

Energy Service

ความคุ้มค่าทางพลังงาน และการลงทุน

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- Speaker -





What is **ESCO** ?



Energy Service Company : **ESCO**

is a business that designs, implements, and finances energy efficiency projects, typically under a performance-based contract. ESCOs provide a comprehensive solution, including energy audits, project financing, equipment installation, and ongoing maintenance.



Their payment is directly linked to the energy savings achieved, often through models such as **Energy Performance Contracts (EPCs)**, where they share in or guarantee the financial savings resulting from improved energy efficiency. This approach minimizes upfront costs and transfers performance risk from the client to the ESCO.

Core parts of **ESCO**

EPC: Energy Performance Contract

financing model where ESCO, implements energy efficiency measures in a facility and is paid based on the actual energy savings achieved.

M&V: Measurement and Verification

the process of quantifying energy savings resulting from energy efficiency projects, using standardized methodologies such as the (IPMVP), which ensures accurate and reliable savings reporting based on established guidelines.

Compensation of Deficits

In the case of underperformance, an ESCO compensates the client for any shortfall in guaranteed energy savings, typically by covering the deficit through payment or penalties under the terms of an Energy Performance Contract (EPC).



What's the difference?

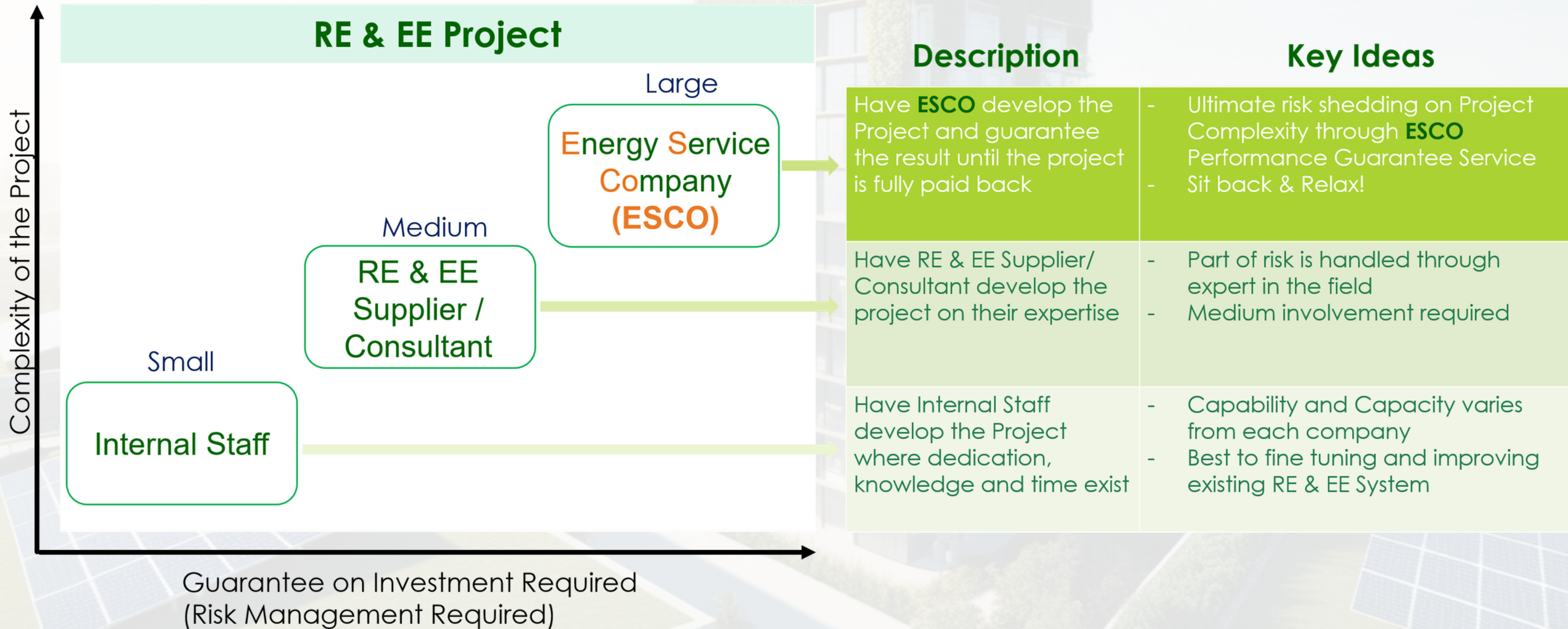
ESCO

Direct Ownership
Traditional Procurement
Design-Build

Advisors

	ESCO	Direct Ownership Traditional Procurement Design-Build	Advisors
Analyze energy consumption, design and inspect construction	✓	✓	✓
Advise financial arrangement	✓	✓	✓
Equipment warranty	✓	✓	✗
Guaranteed project's efficiency	✓	✗	✗
Compensate for deficit	✓	✗	✗
Measurement & Verification	✓	✗	✓
Operating and Maintenance	✓	✓	✗

Who is the best choice?



ESCO BUSINESS MODEL

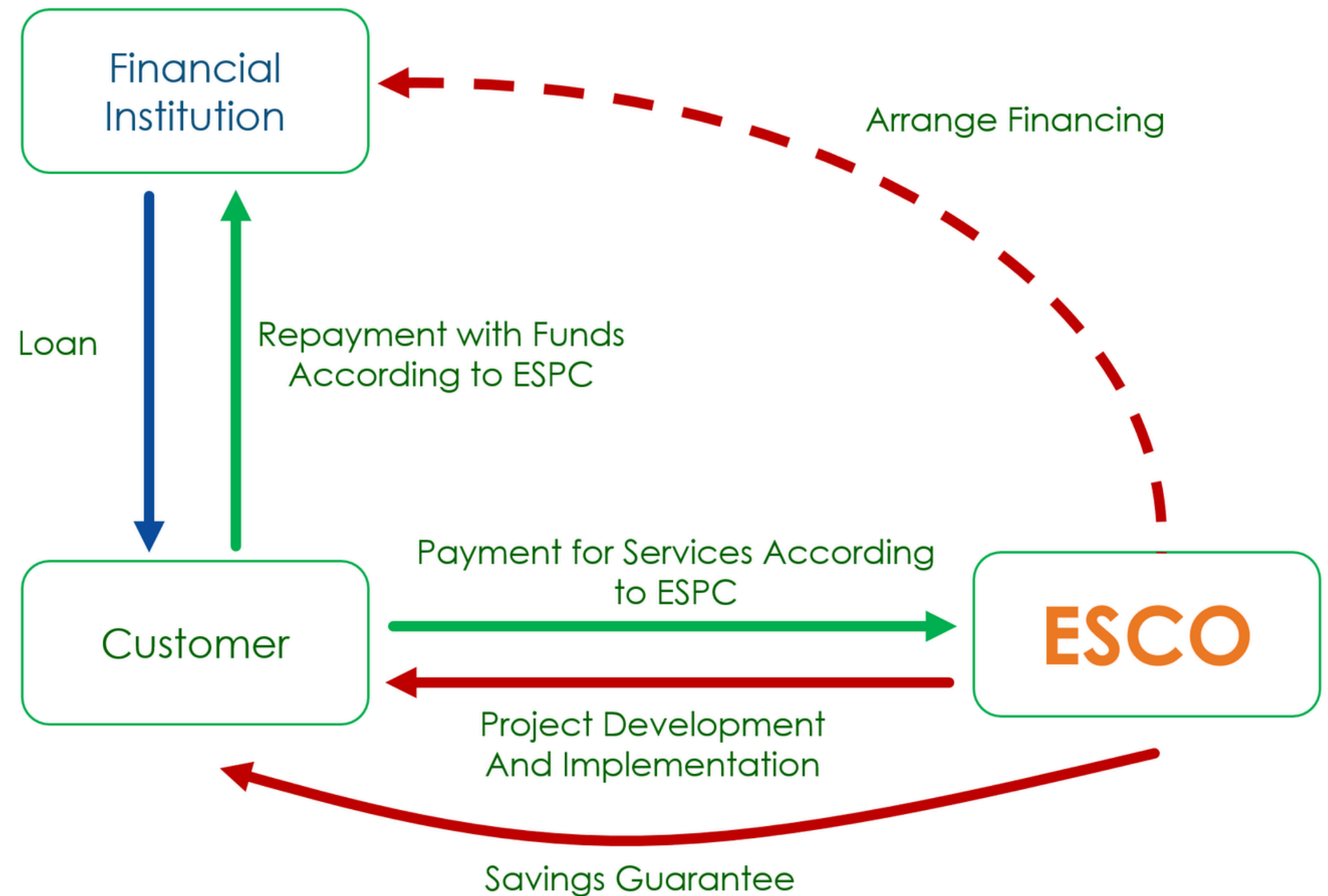
**Guaranteed
Saving**

**Shared
Saving**

Guaranteed Rebate

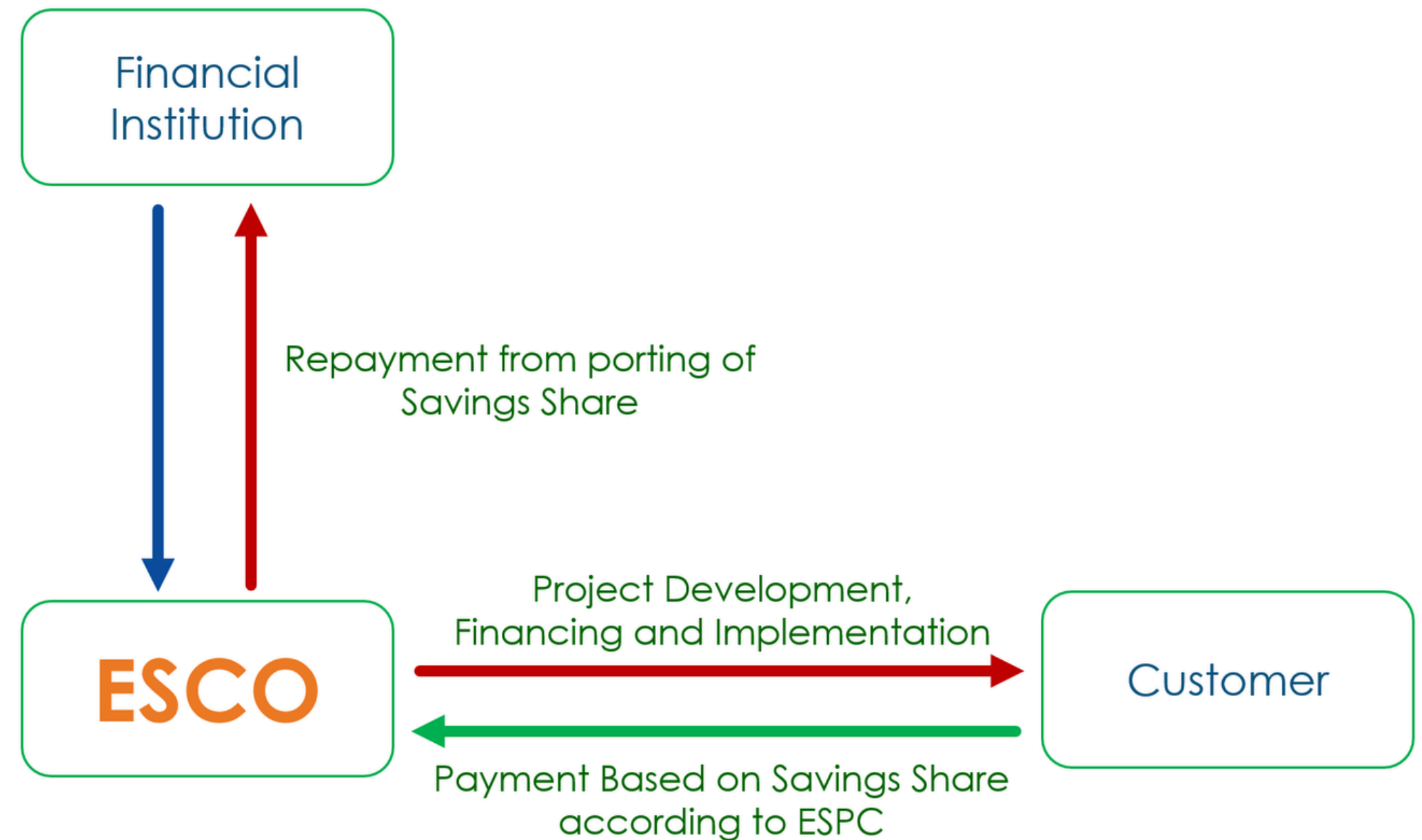
Guaranteed Saving Model

- Customer finances project
- ESCO provides performance guarantees
- The customer pays ESCO upon satisfying performance Guarantees (one-time or over the contract period)
- Useful when customers can invest/borrow funds at a lower cost



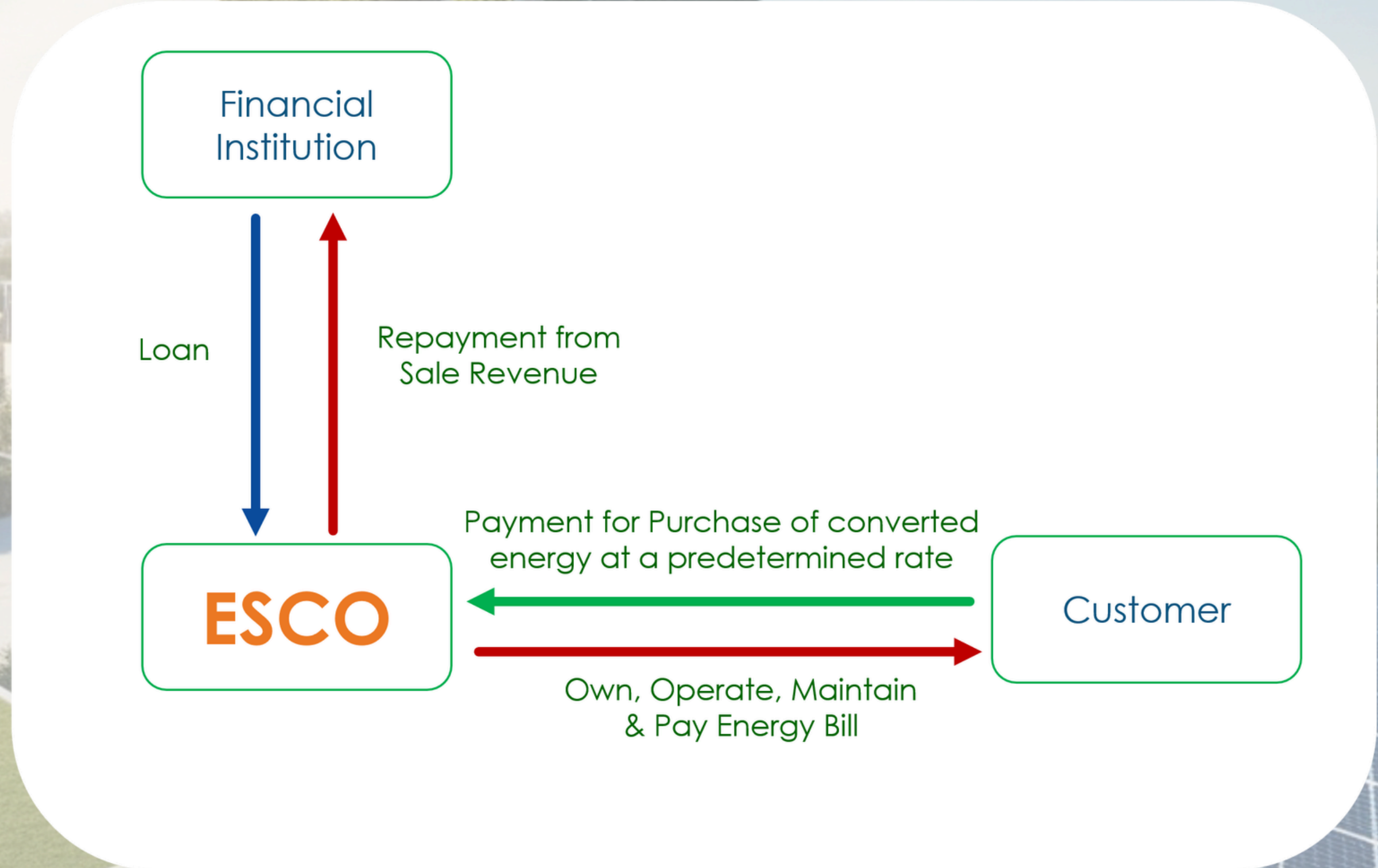
Shared Saving Model

- ESCO finances project
- No customer investment needed
- ESCO borrows funds from the financial institution
- ESCO and customer defined share savings over the contract period
- Useful when the customer does not want to invest their own funds



Guaranteed Rebate, Chauffage

- The customer outsources energy management for the entire facility
- ESCO invests in equipment/efficiency
- The customer signs a long-term contract for payments at a fixed price
- Helpful when expert help is needed for efficient energy management



Energy Service

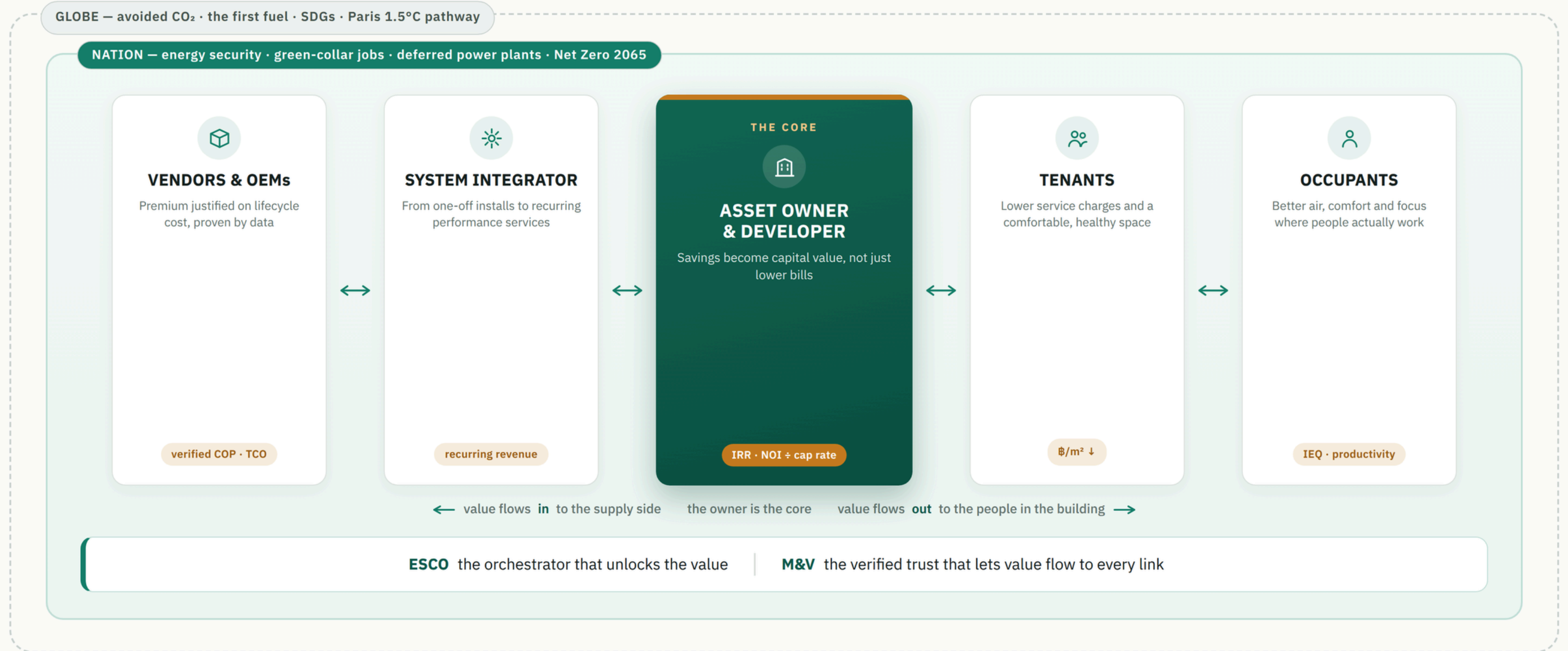
ความคุ้มค่าทางพลังงานและการลงทุน



ESCO · ความคุ้มค่าทางพลังงานและการลงทุน

Value Radiates Across the Whole Chain

The asset owner is the core. Energy savings create new value by eliminating waste — and that value flows both inward to the supply side and outward to the people inside the building.



The owner sits at the core — but the worth (ความคุ้มค่า) is shared by every link in the chain.

ENERGY EFFICIENCY IS POSITIVE-SUM

The Value Chain Map

INWARD AND OUTWARD FLOW

จากเจ้าของอาคารซึ่งเป็นแกนกลาง คุณค่าไหลเข้าสู่ผู้รวมระบบและผู้ผลิตอุปกรณ์ และไหลออกสู่ผู้เช่าและผู้ใช้อาคาร พร้อมกันทั้งสองทิศทาง

STAKEHOLDER INTERACTION

ทุกฝ่ายในห่วงโซ่ได้ประโยชน์ของตนเอง ทั้งรายได้ต่อเนื่อง ส่วนเพิ่มราคาที่พิสูจน์ได้ ค่าใช้จ่ายที่ลดลง ความสบาย และเรื่องราวด้าน ESG ที่ดีขึ้น

GLOBAL IMPACT

นอกเหนือจากตัวอาคาร คุณค่ายังส่งถึงระดับประเทศในรูปความมั่นคงทางพลังงานและการจ้างงาน และระดับโลกในรูปการลดการปล่อยคาร์บอน

CENTRAL ROLE OF ESCO

ESCO ทำหน้าที่ประสานทั้งห่วงโซ่ และการตรวจวัดและพิสูจน์ผล (M&V) คือความเชื่อมั่นที่ทำให้คุณค่าไหลถึงทุกฝ่าย

SHARED VALUE CREATION

การประหยัดพลังงานเป็นเกมที่ทุกฝ่ายได้ประโยชน์ การขจัดความสูญเปล่าสร้างคุณค่าใหม่ที่ทุกฝ่ายแบ่งปันได้ ไม่ใช่แย่งชิงกัน

The Problem: Split Incentives

The energy efficiency value chain often suffers from **split incentives**, creating a fracture that leads to wasted energy. Owners pay for capital expenditures, while tenants shoulder the energy bills, resulting in neither party investing in efficiency improvements. This misalignment leads to inefficiencies, as contractors and vendors prioritize initial costs over long-term performance. The ESCO model effectively bridges this gap, aligning interests to promote energy investments that benefit all stakeholders.

Split incentives create a scenario where each participant in the energy chain optimizes locally, neglecting the global impact of their decisions. Owners, tenants, and contractors become entrenched in a cycle of short-term thinking. The ESCO model addresses this dilemma by facilitating collaboration among stakeholders, focusing on performance rather than initial costs. This shift not only enhances building efficiency but also encourages sustainable practices across the entire energy landscape.



Positive Impact

Energy efficiency generates **new value** by reducing waste, benefiting all stakeholders involved in the energy ecosystem.

Shared Gains

By eliminating inefficiencies, energy savings can be distributed, allowing everyone to reap the benefits collaboratively.

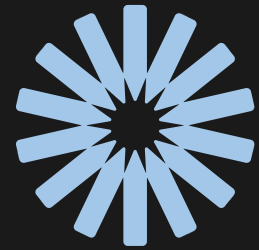
Energy Efficiency as Value Creation

The Value Chain

Understanding the value chain is crucial for identifying how each stakeholder benefits from energy efficiency. The ESCO model positions itself as the central orchestrator, ensuring that value flows seamlessly across all parties. Each stakeholder, from vendors to tenants, plays a vital role in this chain. By fostering collaboration, we can maximize the benefits of energy-efficient solutions, leading to enhanced profitability and sustainability for everyone involved.

The value chain encompasses various stakeholders, including vendors, system integrators, asset owners, and tenants. Each layer of the chain contributes to the overall efficiency and effectiveness of energy management. The concentric circles illustrate how value radiates outward, with the ESCO at the core facilitating trust through measurement and verification. This interconnected approach not only enhances individual stakeholder outcomes but also reinforces collective energy goals on a national and global scale.





The role of asset owners and developers is crucial in energy efficiency. Key benefits include:

- Increased capital value through improved NOI
- Off-balance sheet financing options
- Access to green finance and incentives
- Performance risk transfer to ESCOs
- Enhanced ESG narratives for corporate goals

Tenants and Occupants

For tenants and occupants, energy efficiency is not just about **cost savings**, but also about enhancing quality of life. With lower service charges and stable common area costs, buildings that prioritize energy efficiency foster a healthier indoor environment. This leads to improved comfort, air quality, and overall productivity, resulting in higher tenant retention rates. Tenants can even highlight their environmental commitments through green building standards, showcasing their dedication to sustainability.

The real prize lies in the **indoor environmental quality** (IEQ) that efficient buildings provide. Better IEQ not only supports tenant well-being but also aligns with corporate sustainability goals. As tenants contribute to their own Scope 2 emissions reductions, they strengthen their ESG commitments. Energy-efficient buildings empower occupants to enjoy a harmonious workplace while promoting a culture of sustainability, creating a win-win scenario for all stakeholders involved in the ecosystem.



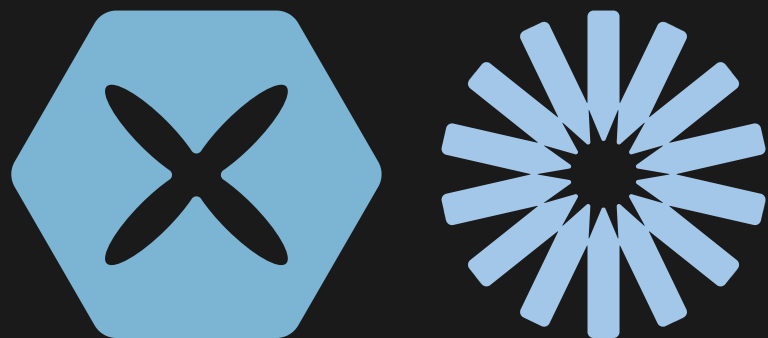
Down the Chain

Shift to Recurring Performance Services

Transitioning from one-off installations to ongoing performance services enhances value and ensures sustained efficiency, ultimately yielding higher returns for both contractors and system integrators.

Skills Uplift and Accountability

Technicians evolve into commissioning agents and data analysts, fostering long-term relationships that prioritize quality and performance accountability over merely securing the lowest bid.



Vendors and OEMs Impact

Demand for High-Efficiency Equipment

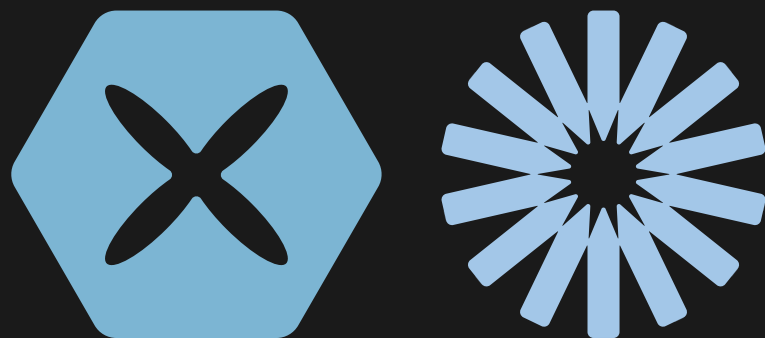
The market increasingly favors high-efficiency equipment, such as **smart controls** and variable speed drives, as organizations recognize their long-term benefits and lower operational costs.

Lifecycle Cost Justification

Investments are now evaluated based on lifecycle costs rather than initial outlay, allowing for a sustainable approach that highlights the value of **energy-efficient** solutions over time.

Performance Data Utilization

Manufacturers leverage field performance data to drive **innovation** and enhance product development, ensuring that offerings meet market demands while establishing a competitive edge in the industry.



National Value

Thailand's commitment to energy efficiency drives economic growth and sustainability. Negawatts, or saved energy, are more cost-effective than megawatts produced from new power plants. This efficiency reduces peak demand and lowers the reliance on imported LNG, ensuring energy security and supporting local green collar jobs. The alignment with national goals fosters a robust path toward achieving carbon neutrality by 2050, contributing to a more sustainable future for all citizens.

The benefits extend beyond economics, supporting the Nationally Determined Contributions (NDC) for a sustainable Thailand. Energy efficiency enhances not just environmental integrity but also opens opportunities for carbon credits under the Thailand Voluntary Emission Reduction program. By promoting green technologies and reducing energy waste, Thailand positions itself as a leader in energy transition, showcasing a model that other nations can follow for a sustainable energy future.



30%

การประหยัดพลังงานที่ทำได้จริงต่ออาคาร

การลดความต้องการพลังงานของอาคารในวงกว้างช่วยลดการพึ่งพา LNG นำเข้า
ของไทย เสริมความมั่นคงทางพลังงานของประเทศ และสร้างการจ้างงานสีเขียวใน
ท้องถิ่น



Global Energy Impact

Energy efficiency plays a crucial role in reducing greenhouse gas emissions. Each kilowatt-hour saved contributes to an estimated reduction of **0.4750 kg of CO₂**, advancing global climate goals. This underscores our commitment to the **Paris Agreement**, promoting a pathway toward a sustainable future. Furthermore, by embracing energy efficiency, nations can enhance their energy security, leading to a more resilient global economy and environment.

The interconnectedness of our energy systems highlights the importance of collaborative efforts in efficiency initiatives. As countries invest in sustainable practices, they can significantly impact the **Sustainable Development Goals**. With efficiency recognized as the “first fuel,” it represents the most cost-effective and cleanest resource available. This enables regions like ASEAN to take the lead in the global transition towards a sustainable energy future, fostering innovative solutions for a healthier planet.



Thank you

For More Information Please Contact



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