



What can water rights trading do for England?

Regulation for a Sustainable Water Industry,
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Julien Harou

Department of Civil, Environmental & Geomatic
Engineering, University College London

www.cege.ucl.ac.uk/staff?ID=858

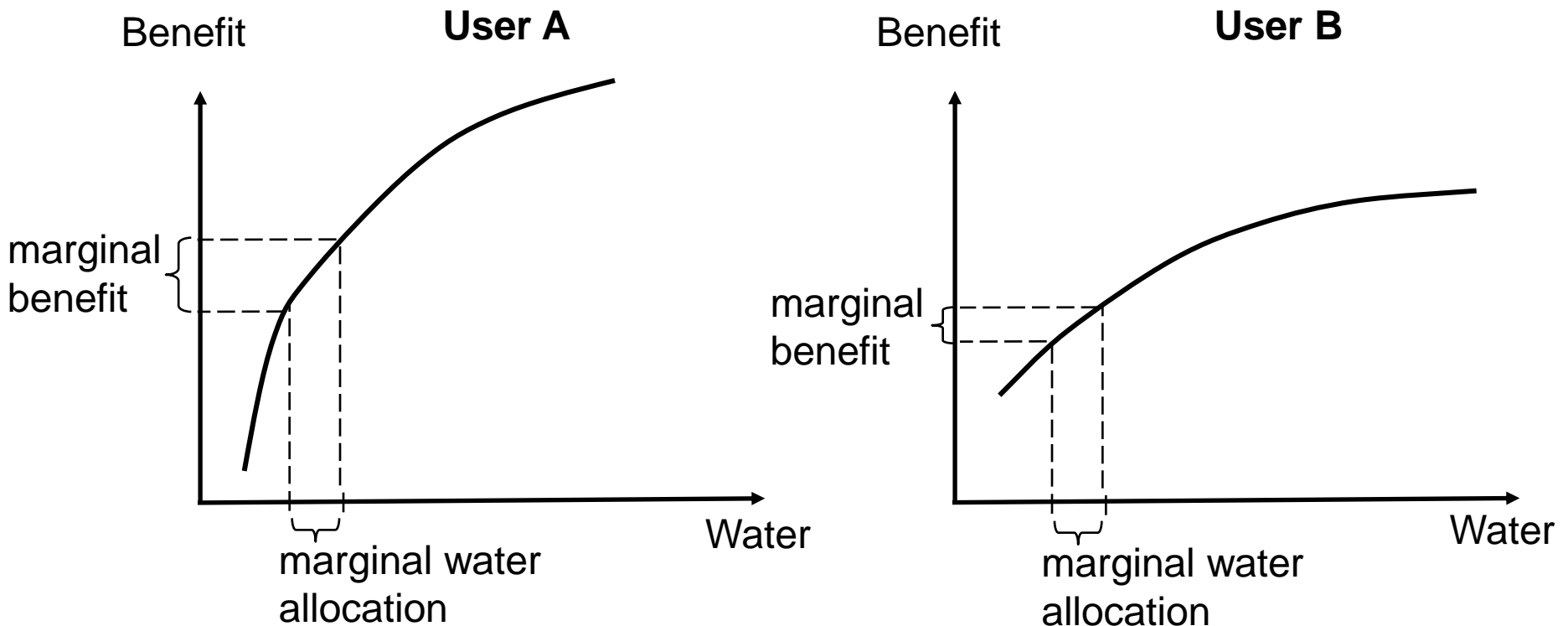
Why trade water?

Encourages water to be used where it creates greatest benefits

... 'allocative or economic efficiency'

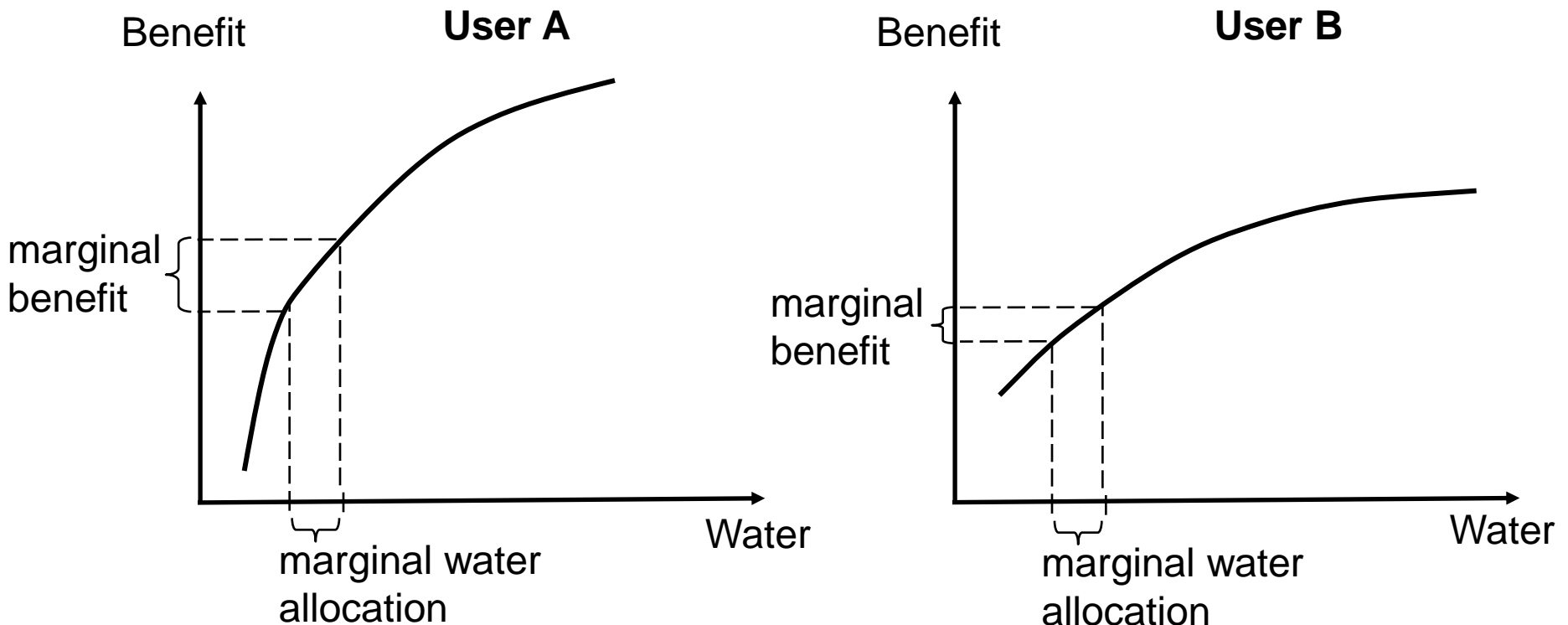
Understanding efficient allocation

Equimarginal principle says marginal net benefits should be equal amongst all uses



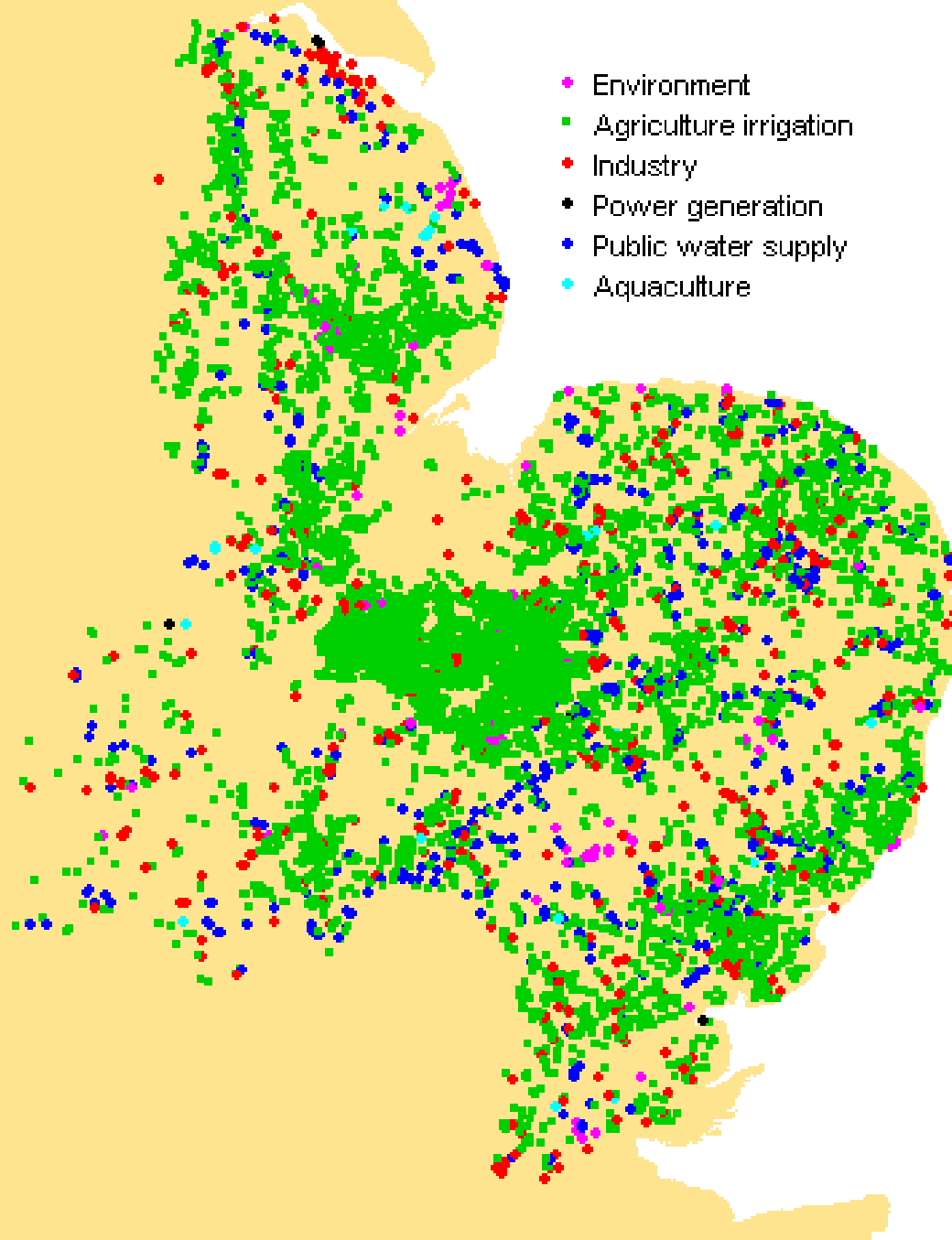
Understanding efficient allocation

- A should receive marginal (next) allocation
- If A buys from B regional economic benefits are maximised



Abstraction licenses East Anglia

Diversity of uses
means wide range
of marginal
benefits over
space and time



Map: Frontier Economics

Data source: Anglian Water

Local & regional trade

- Ofwat (2010) showed economic gains possible through regional water trading due to regional differences in incremental cost of new supplies
- But few regional trades occur; proposed fixes:
 - changing regulations (e.g. balancing capex & opex incentives)
 - modifying industry structure (e.g. upstream competition)
- That may not be enough; the local value signal produced by license trading could also be a key trigger of regional trading
- Why? Regional differences in marginal benefits and hydrological conditions will drive trades in addition to supply cost differences

License trading

- Sends signal from regional to local level that water is scarce and has value
- Also
 - reduces need for blanket rationing (hose-pipe bans)
 - quantifies water value across space and time
 - signals value of developing new innovative supplies and allows to defer contingency (headroom) supplies
 - low energy, cost-effective way to move water locally
 - allows opportunistic ‘smart’ actions by ecological groups (e.g. synthetic high flow event when prices are low)

Evidence base?

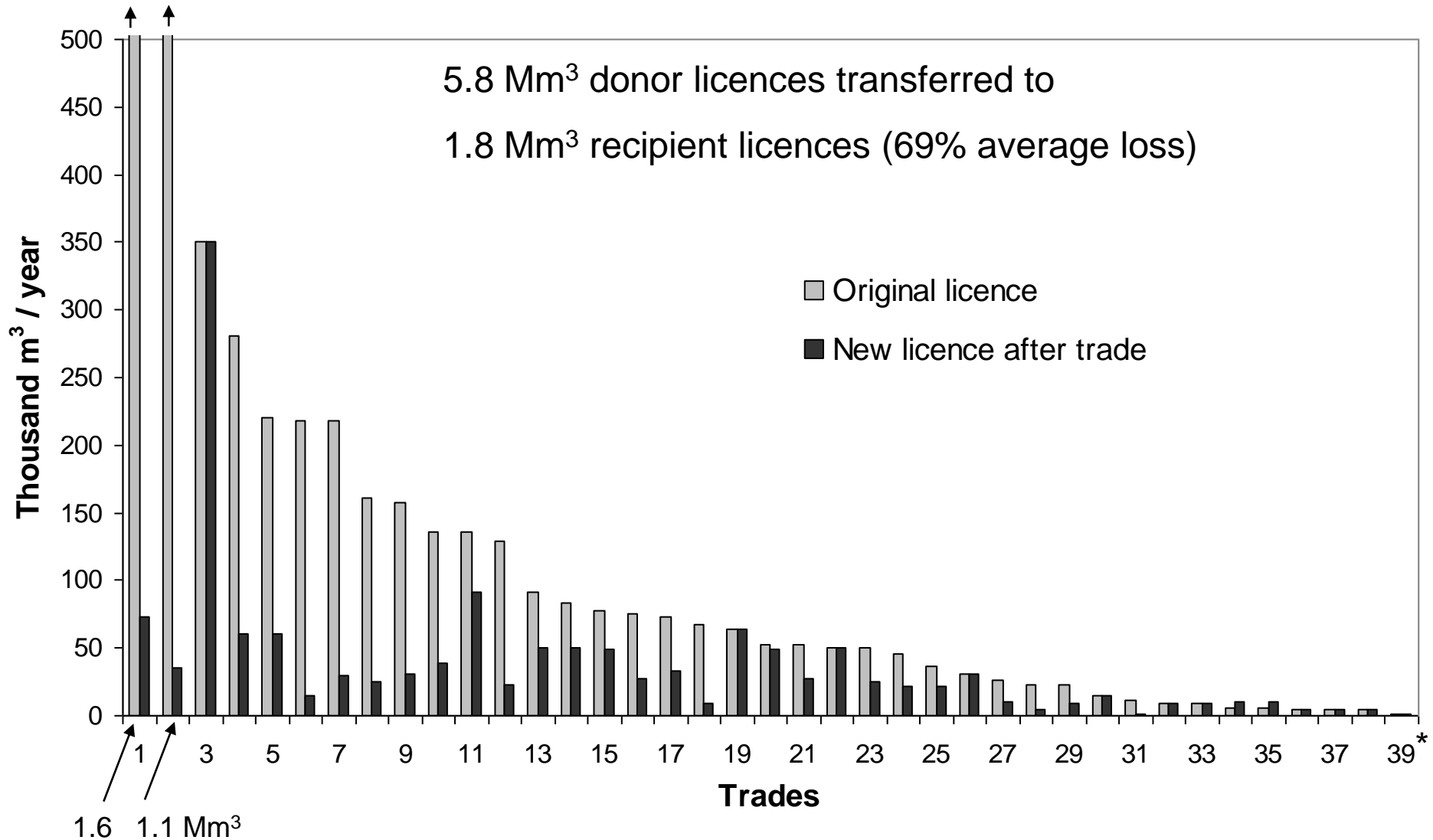
- Will this really work? More evidence is needed
- Modelling work should proceed for pilot subcatchments
 - Hydro-economic modelling (produces shadow prices over time & space)
 - Infrastructure investment modelling efforts
- Ideally a policy simulation platform would be shared by water companies, regulators, consultants and universities (e.g. www.hydroplatform.org)

Barriers

Identified by regulators & license holders:

- market visibility
- hydro-ecology
- regulatory process
- regulatory uncertainty

EA reductions in traded licenses



* N.B. Original licensed volume missing for 12 trades

Sustainability reductions and trade

- Trading not incompatible with sustainability reductions
- Sustainability reductions encourage trade because they signal water's scarcity (value)
- License trading alleviates economic inefficiency of reductions, thus enabling least cost sustainability reductions
- Licence trading and sustainability reductions
 - when separate: complementary and mutually beneficial,
 - combined: don't achieve policy objectives

License trading regulatory needs

- Sustainability reductions separated from trade consenting
- Clear signals on license charges, sustainability reductions
- Quick or pre-approval for short-term trades
- Information for buyers and sellers (rules & procedures, market activity)

Trades 2003-2010

- EA registered 51 licence trades between 2003 – Sept. 2010
- Traded licences (after trade): 1.8 Mm³ (0.003% of total annual abstractions)

Temporary vs. Permanent

	Number of Trades	% by Volume
Temporary	28	63%
Permanent	16	26%
Unknown	7	11%

Who's Giving Up Water?

Donor's Licence Purpose	Number of Trades	% by Volume
Spray irrigation	39	62%
Unknown	4	3%
Water supply	2	5%
General Farming	2	1%
Mineral washing	3	24%
Industrial	1	4%

Who's Buying Water?

Recipients Licence	Number of Trades	% by Volume
Spray irrigation	37	56%
Water supply	5	9%
General Farming	4	7%
Industrial	2	5%
Mineral washing	2	23%

Trade Locations



	Number of Trades	% by Volume
Anglian	34	62%
Thames	5	24%
Midlands	4	5%
Southern	4	5%
South West	2	1%
North East	1	1%
Wales	1	2%

Conclusions

- Goal: economically efficient and sustainable water allocation under scarcity
- Regulated flexible license markets contribute:
 - identify water's explicit value
 - motivate regional trades which defer contingency supplies and encourage innovative local supplies
 - allow innovative pro-active ecological management
- Aspiration: regulations & procedures streamlined and ready to lower scarcity cost of next drought