Resource efficiency: cut costs in plastics processing

Workbook 4: operating resource efficiency

Not: *stop waste*!

But: *find waste*!

The greatest waste is the waste we don’t see

Business pressures for resource efficiency

- Waste costs real money
- The true cost of resource inefficiency and waste is hidden
- Resource efficiency is good business
- Legislation and the legal consequences
- Our reputation and customer pressure

Words for waste

- Conveyor loss, customer returns …
- Defects, dirty solvent, dregs, dross, dust ...
- Obsolete stock, offcuts, out-of-spec, overfill …
- Reel ends, regrind, rejects, rework, rubbish …
- Scrap, second quality, sprues, sweepings …
- Usage allowance, usage variance ...
- Workaway, yield loss ...

+ more that are being invented all the time

Where to find waste?

- Incoming materials
- Storage (raw materials, parts, finished products)
- Production
- Support services
- Energy
- Water
- Other

What to do with waste?

Eliminate it

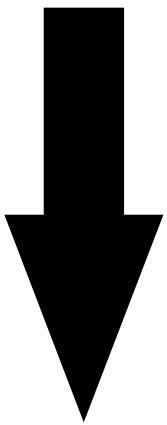
Reduce it

Re-use it

Recycle it

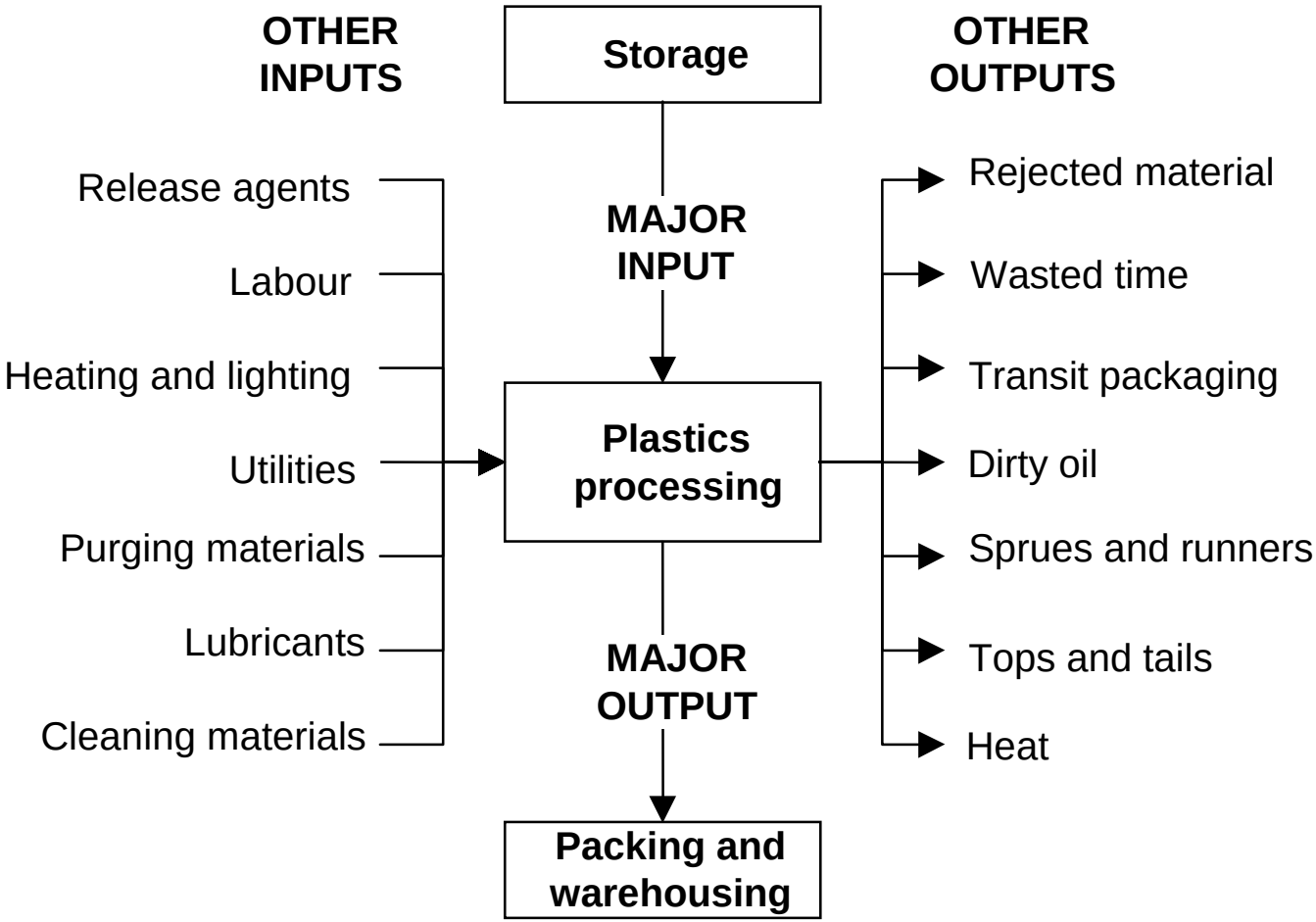
Dispose of it

Best and cheapest



Worst and most costly

Process flow sheet



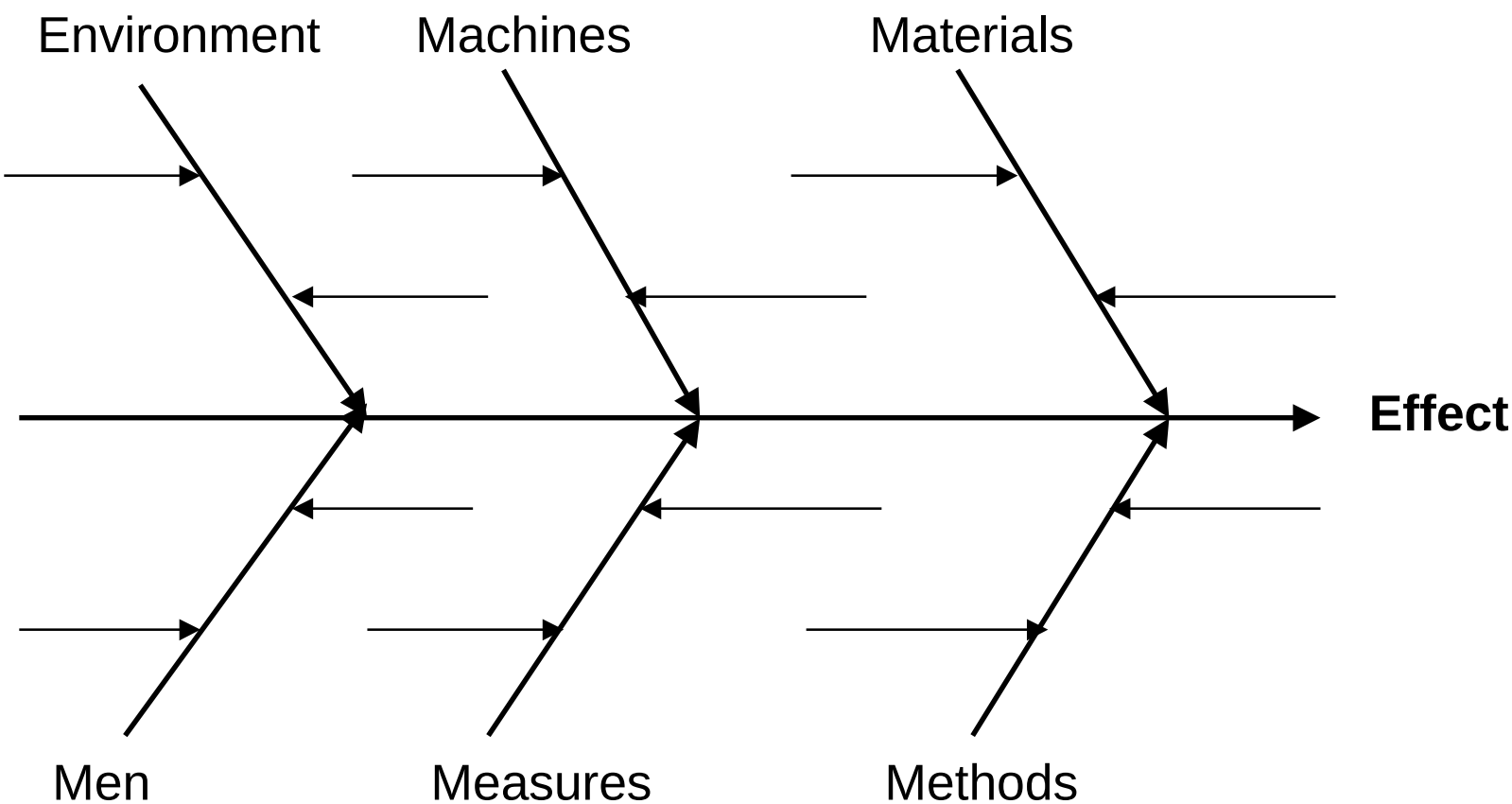
Method waste

Activity	Add value	Add cost (waste)
Moving		✓
Storing		✓
Plastics processing	✓	
Counting		✓
Inspecting		✓
Scrapping		✓
Reworking		✓
Assembling	✓	
Sorting		✓

The five whys

- Get to the root cause of a problem
- Ask ‘why’ at least five times
- Remove the root causes - not just the visible symptoms

Cause and effect diagram (the Ms)



How to reduce material waste

Take action in the following areas:

- Materials management
- Waste management
- Energy management
- Water management
- Packaging management
- Other measures

How to reduce method waste

- Reduce stocks and work-in-progress
- Improve worker involvement and quality
- Increase flexibility and productivity
- Choose the best machinery
- Reduce lead times dramatically
- Add value not cost
- Improve workflow

Potential opportunities

1

2

3

4

5

6

7

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11

12

Potential opportunity analysis

- What is the real cause of the concern?
- What information is needed?
- What are the available sources of information?
- What do we need to fill in the gaps?
- How are we going to get it?

Operator contributions

- Vital understanding of how processes actually work
- Day-to-day contact with the process
- Hands-on ability to reduce waste and improve resource efficiency

Operator opportunities

- Contribute to the business
- Increase job satisfaction
- Gain experience in problem solving
- Increase understanding of their job