

Appendix A

Table A1. Summary of interviews

Pre-study	Main study
Six firms: Metal byproduct reprocessing firm, CEO (Semi-structured phone interview, 45 mins) Environmental consultant, Senior expert (Semi-structured video interview, 30 mins) Food waste reprocessing solution supplier, R&D manager (Semi-structured f2f interview, 60 mins) Waste management technology supplier, Business development manager (Semi-structured phone interview, 30 mins) Biofuel producer, CEO (Semi-structured phone interview, 45 mins) Biofuel technology supplier, R&D manager (Semi-structured phone interview, 45 mins)	Head of Yandex DC Operations (2 f2f semi-structured interviews, total 102 mins; one in-depth interview 45 mins), Head of Yandex DC in Finland (1 Video semi-structured interview, 1 f2f semi-structured interview, total 92 mins) CEO of Calefa (1 Video semi-structured interview, 1 f2f semi-structured interview, total 94 mins); CEO of Mantsälä Sahko Oy (MSO) (1 Video semi-structured interview, 1 f2f semi-structured interview, total 110 mins); Heat reuse project manager (1 in-depth interview 30 mins) Industry expert (1 in-depth interview, 80 mins)
Four public sector organisations: Energy and material efficiency service provider, (2 semi-structured f2f interviews- senior expert (40 mins), expert (80 mins), 1 semi-structured phone interview - expert (44 mins) Innovation fund (2 semi-structured f2f interviews: senior expert (60 mins), expert (60 mins)) Two regional development organisations (1 semi-structured f2f interview- Environment and energy cluster manager (66 mins), 1 semi-structured phone interview- Manager (50 mins)	CEO of Mantsälä Business Development (MBD) (1 in-depth interview, 40 mins) Project manager of DC design company (Royal HaskoningDHV) (phone interview, 15 mins)
Two expert partners: University of applied sciences, Project Manager (Semi-structured video interview, 45 mins) Technical research centre, Research professor (Semi-structured phone interview, 45 mins)	

Yandex profile

Yandex N.V. is an Internet and technology company. The company operates as a Russian search engine and also serves Turkey, Ukraine, Belarus and Kazakhstan, employing more than 6,000 people. This service was the first and is now the largest system for the placement of text-based ads in Russia. Yandex became profitable in 2002 and its revenues have been continually growing ever since. Yandex has been listed on the NASDAQ Technology index since 2001.

In Russia, Yandex's share of all search traffic is 57.3% (LiveInternet, Q4 2015). Yandex had \$902 M in revenues in 2014 (+29% year-over-year [yoy] in RUR) and \$374 M in EBITDA in 2014 (+21% yoy in RUR). More than 53.3 million people in Russia use Yandex services on their computers (TNS Web Index, 12 to 64 years old, December 2015).

Yandex's Russian businesses are organized into five operating segments: Russian Search and Portal, which includes all services offered in Russia, Belarus and Kazakhstan; Russian E-commerce, which includes the Yandex.Market service; Media Services, which includes Yandex.Music, Kinopoisk.ru, the Yandex.TV programme and Yandex.Kinoafisha; Taxi, which includes the Yandex.Taxi service; and Classified Aggregators, which includes Yandex.Auto, Auto.ru, Yandex.Realty and Yandex.Job. Additionally, the company's international operations are organized into three operating segments: Turkish Search and Portal, Ukrainian Search and Portal and Data Factory (including the Yandex.Data Factory service).

Yandex operates data centres in Moscow and other regions of Russia and rents space in co-location centres in Amsterdam, the Netherlands, and Ashburn, Virginia (in the U.S.). The geographic distribution of the Yandex's servers decreases users' internet usage costs and increases service access speed, stability and dependability. This structure provides a redundant fail-safe capacity such that the failure of a single facility does not cause Yandex's websites to stop functioning. Taking into account the projected demand for Yandex services, the company continuously evaluates the capacity and locations of its data centres to determine the most cost-effective manner to deliver reliable service to users. Yandex has built a data centre in Mantsälä, Finland, and is currently constructing a data centre in Vladimir, Central Russia.

The DC department offers Yandex its operational flexibility, since the servers' workloads depend on the needs of the business and can change on a daily basis.

Mäntsälän Sähkö Oy Profile

MSO Mäntsälän Electric is a public company that was founded in 1926 and currently offers a wide range of products and services in the energy sector. MSO supplies customers with electricity, district heat, natural gas and contracting services. The company also offers broadband and energy efficiency services. In 2013, MSO had net sales of approximately EUR 26 M. MSO employs 63 professionals, and its electricity network extends to ten local municipalities, the largest of which are in Mäntsälä and Kärkölä. MSO's distribution network comprises approx. 2 500 km of power lines in predominantly rural area.

Calefa profile

Calefa is a privately owned solution supplier that was founded in 2013 and that focuses on industrial waste heat recovery. Calefa operates from two offices in Finland with a turnover of EUR 0.8 M. Calefa provides customised turnkey solutions for waste heat utilization. Its main services include:

- Heat recovery: saves outgoing heat through proper techniques and reuse it elsewhere.
- Industrial heat pumps: raises the temperature of reclaimed or removed heat (mainly through electricity) to suit reuse purposes.
- Absorption devices: used for heating and cooling in cases involving readily available free or low-cost hot energy.
- ORC-technology: transforms up to 25% of hot waste heat into electricity
- Combination solutions: combine the techniques and devices mentioned above to optimize energy efficiency and, thus, profitability

Calefa won the 2015 Heat Pump City of the Year award from the European Heat Pump Association with a project in Mäntsälä that reused data centre waste heat as district heat to warm up 4000 households.

Royal Haskoning DHV profile

Royal Haskoning DHV is an international engineering consultancy firm headquartered in Amersfoort, Netherlands. It has 100 offices in 35 countries and employs more than 7,000 professionals worldwide.

Royal Haskoning DHV is active in the planning, transport, infrastructure, water, maritime, aviation, industry, energy, mining and building industries. It is one of Europe's leading project management, engineering and consultancy service providers, ranking globally in the top 10 of independently owned, non-listed companies and the top 40 overall.