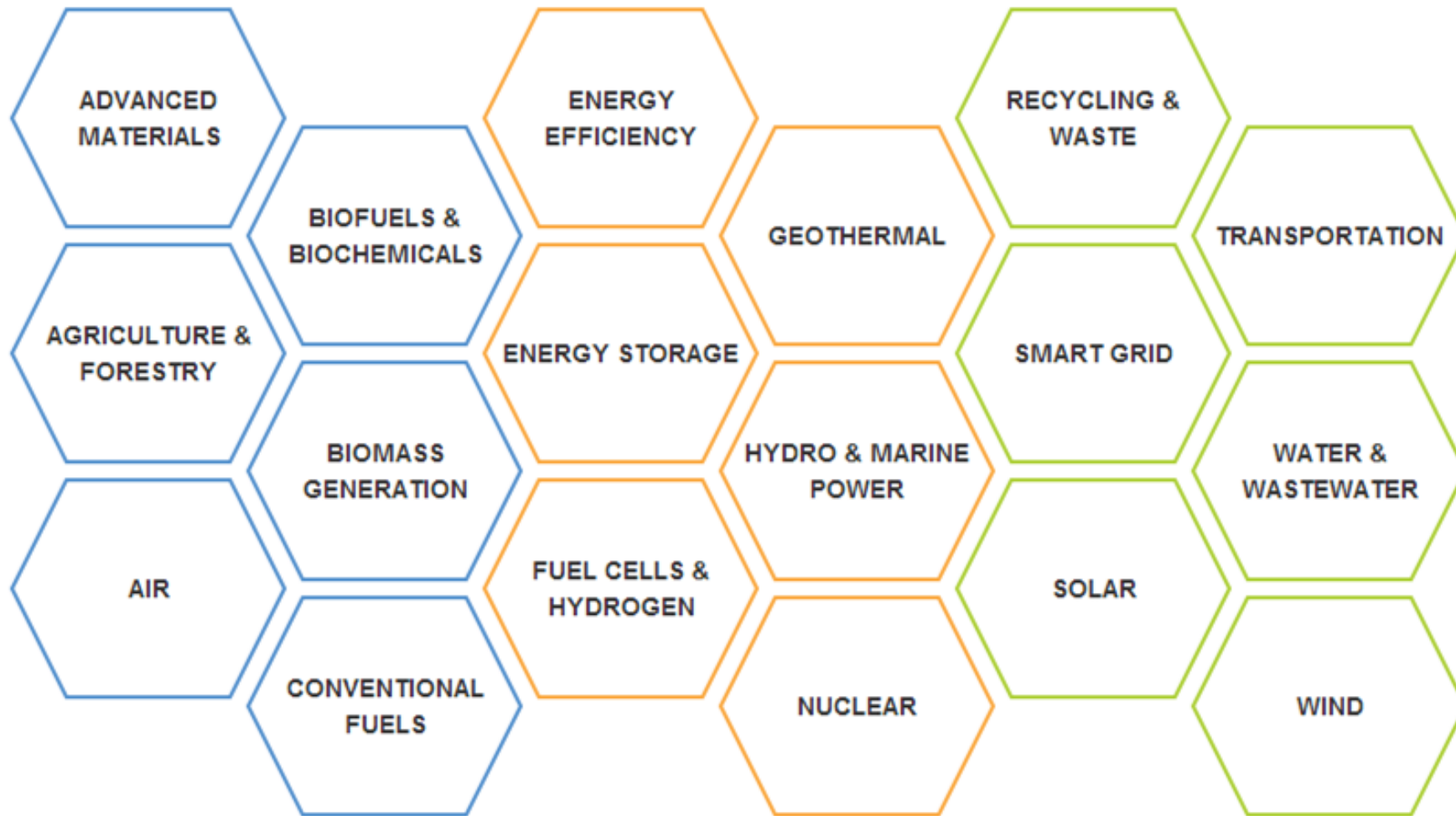


Strategic Programme for Cleantech

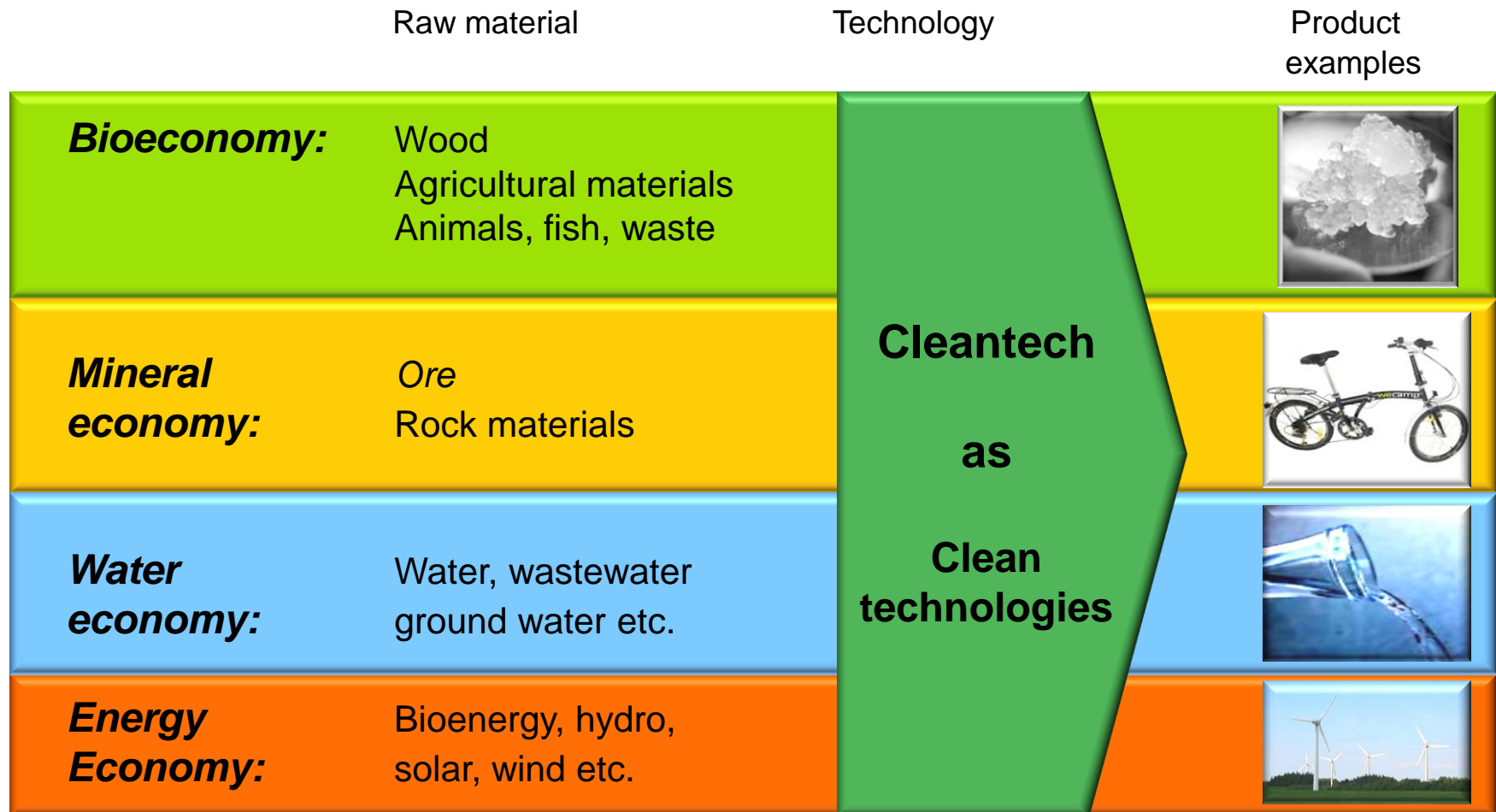
15.1.2014
Kaisu Annala



Cleantech Global



Clean technologies are in the core of the sustainable natural resources economy



Industries vs Cleantech

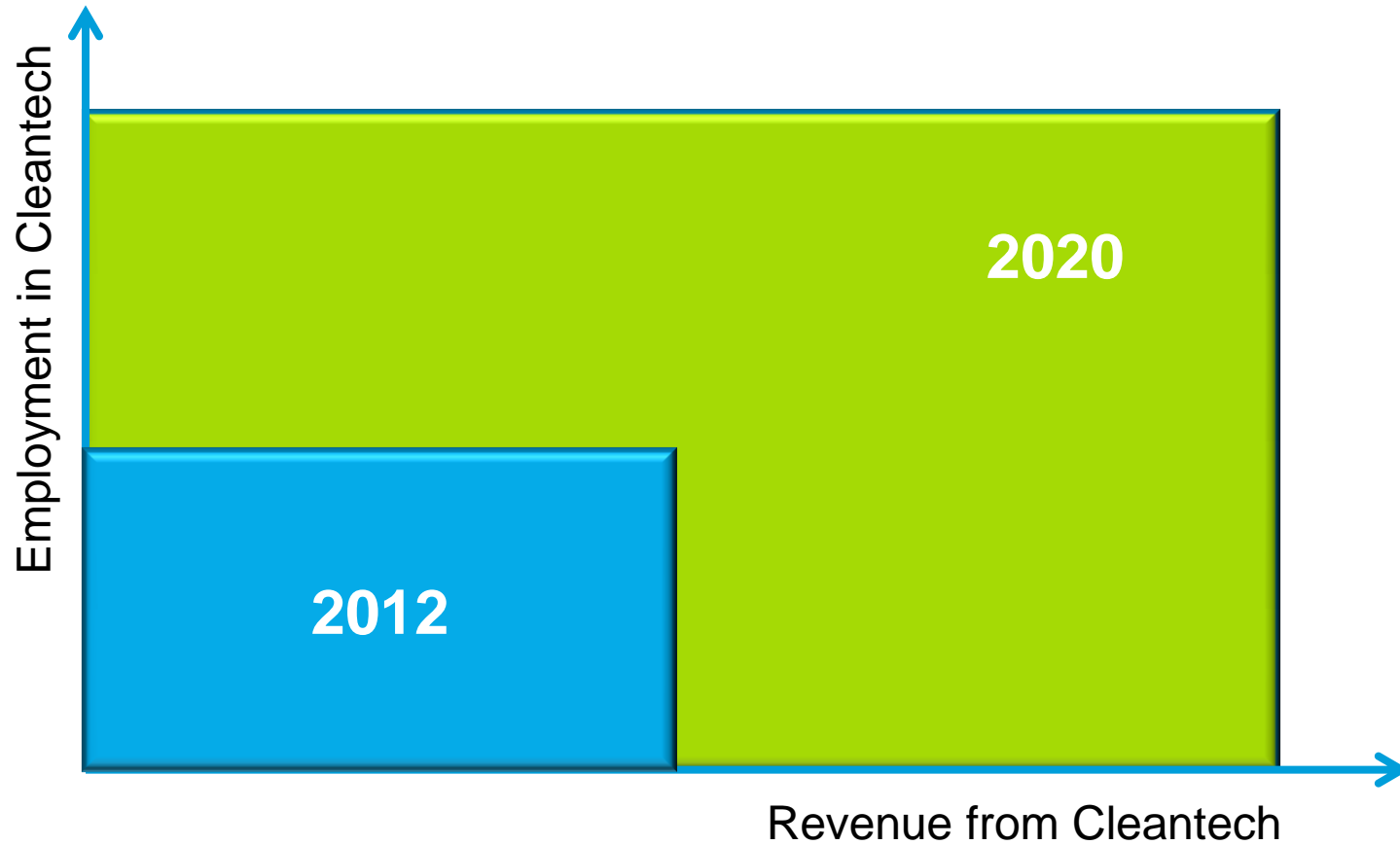
	BIOMASS GEN	BIOFUELS, CHEM	ADVANCED MAT'S	ENERGY EFFICIENCY	ENERGY STORAGE	HYDRO POWER	FUEL CELLS, H2	GEOHERMAL	AIR	SOLAR	SMART GRID	RECYCL, WASTE	WATERS	WIND	TRANSPORTATION	
Construction																
Energy																
Chemical																
Forest																
Technology																
Food and drugs																
Mining																



Examples



Targets



Team Finland



Synergies and symbioses



Honkajoki / Kirkkokallio



Honkajoki / Kirkkokallio



Organic products



Bio degradable packaging



Bio-CHP



Organic waste from animal industries



Non glutenic



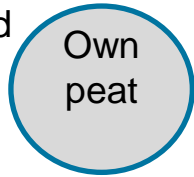
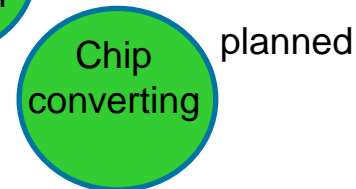
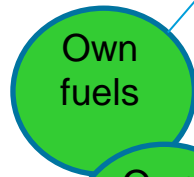
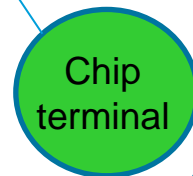
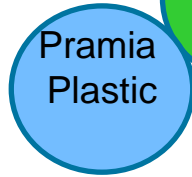
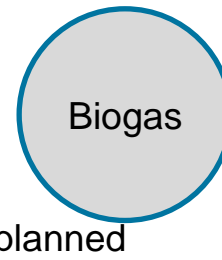
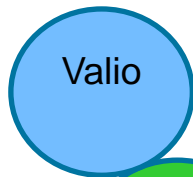
Green automation



Netled lights



Toholampi



KIP Kokkola Industrial Park

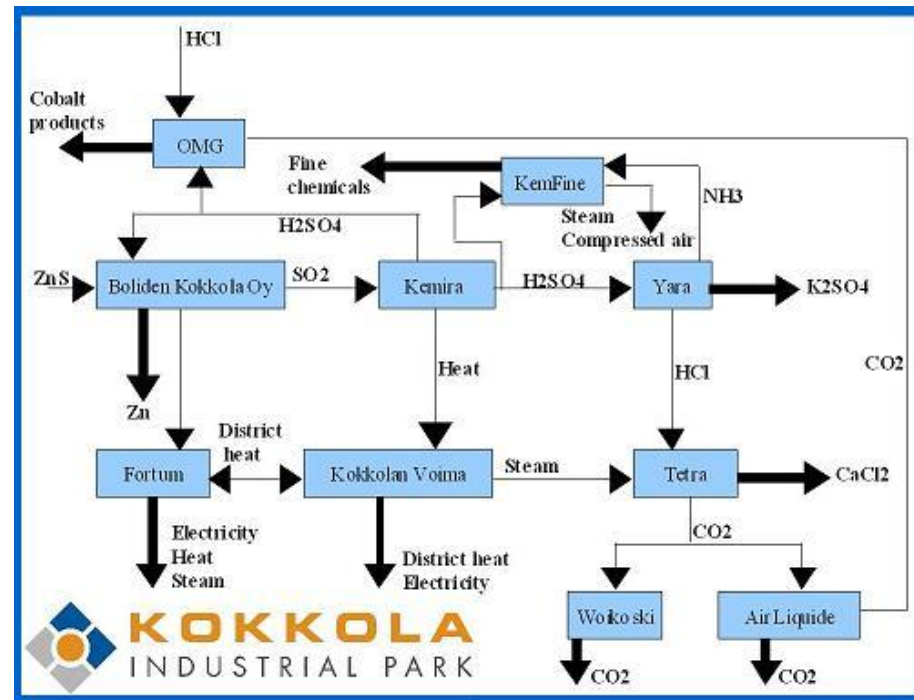
Sulphuric acid / Boliden (ex Kemira)
 Calcium chloride / TETRA Chemicals
 Hydrochloric acid / TETRA Chemicals
 Potassium sulphate / Yara
 Phosphoric acid / Yara
 Limestone / Nordkalk
 Carbon dioxide / Polargas / Woikoski
 Ammonia / Yara
 Cobalt products / Freeport Cobalt Oy (before OMG)
 Zinc / Boliden

Utilities

Sea / fresh / potable / deionised water
 District heating, Compressed air,
 Nitrogen (gaseous), Oxygen (gaseous)
 Heavy oil
 Steam, Power

Infrastructure

Roads, railroad, port
 City services



Thank you!



TYÖ- JA ELINKEINOMINISTERIÖ
ARBETS- OCH NÄRINGSMINISTERIET
MINISTRY OF EMPLOYMENT AND THE ECONOMY