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Energy for Change: Renewables as a Catalyst for Sustainable Development

Renewable Energy and SDG Achievement in the Private Sector

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About Studio Santi

- **Independent engineering consulting firm and clean energy advisory**
- **Projects across Europe, Africa, and Asia**

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The Unstoppable Shift: Global Renewable Surge & Our Agenda

Urgency & Opportunity

Climate imperatives driving rapid market growth and transformation across sectors.

Renewables & SDGs

How clean energy powers sustainable development goals beyond climate action.

Private Sector

Why the private sector is crucial in the energy transition.

Business Case

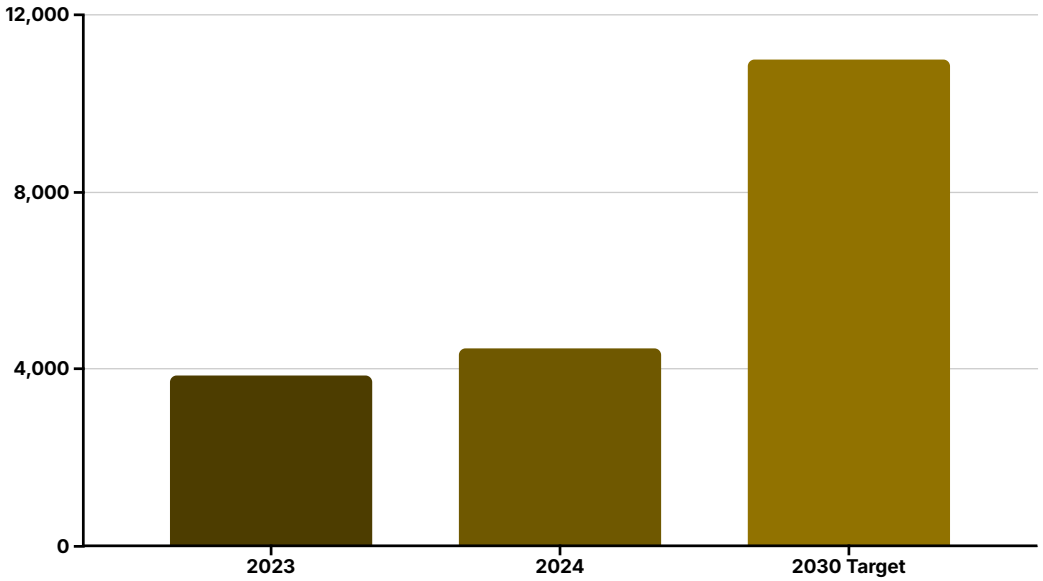
Financial returns and strategic advantages for private sector adoption.

Overcoming Barriers

Practical strategies to address implementation challenges and accelerate progress.

Renewables: The Global Context

The renewable energy sector is experiencing unprecedented expansion, setting the stage for transformative global change.



585 GW

Added in 2024

Record annual capacity growth demonstrates accelerating adoption worldwide.

16.6%

Required Annual Growth

The ambitious target demands more than doubling current capacity by 2030.

Urgency & Opportunity

Opportunity: Solar PV and wind together account for 95% of all renewable capacity growth (IEA 2024)

Growing Global Energy Demand

Energy consumption projected to increase 50% by 2050. Developing economies and the AI advancement drive new demand patterns.

Climate Change Impacts

Heatwaves, floods and droughts intensifying worldwide. Urgent need for resilience and sustainable energy solutions.

Energy Security & Stability

Fossil fuel volatility creates economic instability. Diversification through renewables is key for energy security and resilience.

The private sector is essential in driving this energy transition, creating opportunities for innovation, investment, and sustainable growth.

Understanding the SDGs & Renewable Energy Connection

The 2030 Agenda: A Universal Call to Action

Adopted by all UN member states in 2015, the SDGs provide our roadmap to 2030. Clean energy serves as a fundamental catalyst for sustainable development across sectors.

Global Blueprint

17 integrated goals addressing poverty, inequality, climate, and environmental degradation.

Shared Responsibility

Requires collaboration between governments, private sector, and civil society.

Energy's Central Role

Renewable energy directly impacts 7 SDGs and enables progress on all others.

SDG 7: Affordable & Clean Energy - The Core Link

Energy as the Foundation of Sustainable Development

SDG 7 focuses on ensuring universal access to affordable, reliable, and modern energy services while substantially increasing the share of renewable energy in the global energy mix.

Affordable, Reliable Energy

Ensuring access to affordable, reliable, sustainable and modern energy for all by 2030 is central to addressing global challenges.

Key Targets and Progress

Global renewable capacity has increased by 8-10% annually, but we must accelerate deployment rates to reach universal energy access. Energy efficiency improvements and technology transfer are critical enablers for both climate action and sustainable economic growth.

Renewable Energy Benefits

Renewable energy investments create triple dividends: addressing energy poverty, reducing emissions, and driving socioeconomic development in underserved communities worldwide.

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Broader SDG Impact of Renewables: Beyond SDG 7

Renewable energy serves as a catalyst across the entire SDG framework, extending far beyond SDG 7 alone.

SDG 8: Decent Work & Economic Growth

Creates millions of jobs globally across solar, wind, and other clean energy industries.

SDG 9: Industry, Innovation & Infrastructure

Drives technological innovation and infrastructure modernization across multiple sectors.

SDG 11: Sustainable Cities & Communities

Enables smarter urban planning, cleaner air, and resilient infrastructure while reducing pollution.

SDG 12: Responsible Consumption & Production

Reduces businesses' carbon footprint, aligning with circular economy principles.

SDG 13: Climate Action

Reduces greenhouse gas emissions and helps build resilience to climate impacts.

SDG 17: Partnerships for the Goals

Requires collaboration between governments, private sector, civil society, and international organizations to share technology and resources.

Private Sector: The Engine of Transition

Innovator

Companies develop groundbreaking renewable technologies and business models that accelerate clean energy adoption worldwide.

Investor

Private capital mobilization exceeds public funding, providing essential financing for renewable infrastructure projects globally.

Implementer

Businesses rapidly scale solutions through their global supply chains and operational networks, creating meaningful impact at pace.

Driver of Policy

Policymakers must establish frameworks that streamline permitting and incentivize clean energy adoption to support corporate renewable energy sourcing, which is essential for energy security and achieving net-zero goals.

Key Challenges for the Private Sector

Financial Barriers

High upfront costs, uncertain ROI timelines, and limited access to financing mechanisms.

Technical & Grid Integration

Outdated infrastructure and intermittency challenges with renewable energy sources.

Policy & Regulatory Uncertainty

Inconsistent regulations and shifting incentive frameworks across markets.

Scaling & Early Stage Risk

Challenges in scaling proven solutions to meet global demand and overcoming market resistance to new technologies.

Supply Chain & Just Transition

Workforce retraining needs, disrupted supply chains, and ensuring an equitable transition for fossil fuel-dependent communities.

Emissions Reduction

Difficulty in decarbonizing certain industrial processes and balancing profitability with ambitious emissions targets.

Strategies for Overcoming Challenges

Financial Solutions

Innovative Financing

- Power Purchase Agreements (PPA)
- Green bonds
- Sustainability-linked loans
- Private equity investments
- Infrastructure funds

Regulatory Engagement

Policy Advocacy

- Engage with government stakeholders
- Advocate for consistent renewable policies
- Support long-term incentive frameworks
- Participate in industry coalitions

Technical Capabilities

Technology & Talent

- Build in-house renewable expertise
- Invest in energy storage solutions
- Develop smart grid technologies
- Upskill workforce for the transition

Collaborative Approaches

Strategic Partnerships

- Collaborate with technology providers
- Join industry initiatives and consortiums
- Form cross-sector alliances
- Engage with research institutions

The Business Case: Financial Benefits

Cost-Effectiveness & Predictability

- Hedge against fossil fuel price volatility
- Declining Levelized Cost of Energy (LCOE)

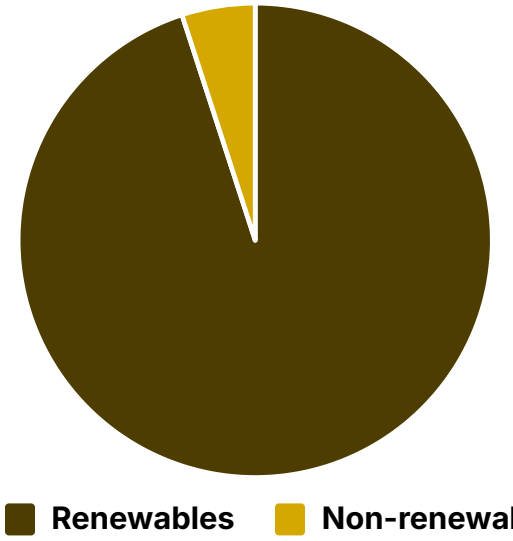
Financial Incentives

- Tax incentives and carbon credits
- Green bonds & sustainability-linked loans (green bond market exceeded $600B in 2023, over $3T cumulatively)
- Lower energy costs by 40% over a 10-year period

Long-term Stability

- Stable, long-term energy prices (e.g., via PPAs)
- Improved investor relations

Green financing grew from $45B in 2012 to $580B in 2023.



Global New Power Capacity Additions (2024-2029 Forecast)

The Business Case: Operational Benefits

Enhanced Energy Resilience

On-site generation provides security against grid disruptions. Self-sufficient power systems maintain operations during outages.

Reduced Long-term Operating Expenses

Elimination of fuel costs creates predictable energy expenses. Maintenance costs decrease significantly after the initial investment period.

Improved Supply Chain Sustainability

Addressing Scope 3 emissions enhances competitive positioning. Renewable integration strengthens supplier relationships and fulfills procurement requirements.

The Business Case: Reputational & Brand Benefits

Meeting Stakeholder Expectations

Stakeholders now demand sustainable practices. Renewable energy commitments boost brand loyalty, market position, and investor confidence.

Attracting and Retaining Talent

Younger workers seek employers with aligned values. Sustainability leadership demonstrates purpose-driven management, attracting premium talent in competitive markets.

Competitive Advantage

Early renewable adoption creates market differentiation and new opportunities. Environmental leaders gain procurement advantages and preferred partnership status with like-minded organizations.

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Private Sector Success Story: Apple's Renewable Leadership

2018: 100% Renewable Operations

Apple achieved full renewable energy for global corporate operations.

1

2

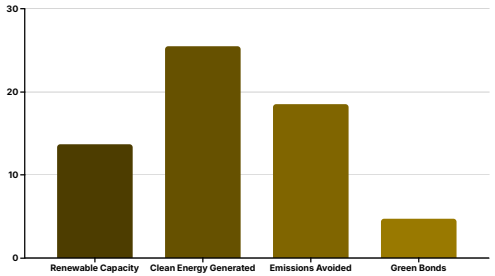
3

2030: Carbon Neutrality Target

Apple aims for complete carbon neutrality across its entire value chain.

2024: Supply Chain Revolution

320+ suppliers committed to 100% renewable energy for Apple production.



Beyond Energy: Comprehensive Approach

Water Stewardship

Multiple data centers certified to international water standards.

Carbon Sequestration

Partnering to restore carbon-capturing mangrove forests in Colombia.

China Clean Energy Fund

Connecting 12 suppliers with renewable sources in a key market.

The Future is Renewable: Key Takeaways for Businesses

By 2030, renewables will generate nearly half of global electricity, with solar becoming the dominant source. The private sector now leads this transformation, as evidenced by surging corporate PPA agreements.

Start Small, Start Now

Begin with energy efficiency upgrades or small-scale solar installations.

Early adoption creates valuable learning opportunities and operational insights.

Integrate with Core Strategy

Shift renewables from a CSR initiative to a strategic business imperative.

Plan for long-term financial health and market competitiveness.

Measure & Report Impact

Align with established ESG reporting frameworks.

Track progress transparently and showcase your SDG contributions.

Collaborate & Innovate

Engage with industry peers and renewable energy experts.

Explore emerging technologies and innovative financing models.

Your Role in "Energy for Change"

Navigate Your Unique Path

Every organisation has a distinctive role in the renewable transition, regardless of size or sector.

Map your sustainability journey with achievable milestones tailored to your capabilities.

Pioneer Solutions

Develop innovative approaches that transform challenges into opportunities.

Cross-sector collaborations often yield breakthrough solutions to complex energy problems.

Amplify Your Impact

Your renewable commitments create powerful ripple effects throughout your ecosystem.

Inspire suppliers, customers, and competitors to join the Renewable Revolution.

The renewable energy transition isn't just about compliance—it's about leadership and legacy.

Resources & Further Reading

Expand your knowledge with these authoritative sources that informed our presentation:

Industry Insights

- **WEF (2025). Private markets as drivers of climate solutions.**
- **URL: https://www.weforum.org/stories/2025/03/private-markets-climate-solutions-energy-transition/**

Global Statistics

- **IRENA. Renewable Capacity Statistics 2024.**
- **URL: https://www.irena.org/media/Files/IRENA/Agency/Publication/2024/IRENA_Renewable_Capacity_Statistics_2024.pdf**

Market Forecasts

- **IEA. Renewables 2024: Analysis and forecast to 2029.**
- **URL: https://www.iea.org/reports/renewables-2024**

SDG Progress Tracking

- **UN Global Compact & SEforALL. Tracking SDG 7: The Energy Progress Report 2024.**
- **URL: https://unstats.un.org/sdgs/report/2024/Tracking_SDG_7_2024_Summary_Report.pdf**

Corporate Case Study

- **Apple Inc. Environmental Progress Report 2024.**
- **URL: https://www.apple.com/environment/**

> **These resources offer comprehensive data and actionable insights for your organisation's renewable energy journey.**

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Thank You for Your Attention!

We welcome your questions and look forward to continuing the conversation.