

Eesti energiatehnoloogiate arendusstrateegia eeluuring

Tellijaja:

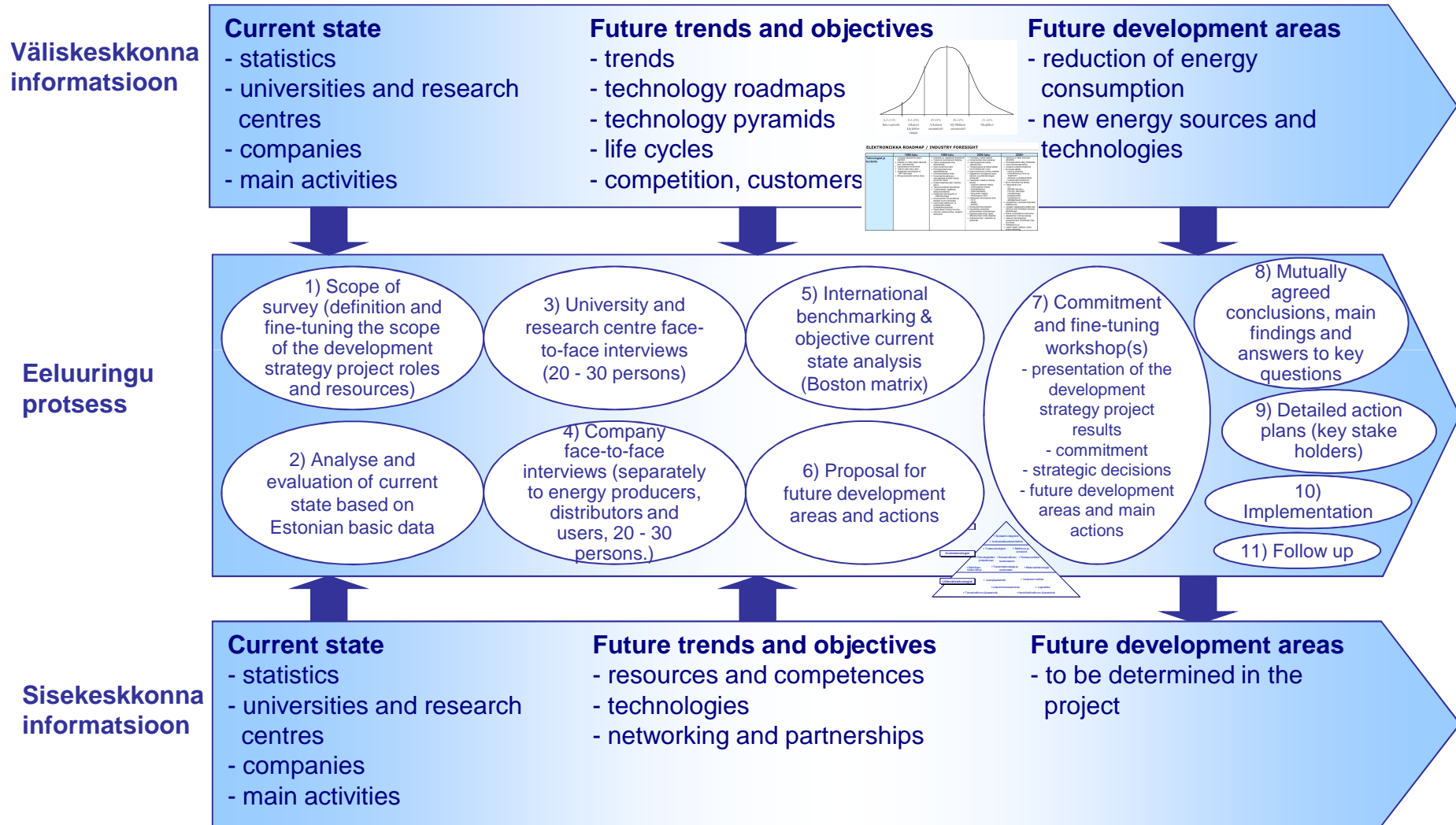


Läbiviijad:



Tõnu Hein

Uuringu protsessi kirjeldus



Vision

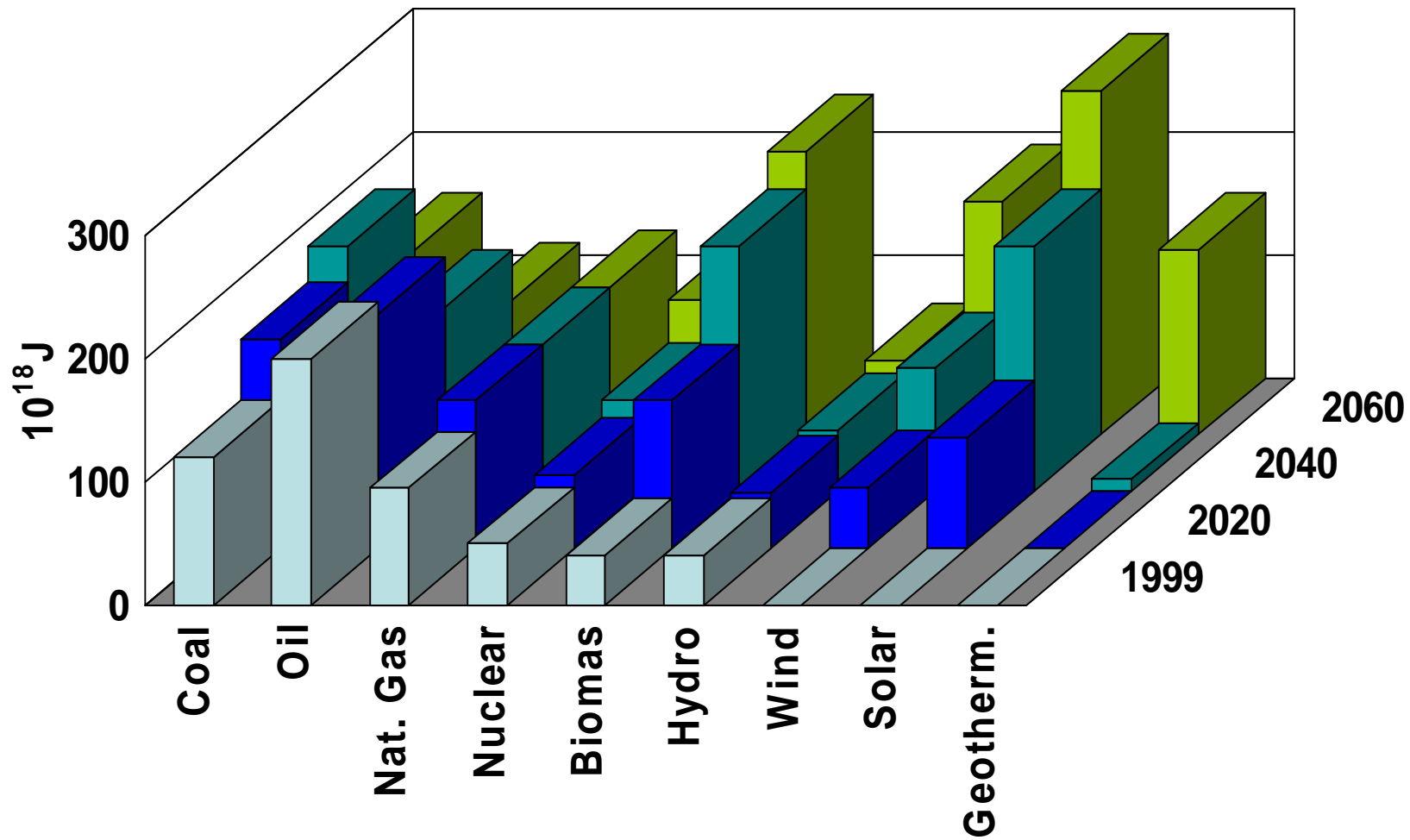
Estonia is one of the worlds leading developers of technologies for oil shale processing and low grade oil resource utilisation.

Estonia has high competence level of utilising other sources of energy and maximising the use of local renewable energy sources in innovative, environment friendly and effective manner.

Efficiency and energy saving are common objectives for all Estonian energy related technologies.

Estonia will develop new technologies for emerging sources of energy.

Energiakandjate *ROADMAP*



Allikas: Enn Mellikov

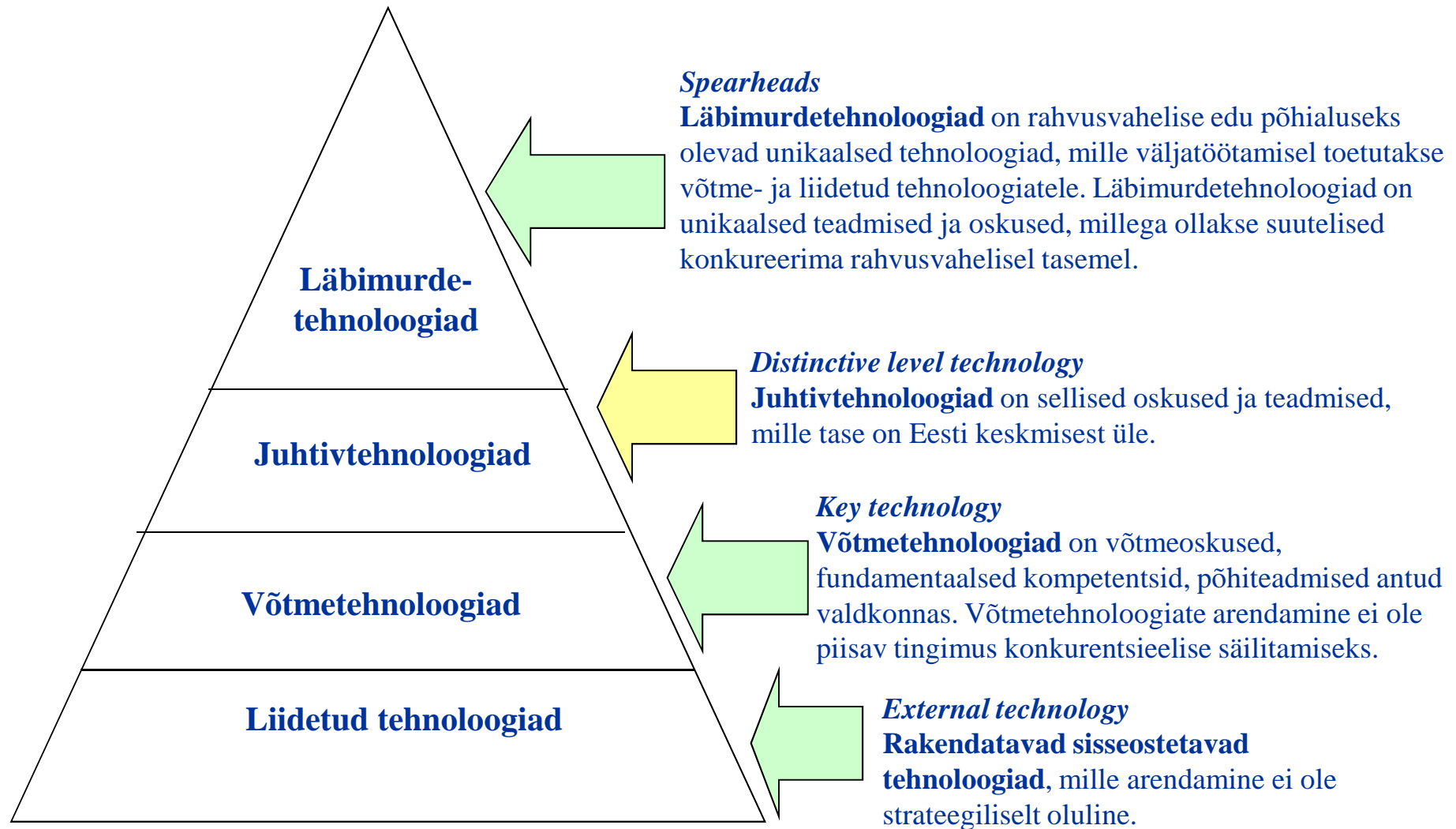
Tehnoloogia arengutee - *ROADMAP*

	Minevik					Prognoos	
Seadme hind (EEK)	10 000	8 000	6 000	4 000	3 000	1 000	?
Töö- temperatuur (C°)	200	150	120	100	90	30	?
Töotsükli arv	30	750	1200	1500	2000	5000	?
	1950	1980	1990	2000	2005	2010	2015

Allikas: HeiVäl Consulting

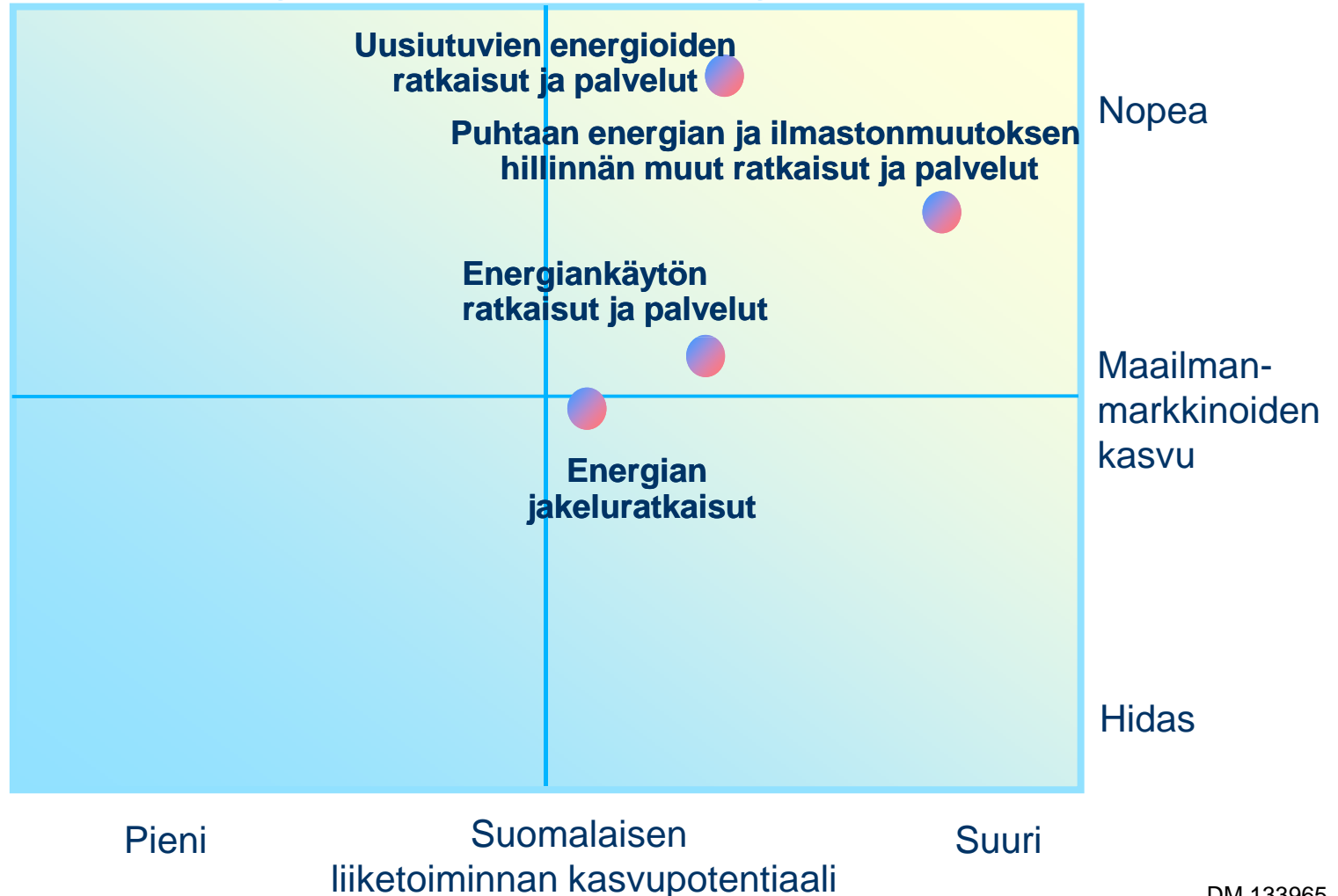
Aeg

Eesti energiatehnoloogiate kompetentsipüramiidid

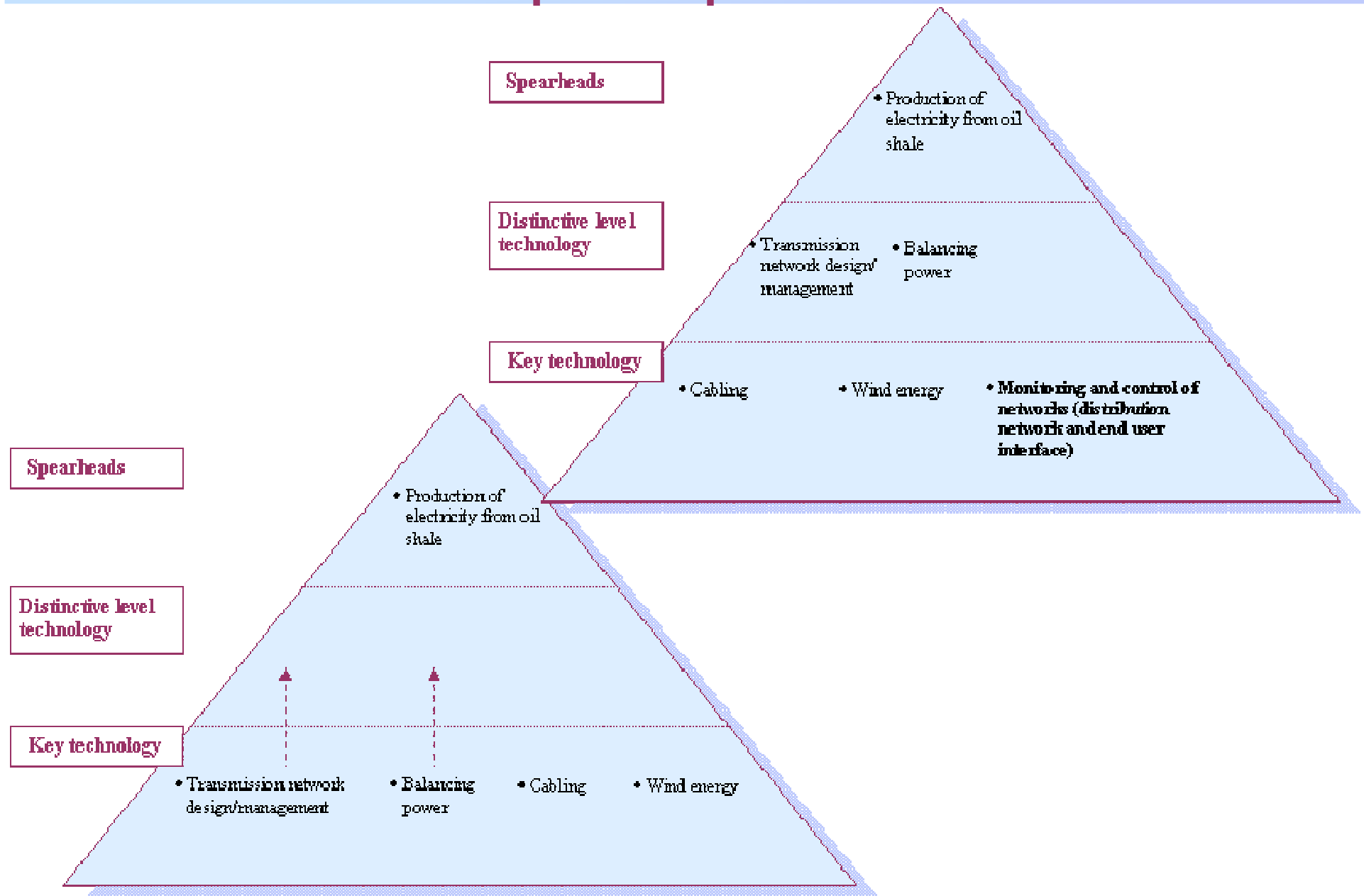


Energiaklusterin kasvualueet

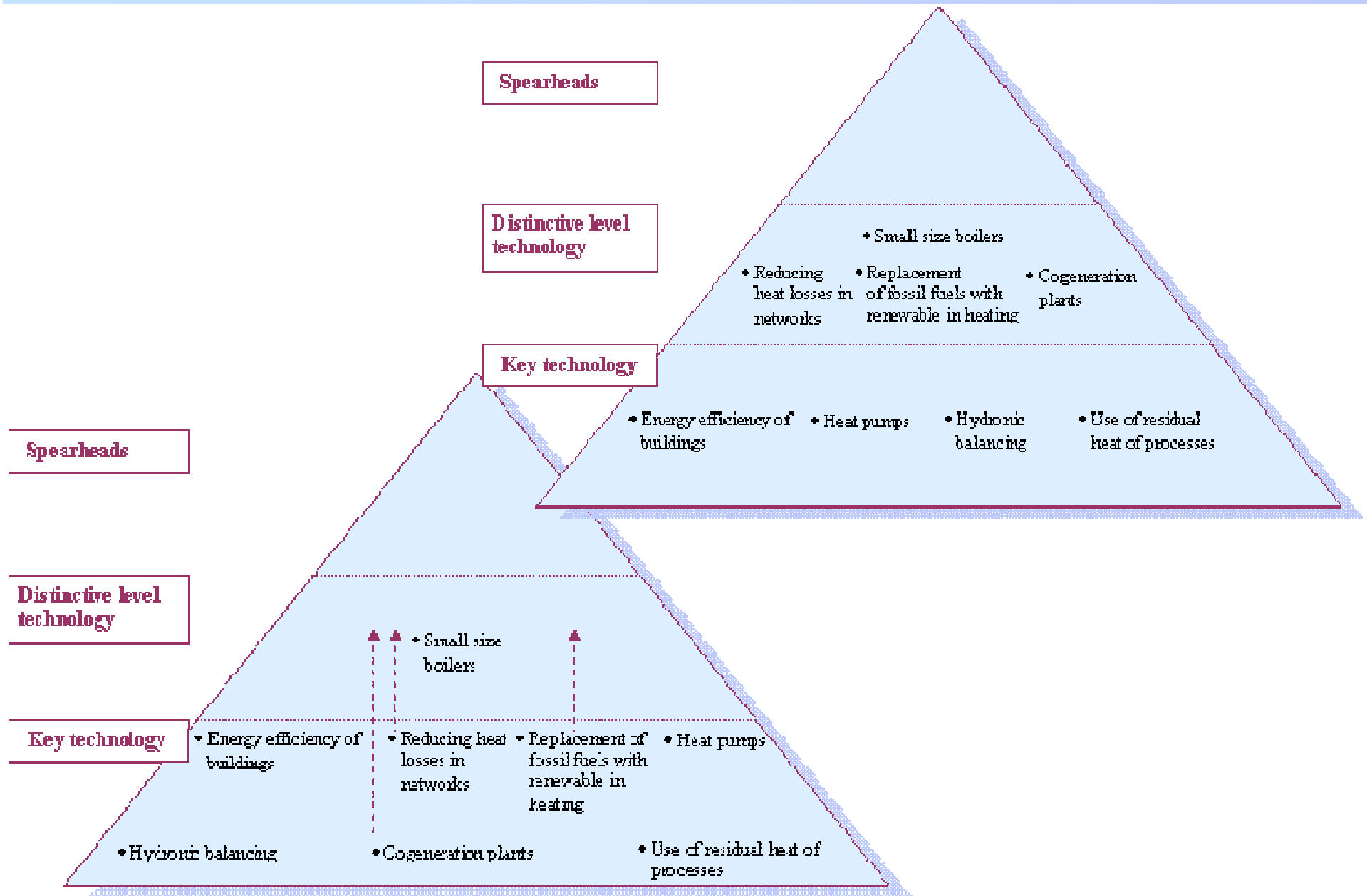
Ilmastonmuutoksen, energiamuotojen hyväksyttävyyden ja hinnan sekä ympäristön haasteet luovat mahdollisuuksia ja nostavat uusiutuvia ja puhtaita energiamuotoja sekä energiankäytön ratkaisuja



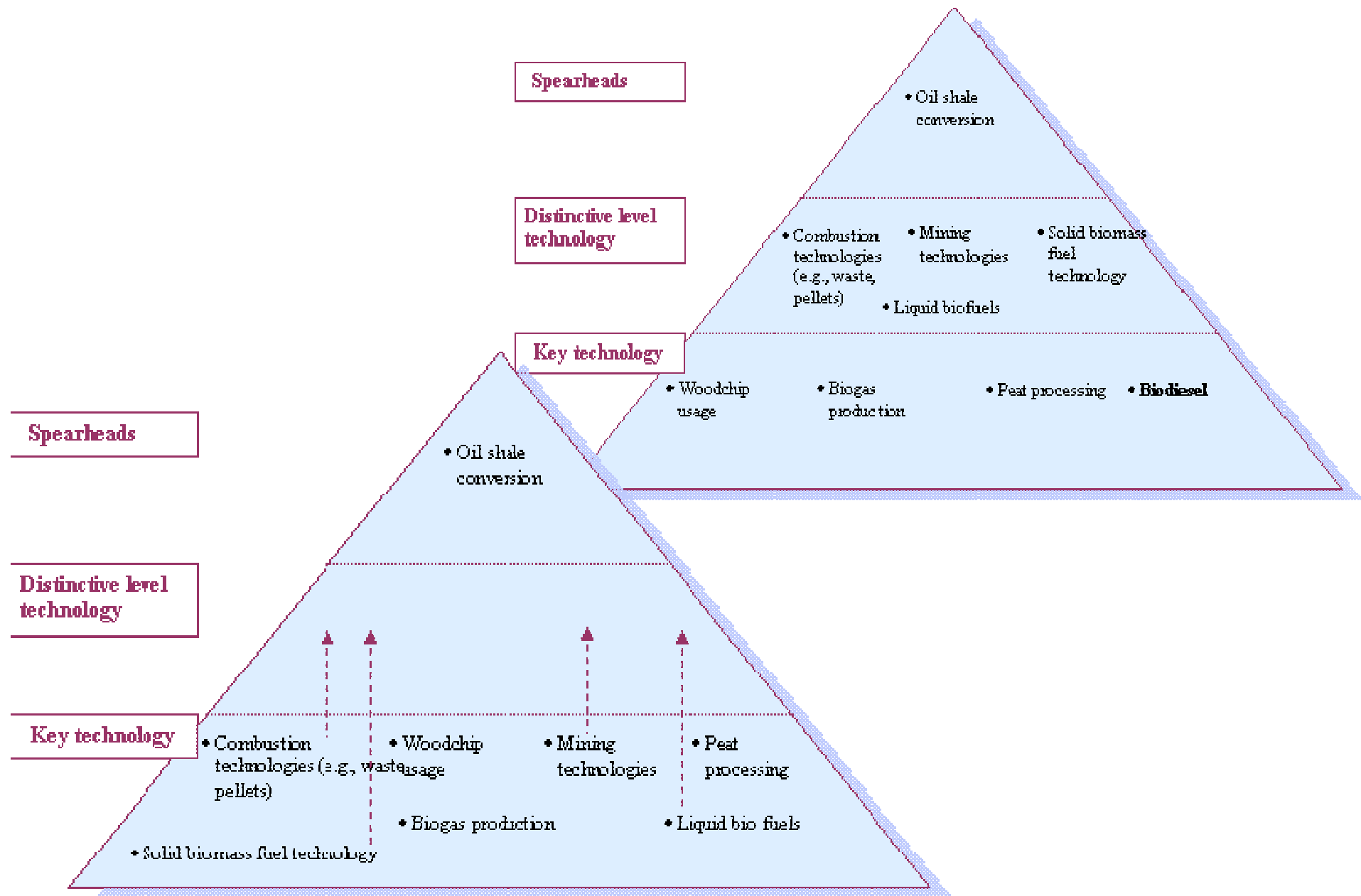
Production, Transmission, and Distribution of Electricity - kompetentsipüramiigid



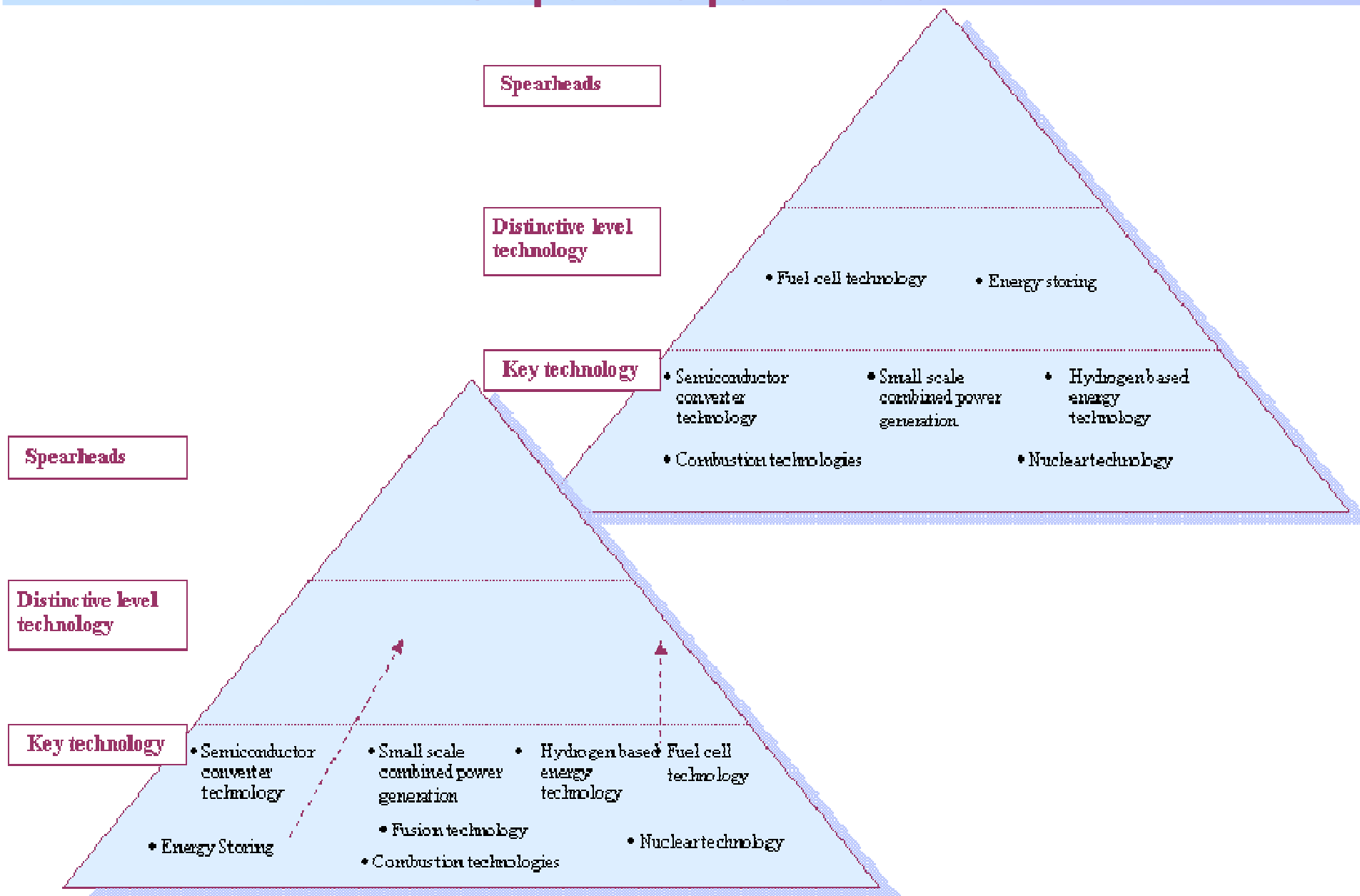
Heat Generation and Distribution- kompetentsipüramiigid



Production of Fuels- kompetentsipüramiidiid



Production of Energy Producing Technologies- kompetentsipüramiigid



Oil Shale Process Development Programme

Vision: Estonia is one of the worlds leading developers of technologies for oil shale processing and low grade oil resource utilisation.

- Considering the available resources and foreseen utilization of development results, **the scope of the Oil Shale Process Development Programme** could be roughly 10M€ during 3 years, consisting of 30-40 R&D projects. Substantial contribution from the enterprises is foreseen. Enterprise projects funded within the programme will be coordinated to avoid overlapping efforts.
- **Target of the programme** is to support the redesign and coordination of total oil shale process (from mining to end users) so that the existing resources can be utilised in an efficient and sustainable way. It will bring together all players in the value chain of oil shale. Trimming the Estonian total oil shale process to excellent shape will also produce world class know-how about low grade oil resource utilisation, which will be commercialised and offered in international market in form of products and services.
- **Place in the innovation chain:** applied research, product and process development.
- **Expected time to utilisation of results:** Immediate ... 5 years.
- **Risk level:** > 50% of projects will be successful.

Renewable Sources Development Programme

Vision: Estonia has high competence level of utilising other sources of energy and maximising the use of local renewable energy sources in innovative, environment friendly and effective manner.

- **The tentative scope** of the Renewable Sources Development Programme could be roughly 7 M€ during 5 years, consisting of ca 20 R&D projects with a relatively large contribution from the enterprises.
- **Target of the programme** is to increase the share of renewable sources in energy production by introducing new innovative ways to utilise domestic renewable energy sources and supporting investment in related new energy production capacity. Facilitate structural change.
- **Place in the innovation chain:** applied research, product and process development.
- **Expected time to utilisation of results:** Immediate ... 10 years.
- **Risk level:** ca. 30% of projects will be successful leading to implementation and continuous use.

Emerging Energy Sources Development Programme

Vision: Estonia will develop new technologies for emerging sources of energy

- **The tentative scope** of the Emerging Energy Sources Development Programme could be roughly 5M€ during 5 years, consisting of 10-15 R&D projects. The share of public funding will be bigger than in the other proposed programmes, including both national and EU contribution.
- **Target of the programme** is to support research and development in the field of new, emerging energy technologies like e.g., solar, fuel cells, fusion, hydrogen, and others in order to maintain the capabilities for fast implementation of innovations and to contribute in the international research work in the branch. Licence revenue of patented innovations is targeted.
- **Place in the innovation chain:** basic and applied research.
- **Expected time to utilisation of results:** 5 years ... 50 years.
- **Risk level:** ca. 5% of projects will lead to the patented innovation and licence, otherwise the work will contribute to science and education.

Järgmised sammud

- Tutvuda TEKESI programmijuhtimisega kohapeal
- Määratleda 3 programmi ja üldrahastamise maht, aeg
- Leida tehnoloogiaprogrammide 3 juhti ja määrata 3 nõukogu
- 1-2 kuud aega ettepanekute tegemiseks rahastamise detailsete mahtude, tingimuste ja visiooni elluviimiseks vajalike tegevuste osas (Tekesi coach mitmed päevad kohal) sh koostada Roadmapid ja mõtestada enda jaoks püramiididel kujutatud tehnoloogiad ja nendega seotud arendusvajadused/võimalused
- Tehnoloogiaprogrammide juhid koos rahastaja esindajaga teevad nõukogudele ettepaneku programmi käivitamise osas
- Algab programmide tutvustamine, turundus, taotluste esitamine, hindamine ja rahastamine
- Pool aastat hiljem - tulemuste valikuline avaldamine, enesehindamine, programmi strateegia muutmine enne programmi lõppu
- Aasta jooksul - tehnoloogiaprogrammide pidevalt toimiva süsteemi käivitamine