Styrofoam domino has started to fall, taking all the other dominos down with it.

Viewpoint: The waste mountain of coffee cups

© 77 July 2016 | Magazine



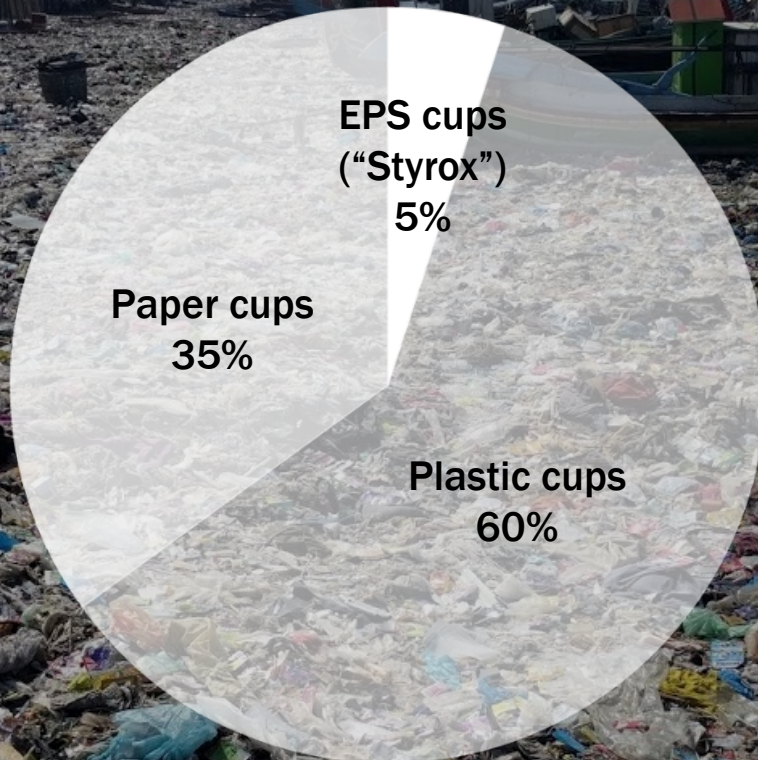
Every day hundreds of thousands of Britons put their coffee cup into a recycling bin. They're wrong - those cups aren't recyclable, and the UK throws away 2.5bn of them a year. It must stop, writes Hugh Fearnley-Whittingstall.

In today's Magazine

The horse that saved his own life by painting

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Global material distribution in drinking cups



In theory, the demand of plastic free cupstock and other packaging material is going to explode

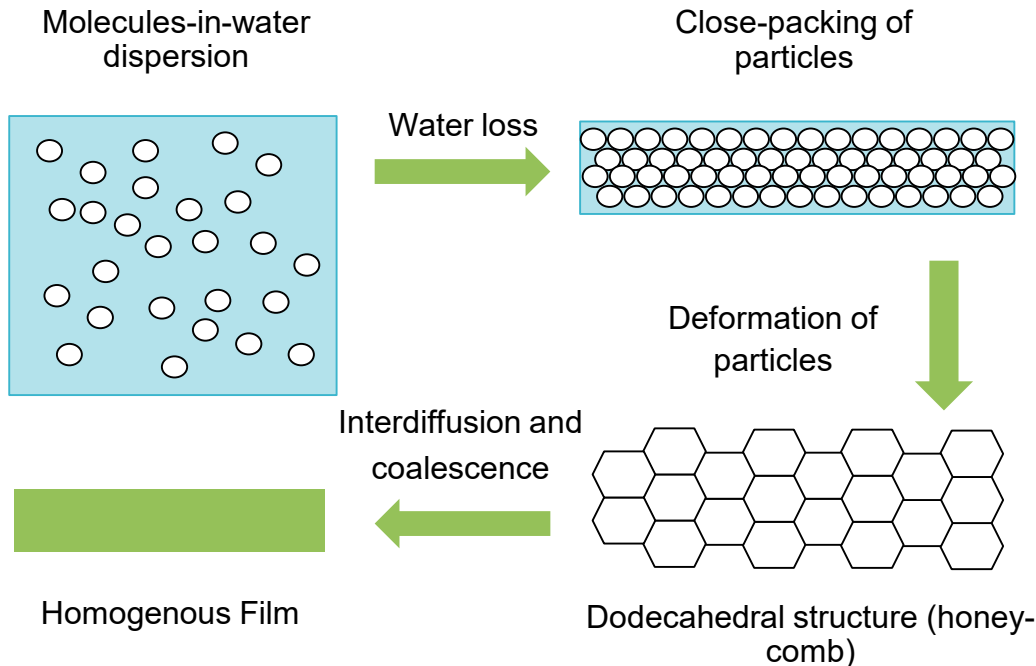
But how to apply plastic free coating material?



Water based dispersions can easily be applied using new curtain coating technology

Water-based barriers are dispersions, which are repulpable

Simplified view of Film Formation



Barrier dispersions typically contain a large number (10-20) of ingredients, needed to produce the intended barrier and functional properties.

Typical components are

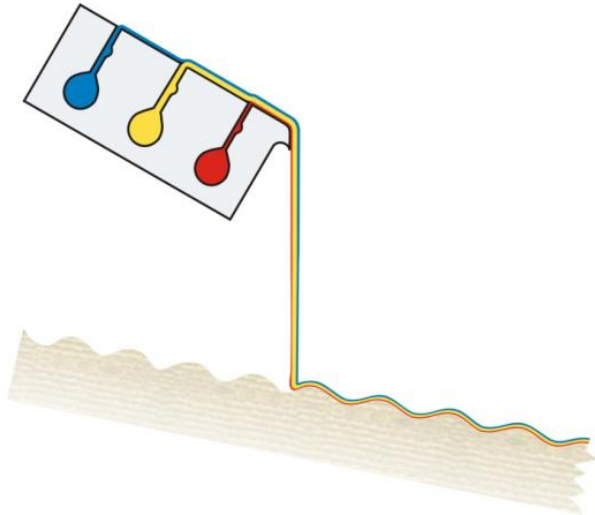
- Film forming agent
- Additives
- Rheology modifiers
- Fillers
- Water

Molecule chains are weak and break down easily

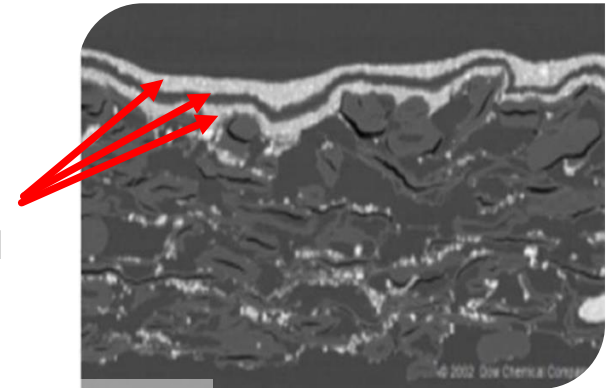
- Biodegradable
- Recyclable with normal paper waste

Multiple and uniform coating layers with curtain coating process

All the coating layers remain separate



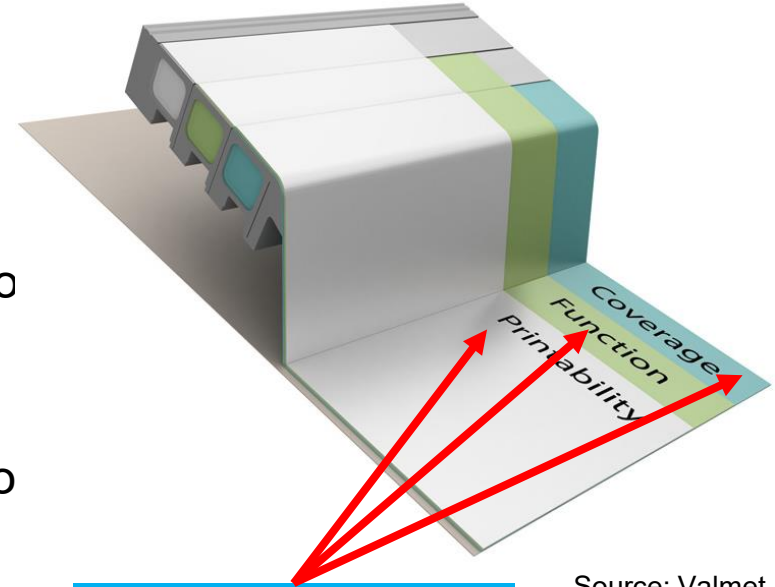
Three separate and uniform layers



Electron microscope

Multiple and uniform coating layers with curtain coating process

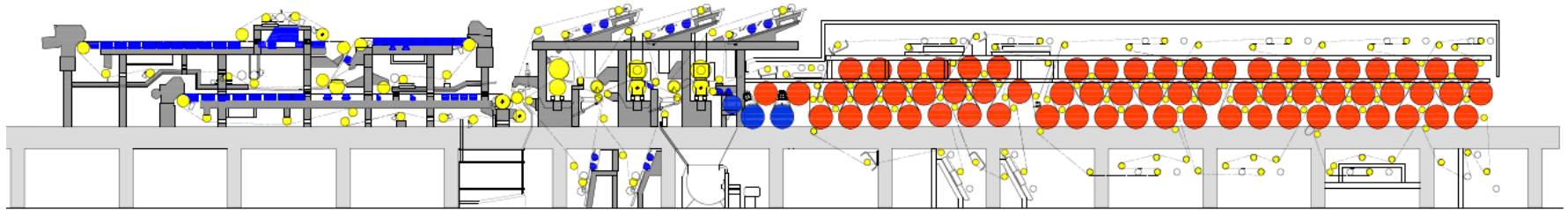
- Functional coating layer possibility
 - Printability
 - Plastics free Barrier layers, e.g. for the food industry
 - Coverage
 - Multilayer structure is needed to create good enough barrier properties
- Possibility for both thin and thick coating layers
 - Thin layer capability, even 2 g/m^2
 - Thick layer capability, up to 30 g/m^2



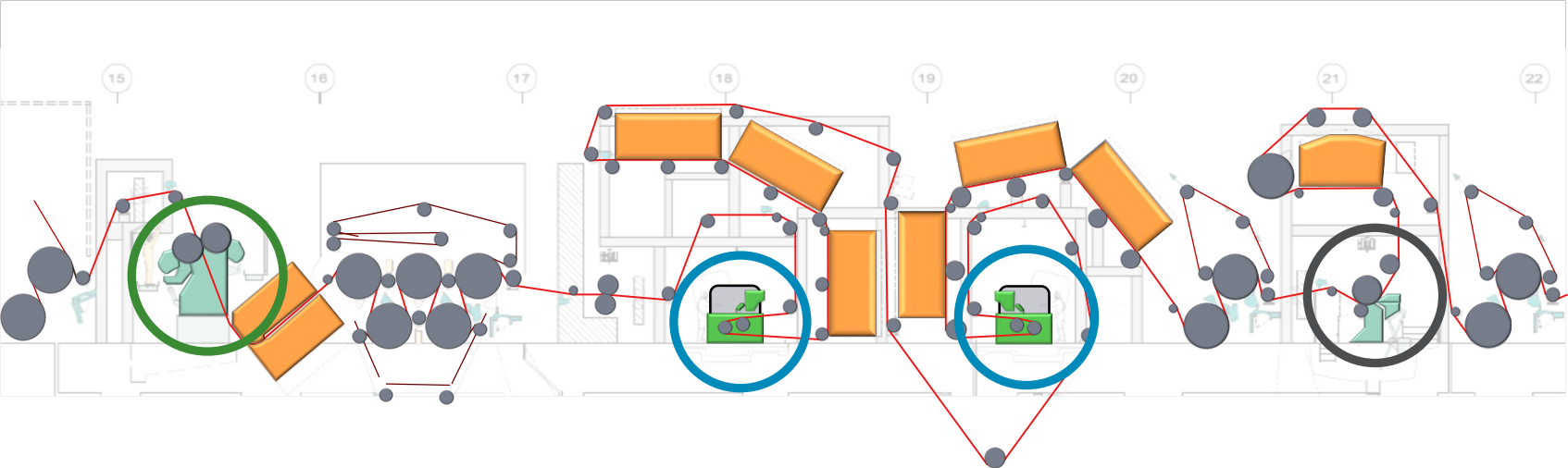
Different function
for each layer

Source: Valmet

So we created a unique blueprint and built a one of a kind Base Board Machine to start solving the problem



The secret is the coating section with edge cutting technology enabling the application of 7 different coating layers



Film sizing / Film coating

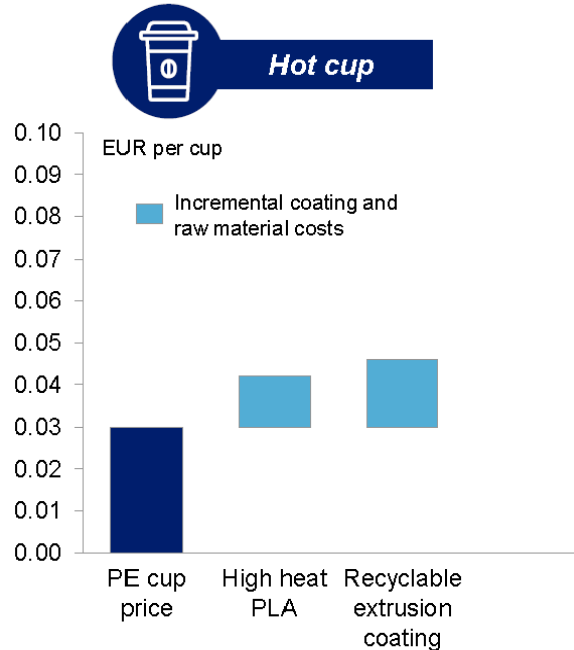
Layering curtain coating

Blade coating

Air drying

Cost comparison of paper cups with different barriers

Coating increases price slightly



The price of a cup of coffee increases by 1,5 cnt

Source: Poyry, Kotkamills

But traditional solutions can lead to unexpected costs

UK set to impose tax on disposable coffee cups: 25p 'latte levy' could be slapped on cups which are difficult to recycle as Britain declares war on single-use plastic

- Taxes could be introduced on single-use items following a Treasury consultation
- There is overwhelming public backing on a 'latte levy' on throwaway coffee cups
- A record 162,000 Britons responded to a Treasury consultation on how to deal with problem packaging

By CCI IN FERNANDEZ FOR THE DAILY MAIL
PUBLISHED: 00:00 GMT, 18 August 2018 | UPDATED: 0

Single-use coffee cups: Wales urged to bring in 'latte levy'

By Eleanor Griffith-Jones
BBC Sunday Politics Wales

© 20 January 2019

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City to Sea said its research showed big public support for a 'latte levy'

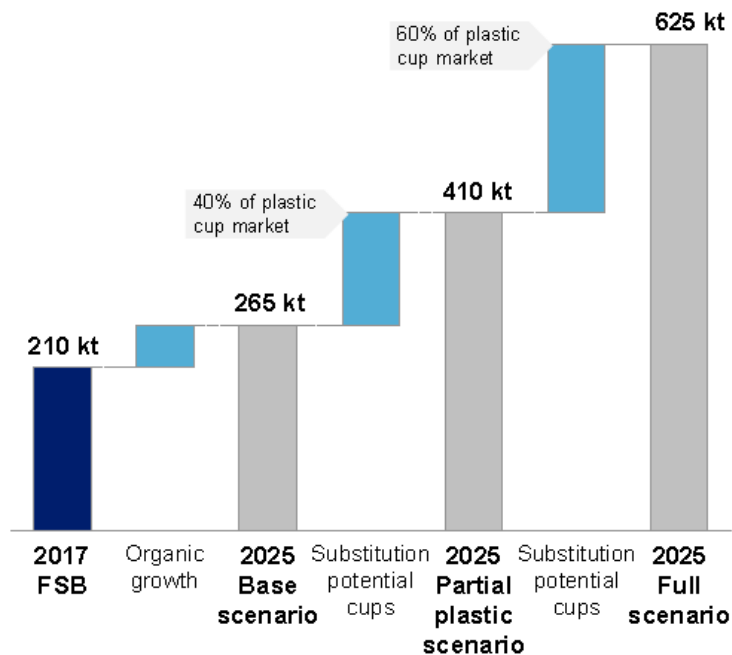
A "latte levy" on disposable coffee cups should be introduced in Wales to reduce waste, campaigners have said.

UK ministers rejected calls for a 25p charge per single-use cup in the Autumn Budget, proposing a plastic packaging tax instead.

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The potential impact of EU's Single Use Plastic directive

Plastic cup substitution potential in Europe



2025 Base scenario, 2.9 %/a or **+55 kt**

2025 Partial plastic subst. scenario, 8.7 %/a or **+200 kt**

2025 Full scenario, 14.6 %/a or **+415 kt**

NOTE: assumed that EU's directive on single-use plastic items is in force by 2025, and applies to all plastic cups

Active development work has produced new innovations

Gin + Tonic

Traditional mixing order:

1. Gin
2. Tonic



Tonic + Gin

Kotkamills mixing order:

1. Tonic
2. Gin



New findings:

Surface tension of dispersion coated cup is different to the PE-coated cup

➔ Beer doesn't foam too much when filling the cup

➔ An ice hockey stadium in Finland will try it in their bars

Conclusions

- Legislation and public pressure are boosting the demand of plastic free packaging solution
- Somebody will sit in the driving seat in the plastic reduction process; if it is not us as packaging board industry, then it is the legislator and the end result might be far from perfect (e.g. 25 pence/cup Latte Levy)
- Sooner or later the consumers start to ask reasonable question about the sensibility of bioplastics, as the recyclability and also biodegradability in real life are perhaps something else than we think
- With modern coating technology we can produce plastic free packaging materials and when the volumes are getting higher, production costs are getting lower and it will not take too long to achieve the cost level of plastic coated boards

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