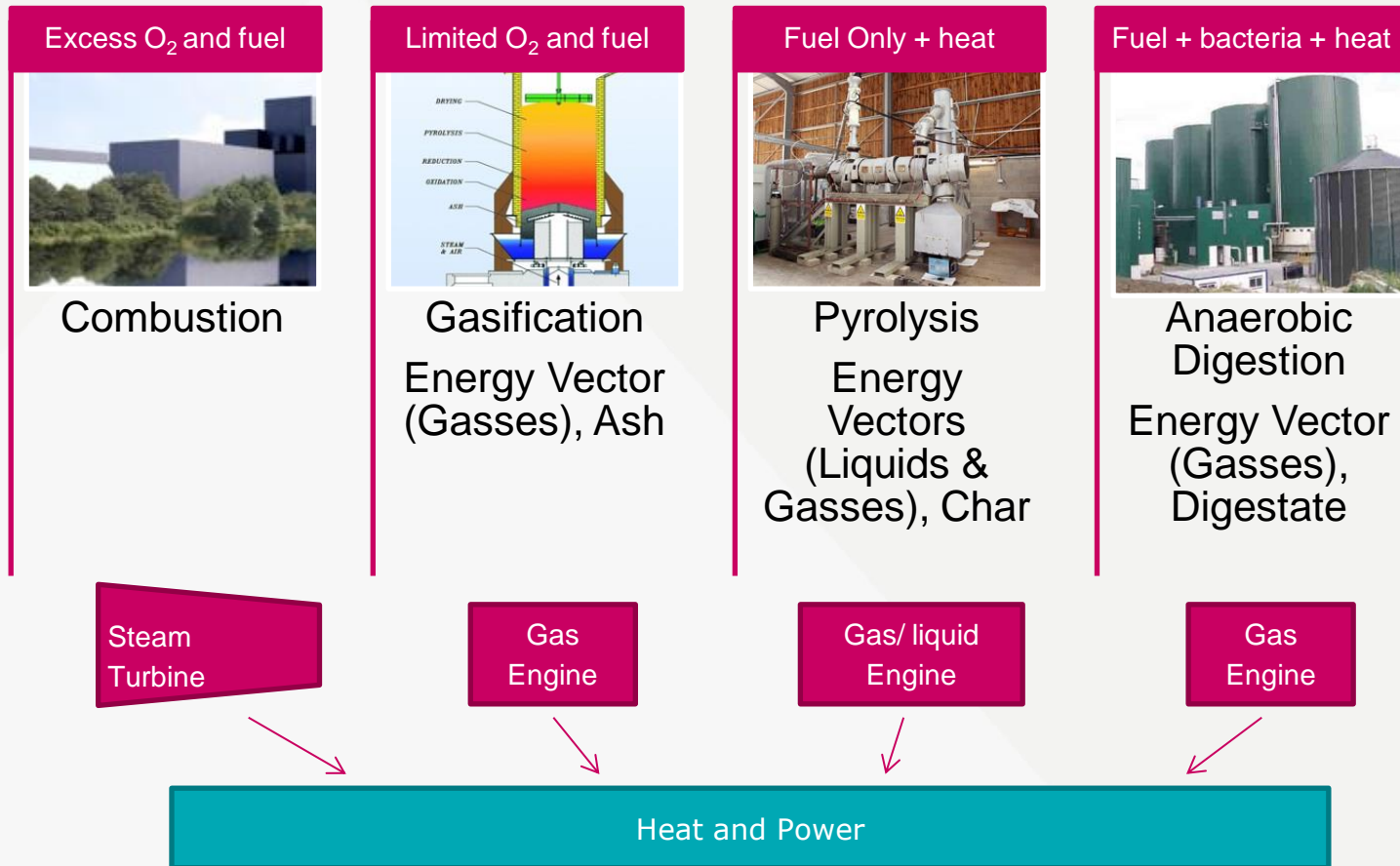


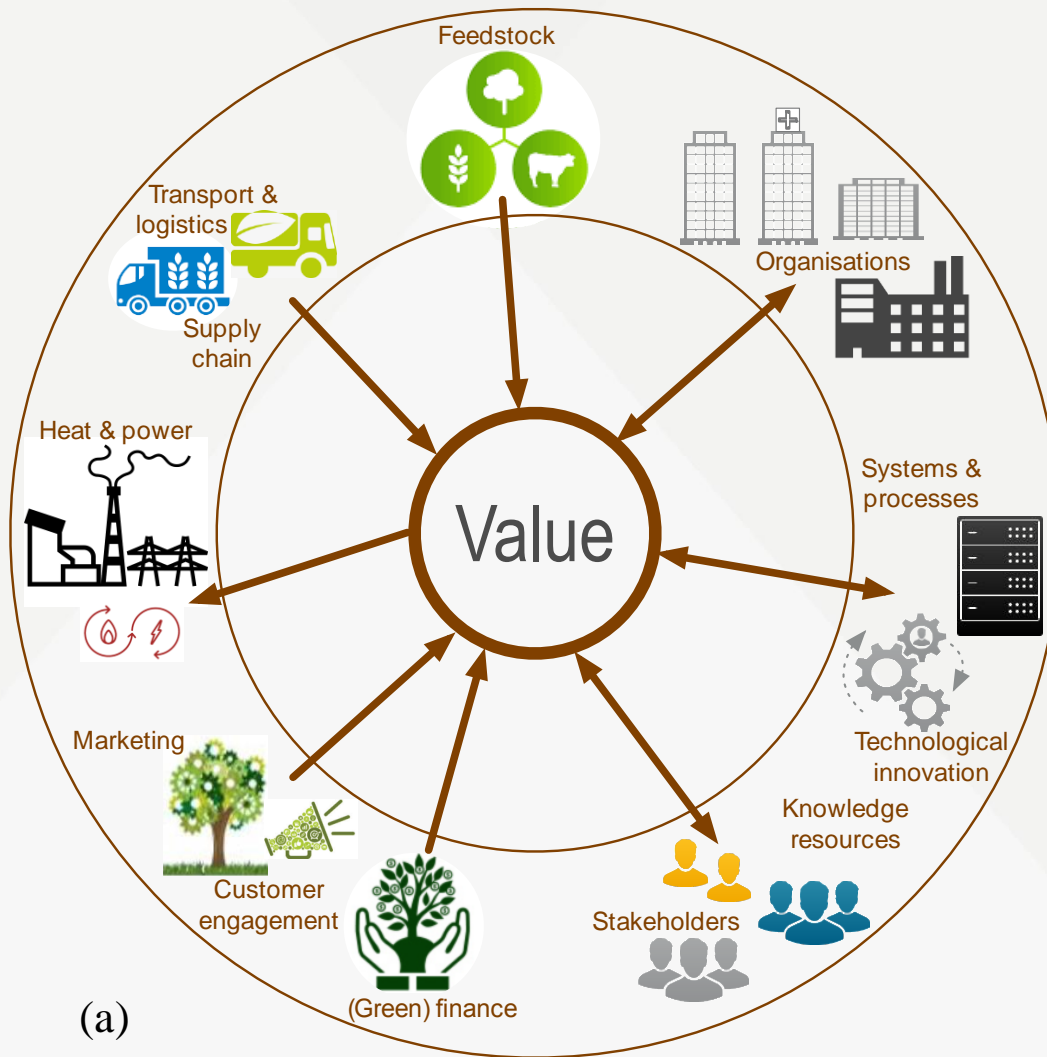
Value-driven partner search for *Energy* *from Waste* projects

Aba-Sah Dadzie, Victoria Uren, Tim Miller, Al-Amin Abba-Dabo

Energy from Waste Conversion options



Value Network



(a)

Digital Business Ecosystems
“evolutionary, self-organising systems which create an on-line, digital market place to seamlessly connect organisations, companies and individuals that do business with each other” (Sullivan 2009)

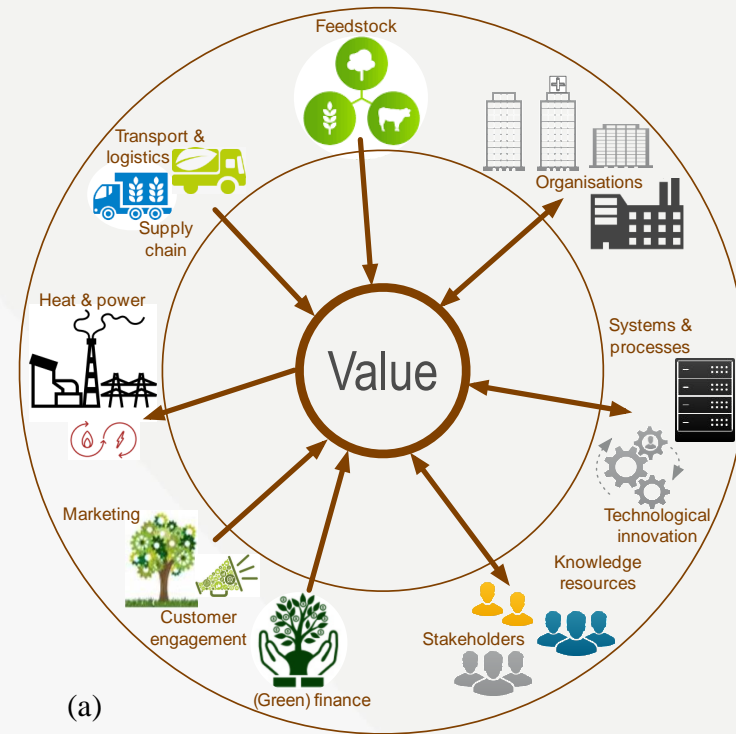
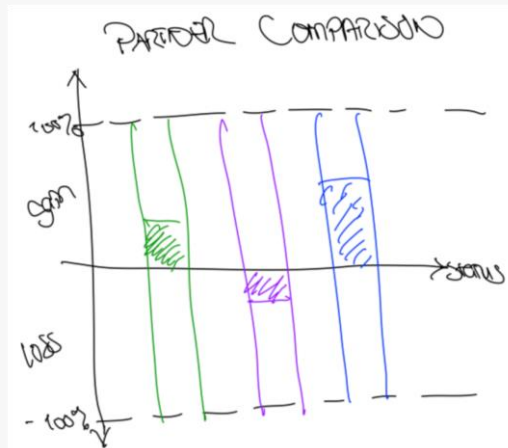
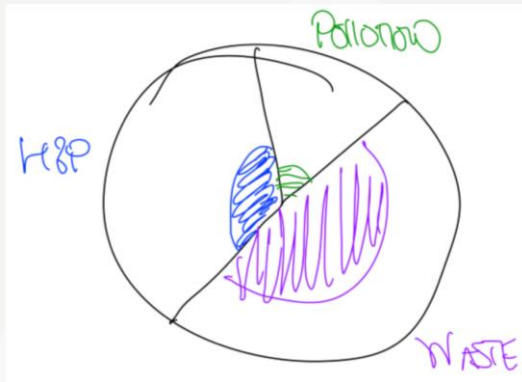
- Terminology: Supply Chain Design, Partner Search and Selection, Supplier Selection
- Quantitative processes for green supplier selection (Govindan et al, 2015) include Analytical Hierarchy process, Data Envelope Analysis, Fuzzy Set Theory
- Soft criteria are hard to quantify, e.g. Triple Bottom Line (Elkington, 1994) for quantitative methods potential partners need to subscribe to shared conceptualisation of criteria
- ***Our approach: Selection criteria VALUE conceptualised as Key Performance Indicators (KPIs). Ontology to provide guidance for organizations to define value, guided but not imposed by the structure of an ontology. Visualisation, using ontology as a backbone, deployed to explore the network and assess strategic partner fit.***

Kannan Govindan, Sivakumar Rajendran, Joseph Sarkis, and Parasurama Murugesan. 2015. Multi criteria decision making approaches for green supplier evaluation and selection: a literature review. *Journal of Cleaner Production* 98 (2015), 66–83.

John Elkington. 1994. Towards the sustainable corporation: Win-win-win business strategies for sustainable development. *California Management Review* 36, 2 (1994), 90–100.

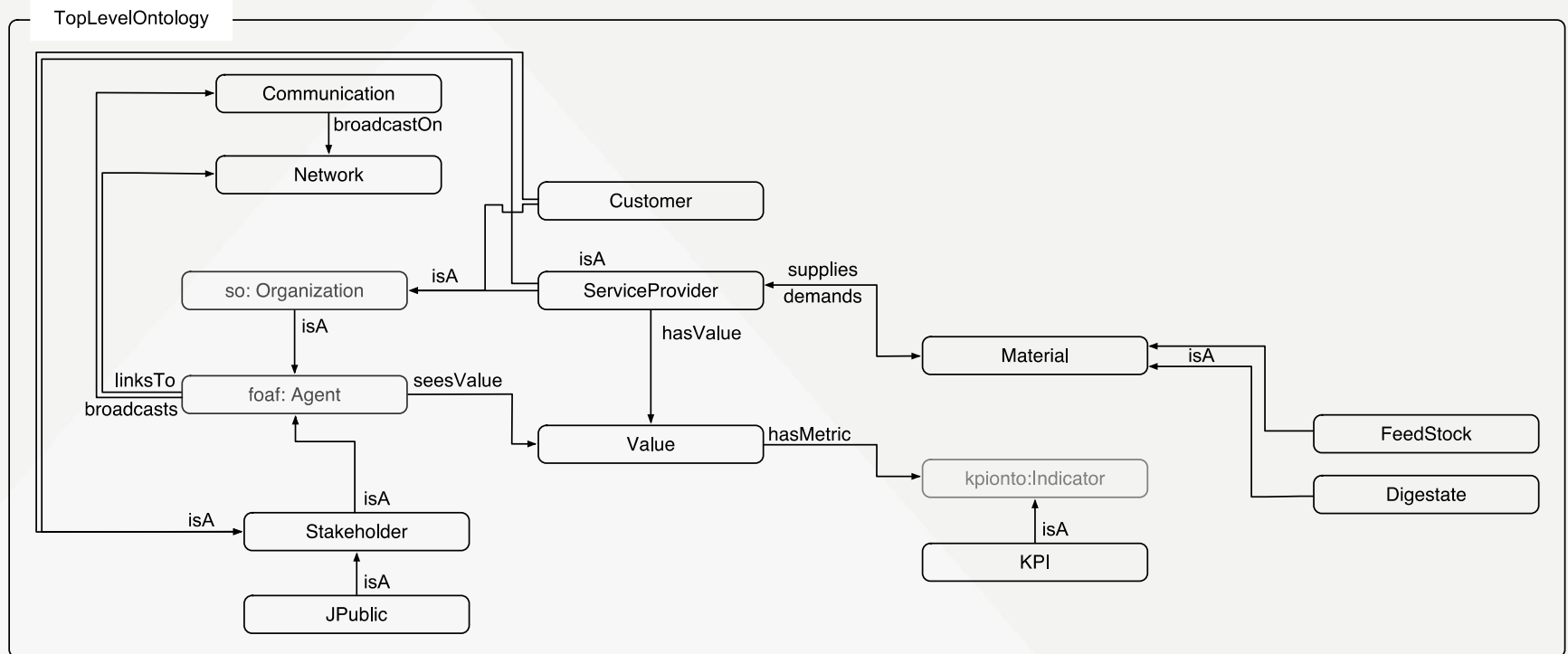
KPI-based Value Example

Hospital seeks incinerator plant to help it generate value from its MSW as improved waste disposal, heat and power generated, and pollution reduced.

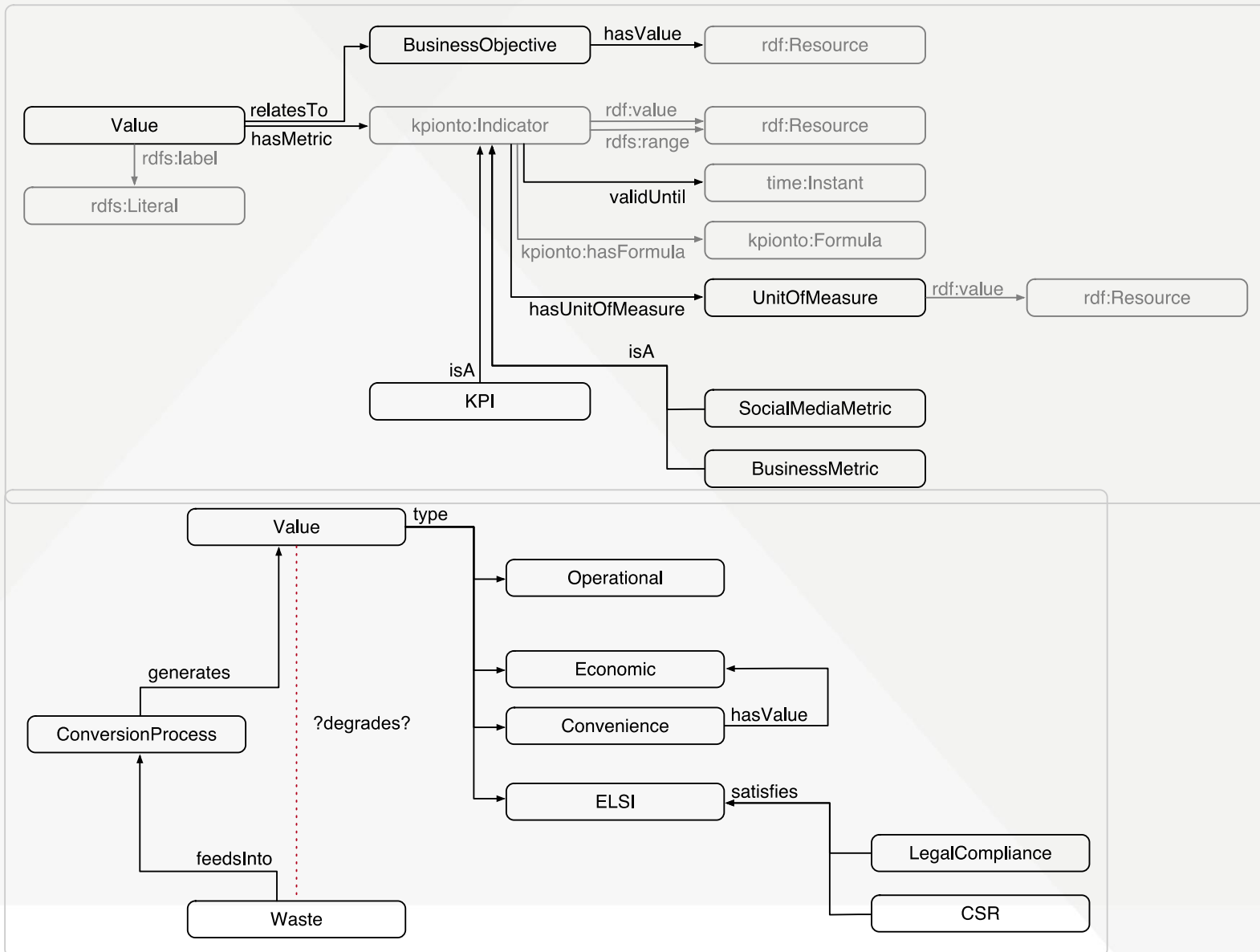


(a)

EfW Top Level Ontology



EfW Value Subontologies



Prototype Introduction

- [Demo Link](#)
- [Data Link](#)

Partner Search Example – Woodloes Ent.

Woodloes is a anaerobic digestion plant. It has a contract with Eastern General to process food waste from the hospital canteens, but it needs other feedstock suppliers to expand and work more efficiently.



A practically applicable semantic concept to support the Regional Development work of EBRI in building Digital Business Ecosystems comprising:

- The EfW ontology, which models Energy from Waste projects and associated value networks
- A demonstration of the application of the ontology for Partner Selection using an interactive visual exploration
 - **Organizations can have their own definition of value, as well as shared values for particular organization types, and then rank potential partner organizations on strategic fit**

Acknowledgements

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Thanks for your attention – any questions?