Good practice guidelines for instrument choice and tutorials for instrument application

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Background:

Overview and application of instruments and tools for different user needs:

WP4 Instruments addresses the operational and technical challenges in integrating the concepts into different instruments and in mainstreaming new and improved instruments. Examples of key operational questions include: What improvements in instruments would most improve their utility to users and the sustainability of decisions and actions arising from their use? How is the balance to be struck between integrating a full range of ES/NC values and the extra costs of handling more difficult-to-integrate information? How might uptake of improved and new instruments and implementation schemes be motivated and driven? Under what conditions will uptake of the concepts deliver on policy goals cost-effectively and in respect to which goals? Examples of technical questions include: In which ways might social valuations of ES/NC be integrated in decisions and actions in both the public and private sectors? How might awareness of critical NC be factored into decisions? What approaches to addressing time preferences and discounting are appropriate when handling ES/NC integration? How might differences in valuations by different social groups be handled, especially in situations of asymmetries of group power, size and vulnerability?

About “Guidance on choice and application of instruments”

Task 4.5 coordinates the work and information flow across WP4 Instruments and produced an overall synthesis of the operational potential of ES/NC instruments, a road map for their application and practice guidance for choice and use of ES/NC instruments, as input to Oppla. The outcomes are synthesised in Task 4.5 in this deliverable D4.5 “Good practice guidelines for instrument choice and tutorials for instrument application” to provide guidance which is also made available to and on Oppla (WP5) for both business and consumers use at http://oppla.eu/marketplace.

Sub task 4.5.3 Recommendations and good practice guidelines (EFI, ULUND, IEEP, ETH, WCMC, PU, ALU, OBU) developed recommendations for the choice of instruments and compiles detailed good practice guidelines and training materials for the application of alternative tools and instruments developed in Task 4.2-4.4.Outcomes from the uptake analysisof Task 4.4 were synthesized and integratedby performing a meta-analysis that accounts for feedbacks from experiments in the Exemplars (T2.2), the meta-analysis (T2.1) and the synthesis of the Exemplars (T2.3) to propose generic and context-specific guidance

for the design of effective implementation and uptake schemes for market creation and support based on existing, improved and new instrument combinations. The task has been implemented in cooperation with T5.1, where the Resource Hub/Oppla functionality and structure is designed and with T2.3 where a lessons-learned database is compiled based on the results of the Exemplars. Results of T2.1 and T4.1 were used to identify information needs for different stakeholder types, and help identify tailoring needs with respect to a diversity of use and implementation.

The purpose of this document is not a repetition of guidance material as described in their own deliverables (D4.2, 4.4/4.6, 4.5, 4.7), but to give guidance on how good practice examples and user guidance has been implemented in Oppla. This deliverable OPERAs D4.5 will also feed into the Oppla deliverable (Openness D2.5 “Suite of decision trees to assess users to decide on ES/NC based instruments and tools”)

Developed User guidance in WP4 and Oppla

"Instruments" in WP4 – and in this deliverable – refers to both instruments (such as frameworks and concepts) and tools (software or models).

User guidance for instruments comes in different forms and purposes. We distinguished and addressed four different areas, which will be described in detail in the following pages:

What types of guidance do users need?

A. What is out there? Guidance to the tool

Overview of tools and help in selecting a suitable tool

B. What is it, what does it do or not do? Guidance about the tool

Metadata on the tool

C. How does it work? Guidance on the tool

Handbooks, manual, online help, interactive pdfs, etc.

D. Where has it been used? Guidance on use cases

Link to Exemplars and earlier case studies, link to other tools and methods

Table 1. Four types of user guidance were developed for instruments in OPERAs and fed into Oppla: User Guidance TO > ABOUT > ON the instrument and Guidance on use cases

Users in Oppla come from all walks of life, from local to European policy makers, industry, business (SME to large-scale), researchers, NGOs or interested public. Oppla targets two types of users: new and experienced Oppla users.

For new users, the purpose of Oppla (and within Oppla of user guidance) is to

- Understand what information is most relevant/useful
- Access that information as easily as possible
- Find people who can help

For experienced users, the purpose of Oppla (and within Oppla of user guidance) is to:

- Share successes and increase impact
- Find new clients in emerging markets
- Find new partners for innovation and co-design

Work on user guidance was developed based on different sources

- within WP4 Instruments, building on the individual instrument development and use experiences of the project partners before and during OPERAs. This included experience exchange of instrument developers in regular virtual and physical meetings.
- based on literature and online review of other approaches and initiatives (like ValuES (http://aboutvalues.net/), Business for Social Responsibility (BSR) www.bsr.org, InVEST (www.naturalcapitalproject.org/invest/). An overview of existing decision and information tools and guidance towards them is described in Grêt-Regamey, A., Siren, E., Brunner, S.H., Weibel, B. 2016. Review of decision-support tools to operationalize the ecosystem services concept. Ecosystem Services, accepted.
- in a OPERAs-OpenNESS-cross-project and cross-WP2-3-4-5 cooperation, which met regularly online to discuss and develop guidance approaches within the projects like policy cycle, case study finder decision trees and Bayesian-Belief-Networks (BBN). As a result, the different approaches to user guidance were interlinked in Oppla. A joint BBN for all tools, instruments and methods was set up that follows user preferences as they were voiced in stakeholder consultation (Userboard).
- based on stakeholder interaction from dedicated OPERAs WP4 USERBOARD sessions; during Userboard 2 (Lisbon 2014) and 3 (Edinburgh 2015).

What types of guidance do users need?

A. What is out there? Guidance to the tool

OPERAs and OpenNESS jointly developed Oppla as a “knowledge marketplace”; a place where the latest thinking on ecosystem services, natural capital and nature-based solutions is brought together. This includes an ever-growing collection of tools, instruments and methods of currently 180 individual entries on Oppla Marketplace (Oct 2016). All instruments from OPERAs and OpenNESS are on http://oppla.eu/marketplace with the option of adding further tools, instruments, methods.

OPERAs WP4 contributes with (further) developing the following 19 instruments:

General purpose	Tools, instruments
Information	OE - Our ecosystem
Information	TESSA: toolkit for rapid assessment of ecosystem services at sites
Information	STREAMLINE
Information	LCA - Lifecycle Assessment tool
Information	IBAT information tool
Information	Ecosystem services indicator development
Decision-support	Web-based Scenario Toolbox
Decision-support	CBA- Cost Benefit Analysis (IODINE)
Decision-support	CBA- Cost Benefit Analysis (WWF)
Decision-support	LCA - Lifecycle Assessment
Decision-support	ToSIA - Tool for Sustainability Impact Assessment
Decision-support	mDSS tool - mulino Decision Suport System
Decision-support	BackES - Integrated social-ecological modeling system
Decision-support	LANDSCAPEization
Management instruments	PES - Payment of Ecosystem Services
Management instruments	PA socio-economic assessment / PA Regulations
Management instruments	SEEA framework - System of Environmental-Economic Accounting
Management instruments	EHS Toolkit: Environmental Harmful Substances
Management instruments	Offsetting / NLL (No-net loss)

Figure 1: OPERAs WP4 developed new or further 19 instruments

While users expressed explicit interest to see the whole list of available instruments, a simple listing or simple search function by name is not helpful for any other purpose than to get an overview of what is available or for finding details about a specific and known instrument. For all other cases where a user does know not precisely what s/he needs, some sort of help in selecting a suitable instrument is needed.

This user guidance to the instrument has two components:

1. a visible one, which takes the form of a questionnaire. The questions guide the user through available options, while filtering down instruments based on the choices made)
2. a potentially/partially invisible one: the calculation in the background to narrow down the choice of instruments.

1. Questions to the user to help their choice:

Hitting the right number and right type of questions was the first challenge and tackled by giving options and ideas to the stakeholders at the Userboard II. The following wishesforwanted questions and feature for an attractive user guidance were obtained at Userboard II (left column), how we addressed and integrated these wishes (right column) was presented for feedback at Userboard III and further improved:

Userboard wishes on user guidance	**How we solved it**
Entrance point, Problems/Challenges and/or catalogue for policy/ business / practice / different sectors (ES types) / objectives	+ Filters on http://oppla.eu/marketplace covering Ecosystems, Implementation, Methods, Regions, Topics
Link theory and practice: tool application in Exemplars and other practical use examples and case studies	+ two-way reference between Exemplars and Instruments; also including pre-OPERAs case studies in instrument factsheet as well as in “Case study finder” on http://oppla.eu/marketplace
Use mobile technology (such as apps)	- not suitable for most tools at this point, as most are desktop tools which require a bigger screen. + oppla can be accessed from any mobile device
Trade-offs should be included	+ SWOT included in instrument factsheet
Practical approach: what data is needed/used	+ data requirements included in instrument factsheet and BBN filters
Clarify what is new	+/- instrument dependent. At Oppla level, filter for recentness
Guidance through decision tree and for individual instruments wanted	+ BBN and Market place filters + instrument-specific guidance per instrument
Exit point, 2-3 other alternatives	+ BBN approach with showing how choices narrow down instrument recommendations
Iterative FAQ section	+ Ask Oppla http://oppla.eu/ask-oppla
Can Decision tree be quicker and better than Google?	+ BBN approach with showing how choices narrow down instrument recommendations and carefully selected filters ask relevant questions which Google does not know to ask
Stakeholder engagement to set-up decision tree	+ Userboard 2 and 3
User profiles	+ Join Oppla on http://oppla.eu/start
Language versions: English, plus google-translatable text	+ instrument factsheets and posters
<5-min videos on individual tools rather than texts	+/- instrument dependent. See also OPERAs flashtalks on OPERAs YouTube channelwww.youtube.com/channel/UCWb-5hOoPepS7XSekHboXIA
What is the process for user needs assessments for the business sector?	+/- process for the user needs assessment for the business sector is under development. For the time

	being there are some communication channels (E-mail, Ask Oppla) and system of Favourites
Tools/instruments outside OPERAs?	possibility and invitation to add instruments, further instruments have already been added.
Sequence of questions: What are the impacts of my activities on ES? How do my local stakeholders use those ES? What are the benefits of those ES? What is my own dependency on those ES?	+ part of BBN filters and Marketplace filters

Table 2. User guidance features wished for by OPERAs Userboard's stakeholders, and how they were addressed and implemented in WP4 Instruments and consequently in Oppla

These wishes were checked on their operationability and logic of questions, and at Userboard III a first visualisation was presented (see mock-up below). Asking the right questions and showing the results of the selection was high up on the wishlist, and the mock-up received very positive feedback, as did the filters.

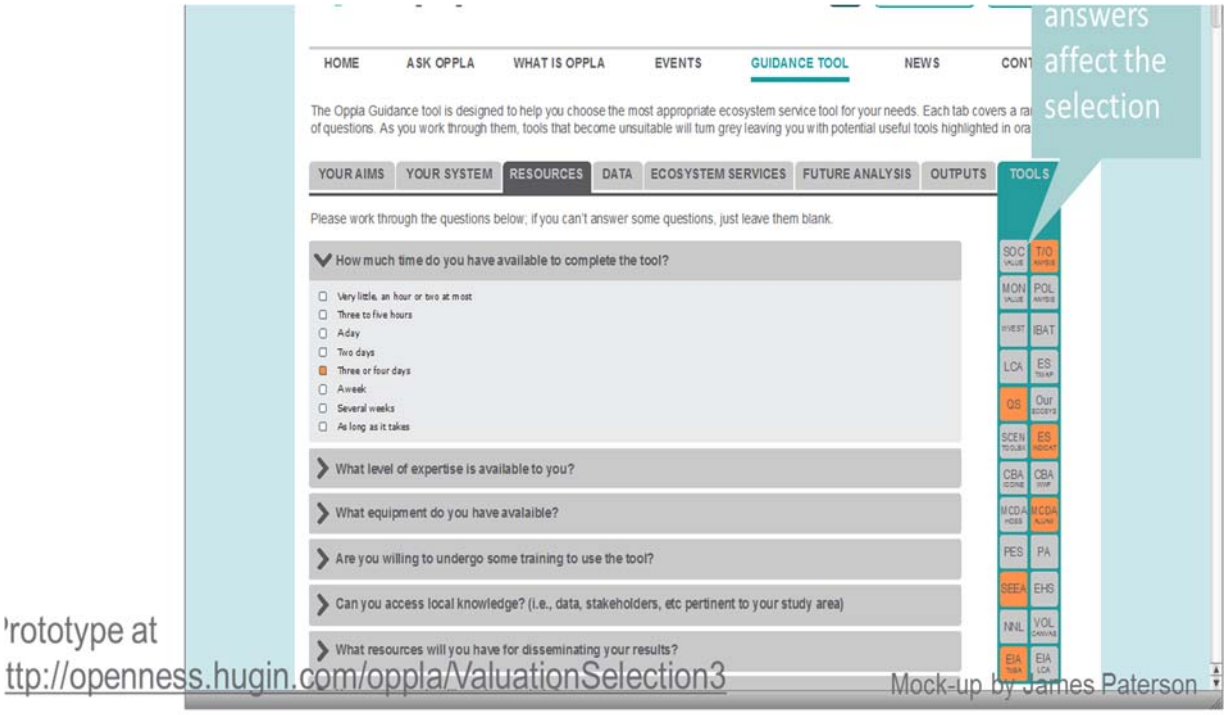


Figure 2: Mock-up based on stakeholder suggestions from Userboard II, presented for feedback at Userboard III.

The questions and filters fed into the (existing) OpenNESS BBN and was adjusted as described in the next section to meet stakeholders' wishes (http://openness.hugin.com/oppla/ValuationSelection3).

2. Decision tree versus BBN:

WP4 developed the WP4 decision tree with potential pathways through it, which was then translated into a BBN. The reason for the decision within Oppla on the BBN was for reasons of practicality and to answer user wishes.

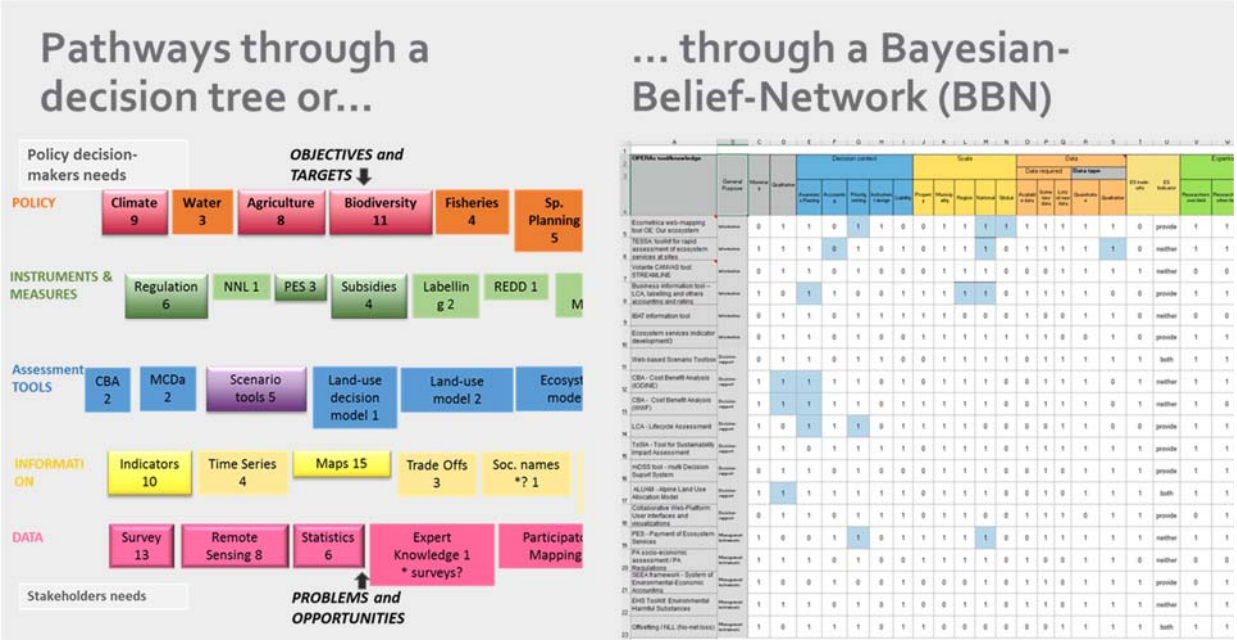


Figure 3 WP4 Instrument decision tree (left), Oppla BBN (right)

While a decision tree only allows yes or no answers, with a BBN shares are possible which allows a combination of different filters without overwhelming the structure.

The pathway approach through a decision tree proved to be not operational for even 19 instruments (compare Grêt-Regamey, A., Siren, E., Brunner, S.H., Weibel, B. 2016. Review of decision-support tools to operationalize the ecosystem services concept. Ecosystem Services, accepted.). However, it is suitable for a reduced number of instruments, such as to describe logical instrument use sequences as done in OPERAs D4.4/4.6 and D4.3. Entry points for the decision tree are top-down (policy perspective) or bottom-up (implementation perspective). The line between information and decision support tools is fluent, as a tool may fall in both categories serving both purposes or depending on the application goal (i.e. user and purpose dependent).

In the BBN the following filters relating to tool purpose and metadata (on application) are set:

Main category	***Subcategories***				
Purpose	Awareness Raising	Accounting	Priority setting	Instrument design	Liability
Scale	Property	Municipality	Region	National	Global
Data requirement	Available data	Some new data	Lots of new data		
Datatype	Quantitative	Qualitative	Spatial	Monetary result	

ES	ES trade-offs	ES Indicators required	ES Indicators provided		
Expertise	Researchers own field	Researchers other field	Non-academic stakeholder		
Software	Licence	Advanced knowledge			
Metadata	Study length	Budget			
TEV	Direct use values	Indirect use values	Option values	Bequest values	Existence values
TEEB	Ecological	Sociocultural	Monetary		
IPBES	Nature	Nature's benefits	Instrumental Quality of life	Instrumental Direct use values	Instrumental Indirect use values

Table 3. Currently used BBN main and subcategories for guidance to instruments

A first BBN prototype can be found at http://openness.hugin.com/oppla/ValuationSelection3. Before project end it will be integrated into Oppla.

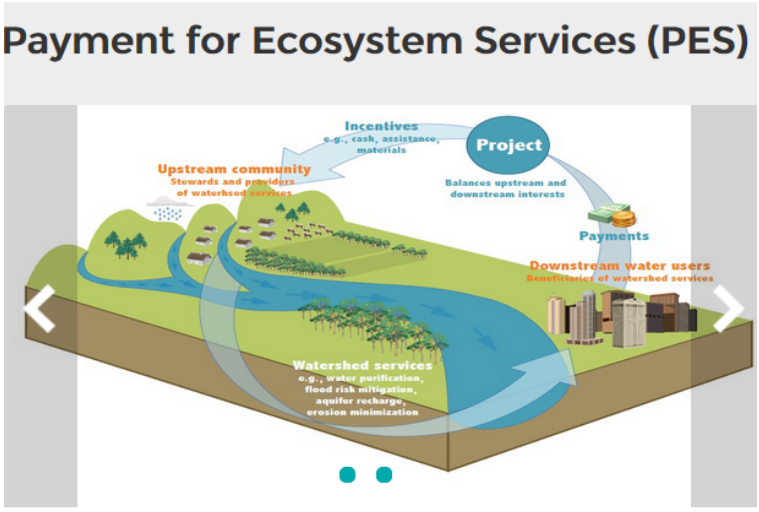
B. What is it, what does it do or not do? Guidance about the tool

Once a user is guided to a tool, s/he needs more information about the instrument itself to assess if the instrument is suitable for her/his purpose. This type of information is called “instrument metadata”. In OPERAsWP4 Instruments we developed a 2-step approach with increasing level ofdetail to serve the user quickly and in a user-friendly way:

1. A short description of the instrument
2. A detailed factsheet / poster with metadata information with a SWOT analysis

1. Short description:

The short description of the tool consists of one paragraph explaining what the instrument does and what its purpose is, plus one infographic. The idea of this quick “pre-view” is to give the user a quick idea about the tool. If s/he is interested in it, s/he can obtain further information in the more extended “Detailed Factsheet”.



Payment for Ecosystem Services (PES) programmes have been increasingly established across the globe in the last few years. PES is a type of market-based instrument that is increasingly used to finance nature conservation. PES programmes allow for the translation of the ecosystem services (ES) that ecosystems provide for free into financial incentives for their conservation, targeted at the local actors who own or manage the natural resources. Under OPERAs the aim is to explore the potential of PES to protect and improve our Natural Capital. In order to do so, the policy demand, the information needs, the strong and weak points, and the potential benefits and risks of PES are being analysed.

Figure 4: Examples (from PES) about instrument’s short description and infographic.

2. Detailed Factsheet / Poster:

The detailed factsheet per instrument follows the same template for all instruments and gives more detail abouteach instrument. Information includes: a more detailed description of the instrument, the type and purpose of the instrument, geographic scope, target group, needed and provided data, what the instrument does, advantages and constraints (i.e. what is the instrument suited for and what is it not suited for), quality assurance, where the instrument has been used before (Exemplars and earlier case studies), available language(s), creator and owner, contact and access information, costs of use.

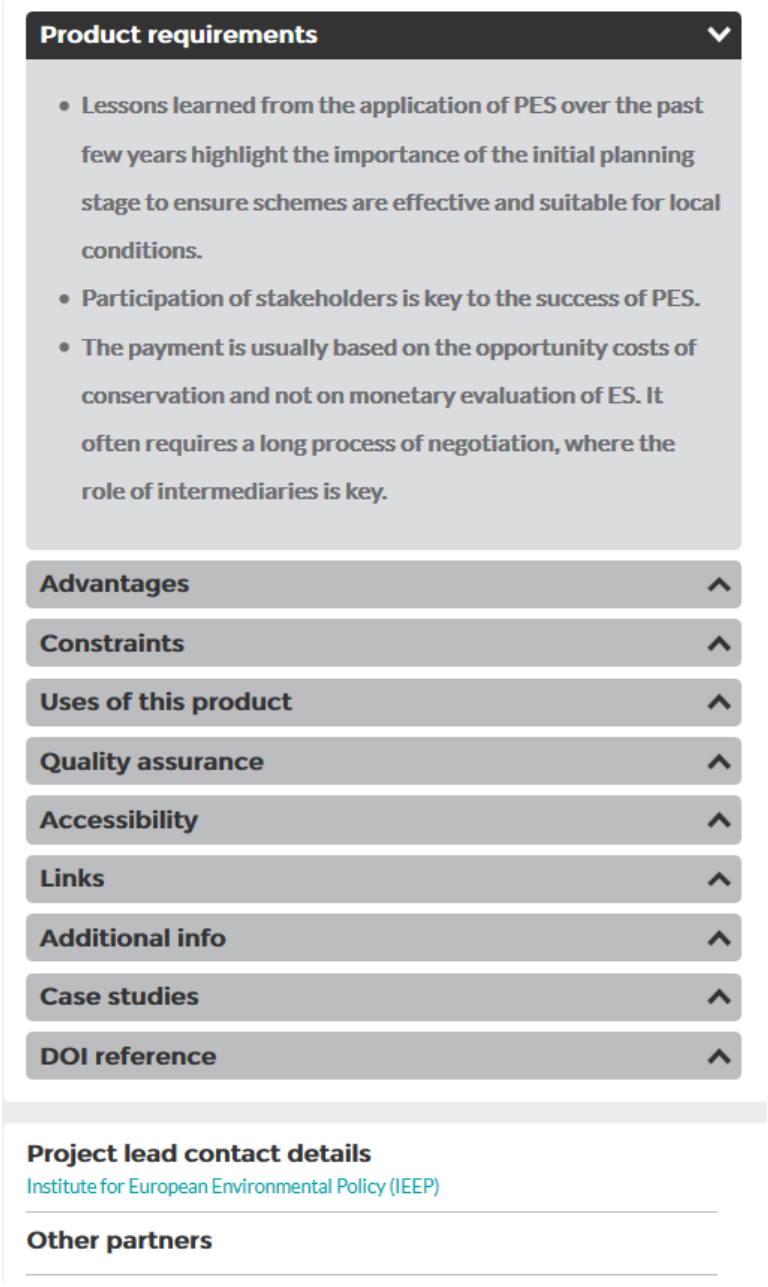


Figure 5: Example of detailed factsheet for instrument (from PES)

C. How does it work? Guidance on the tool

Last but not least, once a user has decided on an instrument, guidance on how to use the instrument is needed. This guidance is instrument-specific and can take different forms: handbooks, manual, online help, interactive pdfs, etc. For OPERAs instruments we provided information on how to receive access to the instrument as well as links to available documentation and instructions on how to use the instrument:

- Source to webpage and access
- Pre-requirements (software, licenses, fees)
- Data needs and results
- Time estimate to learn and to use
- Handbooks, manuals, webinars, interactive help, hotline, etc.

For the mostuser-friendly access, all this information is integrated in a lean way into Oppla's instrument factsheets, with online links to external instrument-specific webpages.

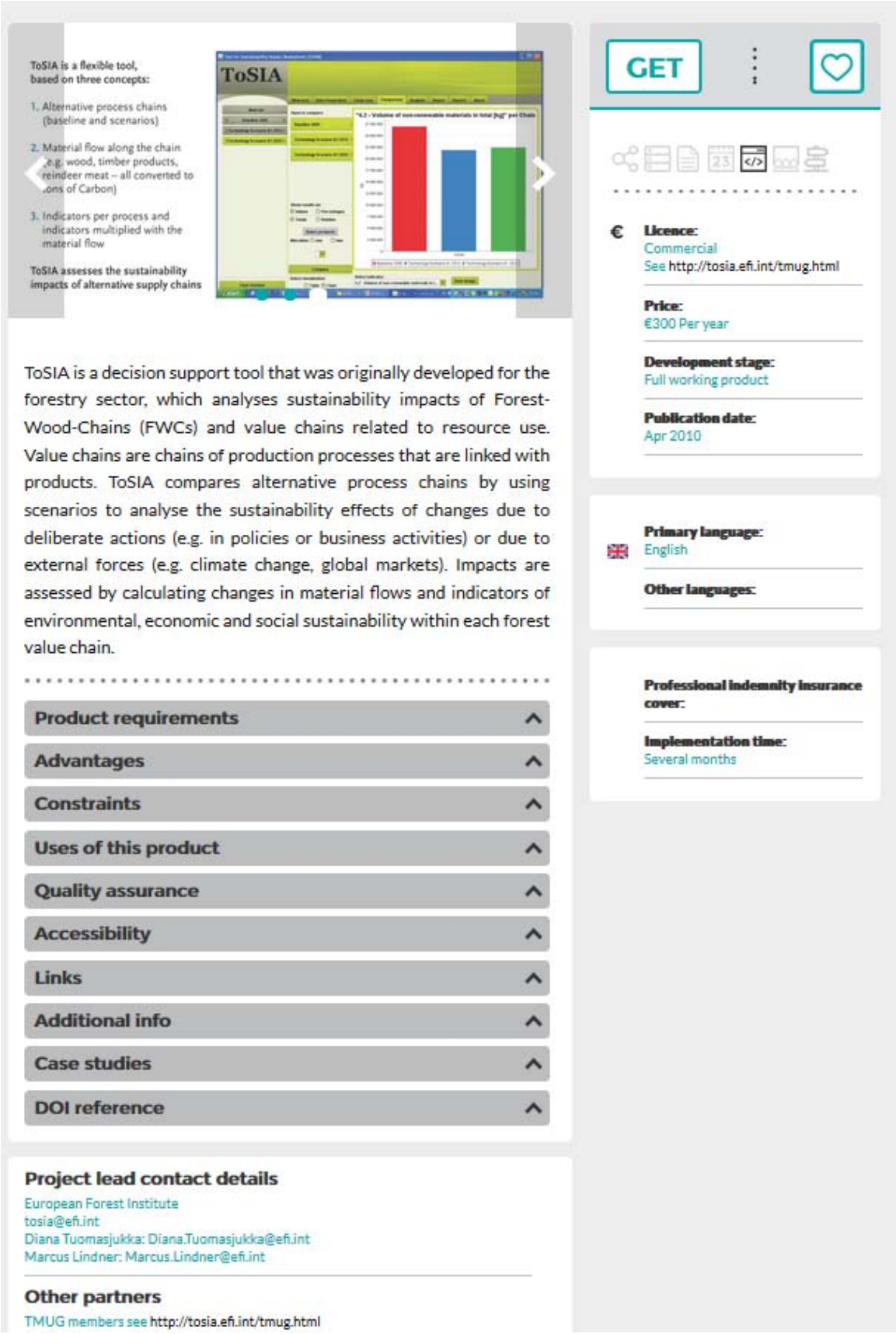


Figure 6: Oppla Marketplace example (from ToSIA) on metadata and guidance on instrument

D. Where has it been used? Guidance on use cases

In OPERAs the development of instruments is closely related to the use of instruments. They are extensively used and tested in Exemplars, where also the combination of instruments is promoted. As part of the user guidance, links between selected instruments, sequence of possible instruments and methods to use in combination, and Exemplars in which an instrument has been applied are part of the instrument description. Details and user experiences have been reported with more detail in the combined OPERAs MS54+55 “Report on Information tools for ES/NC data capture, storage, presentation and use/Trialling new and enhanced data capture, indicator-based and information tools within Exemplars” as well as in the combined OPERAs deliverable D4.4+4.6 “New and enhanced existing data capture, indicator-based, information and decision-support tools incl. Documentation”.

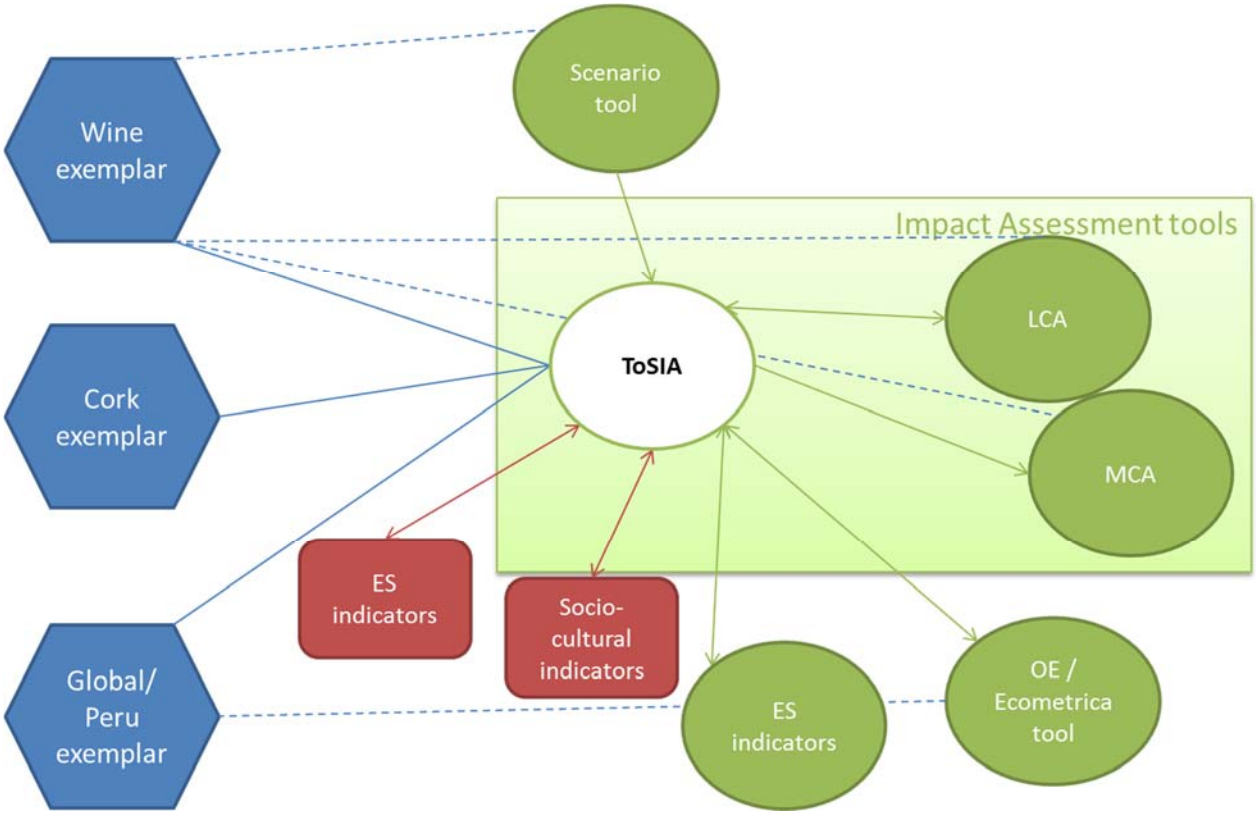


Figure 7: Link to Exemplars, link to other tools and methods at the example of ToSIA (from MS54+55)

Conclusion: Key message of Task 4.5

During OPERAs project time and in discussion with stakeholders and tool developers, it became obvious that user guidance takes place at different levels and that this guidance needs to be simple, short and to the point, with the option to have easy access to more detailed information fast, easily and within the framework. For this reason, User Guidance TO > ABOUT > ON the instrument and Guidance on user cases has been developed for instruments in Oppla. The concept can be recommended for instrument development as well as for toolboxes or instrument databases.