

Project Finance for Energy Effiency

Dedicated Financial Structures for Energy Service Companies (ESCOs) and Energie Performance Contracting (EPC) Projects

Berlin Energy Agency (BEA)

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09-Sep-2026 Carribean Climate Talk

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Agenda

- Berlin Energy Agency
- Contracting market in Germany
- EPC Experiences BEA in Berlin
- Recent developments and success factors of EPC

Berlin Energy Agency (BEA) - Figures

Established

- 1992 by the Berlin House of Representatives
- Public private partnership

Divisions

- Consulting
- Contracting

Shareholders (equal shares)

- Federal State of Berlin
- BEW Berliner Energie- und Wärme AG (District Heating, State of Berlin)
- GASAG Berliner Gaswerke AG (gas utility, 2/3 private shareholders, 1/3 State of Berlin)
- KfW Banking Group (federal)

Team

- ~50 members of staff



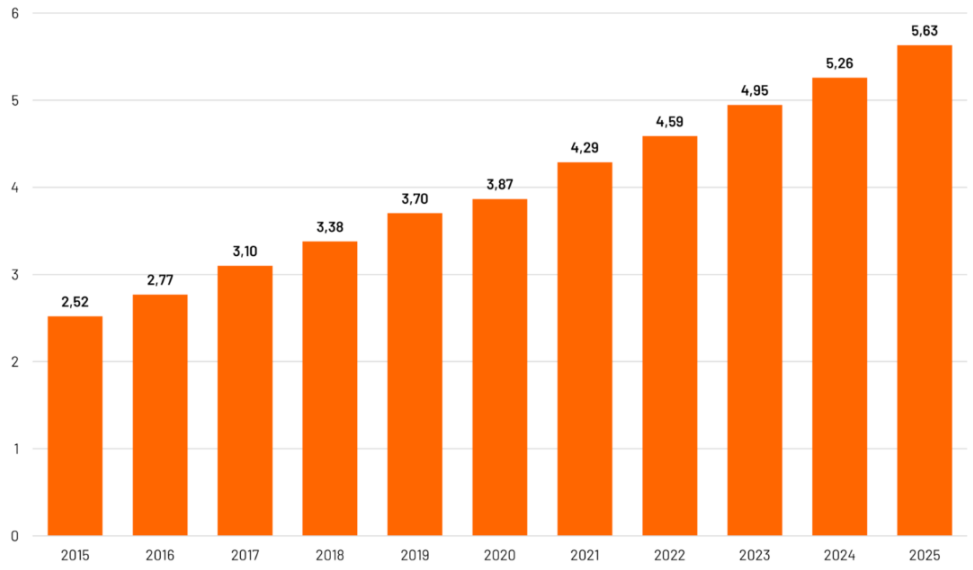
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German Contracting Market in 2025: Sales Volumes and Model Shares

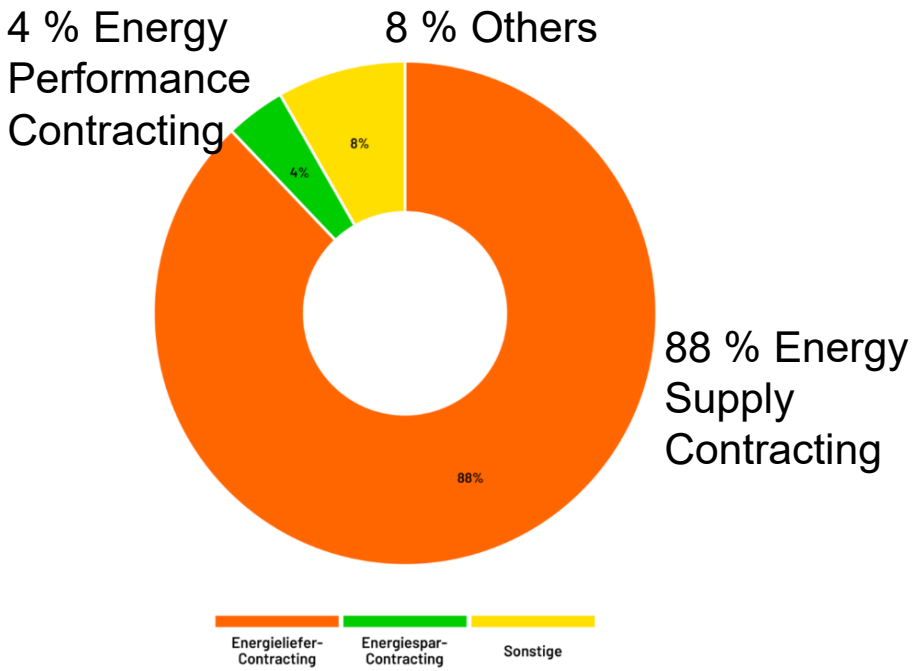
Source: association of contractors

vedec
Verband für Energiedienstleistungen, Effizienz und Contracting e.V.

Sales Volumes 2014-2024 in billion Euros



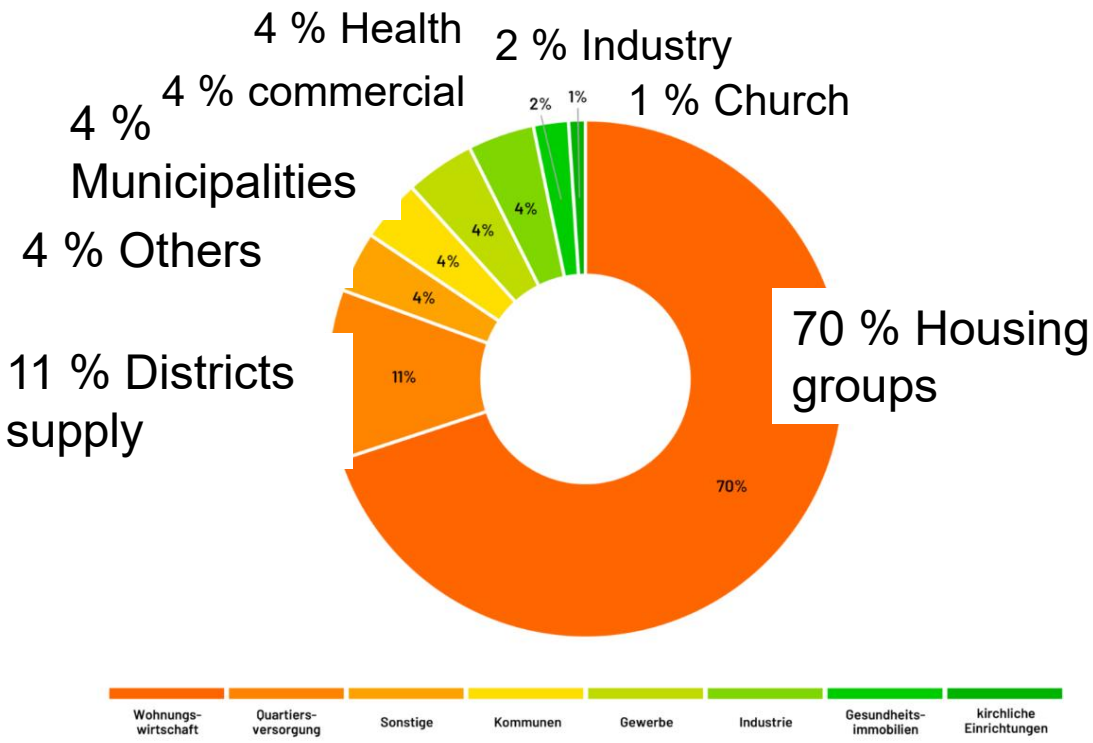
Share of contracts



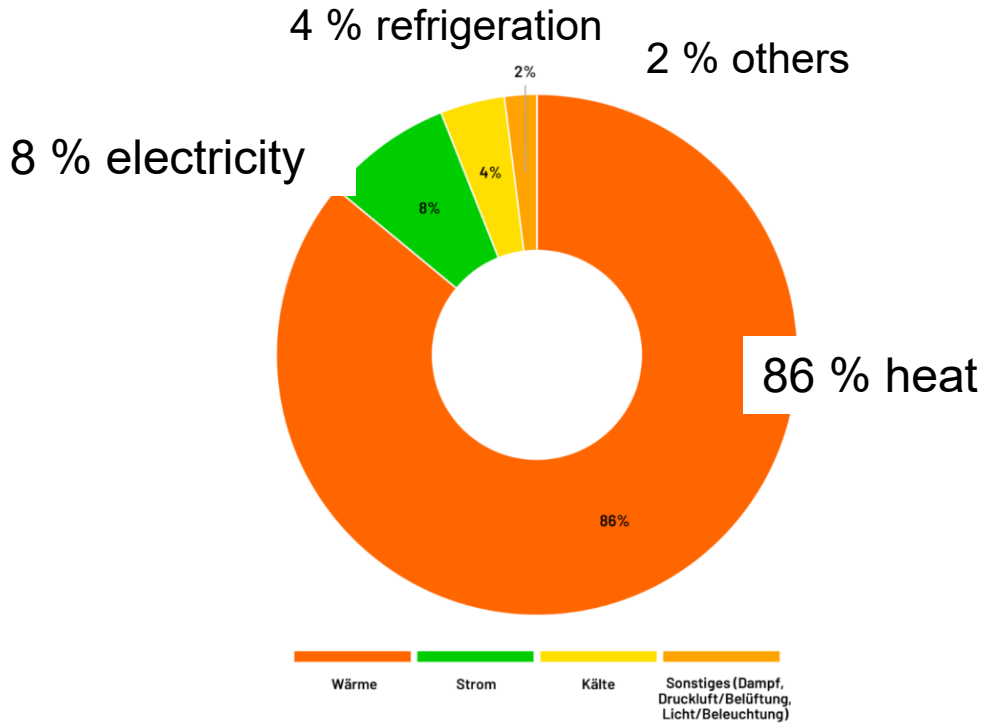
German Contracting Market in 2025: Target Groups and Energy Types

Source: vedec Verband für Energiedienstleistungen, Effizienz und Contracting e.V.

Share by target group



Share of delivered energy



German Contracting Market in 2025: Energy Sources and Renewables

Source: vedec Verband für Energiedienstleistungen, Effizienz und Contracting e.V.

Share by energy sources

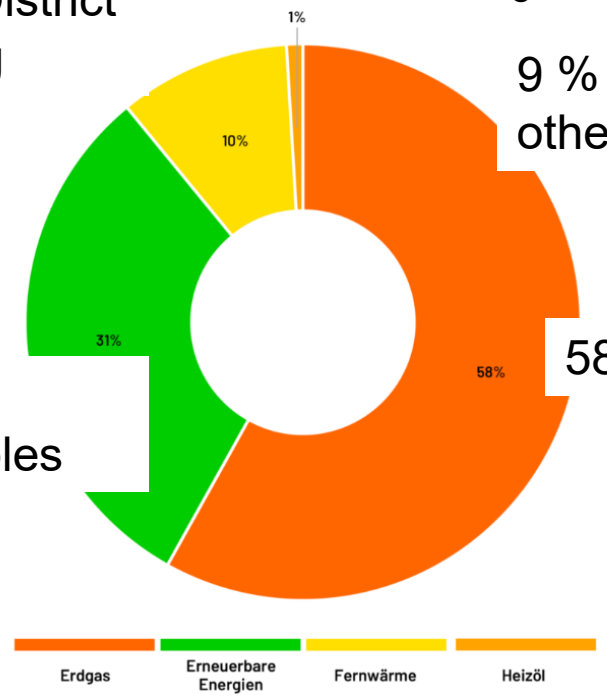
10 % District heating

1% Heating oil

9 % Sum heat pumps, other sources

58 % Natural gas

31 % Renewables



Share of renewables

7 % biogas / biomethane

1 % each: geothermal / waste heat

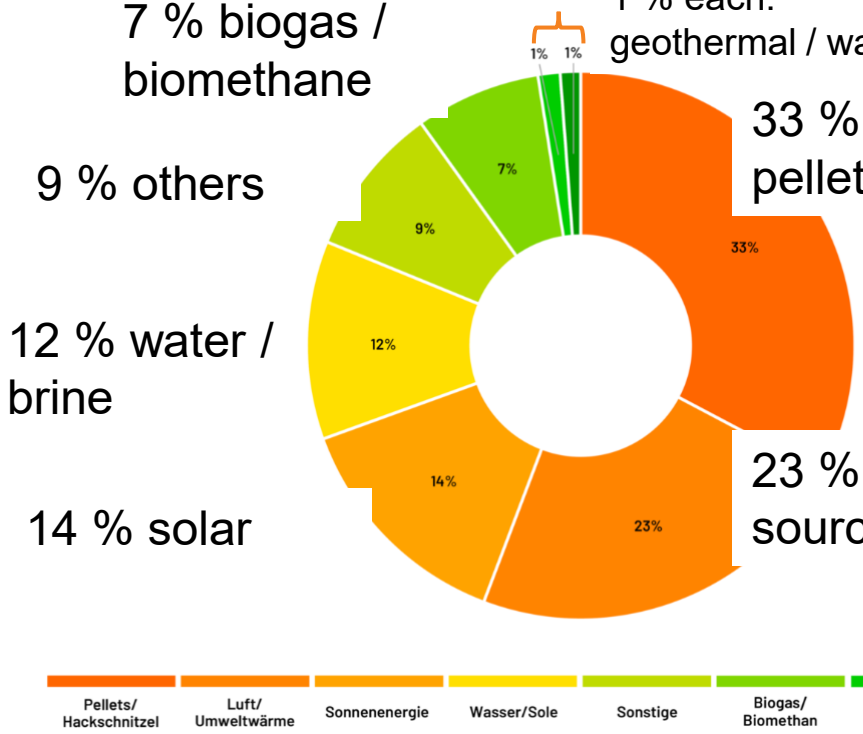
9 % others

12 % water / brine

14 % solar

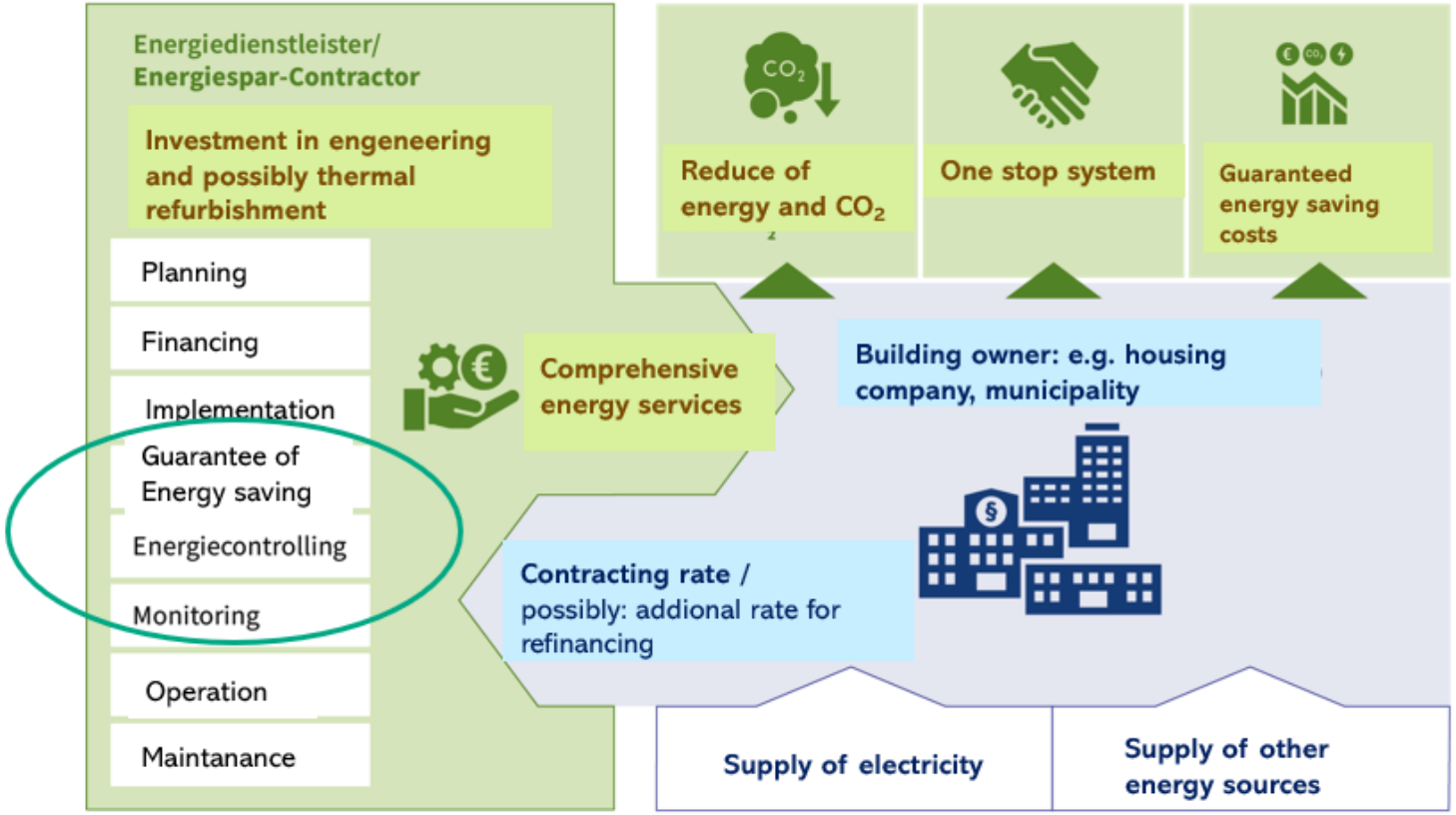
33 % wood chips / pellets

23 % heat pumps, source: air



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Project Finance for Energy Efficiency



Source: dena

Energy Performance Contracting

Experiences

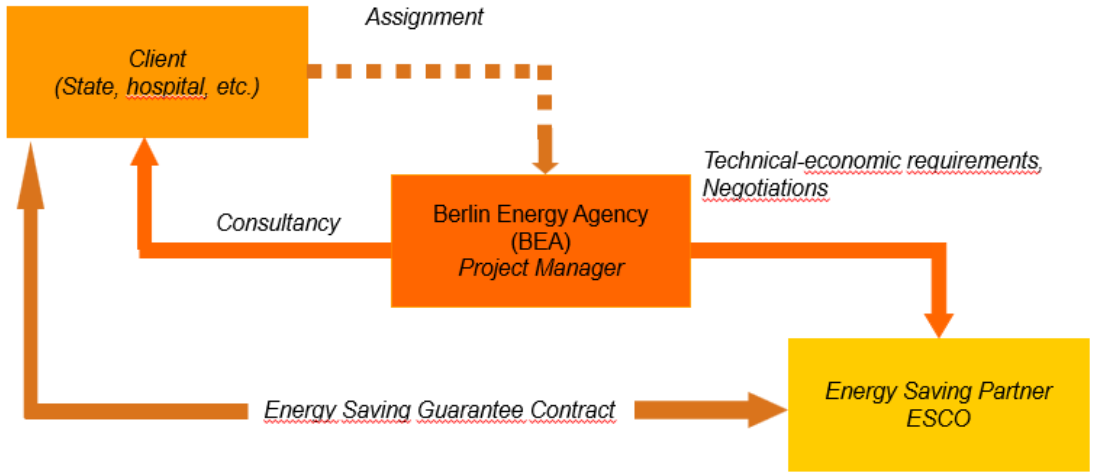
Project Management with an EPC consultant – BEA as project manager

Experiences BEA

- 27 Energy Saving Partnership (ESP) / EPS Projects for public buildings in Berlin
- ~50 further (private and public) facilitated projects all over Germany
- Many consulting services abroad

Services BEA in modules

- Pre-Checks / Feasibility
- Project facilitation and tendering
- Monitoring of implementation
- Monitoring and moderation during the guarantee phase



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Berlin Partnerships of Energy Saving = Energy Performance Contracting (EPC) "Berlin Role Model since 1996

	Pool 1	Pool 2	Pool 3	Pool 4, Pankow	Pool 5, Hellersdorf	Pool 6, Spandau	Pool 8, HU	Pool 9, Friedrichshain
Liegenscha								30
Baseline-Kc in €/a								090.529 €
Baseline-Verbrauch in MWh/a	74.810	100.990	52.540	49.512	27.476	17.121	18.031	21.952
Energiespar								nergie AG mit WFM urde 2002 aufgelöst)
Vertragsbeg								1.01.2001
Beginn Hauptleistungsphase	01.04.1996	01.04.1996	01.10.1998	01.03.2000	01.01.2001	01.02.2001	01.11.2004	01.10.2001
Dauer der H								10 Jahre
Dauer der H								10,00
Erstinvestitic in €								039.243 €
Garantieeins in %								19,67%
Garantieeinsparung in €	789.705 €	1.369.025 €	423.787 €	502.147 €	348.519 €	147.656 €	224.000 €	214.507 €
CO_2-Einspa in t/a								925
Garantierte %								3,46%
Garantierte €/a								37.753 €
Zusätzliche in %								90
Bedienung Altanlagen								nein

Total of Projects in Berlin: 27, more than 550 public facilities
(since 1996) with more than 1.500 buildings

Guaranteed Savings (total, net): ca. 12.5 Mio. €/a
Share of the State of Berlin (Household relief): ca. 2.7 Mio. €/a

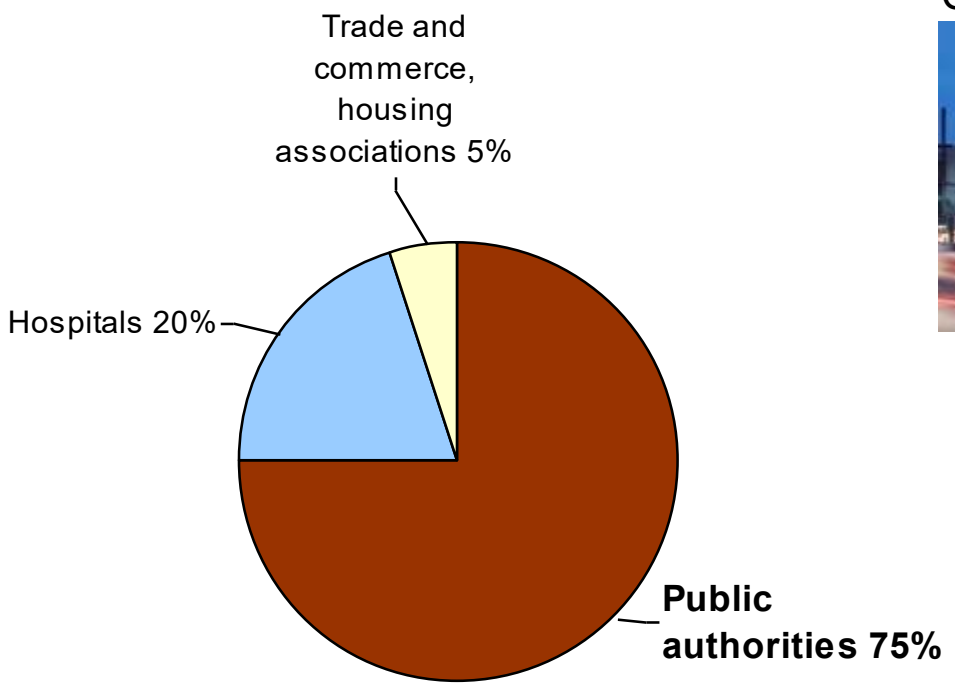
CO_2-Reduction: about 73.000 t/a

Guaranteed Investments (net): ca. 55 Mio. €

Energy costs before start of contracts: 49 Mio €



EPC in Germany – Main Clients



Cultural centres



Schools



Universities



Administrative buildings





Sports facilities

Prisons



Hospitals



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Energy Performance Contracting – Wenckebach Hospital Berlin

- **Building:** public-owned hospital with 438 beds
- **Baseline:** 808,359 €/a
- **Guaranteed savings:** 39.6% = 320,000 €/a
- **Invest:** 2.44 m €
- **CO_2 reduction:** 1,789 t/a
- **Duration of contract**: 12 years (start in 2011)
- **Measures:** modernization of heat distribution, cooling and ventilation system, installation of CHP unit, web-based energy management system, user trainings
- **Special feature**: insulation of top ceilings



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Developments in the EPC market in Germany

- Energy saving potential is decreasing – energy efficiency technologies are EU-standard (more or less…)
- For some years (2014-2021) the public sector had sufficient financial resources to implement energy efficiency measures on its own and the interest rates were historically low
- Since the coronavirus pandemic and the Russian war against Ukraine (2022) the public budgets shrunk considerably and the interest rates increased
- **EPC is becoming a attractive model again to save energy without own investments**
- **EPC is a now an attractive mean of facilitating projects with lack of economic and/or, personnel resources and/ or know-how**



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Typical Measures in EPC-Projects

- **Classical Measures (**economically reasonable)
  - Increasing energy efficiency using new technical equipment
  - optimizing heating and domestic hot water supply
  - Measurement and automation systems in lighting, air conditioning and refrigeration
- **Recent Trends**
  - Renewables: PV systems, biomass, heat pumps
  - Modernisation of building automation systems
  - Thermal Retrofits of buildings









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Financing

- The model of financing investments through energy cost savings no longer works in all projects.

Reasons

- The energy saving potential decreases (as energy efficiency measures are (EU-)standard, i.e. lighting, pumps, automation etc.)
- Some energy efficiency measures are very costly like heat pumps, photovoltaics, thermal refurbishment of buildings



Solutions

- Forfaiting is common (up to 70% of the investments)
- Public funding is incorporated in the projects, when possible
- Cost contributions from the client is necessary (one-off or in installments)

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Success Factors for EPC

Starting the project

- **Stock security and clear demarcation of buildings and facilities**
- Legally vetted standard contracts and tender documents
- Sufficient energy saving potential or client subsidies
- Involve all internal stakeholders, clarify financing

Running the project

- Supervision and support of the contractor by the client (technical Know-How)
- Effective and reliable communication between client and contractor
- assessable changes in use

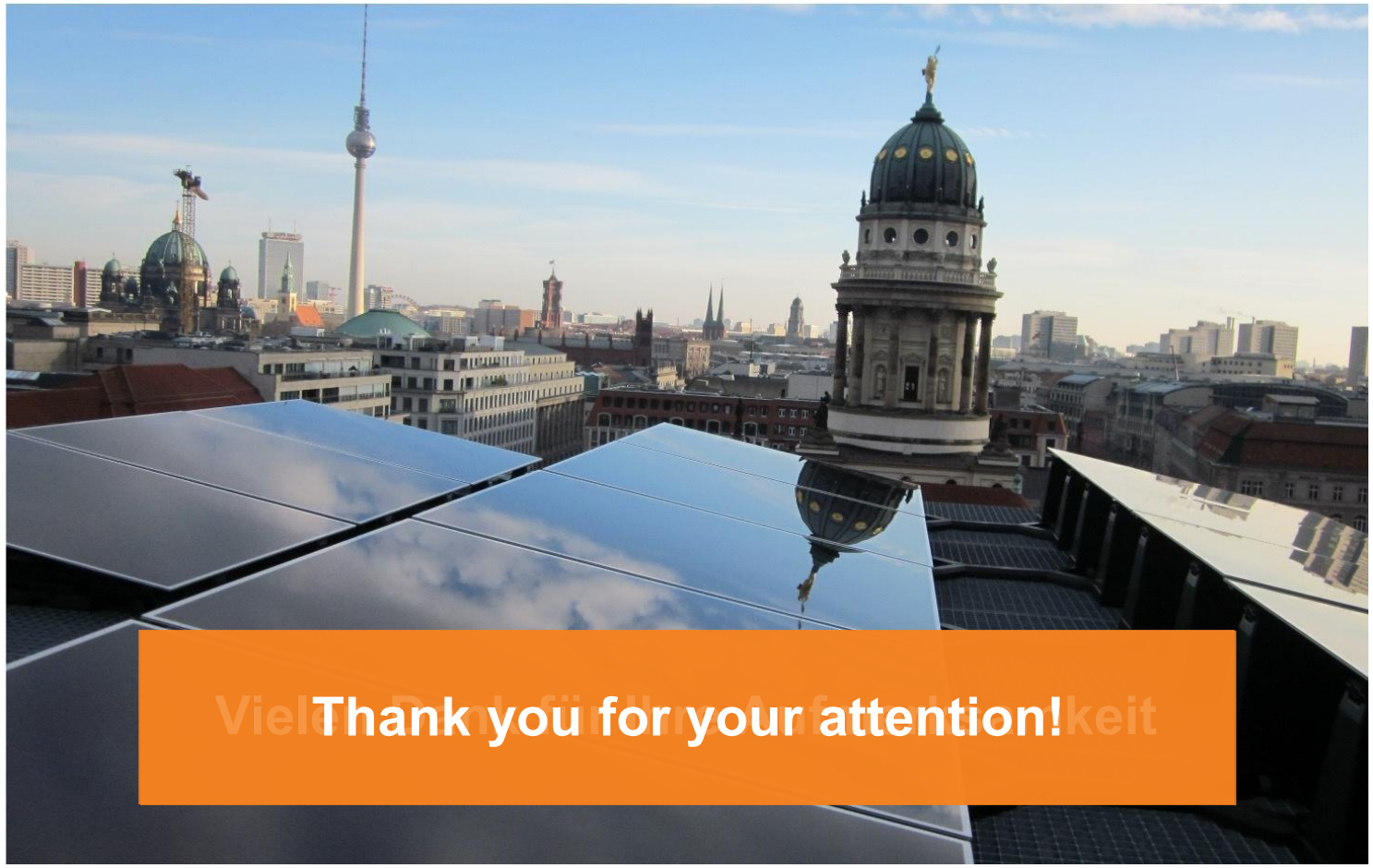
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Quick Check: Are Your Facilities Eligible for EPC?

- Properties are owned by the client
- Annual facility or portfolio energy costs (or renovation needs) exceed €250,000
- Sufficient energy-saving potential (including PV), or subsidies by the client
- Modernization or renovation needs that cannot be met using internal resources (staff and capital)
- No major energy-relevant renovations carried out in the past year, and none currently planned or commissioned (unless clearly definable)
- Stable building usage conditions expected



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