CAN CONTAINER BARGES CAPTURE A COMPETITIVE NICHE IN THE UK?

By

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STARTING POINT

- Waterway network with spare capacity!
  Internal waterway traffic GB modest and in decline

	m tonnes	billion tonne km
1982:	9	0.4
2002:	4	0.2

- Vessel designers with concepts to sell
  - split ship
  - BCV systems
  - Water Truck
- Positive Government policy aspirations
  - but little to show for it

To date : a supply led environment

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MARKET OPPORTUNITIES TO TEST

- Estuarial distribution of deep sea container
- Short sea links to the continent
- Estuarial consolidation
- Serving specific industrial plant
- Extension to coastal shipping

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CAN SMALL BARGES BE COST COMPETITIVE?

- Rail and water characterised by high fixed costs and low costs/unit km
- Assuming 24/7 vessel availability:

	Small barge	Medium barge	Large barge	Coaster
TEU capacity	24	50	120	120
Boxes carried	12	25	60	60
Cost/vessel hour	£60	£70	£80	£90
Speed	10 kph	10 kph	10 kph	15 kph
Lift cost/box	£25	£25	£25	£40
Turnaround	2 hrs	4 hrs	6 hrs	6 hrs
Cost/box (between dock gates)				
Fixed	£62	£59	£55	£90
Per kilometre	£0.60	£0.30	£0.14	£0.10

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BARGE COSTS COMPARED WITH ROAD OR RAIL

Cost/box/direction excluding delivery (trunk only)

Road	£20	+	£0.6/km
Rail (30 boxes carried)	£70	+	£0.25/km
Barges			
Small (12)	£62	+	£0.60/km (24 TEU)
Medium (25)	£59	+	£0.30/km (50 TEU)
Large (60)	£55	+	£0.14/km (120 TEU)
Coaster (60)			
	£90	+	£0.10/km

Incremental delivery cost (road)

on site	:	£20
off site	:	£80

- Small barges relatively high comparative costs

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GRANTS : BASED ON SENSITIVE LORRY MILES

- Two potential sources
  - freight facilities grants (for terminals)
  - waterborne freight grants (for operations)

- National budget limited and DfT will consider ‘best value’ in evaluations

- Based on sensitive lorry miles saved

- WFG could be adapted from CNRS rail operating grants

  Example : Humber – W.Yorkshire £30/box grant

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COST COMPETITIVENESS - EXAMPLE

Hull – Leeds : 90km

	Medium Barge (50 TEU)	Small Barge (24 TEU)	Rail (30 TEU)
Trunk route cost	£86	£116	£92
Less grant	(£30)	(£30)	(£30)
	£56	£86	£62
Off site delivery	£80	£80	£80
	£136	£166	£142
If on site delivery	*£76*	*£106*	*£82*

Versus road haulage

trunk	£ 74
delivery	£ 80
	£154

- Small barges cost competitive if serving water linked sites inaccessible to rail or larger barges (or there not being adequate traffic for larger barge)

i.e. £106 by small barge to linked site versus £154 by road

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ESTUARIAL DISTRIBUTION OF DEEP SEA CONTAINERS

- Existing deep sea ports very congested
- Strong motivation to move boxes off quay inland asap
- Example of Alconbury airfield (80 boxes/night road hauled from Felixstowe for regional delivery)
- Barge could play low cost role

BUT

- Length of haul very limited for inland barges
  - Felixstowe to Ipswich/Manningtree
  - Southampton to ?
  - Tilbury/Thamesport/Shellhaven to Windsor
- Lack of suitable waterside storage sites west of London
  - remember Slough residents' attitude to LIFE project!
- Rail can always offer service deeper inland to Midlands & North West markets than can water

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SHORT SEA LINKS TO THE CONTINENT/IRELAND

- Barges add an extra leg
- Increasing penetration of roro into container market
  - so no craneage on berth to lift boxes into barges
- Short sea vessels can already reach inland to Goole or Manchester
  - so Leeds competes with ship Goole as well as Hull
- Rail can penetrate further inland (Immingham to Manchester)

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ESTUARIAL CONSOLIDATION

- Multiple maritime terminals in Thames/Medway area
  - Tilbury x 2
  - Thamesport
  - Shellhaven (potentially)

- Similar complexity in Humber
  - Hull/Immingham/Goole

- Opportunity to consolidate for onward rail/short sea distribution between water linked sites

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SERVING SPECIFIC WATER LINKED INDUSTRIAL PLANT

- Appropriate for small barge
- Cost competitive
- Ideal to link
  - estuarial plants requiring access to range of liner services
  - plant receiving goods from other water linked cargo generators

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WATER LINKED PLANT

- Few current examples
- UK manufacturing industry in decline!
- Requires plant to have on site container handling facilities

Opportunities could include:

- Petro-chemicals in some estuaries
- New industry based on EC directives on recycling

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RECYCLING

- Directives imply a legal requirement to recycle approximately 50m tonnes more goods per annum in UK
- This industry (paper, glass, electrical goods, plastics, tyres etc.) still developing
- Goods cannot be moved in bulk AND remain sorted
  - implies recyclates will be moved by container
- Opportunities to locate waterside
- Local waste authorities obliged to establish MRFs (material recycling facilities)
  - important these located waterside with container handling capability
- Increasingly recyclates being exported (e.g. China) via deepsea ports – would suit waterside MRFs
- Important to distinguish this role from waste collection!

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SUMMARY

- Small barges per box inevitably more expensive than rail
- Limited geographically
- Success will depend on waterside industry
- Growth of recycling offers opportunities

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