Financing ponds and pondscapes as nature-based solutions

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Pond Ecosystems for Resilient Future Landscapes in a Changing Climate

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Context

- **Insufficient financing is a significant barrier for nature-based solutions uptake**

- **Why? Pondscapes (like other NbS) pose challenges for financing**
  → **Pondscapes generate "public" goods**, which are undervalued by markets (e.g. biodiversity conservation)
  → **Scattered benefits**: Pondscapes generate multiple benefits for many beneficiaries
  → Benefits are **difficult to measure**
  → Relatively **small project size**

- **Call for significant increase in private investment** to meet NbS financing gap – but some concerns.

- Limited research on ponds

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Research questions

1. **How much do pondscapes cost?** What are the budgetary requirements of Pondscape NbS implementation?
2. **How are pondscapes currently paid for?** How are ponds and pondscapes currently funded/financed as nature-based solutions?
3. **What is the future role of private finance?** How could innovative financing instruments pay for pondscape NbS in the future?

Methodology

- **Literature review**
- **Semi-structured interviews** with demosite leaders at 11 pondscapes in EU, Uruguay, Turkey
- **Co-creation workshops** in three demosites (in Spain, Turkey, UK)

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Sustainable Finance Inventory

Objectives:

- Identify options for how pondscape NBS can be financed
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Contains:

- 22 Financing instruments
- 26 Real-world examples
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SUSTAINABLE FINANCE INVENTORY

Find the complete Ponderful Sustainable Finance Inventory at the Ecologic Institute website or click on the instruments below to learn more

MAIN CATEGORY	CATEGORY DEFINITIONS	INSTRUMENTS	✦EXAMPLE
1. Income instruments	Instruments for raising revenue that can then be used to finance NbS. Some can be used by landowners (1.1, 1.4, and 1.5); others can only be levied by government-sanctioned associations (1.2 and 1.3) or governments (1.6).	1.1 User fees	✦Altnabrocky
		1.2 Business improvement districts	✦Vauxhall
		1.3 Betterment levies	✦Wimbledon
		1.4 Development rights and leases	✦SANPark
		1.5 Sale of market goods	✦Bavaria
		1.6 Other revenue raising measures	✦UK Network Rail ✦Port Townsend
2. Contracting approach (cost reduction/ restructure)	Legal agreements that reduce or restructure the costs of financing NbS, either by providing assets or use of assets at below market rates (2.1) or by shifting financing of upfront costs in return for ongoing payments (2.2).	2.1 Community asset transfer	✦Chapman Pond
		2.2 Public private partnership	✦Valley State
3. Voluntary contributions/ donations	Voluntary payments made of own free-will, whether a direct beneficiary of the NbS (3.2) or simply to contribute (3.1, 3.3)	3.1 Philanthropic contributions	✦Living Danube
		3.2 Voluntary beneficiary contributions	✦Haweswater
		3.3 Crowdfunding	✦Treflach Wetland
4.Tradable Rights/permits and payment for ecosystem services	Revenue is raised by selling the ‘rights’ to ecosystem services generated by the NbS. This payment can be relatively informal (4.1) or through structured markets for climate mitigation (4.2), for offsetting damage to biodiversity elsewhere (4.3), or for reducing water pollutants (4.4).	4.1 Payment for ecosystem services	✦Vittel
		4.2 Transfer-based instruments: voluntary carbon markets	✦MoorFutures
		4.3 Transfer-based instruments: Biodiversity offsets and habitat banking	✦Eco-Accounts ✦District Licensing
		4.4 Transfer-based instruments: Water quality trading systems	✦Pennsylvania
5. Subsidies	Subsidies are a financial contribution from the government to a person, company or organisation to promote socially beneficial outcomes. They can be ongoing payments (or tax breaks) linked to outcomes or production (5.1, 5.2)	5.1 Environmental subsidies	✦Petra Marada
		5.2 Tax concessions	✦West Australia
6. Grants	Direct contribution from government (local, national, or EU) to a recipient in return for undertaking a specific activity. Grants are generally one-off payments (though they may be paid in instalments), and often competitive (6.1).	6.1 Grants	✦Hunte-Leda
7. Debt instruments	Transfer of capital in return for a promise to repay that capital over time, generally with interest. This can involve direct lending from a lender to a borrower (7.1) or be mediated through debt markets (7.2).	7.1 Loans and green loans	✦Linnunsuo ✦Winona Wetland
		7.2 Bonds and green bonds	✦DC Bond ✦TCF Green Bond
8. Ownership models (equity finance)	Financing raised by selling an ownership share of the NbS, potentially with a claim to some of its profits. This can be motivated by a desire to have impact (8.1) or be purely commercial (8.2)	8.1 Impact investing	✦Sumatra Merang
		8.2 Commercial investing	✦Mill Creek

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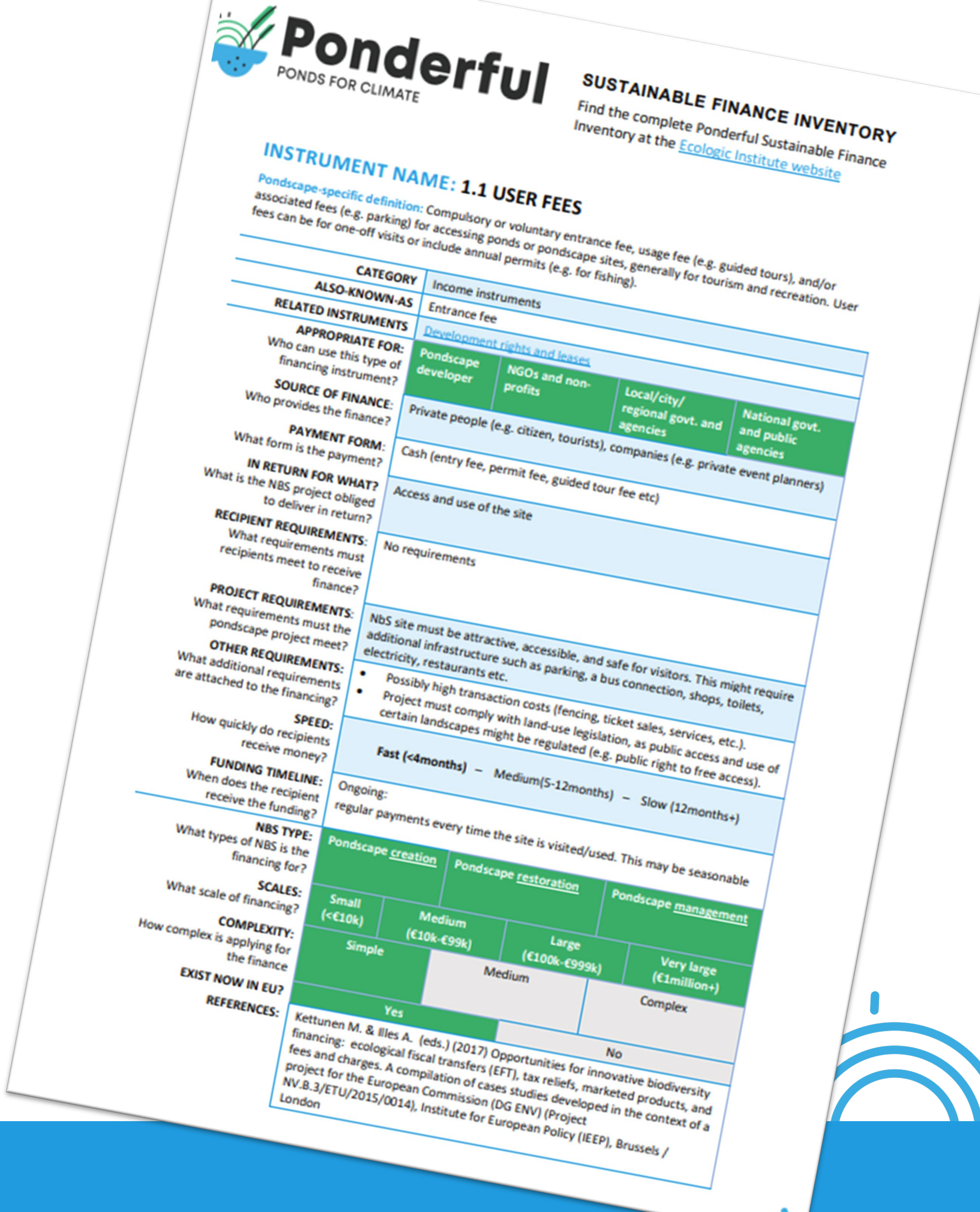
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INSTRUMENT NAME: 1.1 USER FEES

Pondscape-specific definition: Compulsory or voluntary entrance fee, usage fee (e.g. guided tours), and/or associated fees (e.g. parking) for accessing ponds or pondscape sites, generally for tourism and recreation. User fees can be for one-off visits or include annual permits (e.g. for fishing).

CATEGORY	Income instruments				
ALSO-KNOWN-AS	Entrance fee				
RELATED INSTRUMENTS	Development rights and leases				
APPROPRIATE FOR: Who can use this type of financing instrument?	Pondscape developer	NGOs and non-profits	Local/city/regional govt. and agencies	National govt. and public agencies	
SOURCE OF FINANCE: Who provides the finance?	Private people (e.g. citizen, tourists), companies (e.g. private event planners)				
PAYMENT FORM: What form is the payment?	Cash (entry fee, permit fee, guided tour fee etc)				
IN RETURN FOR WHAT? What is the NBS project obliged to deliver in return?	Access and use of the site				
RECIPIENT REQUIREMENTS: What requirements must recipients meet to receive finance?	No requirements				
PROJECT REQUIREMENTS: What requirements must the pondscape project meet?	NbS site must be attractive, accessible, and safe for visitors. This might require additional infrastructure such as parking, a bus connection, shops, toilets, electricity, restaurants etc.				
OTHER REQUIREMENTS: What additional requirements are attached to the financing?	• Possibly high transaction costs (fencing, ticket sales, services, etc.). • Project must comply with land-use legislation, as public access and use of certain landscapes might be regulated (e.g. public right to free access).				
SPEED: How quickly do recipients receive money?	Fast (<4months) – Medium(5-12months) – Slow (12months+)				
FUNDING TIMELINE: When does the recipient receive the funding?	Ongoing: regular payments every time the site is visited/used. This may be seasonable				
NBS TYPE: What types of NBS is the financing for?	Pondscape creation	Pondscape restoration	Pondscape management		
SCALES: What scale of financing?	Small (<€10k)	Medium (€10k-€99k)	Large (€100k-€999k)	Very large (€1million+)	
COMPLEXITY: How complex is applying for the finance	Simple	Medium	Complex		
EXIST NOW IN EU?	Yes	No			
REFERENCES:	Kettunen M. & Illes A. (eds.) (2017) Opportunities for innovative biodiversity financing: ecological fiscal transfers (EFT), tax reliefs, marketed products, and fees and charges. A compilation of cases studies developed in the context of a project for the European Commission (DG ENV) (Project NV.B.3/ETU/2015/0014), Institute for European Policy (IEEP), Brussels / London				

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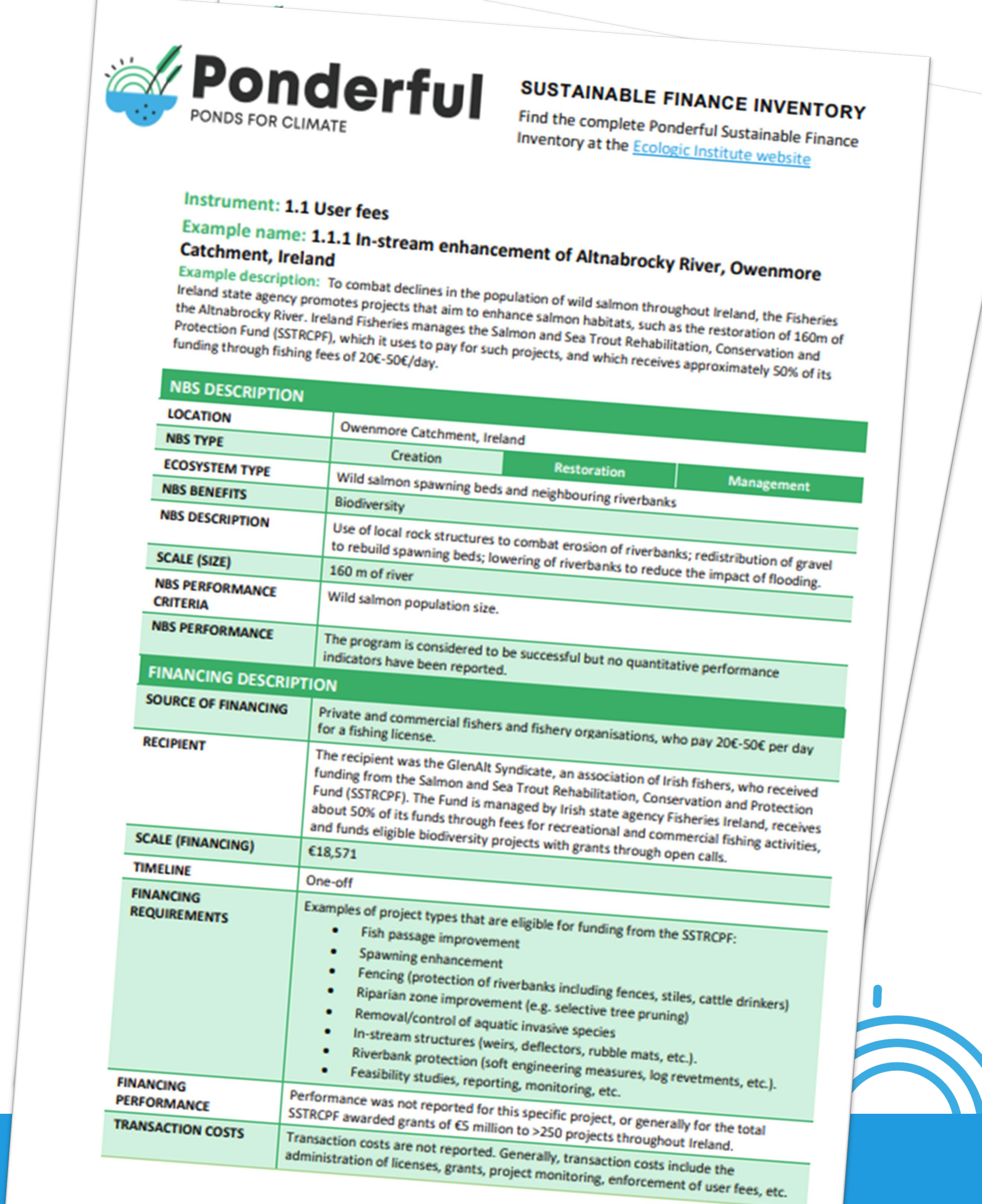

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Instrument: 1.1 User fees

Example name: 1.1.1 In-stream enhancement of Altnabrocky River, Owenmore Catchment, Ireland

Example description: To combat declines in the population of wild salmon throughout Ireland, the Fisheries Ireland state agency promotes projects that aim to enhance salmon habitats, such as the restoration of 160m of the Altnabrocky River. Ireland Fisheries manages the Salmon and Sea Trout Rehabilitation, Conservation and Protection Fund (SSTRCPF), which it uses to pay for such projects, and which receives approximately 50% of its funding through fishing fees of 20€-50€/day.

NBS DESCRIPTION			
LOCATION	Owenmore Catchment, Ireland		
NBS TYPE	Creation	Restoration	Management
ECOSYSTEM TYPE	Wild salmon spawning beds and neighbouring riverbanks		
NBS BENEFITS	Biodiversity		
NBS DESCRIPTION	Use of local rock structures to combat erosion of riverbanks; redistribution of gravel to rebuild spawning beds; lowering of riverbanks to reduce the impact of flooding.		
SCALE (SIZE)	160 m of river		
NBS PERFORMANCE CRITERIA	Wild salmon population size.		
NBS PERFORMANCE	The program is considered to be successful but no quantitative performance indicators have been reported.		
FINANCING DESCRIPTION			
SOURCE OF FINANCING	Private and commercial fishers and fishery organisations, who pay 20€-50€ per day for a fishing license.		
RECIPIENT	The recipient was the GlenAlt Syndicate, an association of Irish fishers, who received funding from the Salmon and Sea Trout Rehabilitation, Conservation and Protection Fund (SSTRCPF). The Fund is managed by Irish state agency Fisheries Ireland, receives about 50% of its funds through fees for recreational and commercial fishing activities, and funds eligible biodiversity projects with grants through open calls.		
SCALE (FINANCING)	€18,571		
TIMELINE	One-off		
FINANCING REQUIREMENTS	Examples of project types that are eligible for funding from the SSTRCPF: • Fish passage improvement • Spawning enhancement • Fencing (protection of riverbanks including fences, stiles, cattle drinkers) • Riparian zone improvement (e.g. selective tree pruning) • Removal/control of aquatic invasive species • In-stream structures (weirs, deflectors, rubble mats, etc.). • Riverbank protection (soft engineering measures, log revetments, etc.). • Feasibility studies, reporting, monitoring, etc.		
FINANCING PERFORMANCE	Performance was not reported for this specific project, or generally for the total SSTRCPF awarded grants of €5 million to >250 projects throughout Ireland.		
TRANSACTION COSTS	Transaction costs are not reported. Generally, transaction costs include the administration of licenses, grants, project monitoring, enforcement of user fees, etc.		

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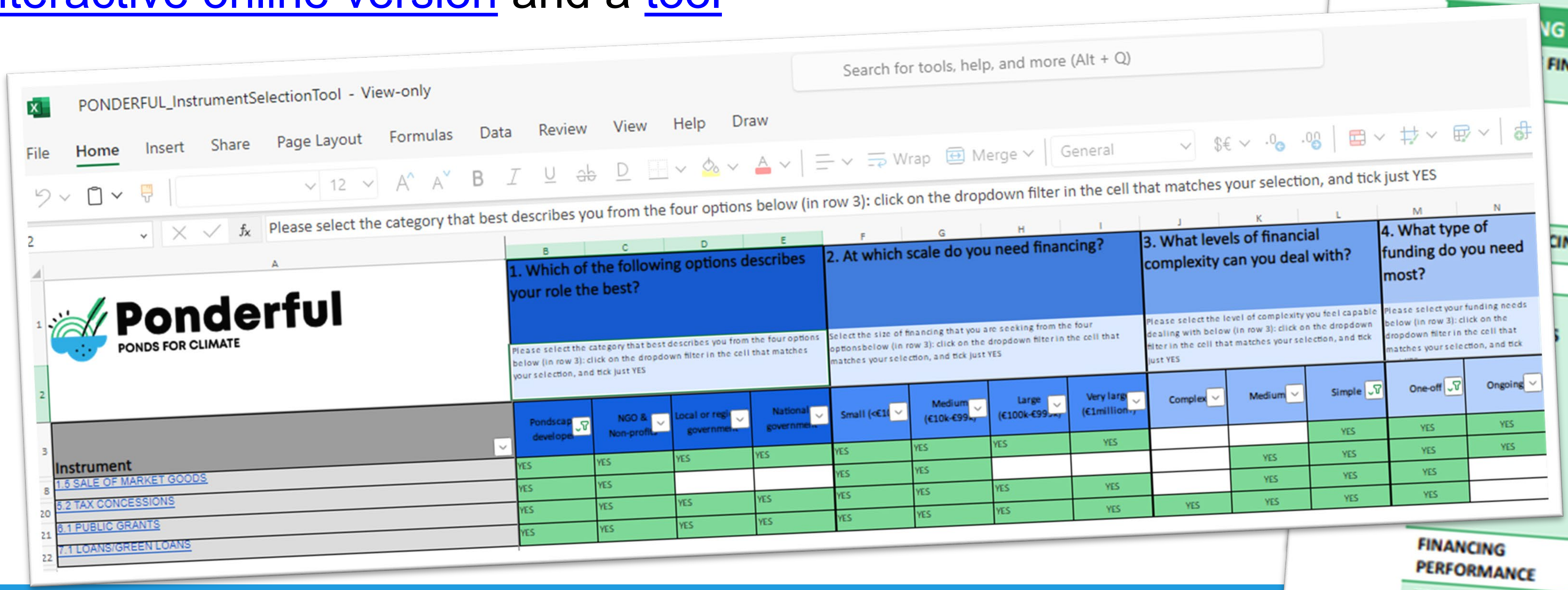

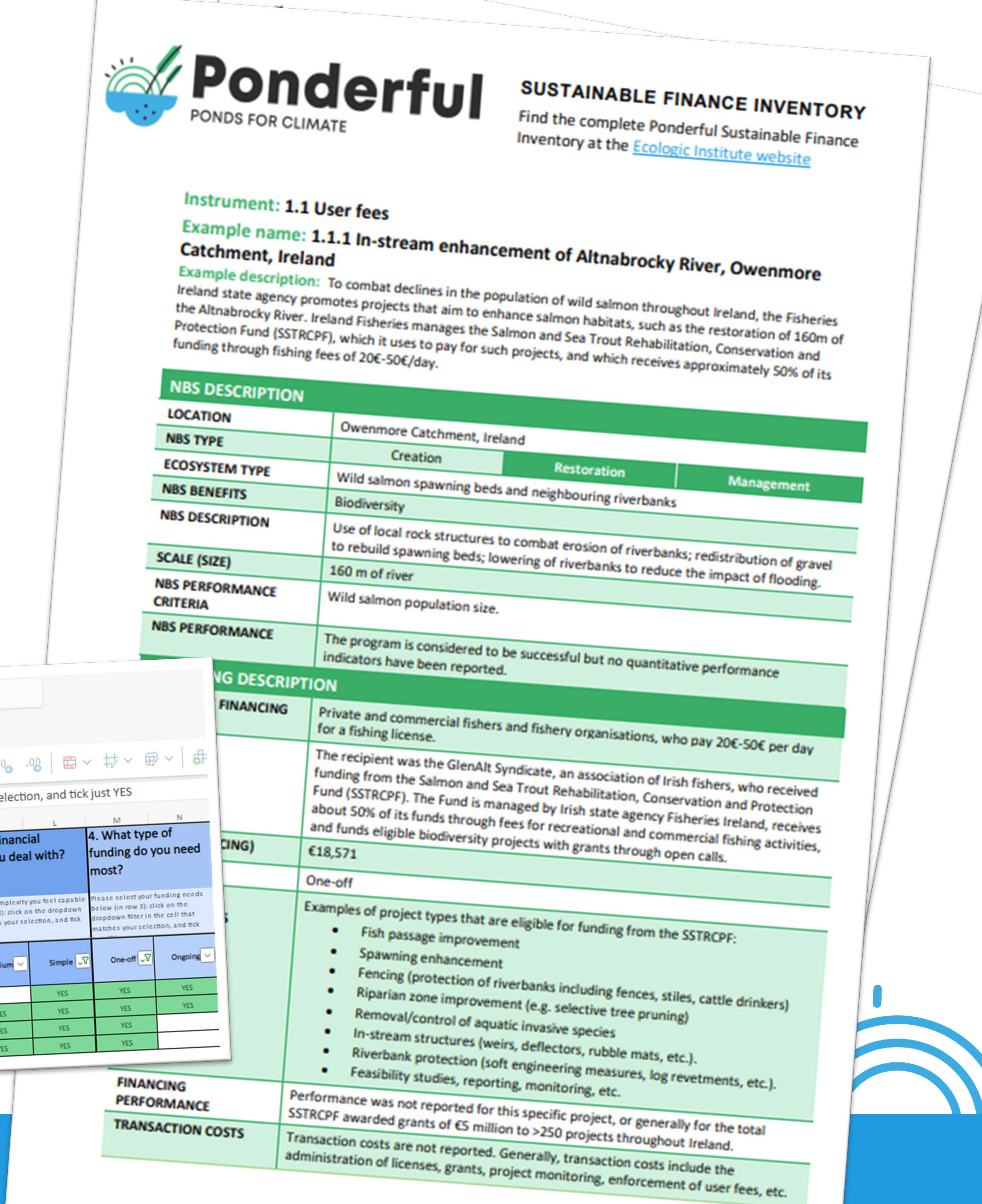

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Results

1. How much do pondscapes cost?

- **Range widely** depending on context and project
- **Predominantly one-off costs** (average approx. 10:1 vs ongoing costs, with wide range)

		Total upfront (one-off)	Total ongoing (annual)
Pondscape	CH, Rhone de Verbois	5,705,779 €	830,246 €
	CH, Bois du Jussy	779,143 €	27,300 €
	BE, Gete Vallei	66,200 €	7,100 €
	BE, Pinkhakedon	66,200 €	30,100 €
	BE, Tommelen	3,100 €	600 €
	UY, rural ponds	13,750 €	2,200 €
	ES, La Albera	184,384 €	21,672 €
	ES, La Pletera	109,815 €	33,466 €
	DK, Fyn	144,899 €	3,812 €
	UK, Water Friendly Farming	2,900,000 €	115,200 €
	DE, Schöneiche	1,351,775 €	61,559 €
Averages	Mean	1,029,550 €	103,023 €
	Median	144,899 €	27,300 €

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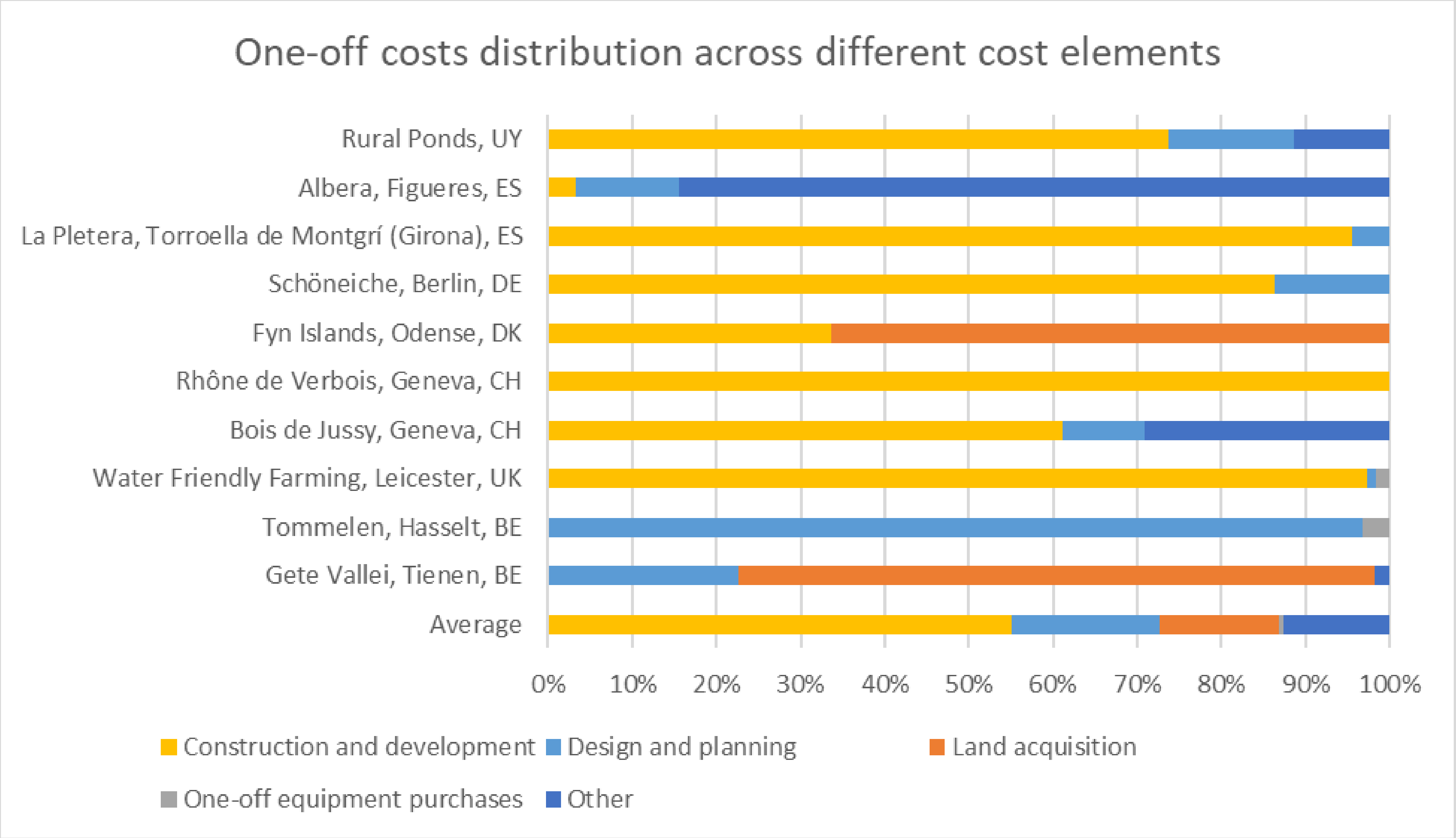

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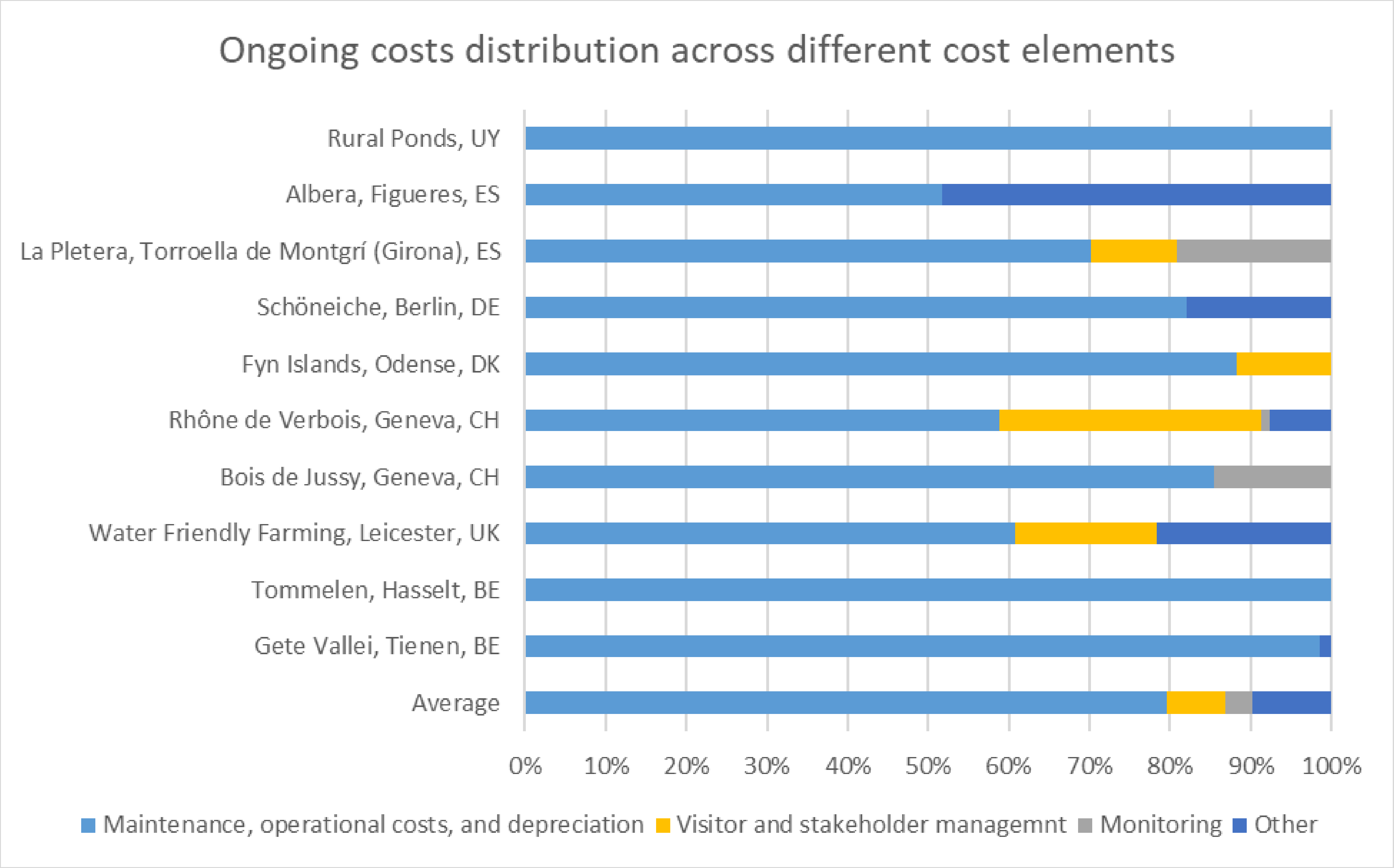
- **Ongoing costs** predominantly maintenance, operational costs, and depreciation



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Results

2. How are pondscapes currently paid for? And 3. What is the future role of private finance?

- **Historically**: Reliance on grants, with some charitable contributions
- **Future**: Grants and charity remain most popular, some potential for private financing in the form income instruments
- **Overall**: Limited potential for private finance, especially debt finance/equity

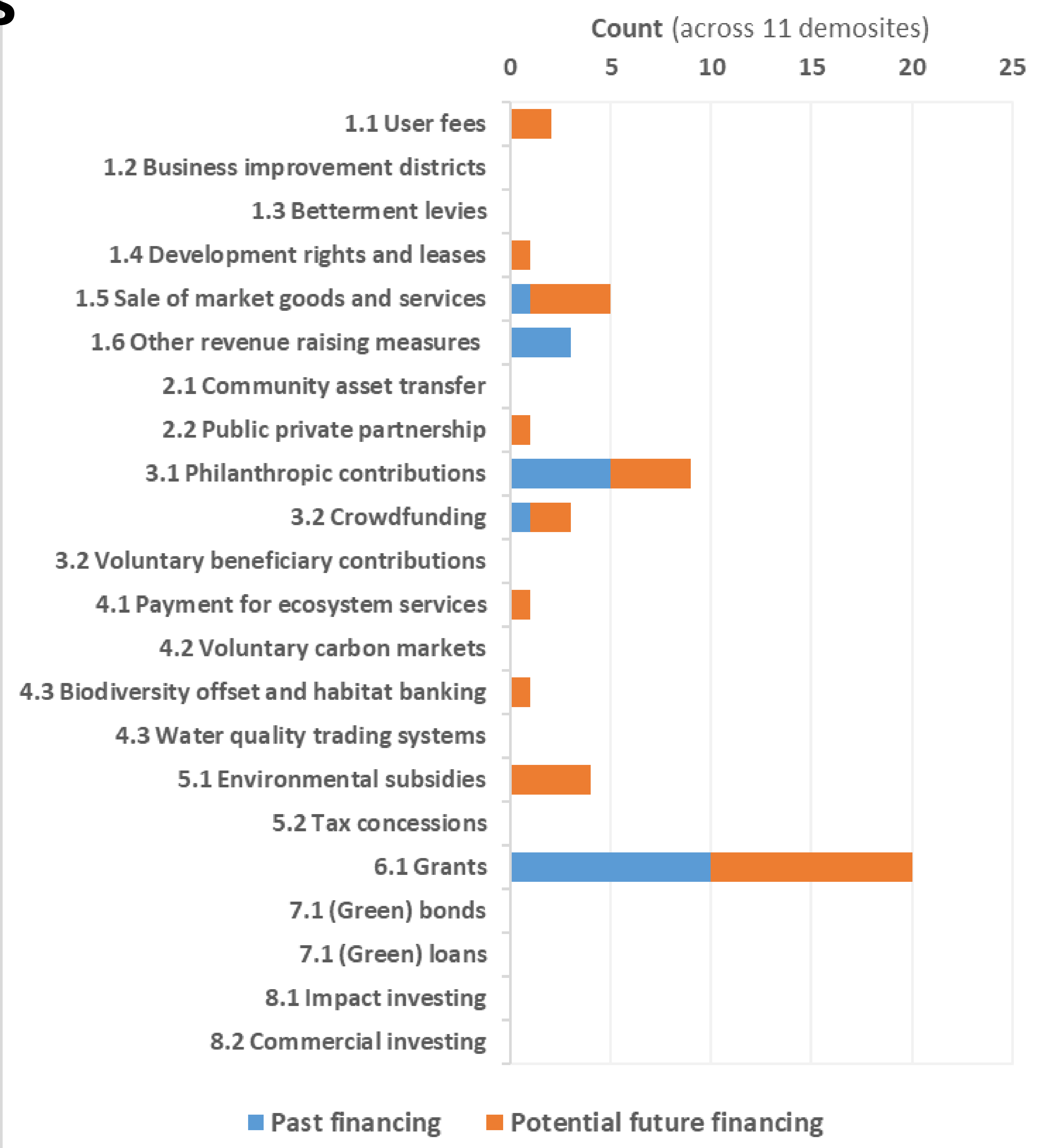

Figure: Financing pondscape NbS: past and potenial future financing instruments

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Conclusions and discussion

Challenges

- Measuring costs and benefits
- Ongoing costs

Role for private finance?

- Pondscapes are primarily publicly funded
- Why? Generate primarily public goods, few tradeable goods and services, limited revenue opportunities
- Potential opportunities for private finance: Creation of environmental markets +/or integrated landscape projects

Overall conclusion

- Private financing not a magical solution
- Decisive role for public policy and public funding

THANK YOU

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