Chapter 87
The ISO 55 00X Asset Management Standard:
What is in for Rocket Sciences'?

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ABSTRACT

Asset management (AM) is the core business function of grid-based asset management organizations (GAMO). GAMO are looking for compliance with a new international AM standard (ISO 55 000). Currently, a limited perspective – consisting of New Public Management (NPM) and project management (PM) – provides meaning for the new AM standard. However, the limited perspective is not sufficient in aligning AM / GAMO with energy transition and environmental management successfully. The article is aiming at enabling the ISO AM standard to become a co-creational force in energy transition and environmental management. Based on professional engagement and substantial literature review the article employs ‚reflective practice' and causal loop diagrams to identify and elaborate issues of concern that need to be addressed by an enriched perspective on ISO AM: 1) organizational ‚line of sight' (complement key performance indicators with evidence-based causal relationships), 2) control of work (complement formal institutions with AM professionalism), 3) management accounting (advance decision support for the management of the capex/opex relationship), 4) transition modeling (advance agent-based models of AM), and 5) the sustainable management of the resource soil (assess the ecosystem services/disservices that arise from underground urban space use by GAMO during transition times).

INTRODUCTION

Grid-based asset management organizations (GAMO) (e.g. SBB in Switzerland), including regional distribution network operators (DNO) and national transmission service operators (TSO) (e.g. Swissgrid AG in Switzerland) are key actors in public service provision and sustainability strategies in Switzerland and worldwide (Schmidt et al., 2012; Bolton and Foxon, 2014). For example, DNO are at the forefront in terms of investment in smart grids in Europe (JCR, 2013; Marques et al., 2014).

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DNO/TSO, by operating the high voltage and extra high voltage networks, deliver asset services, such as maintained grids, balancing services, smart grids, or grid access. Asset management (AM) is a core business function of DNO/TSO (Mesic' and Plavsic, 2013). AM often means: ‚systematic and coordinated activities and practices through which an organisation optimally and sustainably manages its assets and asset systems, their associated performance, risks and expenditures over their lifecycles for the purpose of achieving its organisational strategic plan' (IAM, 2004). DNO/TSO dedicate their organisational strategic plan substantially to societal sustainability strategies, including energy system transitions and environmental management. For example, in Switzerland, the future shape of the high voltage distribution network is a key step in meeting the requirements of the energy strategy 2050 (Akademien der Wissenschaften Schweiz, 2012).

DNO/TSO often perform project management (PM) processes to deliver AM based on the new public management (NPM) paradigm (Stender, 2008; Balzer and Schorn, 2011; Ahola et al., 2013). ‚NPM is a heterogeneous body of doctrines' (Bezes et al., 2012, p.15) concerning public service provision and administration. Constituting elements of NPM are - simplified - efficiency, effectiveness, output control, formal performance assessment, total quality management, transaction cost theory (TCT), principal-agent theory (PAT), and organizational control theory.

Since January 2014 GAMO are dealing with the advent of a new ISO AM standard – ISO 55 000ff.. ISO standards are decentral, private institutions that co-exist with conventional policy measures and market designs (King et al., 2004). They are found to be highly effective, for example in matching construction industry organizations with carbon reduction strategy (Wong et al., 2013) or in aligning energy-intensive industries with environmental performance goals (Testa et al., 2014).

The new ISO AM standard is aiming at designing an organizational ‚line of sight' that enables the more effective and efficient functioning of an asset management system (AMS) and the delivery of asset management services (Woodhouse, 2013). The ISO AM standard is a contested concept (see: Hastings, 2010; Too, 2011; IAM, 2011; Reichborn, 2013) and very general. GAMO in Switzerland are looking for specific roadmaps to ISO AM standard compliance and certification. Academic authors claim that fundamental research is missing to do so (Terlaak and King, 2006; Too, 2011; Jimenez and Pagano, 2012; Minnaar et al., 2013), including a meaningful ‚organizational perspective' (El-Akruti et al., 2013). On the contrary the major private institutional drivers of the current ISO AM standards concept, for example The Institute of Asset Management, emphasize that side of AM that is not ‚rocket sciences'.

The certification and compliance of GAMO with the new ISO AM standard is a challenge for those that are accountable for aligning AM in GAMO with energy transition and environmental management in theory and practice: due to a lack of interest in fundamental research, the ISO AM standard is made meaningful by reference to a limited perspective - consisting of NPM and PM – without appropriate reflection on related risks. The author of this article claims that the limited perspective is a matter of concern by academic authors already and that the current practice may bear the risks of failure for GAMO and of limiting the ISO AM potential to become a co-creational force in energy transition and environmental management. The author perceives the roll out of the new ISO AM standard as a window of opportunity to invite ‚rocket sciences' to address that challenge.