

Med smarta hus möter fastighetsbranschen Industri 4.0

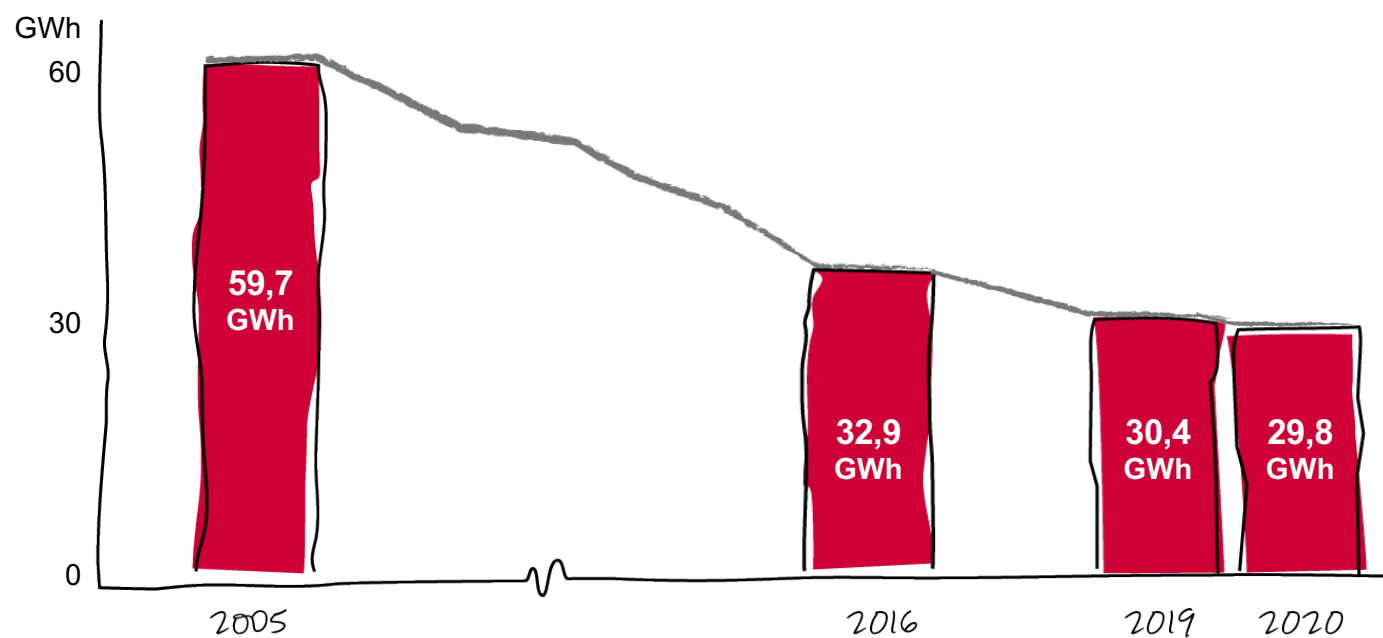


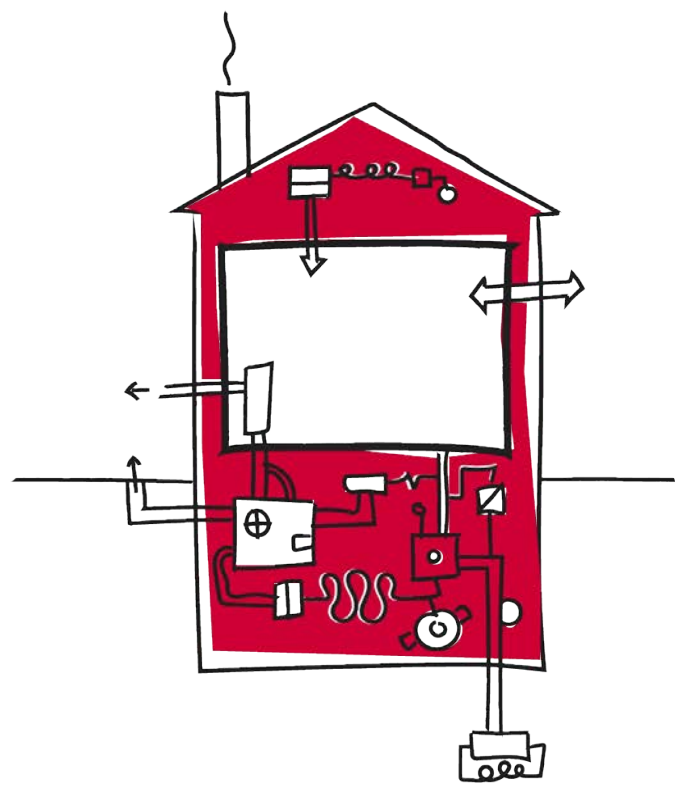
BIM Alliance frukostmöte - 210113



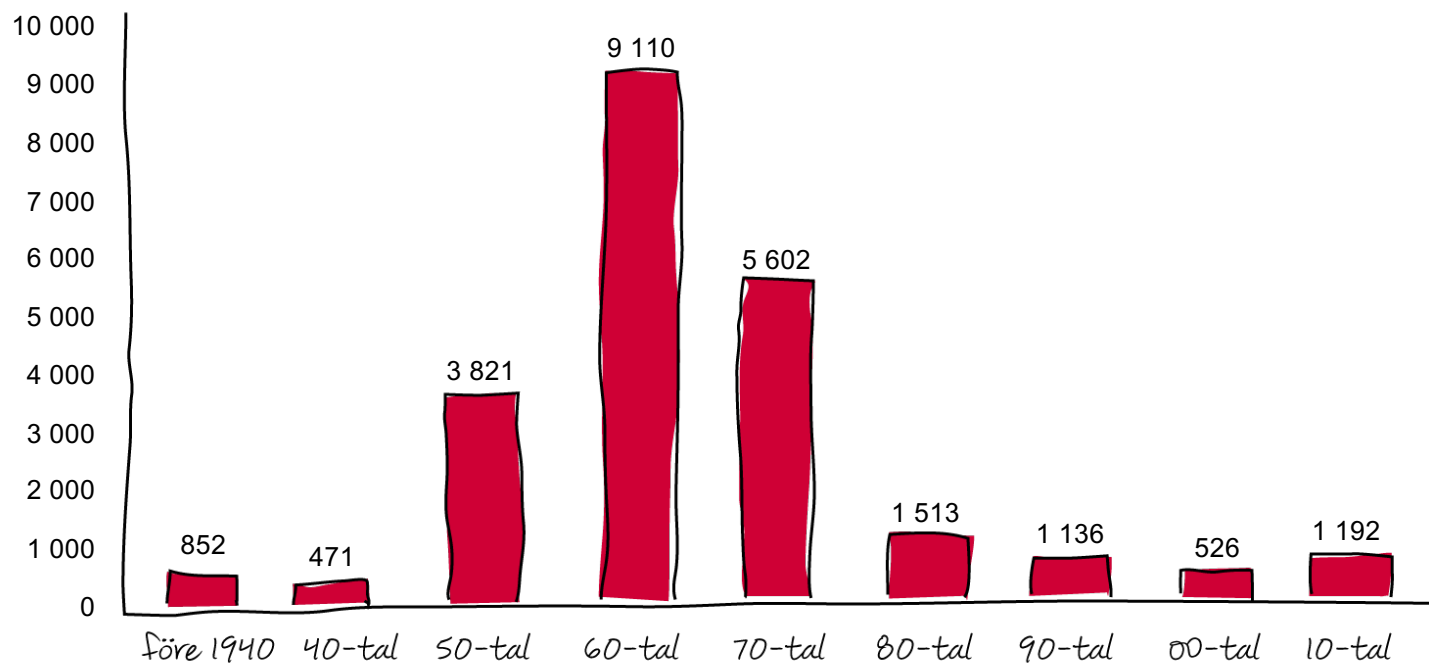
30 år i anslutning till 30 års erfarenhet

Elförbrukning





Byggår

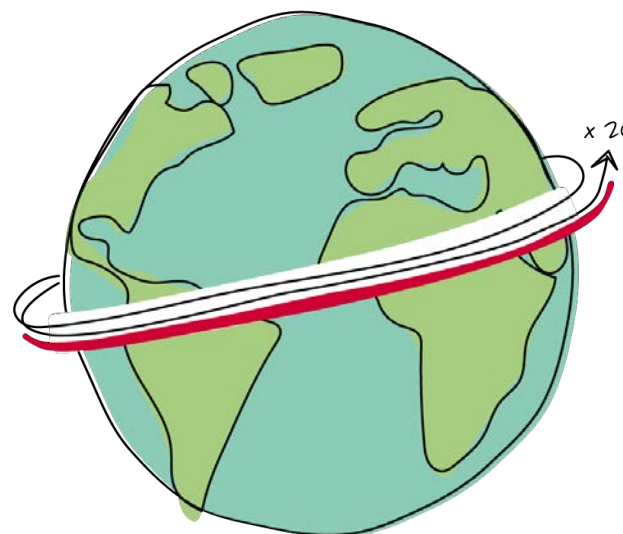


Energimarknaden i en snabb omställning

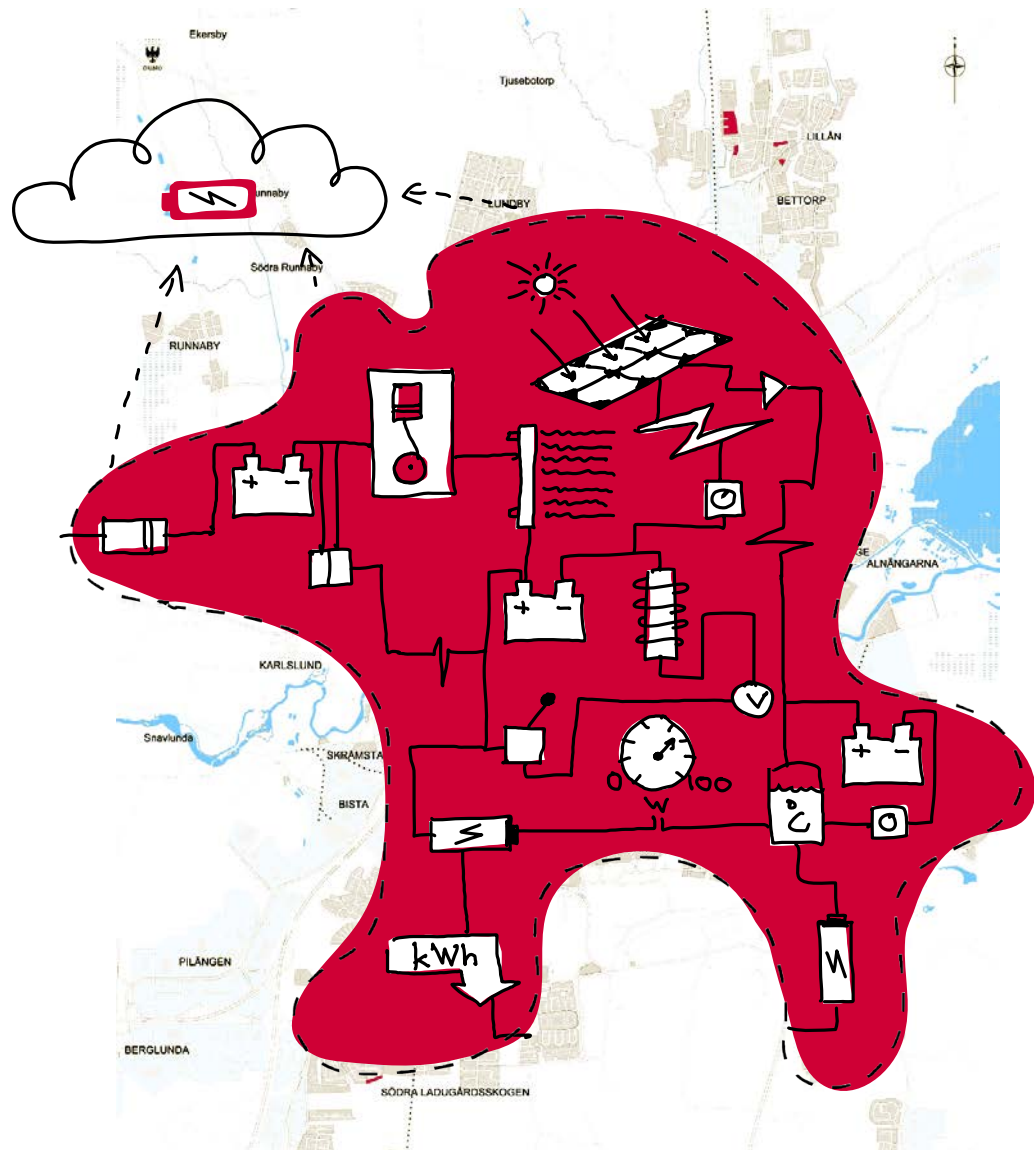
- Fastighets - och energibranschen interagerar på nya sätt som skapar utrymme för innovation
- Energikostnader kommer framöver ändras på ett mer oförutsägbart sätt
- Energilagring är en form av disruptiv teknologi för både fastighets –och energibranschen

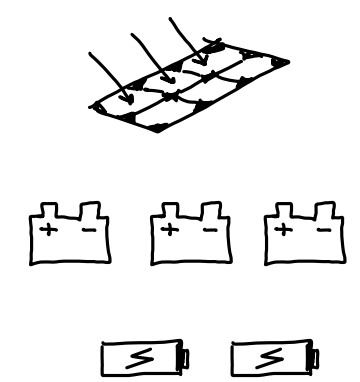
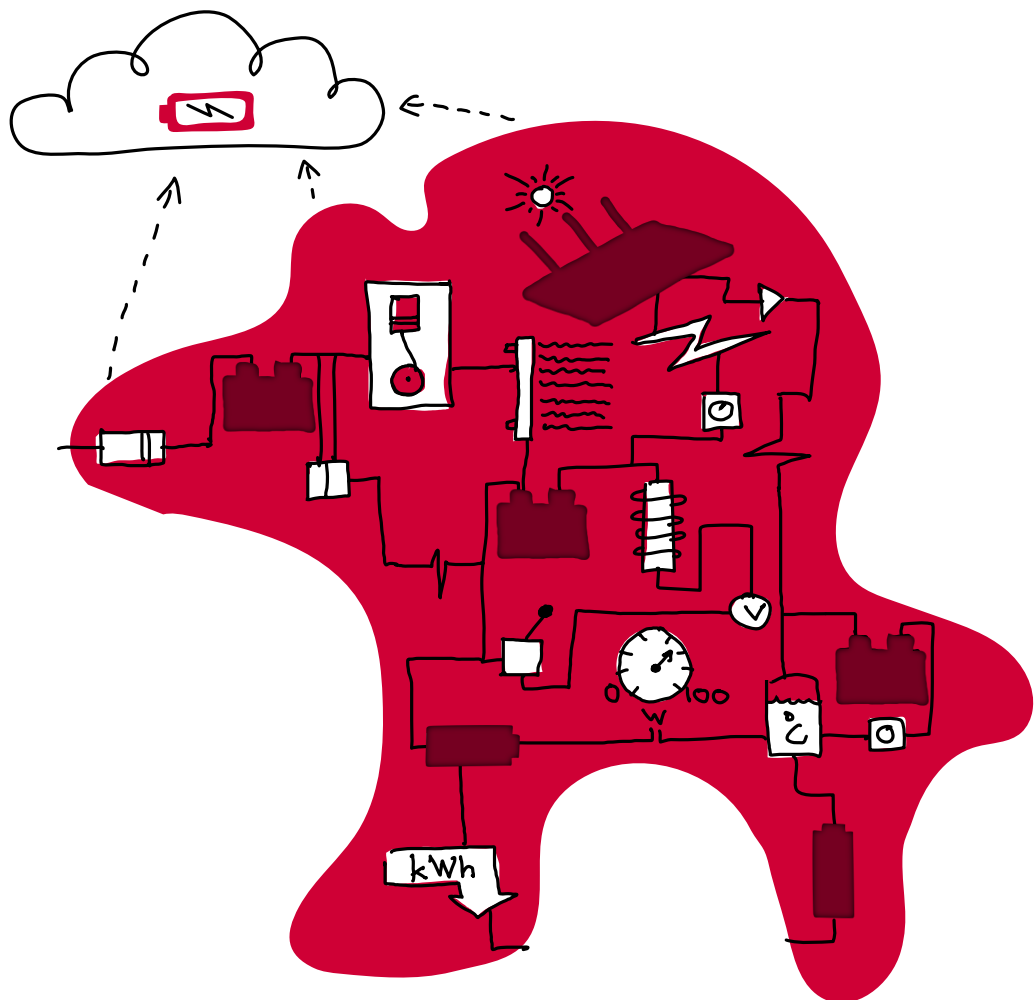


Linjärt

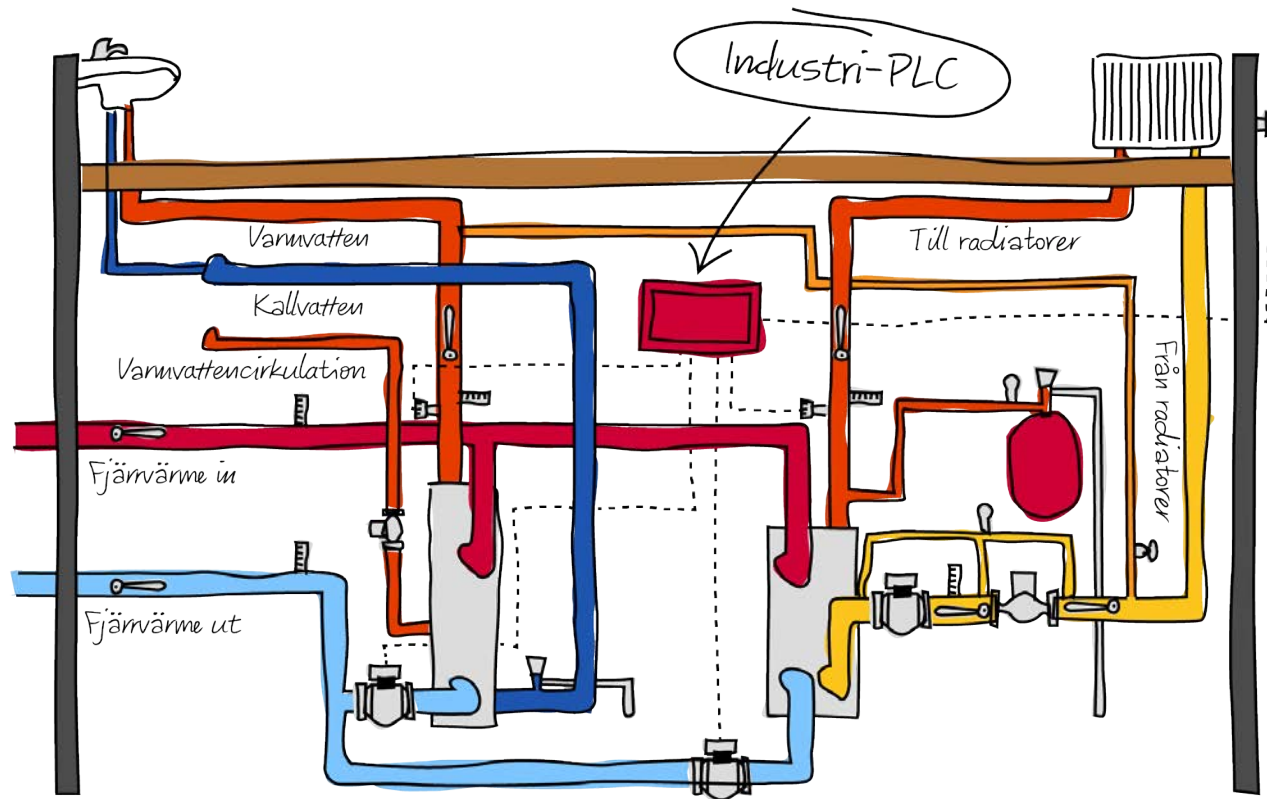


Exponentiellt

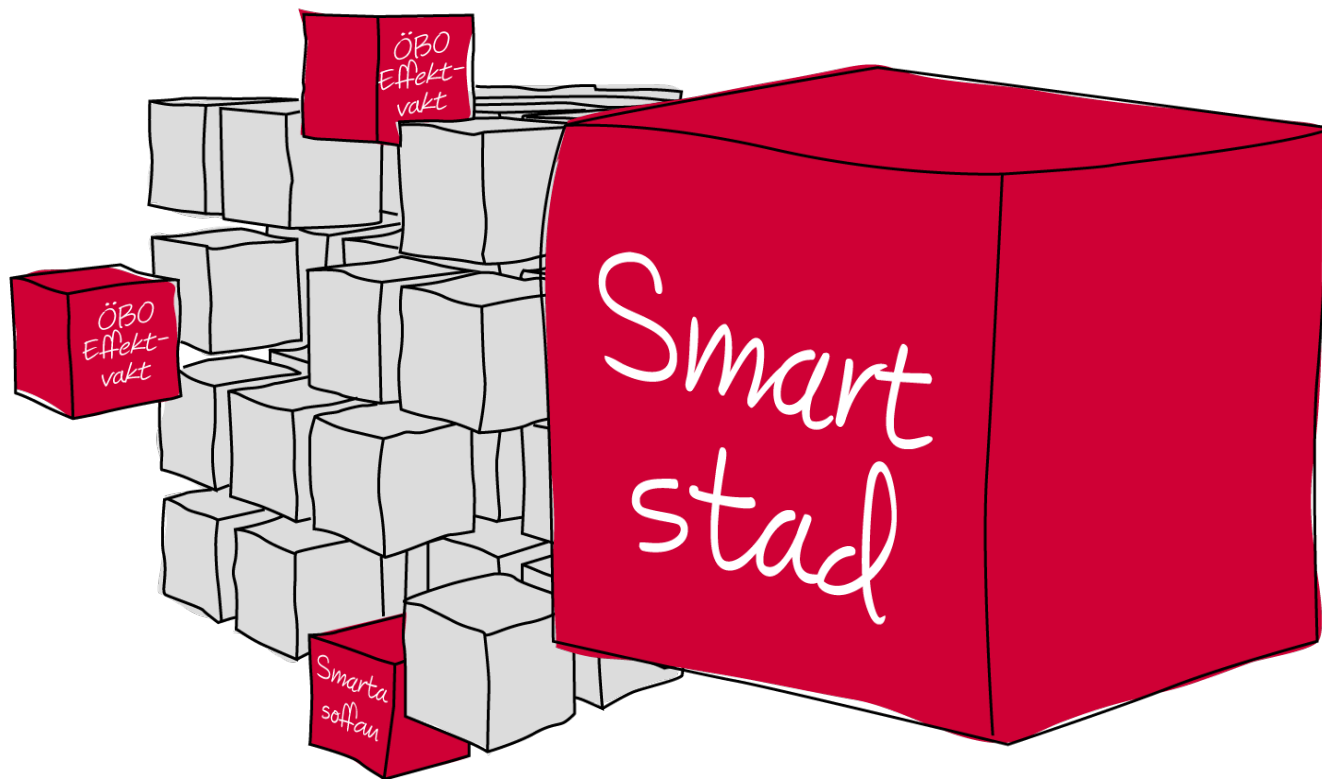




Industriell automation



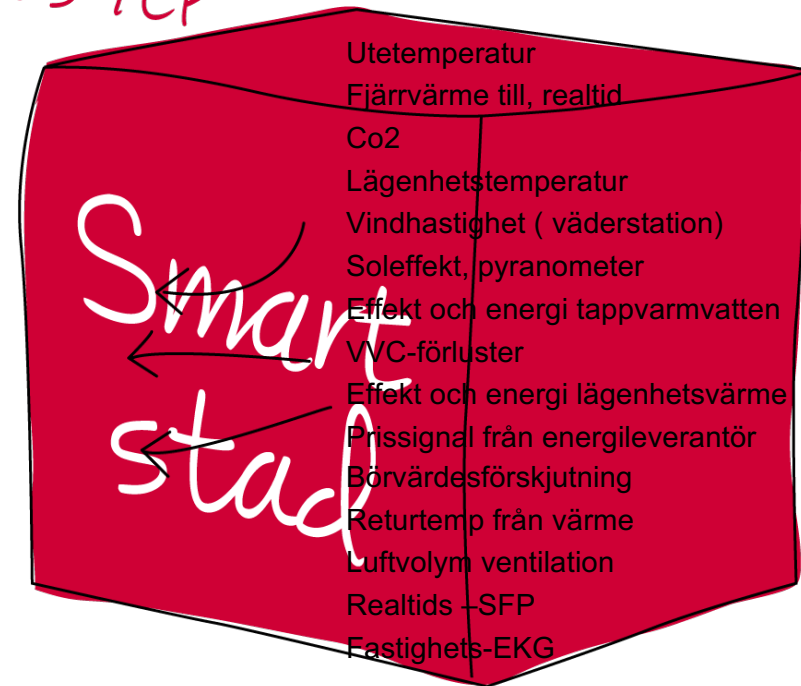
IEC 61131-3



Smart stad

Webservice

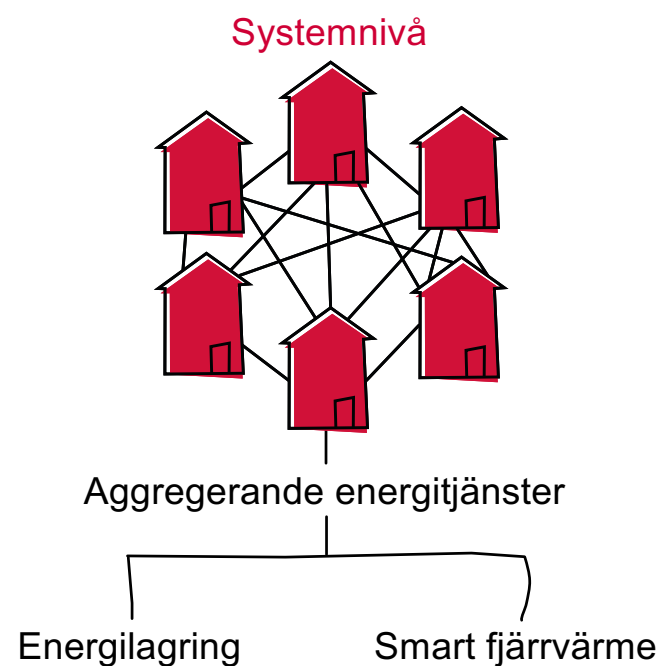
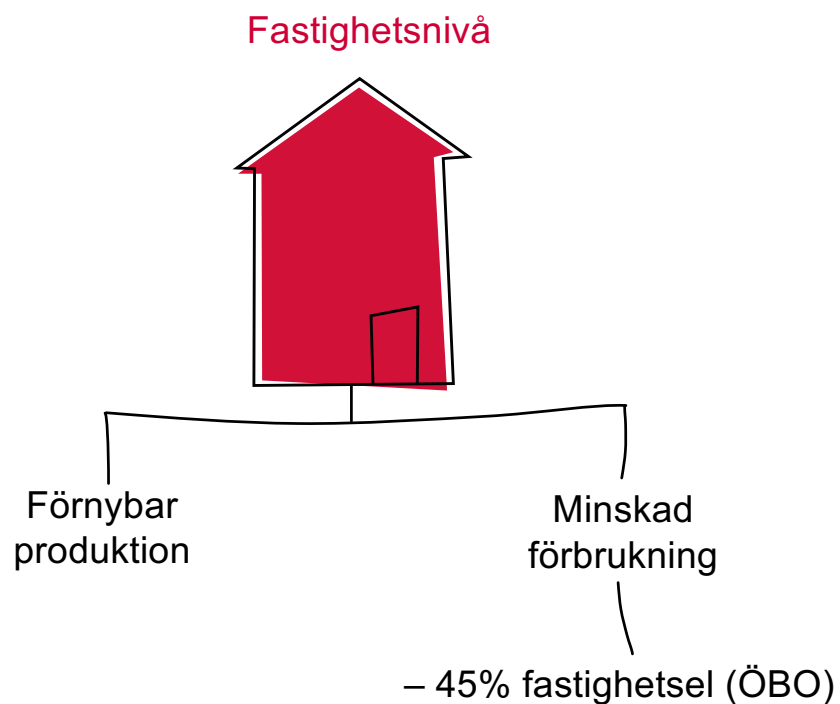
Modbus TCP



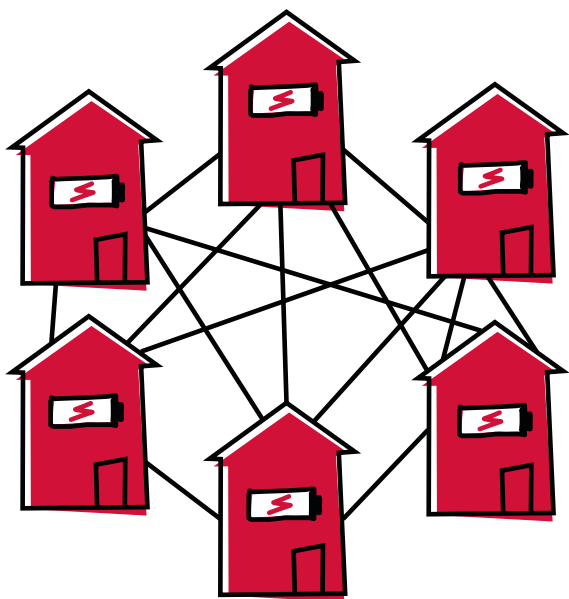
Breakdown of data sources

Facilities			Environment	Tenants
Heating systems	Ventilation	Electricity	Weather station	Apartments
<ul style="list-style-type: none"> • Heating primary (own production), pulse metering energy • Heating primary (own production), pulse metering volume • Cold water, pulse flow • Cold water, pulse flow <ul style="list-style-type: none"> • Warm water • Temperature outside • Heating primary (own production) • Heating primary (own production) <ul style="list-style-type: none"> • Secondary heating, outgoing temp. • Secondary Heating, return temp. • Secondary Heating, outgoing temp. • Secondary Heating, return temp. • Warm water, outgoing temp. <ul style="list-style-type: none"> • Hot water return temperature • Cold water, temperature, outgoing <ul style="list-style-type: none"> • Secondary Heating, return temperature • Secondary Heating, return temperature 	<ul style="list-style-type: none"> • Temperature incoming air • Temperature outgoing air • Temperature exhaust air <ul style="list-style-type: none"> • Temperature room • Pressure incoming air • Pressure outgoing air <ul style="list-style-type: none"> • Flow incoming air • Flow outgoing air • Pressure difference outdoor filter • Pressure difference outgoing air • Electrical consumption incoming fan • Electrical consumption Outgoing fan • Electrical consumption heating battery (usually 2-6 kW) • Control signal to built in thyristor for heating battery <ul style="list-style-type: none"> • 0 – 10 VDC signal corresponding to actual airflow 	<ul style="list-style-type: none"> • Electricity metering ventilation system • Electricity metering washing room* • Electricity metering lights (not apartments) • Electricity metering elevator 	<ul style="list-style-type: none"> • Effective outdoor temperature <ul style="list-style-type: none"> • Wind direction • Wind speed • Outdoor temperature <ul style="list-style-type: none"> • Humidity • Barometric pressure <ul style="list-style-type: none"> • Rain intensity • Hail intensity • Sun power • Solar radiation power <ul style="list-style-type: none"> • Light intensity • Forecast outdoor temp. + 1 h • Forecast outdoor temp. + 2 h • Forecast outdoor temp. + 3 h • Forecast outdoor temp. + 4 h • Forecast outdoor temp. + 5 h 	<ul style="list-style-type: none"> • Flow meter for cold water to the apartment • Flow meter for hot water to the apartment • Temperature sensor for the apartment • Temperature sensor for the apartment

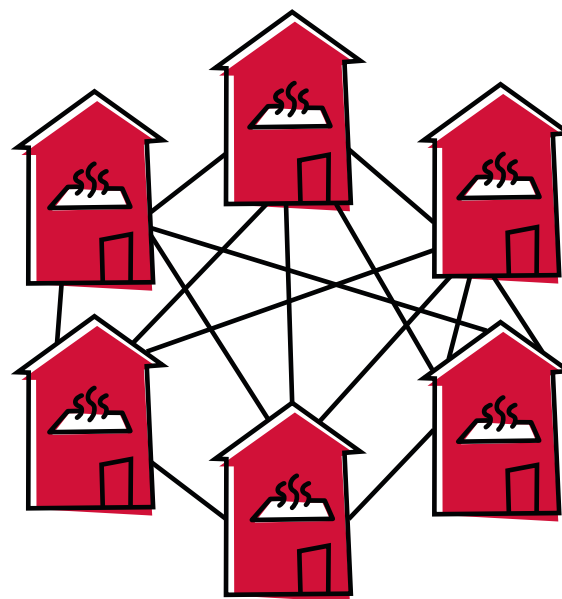
Hur kan fastigheter bidra till att skapa ett hållbart energisystem?



Energilagring

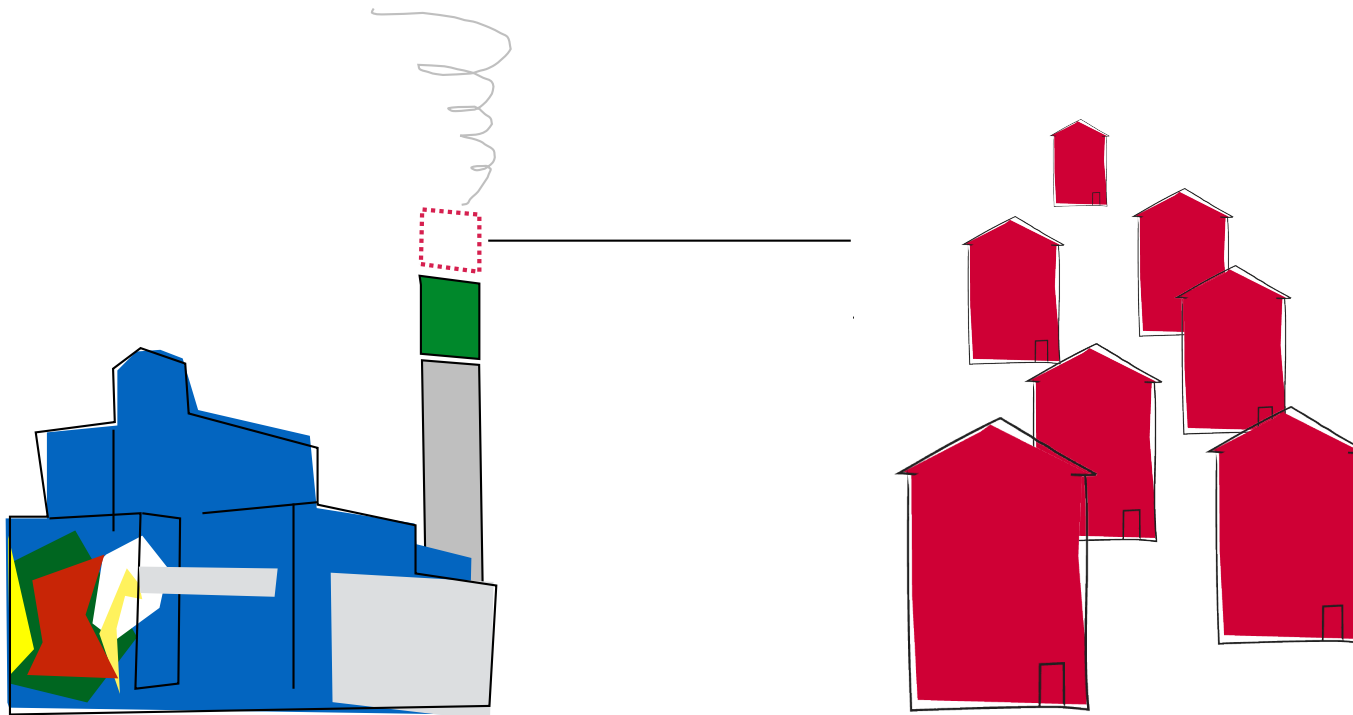


Smart fjärrvärme

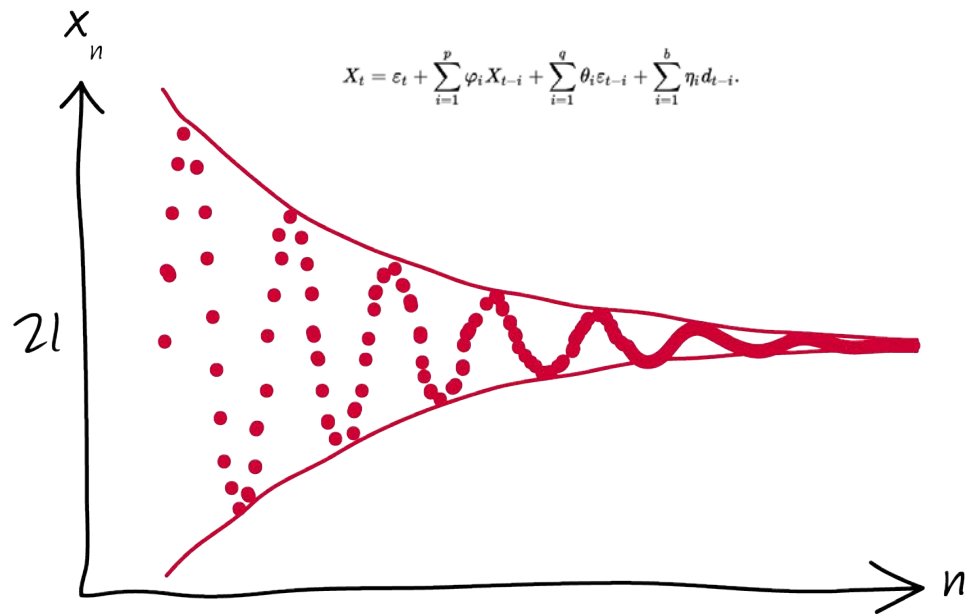




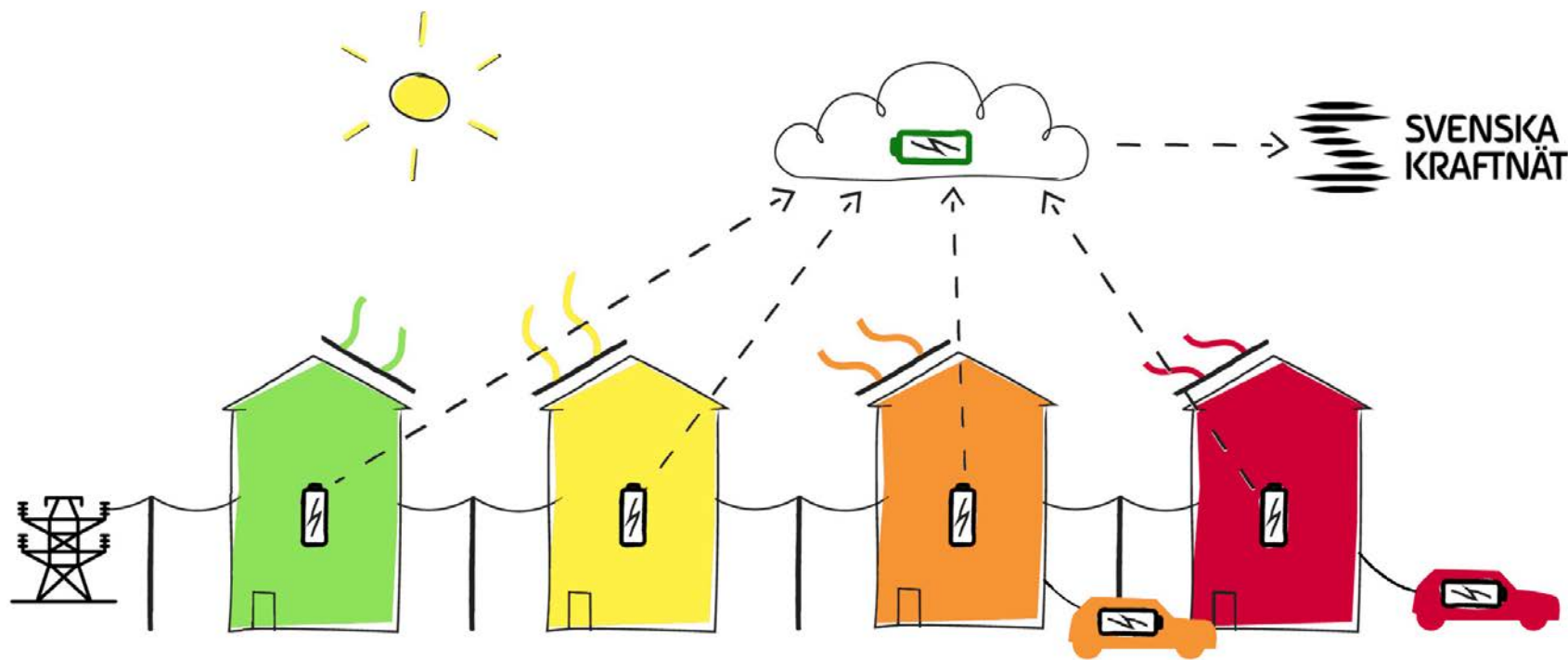
ÖBO kapar effektbehovstopparna



Ny styrstrategi



Tamarinden







öBo
Hem för dig



Smarta städer steg för steg



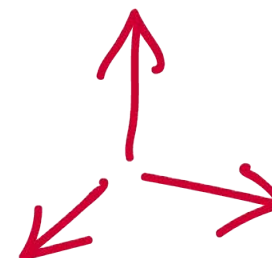
Steg 1 – minska

- Energieffektivisering
- Smart automation och kontroll av fastigheters tekniska system
- Dataanalys



Steg 2 – producera

- Lokal energiproduktion och energilagring
- Smart laddinfrastruktur för elbilar



Steg 3 – dela

- Sammanslagning av energitillgångar
- Marknadsplats för P2P (person till person) – ny delningsekonomi för energi
- Frekvenskontroll m m

Tack!

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eller på LinkedIn

