Innovative public procurement for circular economy

EUROSAI WGEA Spring Session: from Waste Management to Circular Economy
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Matti Vedenkannas
Principal Legislative Adviser, L.L.D.
National Audit Office of Finland
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Audit approach to cleantech procurement

• One of the objectives of the Finnish government is to make Finland a pioneer in the bioeconomy, a circular economy and cleantech by creating markets for sustainable cleantech solutions through public procurements.

• Our audit approach in our cleantech procurement project was development oriented and forward-looking.

• How things could be done more successfully in the future? How to improve the effectiveness of public procurement?
Audit approach to cleantech procurement

• We also looked at topic from a broader perspective...

Report Implementation of cleantech procurements in public administration
  • The strategies of cleantech procurement
  • The level of administrative structures

Report Implementation of cleantech procurements
  • Procurement practices and risk management
  • The level of procurement organisations and single procurement cases
Public procurement as part of the circular economy
industrial symbiosis

• Using old roof bitumen as recycled raw material for new asphalt.

• Parties of industrial symbiosis: bitumen collectors, transferring companies, bitumen granulate manufacturer, asphalt plants, research and development partners and public byers.

• A good example of how regulatory reform can open up opportunities for innovative procurement: in 2016 Finland banned the supply of organic and combustible waste to landfills.
Public procurement as part of the circular economy industrial symbiosis

- But the market is still growing quite slowly.
- Public buyers are conservative and cautious.
- To accelerate market access bitumen granulate manufacturer went through the end of waste (EOW) procedure.
- After EOW procedure the bitumen ceased to be waste and obtained a status of a chemical product.
Public procurement and energy recycling

- The district heating network can also enable energy recycling: Helsinki Energy’s (Helen) Esplanade cooling center
  - In this system cold water is used to cool customers' properties.
  - And then the system collects waste heat generated by the sun, machinery and equipment and people.
  - And this waste heat, in turn, is routed back into the heat pump plant, where it acts as a "fuel" for the heat pumps, producing heating and cooling in the same process.
Public procurement and energy recycling

HELEN’S CITY ENERGY SYSTEM

CHP POWER PLANT

HEAT & ELECTRIC STORAGE DEMAND-SIDE MANAGEMENT

RENEWABLE ELECTRICITY

SOLAR POWERPLANTS

BIO HEAT

SUN ARCHITECTURE

WASTEWATER TREATMENT PLANT

COOLING AS A SERVICE

DISTRICT HEATING

DISTRICT COOLING

HEAT PUMPS

COOLING STORAGES

District cooling is used for recovering heat from buildings where heat would otherwise be wasted.

Buildings serve as huge solar thermal collectors.
Public procurement and sharing economy

• More efficient use of facilities by sharing resources: School as a Service (SaaS)
• The acquisition of school premises has traditionally been a construction work (product model). Such acquisition involves planning risk and investment risk.
• Instead of building new facilities the city of Espoo decided to co-operate with the Aalto University and share facility resources with university. In this kind of service model facilities are more like a tool.
Public procurement and sharing economy

• In SaaS school activities can be flexibly changed to meet different needs. The school can also be placed in a more central location.

• Flexible and cost-effective operating models that can later be extended and scaled to other educational institutions.

• In the SaaS model, the cost per a student have been reduced by about a third compared to traditional school operating model.

• Challenge: Develop an appropriate cost accounting for SaaS model.
Thank you!