

DAM REMOVAL

Financial models for scaling up

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First ideas for scalable (financial) models on dam removal

(with some overlap between the models)

1. Support specialized dam removal company
2. New fish economies
3. Biodiversity offsets
4. Hydropower offsetting
5. Small hydropower to wind conversion
6. Sediment solutions
7. The sand engine
8. Improving water quality
9. Buying/obtaining dams/rights
10. Sales of land after dam removal



New fish economies

- Dam removal could open up whole rivers for migratory fish
- Catch & release fishing could pay back for removal of obsolete dams if properly organized (fish coins?).
- Partners: local organizations of fishermen that are allowed to manage the system of catch & release permits
- Good alternative for building expensive fish ladders



Small hydropower to wind/solar conversion

- Permits for windmills (or solar parks) linked to removal of hydropower
- Hydropower plants of 5-20 MW can be replaced by 1-2 windmills (placed on spots with low impact on landscape, birds and bats)
- Local ownership of new windmills/solar parks could create support for this transition



Sediment solutions

- Dams disturb natural sediment transports, sometimes leading to costly erosion prevention downstream
- Dam removal could be an alternative; bringing sediment for free
- Model: transfer management costs for shore and coastal reinforcement to dam removal
- Partners: authorities responsible for safe river banks, coastal defence



Buying/obtaining dams

- Some countries - like France - subsidize dam removal of privately owned dams
- Now on ad hoc basis, but could change in pro-active obtaining of strategic, obsolete dams
- With loan: pre-financing of buying and removal, paid back by authorities
- Partners: entrepreneurs and water authorities that have this financial system in place



Sales of land after dam removal

- Some big dams flooded large areas
- The value of those flooded areas can outweigh the value of the dam
- Dam removal as start of sustainable development floodplains
- New (nature based) economy of the floodplain can pay for dam removal
- Partners can be nature organisations, farmers, foresters, tourism sector etc.



First ideas for scalable (financial) models on dam removal

Model	Partner	Potential	Likelihood
1. Support specialized dam removal company	• Companies	• UK, Spain, Lithuania?	• Mid
2. New fish economies	• Authorities	• UK, Scandinavia,...	• High
3. Biodiversity offsets	• Authorities	• France,...	• High
4. Hydropower offsetting	• Companies	• Balkans, Sweden,...	• High
5. Small hydropower to wind conversion	• Authorities	• Scandinavia,...	• High
6. Sediment solutions	• Authorities	• Sweden,...	• Low
7. The sand engine	• Energy companies	• Spain, Slovakia,...	• Low
8. Improving water quality	• Water companies	• EU, Lithuania,...	• Mid
9. Buying/obtaining dams/rights	• Entrepreneurs	• Sweden, France?..	• High
10. Sales of land after dam removal	• Authorities	• Ukraine?	• Mid

Next steps

- Explore enabling conditions per country
- Choose most promising models
- Find early adopters for one or more of these models (Älvräddarna, Sweden)
- Further develop these models with the early adopters
- Test on a small scale (< 600K investment) with EIB-money (REC2, revolving fund?)
- If scalable: attract investors with REC3



Swedish context

- All hydropower plants must be relicensed between 2022 and 2036, under the Nationell Prövningsplan (NAP).
- Owners of HP up to 10 GWh / year can choose either:
 - Implementing environmental mitigation measures
 - Decommissioning their plant.
- Hydropower Environmental (HPE) Fund of €1bn set up by 8 largest hydropower companies.
- Fund will repay owners for majority (85-95%) of the costs of dam decommissioning / implementation of the environmental mitigation measures.

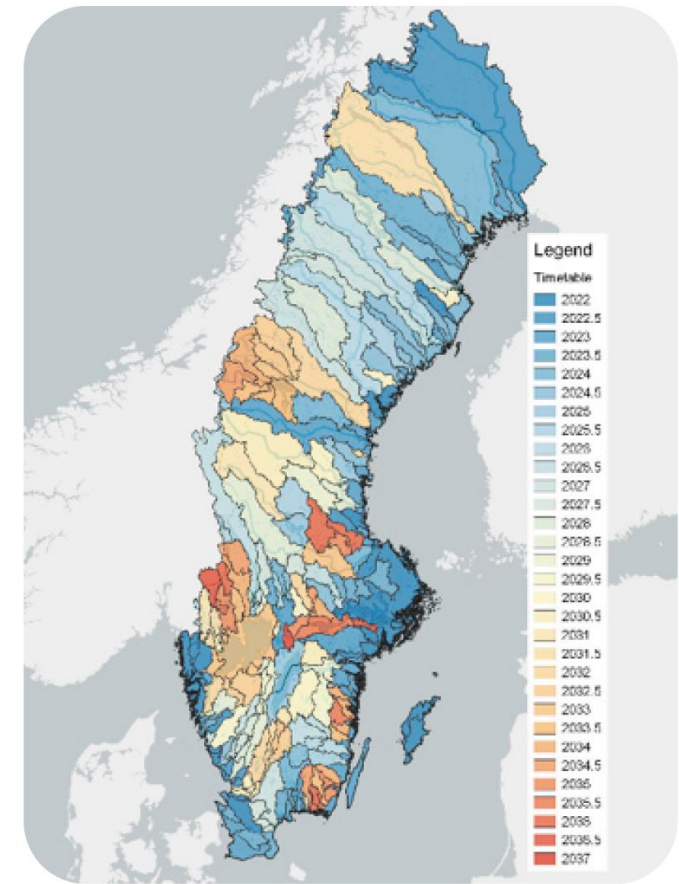


Figure 5. The areas for licence revision are geographical areas, mostly a catchment, in which the hydropower plants have environmental connections. They are managed according to a time plan when the plant owner should apply for a revision of the license.

Swedish opportunity

- In a partnership between Rewilding Europe and Älvräddarna
- Exploring mechanisms to maximise number of dams removed under this relicensing plan
- Working on a pilot for a scalable business model

