Capital Budgeting and Investment Appraisal

# Executive Summary

This report presents a financial evaluation of two investment options for EcoBuild Constructions: Project A (Solar Panel Manufacturing Expansion) and Project B (Eco-Friendly Insulation Production). Using capital budgeting techniques—Net Present Value (NPV), Internal Rate of Return (IRR), Payback Period, and Net Return Value (NRV)—the financial feasibility and viability of each project are analyzed to support decision-making.

# Project A: Solar Panel Manufacturing Expansion

Initial Investment: $500,000

Expected Cash Flows (Years 1–5): $100,000, $120,000, $140,000, $180,000, $200,000

NPV: $42,393.40

IRR: 12.89%

Payback Period: 3.78 years

Net Return Value (NRV): $240,000.00

# Project B: Eco-Friendly Insulation Production

Initial Investment: $450,000

Expected Cash Flows (Years 1–5): $90,000, $110,000, $130,000, $160,000, $190,000

NPV: $47,655.40

IRR: 13.57%

Payback Period: 3.75 years

Net Return Value (NRV): $230,000.00

# Comparative Analysis

Project B demonstrates slightly higher financial returns in terms of NPV and IRR, indicating better profitability. However, Project A has a marginally higher NRV, reflecting greater total returns over the investment period. Both projects recover their investments in under 4 years, with Project B offering a slightly quicker payback period.

# Decision-Making and Analysis

1. \*\*Which project is more financially viable based on NPV and IRR?\*\*

Project B is more financially viable, offering a higher NPV and IRR than Project A.

2. \*\*If the company has a short-term liquidity constraint, which project is better based on the payback period?\*\*

Project B is preferable under liquidity constraints as it offers a slightly faster payback period (3.75 years).

3. \*\*What are the limitations of each investment appraisal method?\*\*

- NPV assumes a constant discount rate and does not consider project scale.  
- IRR can be misleading with unconventional cash flows.  
- Payback Period ignores cash flows after recovery and time value of money.  
- NRV does not consider the timing of cash inflows.

4. \*\*If sustainability is a priority, how might non-financial factors influence the investment decision?\*\*

Project A may contribute more significantly to renewable energy initiatives, while Project B could enhance energy efficiency. Non-financial factors like environmental impact, brand reputation, and alignment with corporate sustainability goals should be considered.

# Conclusion and Recommendation

While both projects are financially viable, Project B slightly outperforms Project A in terms of NPV, IRR, and payback period. However, Project A offers a higher net return and may align better with long-term sustainability goals. The final decision should balance quantitative metrics with strategic, environmental, and operational considerations.

# References

- (NPV). Retrieved from <https://www.investopedia.com/terms/n/npv.asp>

- Investopedia. (n.d.). Internal Rate of Return (IRR). Retrieved from <https://www.investopedia.com/terms/i/irr.asp>

- Investopedia. (n.d.). Payback Period. Retrieved from <https://www.investopedia.com/terms/p/paybackperiod.asp>