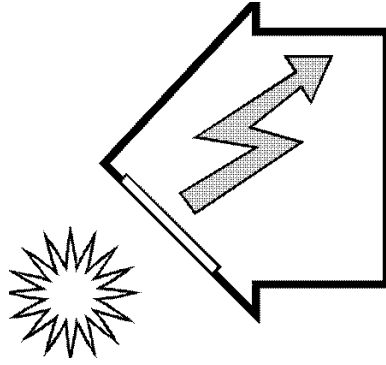




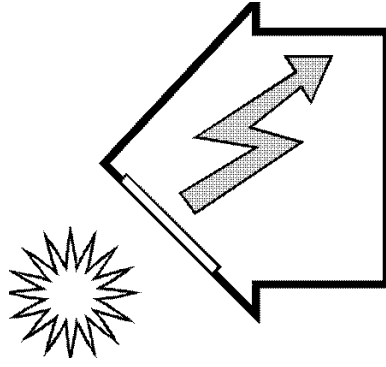
Building with PV, New product opportunities

9 May 2001, Rai Amsterdam,



Conclusions

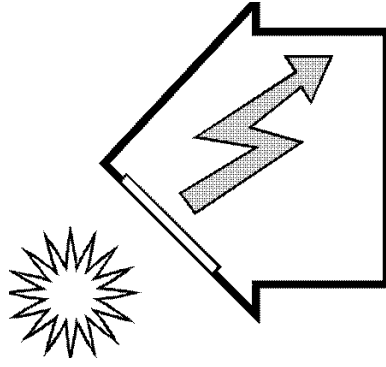
- product options:
 - standard products (high volume), mainstream process (large projects/DIY)
 - custom made products (specialistic), project teams (special projects)
- market trends - on grid:
 - BIPV: houses and commercial buildings
 - PV power plants
 - (still no optimal communication between architects and engineers!)



Conclusions

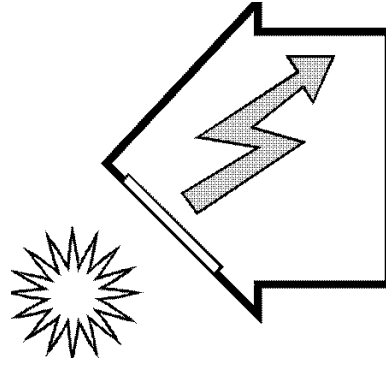
- Market segment: DIY

- products: Ubbink Solosun, Solgreen, ...
- consumers: private house-owners, occupants, holiday cottages,
- requirements: cheap, plug and play, (AC-modules), standardisation, full kit
- opportunities: modularity, small investment, (useful) toy = value market, green image.



Conclusions

- Market segment: Domestic systems
 - products: Atlantis, Bekaert, BP, Soltech, PV Systems, Solrif, ...
 - buyers: private house-owners
 - requirements: esthetically pleasing, cheap, (easy to install/low installation costs), easy to maintain
 - opportunities: large potential



Conclusions

- Market segment: large scale housing systems

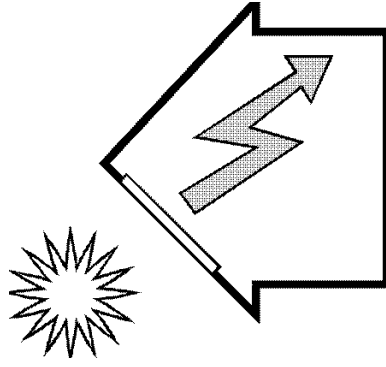


- products: BP, Bekaert, PV Systems, Schweizer (Solrif), ...

- customers: property developers (new), housing corporations (existing), (utilities)

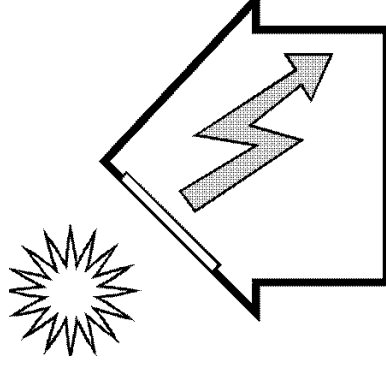
- requirements: mainstream building product, no risk (guarantees), esthetically pleasing, cheap,

- opportunities: standardisation, may stimulate other measures, (urban planning phase), few decision makers



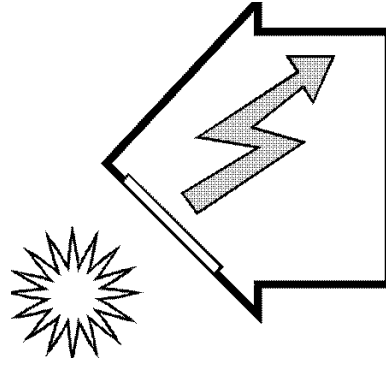
Conclusions

- Market segment: Facades
 - products: BP, Oskomera, Scheuten, Saint Gobain, ESD, Solface (EPFL et al),
 - customers: flats, building owner = user offices
 - requirements: esthetics, mainstream building product
 - opportunities: visibility, image, project approach



Conclusions

- Market segment: Atria/ Glazed roofs
 - products: BP, Oskomera, Scheuten, Saint-Gobain, ...
 - customers: hotels, offices, shopping centres, commercial buildings etc. - building user = owner ++
 - requirements: multifunction (shading, diffusing light), flexibility in design (custom made modules), safety
 - opportunities: highly visible (view from inside, explain), (rel) low marginal costs



Conclusions

- Market segment: Large scale systems on utility buildings (>100 kWp)
 - products: BP, Bekaert, Solface, Solgreen, ...
 - customers: utilities (green power), trade fairs etc., industrial areas (together)
 - requirements: low cost, low maintenance, low risk, high yield, standardisation
 - opportunities: space, buy-back rates, green power

