D2.4: Templates for low-carbon EPC and ESC

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CITY OF DUBLIN ENERGY MANAGEMENT AGENCY LIMITED	IE	CODEMA
CARR COMMUNICATIONS LIMITED	IE	CARR
NOEL LAWLER GREEN ENERGY SOLUTIONS LIMITED	IE	LAWLER

LIST OF ABBREVIATIONS AND ACRONYMS

Abbreviation / acronym	Definition
CAPEX	Capital Expenditure
CEF	Carbon & Energy Fund
DCCAE	Department of Communications, Climate Action and Environment
EEFIG	Energy Efficiency Financial Institutions Group
EPC	Energy Performance Contracting
ESC	Energy Supply Contracts
ESCOs	Energy Service Companies
IPMVP	International Performance Measurement and Verification Protocol
LaaS	Leasing and “As-a-Service” Models
M&V	Measurement and Verification
NZEB	Nearly Zero Energy Building
PQQ	Pre-Qualification Questionnaire
PPA	Power Purchase Agreements
PV	Photo-Voltaic
WP	Work Package

Executive Summary

EPC has an important role to play in supporting the decarbonisation of public sector buildings in Ireland. Existing EPC templates have provided a strong basis for delivering traditional energy efficiency projects, particularly where measures generate predictable energy and cost savings. However, the market and policy context has changed significantly. Public sector retrofit programmes are now increasingly driven by carbon reduction targets, requiring deeper, more complex and more capital-intensive interventions such as heat electrification, renewable energy systems, fabric improvements and integrated building system upgrades. These measures often involve higher upfront costs, longer payback periods and reduced direct cost savings, creating challenges for traditional EPC models.

This deliverable, D2.4: *Templates for low-carbon EPC and ESC*, provides design guidance for the development of future contracts awarded through the EasyPro framework. The contractual guidance set out in this deliverable will form part of the wider EasyPro toolkit and should inform the preparation of contracts awarded through the EasyPro framework, alongside the building energy assessment framework, calculation methodology, measurement and verification approach, and risk assessment protocols developed under Work Package 2. The purpose is to ensure that the EasyPro contractual framework remains grounded in established Irish EPC practice while being adapted to support decarbonisation-led projects, phased delivery, appropriate risk allocation and improved market participation.

The report reviews the evolution of EPCs in Ireland, existing national EPC templates and alternative contracting models, including Energy Supply Contracts, EPC Lite, leasing and service-based approaches. It finds that while EPC remains a valuable delivery mechanism, current templates are not fully aligned with the requirements of low-carbon retrofit projects. Key gaps include limited recognition of carbon reduction as a core project objective, misalignment with high-CAPEX and low-savings technologies, insufficient flexibility for phased implementation, unclear allocation of emerging decarbonisation risks, high procurement and bid costs, and limited integration with complementary contracting and financing models.

Experience from DeliveREE and stakeholder engagement undertaken through EasyPro confirm that EPCs must now be understood not only as financing mechanisms, but as structured delivery and performance frameworks for long-term decarbonisation. Stakeholders highlighted the need for clearer decision points, reduced bid-stage burden, transparent financial structures, practical risk allocation, and stronger alignment between maintenance responsibilities and performance guarantees. These lessons have directly informed the design principles proposed in this deliverable.

The recommended EasyPro approach is to build on the existing SEAI Energy Performance Contract template rather than replace it. The future contract should retain the core strengths of EPC, including performance-based delivery, guaranteed energy savings, measurement and verification, defined baselines, and ESCO accountability. However, it should be updated to recognise decarbonisation as a central project objective, include carbon reduction reporting, support phased implementation, allow design development after contract award, and accommodate blended funding arrangements such as grants, client contributions, ESCO finance, private finance and service-based payment models.

A central recommendation is the inclusion of a formal design phase and decision gateway within the EPC contract. This would allow the ESCO, following procurement, to develop and validate detailed design proposals, refine costs, update the risk register, confirm the measurement and verification plan, and finalise performance commitments before the client proceeds to the works phase. This approach reduces the need for all bidders to undertake costly detailed design work before contract award, improves cost certainty, and enables technical and commercial risks to be progressively resolved.

The future template should also strengthen provisions on maintenance, material change, baseline adjustment, payment mechanisms, risk allocation and funding interfaces. Where the ESCO is responsible for guaranteeing performance, it should have sufficient operational control and maintenance responsibility over the relevant systems. Risks outside the ESCO's control, such as changes in occupancy, building use, operating hours, energy

prices or client operational decisions, should be managed through clear adjustment mechanisms rather than left ambiguous.

The deliverable recommends that energy savings, expressed in kWh, should remain the primary enforceable performance metric where appropriate, due to the availability of established measurement and verification methodologies. Carbon reduction should be included as a core project objective and reporting metric, and may be included as a secondary target where the methodology and liability implications are sufficiently robust. This allows decarbonisation to be embedded in the project design without undermining the enforceability and bankability of the EPC model.

The future EasyPro low-carbon EPC template will form part of a wider EasyPro toolkit, alongside the building energy assessment framework, calculation methodology, measurement and verification approach, and risk assessment protocols developed under Work Package 2. Once legally drafted, it should be integrated into the EasyPro tendering process under Work Package 4, ensuring that universities, ESCOs, financiers and advisers have a consistent contractual structure from the outset of procurement.

Overall, this deliverable concludes that the transition to decarbonisation does not require abandoning EPCs. Rather, EPCs must evolve to reflect new technical, financial and market realities. By combining standardised methodologies, stakeholder-led design and targeted contractual enhancements, the EasyPro framework can support EPC projects that are technically robust, financially viable, contractually clear and deliverable in practice. In doing so, the future EasyPro low-carbon EPC template can help expand the use of EPCs in the Irish university sector and support the wider transition to a low-carbon public built environment.

Table of Contents

Contents

1 Introduction

1.1 Context

EPC has emerged as a key delivery mechanism for improving energy efficiency in public sector buildings across Europe and Ireland. Under an EPC, an ESCO implements energy conservation measures and guarantees a defined level of energy savings, thereby reducing financial and performance risks for the building owner. In Ireland, standard EPC templates developed by SEAI and the DCCAE have supported the successful deployment of EPC projects in the public sector, providing a robust contractual framework for energy efficiency investments.

However, the policy and market context within which EPCs operate is undergoing a significant transformation. The increasing urgency of climate action, combined with national and EU decarbonisation targets, has shifted the focus of building retrofit programmes from achieving energy savings alone to delivering deep carbon reductions. This transition requires the deployment of more capital-intensive and technically complex measures, such as heat electrification, renewable energy integration, and holistic building system upgrades. As a result, traditional EPC models—primarily designed around cost-effective energy efficiency measures—are no longer fully aligned with the requirements of decarbonisation-driven projects.

Experience from recent project development initiatives, including the DeliveREE project, has highlighted the implications of this shift. In particular, the transition from energy efficiency to decarbonisation has been associated with higher capital costs, increased technical and financial risks, and reduced direct cost savings, especially in the case of technologies such as heat pumps. These changes have affected market dynamics, including ESCO participation, procurement strategies, and project bankability, demonstrating the need to adapt existing EPC frameworks to better reflect current realities.

Within this context, the EasyPro project aims to address the barriers limiting the wider adoption of EPCs by developing a comprehensive, standardised EPC Facilitation Service tailored to the Irish university sector. A core component of this service is the development of an updated EPC contractual framework that extends existing templates to incorporate decarbonisation objectives, improve risk allocation, and enhance market attractiveness. The project recognises that EPCs must evolve from a narrow focus on energy savings to a broader role as a structured mechanism for delivering long-term, phased decarbonisation of building portfolios.

1.2 Objective of the Deliverable

This deliverable (D2.4) presents design guidelines for a future low-carbon EPC template contract under Work Package 2 of the EasyPro project. The objective is not to provide a completed legal template, but to set out the drafting instructions, recommended contractual adaptations that a suitably qualified lawyer should use when preparing the new template contract, and outline the suggested structure for low carbon EPCs and ESCs (see appendices 1 and 2).

To achieve this objective, the work undertaken in this deliverable includes:

- A review of existing EPC templates and contractual approaches currently used in Ireland and internationally;
- An assessment of alternative contracting models, including ESC, EPC Lite, and other service-based delivery mechanisms;
- Identification of key gaps and limitations in existing templates in the context of decarbonisation;
- Integration of lessons learned from project development experience, including the DeliveREE project and stakeholder engagement activities carried out under Task 4.1;

- Preparation of design guidelines for an enhanced EPC template contract, including recommended clauses, schedules and drafting changes to support decarbonisation objectives, phased implementation and appropriate risk allocation.

The resulting guidance is intended to support procuring authorities, ESCOs, financial stakeholders and legal advisers in preparing an investment-ready template contract that aligns with national and EU climate objectives while maintaining the core strengths of EPC structures in terms of performance guarantees and accountability.

1.3 Role within the EasyPro Framework

This deliverable forms a central component of the EasyPro solution, which aims to standardise and streamline the development, procurement, and implementation of EPC projects. In particular, D2.4 complements other outputs within Work Package 2, including:

- The building energy assessment and technical documentation framework (D2.1), which provides the data foundation for project development and tendering;
- The calculation methodology template (D2.3), which ensures consistency and transparency in the estimation of energy, cost, and carbon savings;
- The standardised risk assessment protocols (D2.6), which support structured risk identification, allocation, and mitigation across the EPC lifecycle.

Together, these components form an integrated toolkit that addresses technical, financial, and contractual barriers to EPC deployment. The design guidelines in this deliverable define the intended contractual backbone of this toolkit and should be used by legal advisers when drafting the future EasyPro contracts, ensuring that the outputs of the other deliverables can be translated into bankable, deliverable projects.

The template contract should then be applied in the procurement processes developed under Work Package 4, where participating universities and other procuring bodies can adopt a consistent EasyPro contractual approach during tendering. This will provide clarity to ESCOs regarding contractual expectations from the outset of the procurement process.

1.4 Structure of the Deliverable

The remainder of this report is structured as follows:

- Section 2 provides an overview of the evolution of EPCs in Ireland and the impact of the shift towards decarbonisation;
- Section 3 reviews existing EPC templates and alternative contracting models;
- Section 4 identifies key gaps in current contractual approaches;
- Section 7, which has been moved forward in the report, outlines how stakeholder feedback has informed the design guidelines;
- Section 5 defines the design principles underpinning the EasyPro low-carbon EPC template contract;
- Section 6 identifies the recommended legal drafting updates to the current national EPC contract template;
- Section 8 describes how the design guidelines should be integrated into the EasyPro tendering process;
- Section 9 concludes the report and summarises the contribution of the deliverable.
- Appendix 1 outlines the proposed structure for the EasyPro EPC contractual template.
- Appendix 2 outlines the proposed structure for the EasyPro ESC contractual template.

2 Evolution of EPCs in Ireland

2.1 Early Development of EPC in Ireland

EPC in Ireland has developed primarily within the public sector, supported by national policy frameworks aimed at improving energy efficiency and reducing operational costs. The introduction of standardised EPC templates by SEAI, in collaboration with the DCCAE, represented a significant milestone in enabling the deployment of EPC projects. These templates provided a clear contractual structure, including provisions for performance guarantees, M&V, and risk allocation between building owners and ESCOs.

Early EPC projects in Ireland typically focused on relatively low-risk, cost-effective energy efficiency measures, such as lighting upgrades, controls optimisation, and improvements to mechanical and electrical systems. These measures were characterised by short payback periods and predictable energy savings, making them well-suited to the traditional EPC model, where cost savings are used to repay investment over the contract term.

Despite the availability of standard templates, the uptake of EPCs in Ireland remained relatively limited for a number of years. Key barriers included the perceived complexity of EPC procurement, limited familiarity among public sector clients, and a relatively underdeveloped ESCO market. These challenges highlighted the need for facilitation, standardisation, and aggregation approaches to enable wider adoption.

2.2 Market Development and Facilitation Models

In response to these barriers, a number of initiatives have been developed to support the scaling of EPCs in Ireland and internationally. One notable approach has been the creation of structured facilitation models and frameworks designed to simplify procurement, reduce transaction costs, and improve market confidence.

The CEF, operating primarily in the UK, provides a relevant example of such a model. CEF offers a standardised procurement framework, combining pre-qualified contractors, standard contractual documentation, and centralised support to public sector organisations. This approach reduces procurement complexity and enables organisations to access EPC delivery models with lower transaction costs and reduced risk. Importantly, frameworks such as CEF demonstrate the value of standardisation and aggregation in developing a sustainable pipeline of projects and attracting market participation.

In Ireland, similar principles have been applied through project development and facilitation initiatives. Codema, acting as an energy agency and project facilitator, has played a key role in advancing EPC delivery through structured approaches that combine technical development, procurement support, and stakeholder engagement. Through its project implementation activities, Codema has successfully facilitated multiple EPCs across public sector buildings, demonstrating the viability of the model when supported by appropriate expertise and governance structures.

These facilitation models emphasise:

- Standardisation of processes and documentation
- Aggregation of projects to achieve scale
- Structured engagement with ESCOs and financiers
- End-to-end support from project identification through to contract management
- Such approaches are directly reflected in the design philosophy of the EasyPro framework.

2.3 The DeliveREE Experience and Market Learning

The DeliveREE project represents one of the most significant recent efforts to scale EPC delivery in Ireland. It introduced a systematic, "one-stop-shop" model for project development, combining project identification, aggregation, procurement, and contract management within a structured implementation unit.

At the proposal stage, DeliveREE was based on the assumption that EPCs could be deployed at scale using a similar approach to earlier energy efficiency-focused projects. However, the evolution of policy and market priorities during project development led to a fundamental shift in approach—from energy efficiency as the primary objective to decarbonisation as the primary driver.

This shift had several important consequences:

- Increased capital costs
  Decarbonisation measures, particularly heat pump installations and deep retrofit interventions, require significantly higher upfront investment compared to traditional energy efficiency measures.
- Reduced cost savings
  Many decarbonisation technologies deliver limited or no direct cost savings under current energy price structures, weakening the traditional EPC financial model.
- Increased project risk
  Technical uncertainty, design complexity, and performance variability introduce higher levels of risk for ESCOs, particularly in relation to performance guarantees.
- Market constraints
  The increased risk and cost profile has reduced ESCO appetite, particularly for smaller-scale projects or projects with insufficient aggregation.
- Procurement challenges
  Traditional procurement approaches proved unsuitable, with early tender processes failing due to high bid costs and insufficient clarity on project scope and risk allocation.

These challenges necessitated a redesign of the procurement strategy, including the introduction of phased approaches, such as competitive dialogue and staged contract structures, to reduce bid costs and allow risks to be progressively resolved.

2.4 Transition from Energy Efficiency to Decarbonisation

The most significant evolution in EPCs in Ireland is the transition from an energy efficiency-driven model to a decarbonisation-led approach. This shift reflects broader national and EU climate policy objectives, which prioritise deep emissions reductions over incremental energy savings.

Under this new paradigm:

- EPCs are increasingly used as a pathway to zero carbon, rather than solely a mechanism for cost savings;
- Projects are designed to enable holistic building decarbonisation, including electrification of heat, integration of renewable energy, and optimisation of building systems;
- Investment decisions are driven by carbon reduction targets, with energy savings acting as a secondary benefit;
- Contract structures must support phased implementation, allowing for the planned replacement of existing assets over time.

As identified through DeliveREE, this transition fundamentally changes the role of EPCs. Rather than being purely performance-based contracts for energy savings, EPCs become long-term decarbonisation partnerships

between building owners and ESCOs, providing a structured framework for planning, financing, and implementing complex retrofit programmes.

2.5 Implications for EPC Contract Design

The evolution of EPCs in Ireland has significant implications for contractual structures and procurement approaches. Existing EPC templates, while robust for traditional energy efficiency projects, do not fully address the requirements of decarbonisation-focused investments.

Key implications include:

- The need to incorporate carbon performance metrics alongside energy savings guarantees;
- The requirement for greater flexibility in contract structures to accommodate phased and evolving project scopes;
- The importance of balanced risk allocation, particularly in relation to high-cost, low-savings technologies;
- The integration of blended financing models, including grants, private finance, and alternative contracting structures;
- The need to reduce bid costs and barriers to market entry for ESCOs.

These challenges underline the necessity of developing a new EPC template contract that reflects current market conditions and supports the delivery of low-carbon projects at scale.

3 Review of Existing Contracting Models

3.1 Overview of EPC Contracting Approaches

EPC encompasses a range of contractual models through which energy efficiency and decarbonisation measures are delivered with some form of performance guarantee. While EPCs are typically associated with guaranteed energy savings, in practice they include a spectrum of contractual structures that differ in terms of financing arrangements, risk allocation, and payment mechanisms.

At a European level, EPCs are recognised as a key instrument for mobilising investment in energy efficiency and decarbonisation. However, as highlighted by the EEFIG, one of the primary challenges in scaling EPCs is the perceived complexity and risk associated with project performance, cash flow uncertainty, and contractual structures. These challenges have led to the development of multiple EPC variants and alternative delivery models, each designed to address specific market needs and stakeholder preferences.

3.2 Standard Irish EPC Templates

In Ireland, EPC deployment has been supported by standard contract templates developed by SEAI and DCCAE. These templates are based on established international EPC principles and are aligned with European standards for energy performance contracting.

The key characteristics of standard EPC templates include:

- **Performance-based structure**
  The ESCO guarantees a defined level of energy savings, typically expressed in kWh or cost savings.
- **Measurement and Verification (M&V)**
  Savings are verified using recognised methodologies, such as the IPMVP, ensuring transparency and accountability.

- **Risk allocation**
  Technical performance risk is primarily transferred to the ESCO, while the building owner retains responsibilities related to building operation, usage, and external factors.
- **Financing structures**
  EPCs can be implemented under different financing arrangements, including:
    - Client-financed (guaranteed savings model)
    - ESCO-financed (shared savings model)
- **Contract duration**
  Typically ranging from 5 to 15 years, depending on the scale of investment and payback period.

These templates have been successfully applied in Ireland for delivering energy efficiency improvements in public sector buildings. However, they are largely designed around measures with clear and predictable cost savings, limiting their applicability to more complex decarbonisation projects.

3.3 EPC Variants and Financing Models

EPCs can be categorised into several main variants, each with different implications for risk allocation and financing. As highlighted in both project experience and European guidance (including EEFIG), the choice of model has a significant impact on project bankability and stakeholder participation.

3.3.1 Guaranteed Savings Model

Under this model:

- The building owner finances the investment;
- The ESCO guarantees a minimum level of energy savings;
- If savings are not achieved, the ESCO compensates the shortfall.

Advantages:

- Lower financing cost (public sector borrowing);
- Simpler contractual structure.

Limitations:

- Financial risk remains with the client;
- Less attractive for projects with uncertain or low savings.

3.3.2 Shared Savings Model

Under this model:

- The ESCO finances the investment;
- Energy savings are shared between the ESCO and the client;
- The ESCO assumes both performance and financing risk.

Advantages:

- Reduced upfront cost for the client;
- Potential off-balance-sheet treatment.

Limitations:

- Higher cost of capital;

- Increased complexity in structuring agreements.

3.3.3 First-Out Model

In this structure:

- The ESCO finances the project and receives all savings until costs are recovered;
- Contract duration is variable depending on realised savings.

Advantages:

- Strong incentive for ESCO performance;
- No upfront cost to the client.

Limitations:

- High uncertainty in contract duration;
- Complex financial modelling.

3.4 Alternative Contracting Models

In addition to traditional EPC structures, several alternative models have emerged to address specific market and project requirements.

3.4.1 Energy Supply Contracts

Energy Supply Contracts focus on the delivery of a defined energy service (e.g. heat supply) rather than energy savings.

- The contractor installs and operates energy generation assets (e.g. heat pumps, biomass);
- The client pays for energy delivered (e.g. €/kWh of heat).

Relevance to decarbonisation:

- Particularly suited to heat electrification and renewable energy integration;
- Reduces performance risk related to energy savings.

3.4.2 EPC Lite

EPC Lite models are simplified versions of EPCs designed to reduce transaction costs and complexity.

- Reduced scope and simplified contracts;
- Lower development and bid costs.

Limitations:

- Less suitable for large or complex projects;
- Limited applicability for deep retrofit.

3.4.3 Leasing and “As-a-Service” Models (LaaS)

These models involve:

- Third-party ownership of assets (e.g. lighting, HVAC systems);
- Payment based on service provision rather than energy savings.

Advantages:

- Lower upfront cost;
- Clear service-based payment structures.

Limitations:

- Typically limited to specific technologies;
- Less integrated than full EPC approaches.

3.5 Key Challenges in EPC Financing and Risk Perception

According to EEFIG, one of the critical barriers to scaling EPCs is the perception of risk associated with energy efficiency investments. These risks arise from multiple sources:

- **Performance uncertainty**
  Actual savings depend on factors such as occupancy, weather, and operational behaviour.
- **Cash flow variability**
  Savings-based repayment structures introduce uncertainty for investors.
- **Complexity of contracts**
  EPC agreements can be difficult to structure, negotiate, and evaluate.
- **Transaction costs**
  High development and bidding costs can discourage ESCO participation, particularly for smaller projects.
- **Split incentives and stakeholder alignment**
  Multiple stakeholders with different objectives can complicate decision-making.

These challenges are particularly relevant in the context of decarbonisation, where projects involve:

- Higher capital investment;
- Longer payback periods;
- Greater technical complexity;
- Reduced direct financial returns.

As a result, traditional EPC models may not provide sufficient incentives or risk mitigation for ESCOs and investors in low-carbon projects.

3.6 Limitations of Existing Contracting Models for Decarbonisation

While existing EPC and alternative contracting models provide a strong foundation, they exhibit several limitations when applied to decarbonisation-focused projects:

- **Over-reliance on cost savings metrics**
  Traditional EPCs are structured around financial savings rather than carbon reduction outcomes.
- **Incompatibility with high-CAPEX measures**
  Technologies such as heat pumps and deep retrofit measures often do not generate sufficient savings to support traditional EPC financing models.
- **Inflexibility in project delivery**
  Standard contracts are not well suited to phased or evolving retrofit strategies.
- **Inadequate risk allocation for new technologies**
  Existing templates do not fully address the technical and financial risks associated with emerging low-carbon technologies.

- **Limited integration of alternative models**
  EPCs are often implemented in isolation, rather than in combination with ESC or leasing approaches.

4 Key Gaps Identified in Existing EPC Templates

4.1 Overview

The review of existing EPC templates and contracting models highlights a number of structural gaps that limit their suitability for decarbonisation-driven projects. These gaps do not undermine the value of EPCs as a delivery mechanism, but they demonstrate that existing templates require targeted adaptation to reflect the changing policy, technical and market context.

This section identifies the principal gaps that should inform the design of the future EasyPro low-carbon EPC template contract.

4.2 Absence of Explicit Carbon Performance Targets

Existing EPC templates are primarily structured around energy and cost savings. The guarantee mechanism typically focuses on reductions in energy consumption or energy costs relative to an agreed baseline.

While this approach is appropriate for traditional energy efficiency projects, it does not fully capture the objectives of decarbonisation programmes, where the primary policy driver is often carbon reduction rather than cost reduction.

This creates several issues:

- A project may deliver significant carbon reductions but limited cost savings;
- Low-carbon technologies may appear less financially attractive under traditional savings metrics;
- There is no clear contractual mechanism for recognising carbon reduction as a performance outcome.

The future EasyPro contracts should therefore enable carbon reduction to be included as a core project objective, while recognising that the legal guarantee mechanism may continue to rely primarily on energy-based metrics where these provide greater measurability and enforceability.

4.3 Misalignment with High-CAPEX, Low-Savings Measures

Decarbonisation projects frequently involve measures such as:

- Heat pumps;
- Low-temperature heating systems;
- Fabric improvements;
- Renewable energy systems;
- Deep retrofit interventions.

These measures often have higher capital costs and longer payback periods than traditional energy efficiency measures. Some, particularly heat pumps replacing fossil fuel systems, may reduce carbon emissions while delivering limited or no immediate cost savings due to current electricity and gas price structures.

Existing EPC templates are not well suited to these conditions because they assume that savings can contribute substantially to repayment. Where cost savings are insufficient, the traditional EPC financial model becomes difficult to apply.

The future EasyPro contracts should therefore be compatible with blended funding models, including grants, client contributions, ESCO finance, private finance, and complementary service-based arrangements.

4.4 Inadequate Risk Allocation for Decarbonisation Projects

Standard EPC templates allocate technical performance risk to the ESCO, while the client retains risks related to building use, occupancy and external conditions. This model works well where measures are technically familiar, savings are predictable, and project boundaries are clear.

However, decarbonisation projects introduce additional risks, including:

- Technology performance risk;
- Grid carbon intensity risk;
- Future energy price uncertainty;
- Design integration risk;
- Operational behaviour risk;
- Policy and regulatory change.

Existing templates do not always define these risks clearly or allocate them to the party best able to manage them. This can lead to inflated risk pricing, reduced ESCO participation or disputes during contract delivery.

The future EasyPro contracts should therefore include a more explicit risk allocation framework, supported by risk schedules and clear adjustment mechanisms.

4.5 Lack of Flexibility for Phased and Long-Term Decarbonisation

Traditional EPC contracts are often structured around a defined package of measures implemented within a relatively fixed works period. This approach is less suitable for long-term decarbonisation pathways, where measures may need to be phased over time due to:

Asset replacement cycles;

- Availability of funding;
- Technology readiness;
- Operational constraints;
- Strategic masterplanning requirements.

For example, a building may not be ready for full heat electrification immediately if existing heating systems still have useful life, if electrical infrastructure requires reinforcement, or if fabric upgrades must be undertaken first.

The future EasyPro contracts should support phased implementation, allowing an ESCO and building owner to develop a long-term decarbonisation roadmap with clear decision points, gateways and optional future works packages.

4.6 High Transaction Costs and Procurement Barriers

EPC procurement is often perceived as complex and resource-intensive. Existing templates assume a relatively high level of technical and contractual maturity at tender stage. For ESCOs, preparing bids can involve significant design, financial modelling and risk assessment effort.

The DeliveREE experience demonstrated that this burden can discourage ESCO participation, particularly where projects are complex, uncertain or insufficiently scaled. High bid costs are especially problematic in a relatively small ESCO market such as Ireland.

Key barriers include:

- High upfront design costs;
- Uncertainty over project scope;
- Insufficiently defined risk allocation;
- Limited confidence in baseline data;
- Unclear financing expectations.

The future EasyPro contracts should therefore be designed to support competitive dialogue and phased project development, allowing technical and commercial risks to be progressively clarified before final commitments are made.

4.7 Limited Integration of Alternative Contracting Models

Decarbonisation projects may require a combination of contractual approaches. For example:

- Lighting and controls may be suitable for a standard EPC;
- Heat pumps may be better suited to an ESC or service-based model;
- Solar PV may be delivered through leasing, power purchase or client-funded arrangements;
- Maintenance may require separate but integrated service obligations.
- Existing EPC templates generally do not provide sufficient flexibility to combine these models within a coherent contractual framework.

The future EasyPro contracts should therefore allow integration or coordination with complementary contracting models where appropriate, while maintaining a clear structure for responsibilities, performance outcomes and payment mechanisms.

4.8 Weak Alignment with Market Capacity and ESCO Participation

The Irish ESCO market remains relatively small, and ESCO appetite depends heavily on project scale, risk profile, contract complexity and bankability.

Existing templates may be technically robust, but they do not always sufficiently address market attractiveness. If the contract places too much uncertainty or excessive risk on ESCOs, participation may be limited. Conversely, if risks are not adequately managed, procuring authorities and financiers may lack confidence.

A successful template must therefore strike a balance between:

- Protecting the client's interests;
- Providing sufficient certainty for ESCOs;
- Ensuring financial institutions can understand and assess the contract;
- Maintaining competitive tension during procurement.

The EasyPro template contract should therefore be designed not only as a legal document, but as a market-enabling tool.

4.9 Insufficient Alignment with Financing Requirements

Financiers require clarity on:

- Revenue streams;
- Payment obligations;
- Performance risk;
- Default and termination provisions;
- Ownership of assets;
- Step-in rights and assignment;
- Interaction with grants and subsidies.

Existing EPC templates include some of these elements, but may require strengthening to support investment in higher-value decarbonisation projects.

The future EasyPro contracts should include provisions that support bankability, including clear payment structures, ownership arrangements, funding interfaces and termination compensation mechanisms.

5 Integration of Stakeholder Feedback (Task 4.1)

5.1 Overview

Stakeholder engagement undertaken under Task 4.1 has played a central role in informing the EasyPro EPC template design guidance. The purpose of this engagement has been to ensure that the future contracts are not developed in isolation, but reflects the practical requirements, concerns and expectations of the organisations that will use, procure, finance and deliver EPC projects.

The engagement process has involved:

- Universities and other public sector building owners;
- ESCOs;
- Technical advisers;
- Financial stakeholders;
- Procurement and legal stakeholders;
- EasyPro consortium partners.

Feedback was gathered through structured workshops, monthly project meetings, bilateral discussions and market engagement activities. The outputs of this engagement have been integrated into the design principles and drafting recommendations set out in this report.

5.2 Stakeholder Engagement Process

5.2.1 Initial Awareness and Capacity Building

The stakeholder engagement process began with initial awareness and capacity-building activities designed to:

- Explain the EasyPro project objectives;
- Present the EPC facilitation service concept;

- Introduce the proposed role of EPCs in university decarbonisation;
- Identify early concerns and expectations among stakeholders.

These activities highlighted the need for clear communication around the role of EPCs. In particular, stakeholders emphasised that EPCs should not be presented only as a financing tool, but as a structured mechanism for delivering projects with defined performance outcomes.

5.2.2 Continuous Engagement Through Monthly Meetings

Monthly engagement meetings with project partners and participating universities provided an ongoing mechanism for gathering feedback on:

Project pipeline development;

- Technical assessment requirements;
- Procurement readiness;
- Risk allocation;
- Contractual expectations;
- Financing considerations.

These meetings allowed emerging issues to be identified early and incorporated into the evolving design of the EasyPro framework.

A recurring theme was the need for the future contracts to be flexible enough to reflect different institutional contexts, while still providing a standardised contractual structure.

5.2.3 Targeted Bilateral Engagement

Bilateral engagement was also undertaken with specific stakeholders where more detailed input was required. This included discussions with:

University estates and energy managers;

- Procurement teams;
- Financial and administrative representatives;
- ESCOs and market participants;
- Legal and technical advisers.

These discussions provided more detailed insight into practical delivery challenges, including baseline data quality, internal approval processes, maintenance arrangements, and the commercial expectations of ESCOs.

5.3 Key Stakeholder Feedback

The stakeholder feedback can be grouped into several key themes.

5.3.1 Procurement and Process Requirements

Stakeholders highlighted that EPC procurement can be complex and resource-intensive. Public sector clients in particular require a process that is:

Transparent;

- Compliant with procurement rules;
- Manageable in terms of internal resources;
- Clear in terms of decision points and approvals.

ESCOs also emphasised the importance of reducing bid-stage costs and avoiding requirements for extensive design work before contract award.

This feedback supports the use of competitive dialogue and a staged contract structure, including a defined design phase after contract award.

5.3.2 Project Development and Technical Scope

Stakeholders emphasised that decarbonisation projects are technically more complex than traditional energy efficiency projects. Measures such as heat pumps, fabric upgrades and renewable energy systems require more detailed design coordination and a better understanding of building constraints.

Feedback highlighted the importance of:

- Accurate baseline data;
- Clear technical information at tender stage;
- Sufficient opportunity for ESCOs to develop and validate designs;
- Flexibility to refine the scope during project development.

This informed the recommendation that the future contracts should include a design phase and decision gateway before full works implementation.

5.3.3 Financial and Contractual Transparency

Stakeholders identified financial transparency as a key requirement. Universities and public sector bodies need to understand:

- Project costs;
- Funding sources;
- Payment obligations;
- Savings assumptions;
- Residual risks.
- ESCOs and financiers require clarity on:
- Payment mechanisms;
- Risk allocation;
- Treatment of grants or subsidies;
- Contract duration;
- Termination provisions.

This feedback supports the inclusion of clearer financial schedules and provisions for blended funding arrangements in the future contracts.

5.3.4 Risk Allocation and Performance Guarantees

A major theme from stakeholder engagement was the importance of balanced and transparent risk allocation.

Clients require confidence that guaranteed outcomes will be delivered, while ESCOs require protection from risks outside their control, such as:

- Changes in occupancy;
- Changes in building use;
- Weather variability;

- Changes in energy prices;
- Client operational decisions;
- Future policy changes.

Stakeholders agreed that risks should be allocated to the party best able to manage them, and that baseline adjustment and material change mechanisms should be clearly defined.

This feedback has informed the recommended updates to the risk allocation framework in Section 6.

5.3.5 Contract Structure and Flexibility

Stakeholders recognised that decarbonisation may require a longer-term and more flexible approach than traditional EPCs. In particular, projects may need to be phased due to:

- Funding availability;
- Asset replacement cycles;
- Operational constraints;
- Technological uncertainty;
- Wider campus decarbonisation plans.

This feedback supports the inclusion of phased implementation provisions and the ability to coordinate EPC works with complementary contract models.

5.3.6 Market and Delivery Considerations

ESCO feedback highlighted concerns around:

- High bid costs;
- Uncertain project scope;
- Limited project scale;
- Excessive transfer of risk;
- Lack of clarity on design responsibilities;
- Maintenance obligations.

This reinforced the need for the future contracts to improve market attractiveness by providing:

- Clearer risk allocation;
- A staged design process;
- Defined responsibilities;
- Transparent payment and performance mechanisms;
- Reduced uncertainty at tender stage.

5.3.7 Institutional and Strategic Considerations

University stakeholders emphasised that EPCs must align with institutional strategies, including:

- Climate action plans;
- Capital investment plans;
- Campus masterplans;
- Maintenance strategies;

- Governance and approval processes.

This feedback demonstrates that EPC templates must be more than standalone legal documents. They must support wider institutional decision-making and long-term decarbonisation planning.

5.4 Integration into the EasyPro EPC Framework

The stakeholder feedback has been incorporated into the EasyPro EPC template design guidance in several ways.

5.4.1 Procurement Design

The future contracts should support a procurement process based on:

- Pre-qualification;
- Competitive dialogue;
- Final tender submission;
- Contract award;
- Post-award design development.

This structure responds directly to stakeholder feedback on the need to reduce bid costs while maintaining procurement transparency and competition.

5.4.2 Phased Project Development

The inclusion of a formal design phase responds to feedback on technical complexity and design uncertainty. It allows the ESCO and client to:

- Validate assumptions;
- Confirm technical solutions;
- Refine costs;
- Agree final performance commitments;
- Proceed to works only once risks are sufficiently understood.

5.4.3 Financial Structuring

The future contracts should include provisions that support:

- Grant funding;
- Client contributions;
- ESCO finance;
- Private finance;
- Alternative financing and service models.

This responds to stakeholder feedback that traditional savings-based financing may not be sufficient for decarbonisation projects.

5.4.4 Risk and Performance Framework

The future contracts should include:

- Clear risk allocation provisions;
- Baseline adjustment mechanisms;

- Material change provisions;
- Defined performance guarantees;
- Maintenance and operational obligations.

This responds to feedback from both clients and ESCOs on the need for fairness, transparency and enforceability.

5.4.5 Contract Flexibility

The future contracts should provide flexibility for:

- Phased works;
- Optional additional measures;
- Coordination with ESC or leasing arrangements;
- Future decarbonisation stages;
- Changes in institutional requirements.

This supports long-term project delivery and strategic alignment.

5.4.6 Market Alignment

The template should be designed with market participation in mind. This means ensuring that:

- Bid costs are proportionate;
- Risk transfer is reasonable;
- Payment mechanisms are clear;
- Project scale and bundling are considered;
- Responsibilities are clearly defined.

5.5 Key Lessons for Implementation

The stakeholder engagement process has highlighted several lessons for implementation:

EPCs must be presented as a delivery and performance framework, not only a financing mechanism;

- Decarbonisation projects require greater flexibility than traditional energy efficiency projects;
- Market appetite depends strongly on project scale, risk allocation and bid burden;
- Clients require clear decision points and governance structures;
- Design risk should be progressively resolved rather than fully transferred at tender stage;
- Maintenance responsibilities must align with performance guarantees;
- Financial transparency is essential for client approval and investor confidence.

These lessons are reflected in the design principles and drafting recommendations set out in the remainder of this report.

6 Design Principles for the Future EasyPro Low-Carbon EPC Template Contract

6.1 Overview

The purpose of the future EasyPro low-carbon EPC template contract is to support the delivery of energy efficiency and decarbonisation projects in a manner that is practical, bankable, and attractive to the market.

The future contracts should build on existing Irish EPC templates, rather than replacing them entirely. This approach maintains continuity with established practice while adapting the contractual framework to address the emerging requirements of low-carbon retrofit programmes.

The design principles set out below should guide the drafting of the future legal template contract.

6.2 Decarbonisation-First Approach

The future contracts should recognise decarbonisation as a central objective of the project.

This does not mean that every contractual guarantee must be carbon-based. In practice, energy savings remain easier to measure, verify and enforce. However, the template should make clear that projects may be designed to deliver:

- Energy savings;
- Carbon reductions;
- Cost savings;
- Improved asset performance;
- Support for long-term decarbonisation pathways.

The contract should therefore be capable of accommodating projects where the primary strategic driver is carbon reduction, even where cost savings are limited.

6.3 Dual Performance Metrics (Energy and Carbon)

The future contracts should include a framework for reporting both energy savings and carbon reductions.

Energy savings, expressed in kWh, should remain the primary guaranteed performance metric where appropriate, due to the availability of established measurement and verification methodologies.

Carbon reductions should be included as a required reporting metric and, where suitable, as a secondary performance target. This would allow procuring authorities to assess the contribution of EPC projects to climate objectives without undermining the enforceability of the core performance guarantee.

6.4 Flexibility and Phased Implementation

The future contracts should support phased delivery. This is particularly important where full decarbonisation cannot be achieved in a single investment cycle.

The template should allow for:

- Initial implementation measures;
- Optional future works;
- Design-stage development;
- Decision gateways;
- Phased replacement of fossil fuel assets;
- Integration with campus-wide decarbonisation plans.

This approach supports long-term strategic planning while maintaining contractual clarity.

6.5 Balanced and Transparent Risk Allocation

The future contracts should allocate risks to the party best able to manage them.

The ESCO should generally retain responsibility for:

- Design performance;
- Installation quality;
- Equipment performance;
- Operation and maintenance of systems within its control;
- Delivery of guaranteed energy savings.

The client should generally retain responsibility for:

- Building use;
- Occupancy patterns;
- Operational decisions outside the ESCO's control;
- Provision of accurate data;
- Access to premises;
- Client-side approvals.

Risks that are external or uncertain should be addressed through defined adjustment mechanisms rather than left ambiguous.

6.6 Financial Viability and Blended Financing Compatibility

The future contracts should be compatible with multiple financing arrangements.

This is essential because decarbonisation measures may not generate sufficient savings to support traditional EPC repayment models. The template should therefore allow for:

- Client capital contributions;
- Grant funding;
- ESCO finance;
- Private finance;
- Shared savings;
- Fixed payments;
- Service-based payments;
- Hybrid funding structures.

The template should also define how grants, subsidies and environmental incentives are treated.

6.7 Integration with Complementary Contracting Models

The future contracts should allow EPC structures to be combined with complementary models where appropriate.

Examples include:

- Energy Supply Contracts for heat generation;

- Leasing models for specific technologies;
- Power purchase arrangements for renewable electricity;
- Maintenance service contracts;
- Framework agreements.

The template should not attempt to force all measures into a single payment or guarantee structure where doing so would undermine project viability.

6.8 Reduction of Transaction Costs and Procurement Complexity

The future contracts should support procurement processes that reduce unnecessary transaction costs.

This means:

- Avoiding excessive bid-stage design requirements;
- Allowing design development after contract award;
- Providing standardised schedules and templates;
- Clearly defining information requirements;
- Supporting competitive dialogue;
- Reducing uncertainty for bidders.

This is particularly important in the Irish market, where ESCO participation is limited and bid costs can significantly affect market appetite.

6.9 Market Alignment and ESCO Attractiveness

The future contracts should be designed to attract credible ESCO participation.

This requires:

- Reasonable risk allocation;
- Clear payment structures;
- Transparent baseline information;
- Well-defined performance obligations;
- Fair treatment of design risk;
- Appropriate contract duration;
- Sufficient project scale or aggregation.

A technically strong contract will not be successful if it is not acceptable to the market.

6.10 Transparency, Standardisation, and Replicability

The future contracts should support replication across multiple public sector projects.

This requires:

- Standardised structure;
- Consistent terminology;
- Clear schedules;

- Transparent calculation methodologies;
- Alignment with EasyPro technical and risk assessment tools;
- Compatibility with public procurement requirements.

The goal is to create a template that can be adapted to individual projects while maintaining a common contractual framework.

7 Recommended Updates to the National EPC Contract Template

7.1 Purpose of this Section

This section sets out the recommended drafting approach for the future EasyPro low-carbon EPC template contract. It is intended as legal drafting guidance rather than a completed contract. The future contract should be prepared and reviewed by a suitably qualified lawyer before being used in procurement or project delivery.

The recommended approach is to use the existing national EPC contract template as the base document and to adapt it to reflect the EasyPro design principles, stakeholder feedback, and the practical requirements of decarbonisation-focused EPC projects.

7.2 Base Document to be Used

The future EasyPro EPC template contract should use the **"SEAI: Energy Performance Contract"** as its base document. This document should be treated as the current national EPC contract template and the primary legal structure from which the EasyPro template is developed.

This base document provides a familiar and tested structure, including:

- Definitions and interpretation;
- ESCO financial arrangements;
- Works obligations;
- Interim period savings;
- Delay and liquidated damages;
- Environmental conditions and incentives;
- Existing equipment and equipment ownership;
- Testing and commissioning;
- Substantial completion and acceptance;
- Services;
- Maintenance and handover;
- Availability of equipment;
- Measurement, verification, guarantee and payment;
- Variations and value engineering;
- Termination and dispute resolution;

- Schedules for guarantee, baseline, investment grade audit, works, services, client information, premises, design documents and roles and responsibilities.

The EasyPro template should retain this structure where possible to preserve continuity with established national practice. However, it should be updated to reflect the lessons and recommendations of this report, including the shift from traditional energy-saving EPCs to decarbonisation-aligned EPCs.

7.3 Recitals, Purpose and Scope

The recitals should be updated so that the future contract is not limited to reducing energy consumption and associated costs. The contract should also recognise the client's objective to reduce carbon emissions and support long-term decarbonisation.

The lawyer should consider adding wording to the recitals stating that:

- The client wishes to reduce energy consumption, energy costs and associated greenhouse gas emissions;
- The project may include low-carbon technologies, renewable energy systems and measures that support a phased decarbonisation pathway;
- The ESCO may be required to prepare, develop or finalise design documents after contract award as part of a defined design phase;
- The contract may include both works and services necessary to deliver the agreed performance outcomes;
- The project may form part of a wider institutional or campus decarbonisation strategy.

This change is important because it establishes the purpose of the contract at the outset. It makes clear that the future EasyPro template is intended to support low-carbon retrofit and decarbonisation projects, not only conventional energy efficiency works.

7.4 Definitions to be Added or Amended

The definitions section should be reviewed and expanded to include terms relevant to the EasyPro model. The following definitions should be considered.

Carbon Reduction
A reduction in greenhouse gas emissions associated with energy consumption at the premises, calculated using agreed emissions factors and methodology.

Carbon Performance Target
A project-specific target for carbon reduction, expressed in tonnes of CO_2 equivalent or another agreed metric.

Design Phase
The post-award phase during which the ESCO develops, refines and submits the detailed design documents, cost plan, programme, risk register and performance proposals for client review and approval.

Design Phase Deliverables
The documents and outputs to be submitted by the ESCO during the design phase, including detailed design, updated works schedule, updated M&V plan, updated risk register, final cost proposal and proposed performance guarantee.

Decision Gateway
The point at which the client decides whether to proceed from the design phase to implementation of the works.

Low-Carbon Measures
Energy conservation, renewable energy, electrification, heat recovery, fabric, controls or other measures intended to reduce energy consumption and/or carbon emissions.

Maintenance Responsibilities
The preventative, corrective and reactive maintenance obligations required to support the performance guarantee.

Material Change
Any change in or to the premises, building use, occupancy, operational hours, energy systems, client-controlled equipment, energy demand, carbon emissions profile, or other relevant factor that may materially affect the calculation of energy savings, carbon reductions or performance outcomes.

The lawyer should also review existing definitions such as:

- **Works**;
- **Services**;
- **Design Documents**;
- **Baseline**;
- **Energy Savings**;
- **Guarantee**;
- **Existing Equipment**;
- **Equipment**;
- **Variation Estimate**;
- **Unit Price**.

These definitions should be checked to ensure that they remain suitable for decarbonisation-focused projects.

7.5 New Design Phase and Decision Gateway

The future template should include a new section establishing a formal design phase.

This design phase is intended to address one of the main challenges identified in this report: the difficulty of requiring ESCOs to commit to detailed designs, fixed costs and performance guarantees before the project has been sufficiently developed.

The lawyer should include provisions covering:

- Commencement of the design phase after contract award;
- ESCO obligations to prepare detailed design documents;
- Client review and approval process;
- Submission of a final cost proposal;
- Submission of an updated works schedule and programme;
- Submission of an updated risk register;
- Submission of a final or revised performance guarantee;
- Submission of an updated M&V plan;
- Confirmation of planning, statutory, grid, landlord or internal approvals where relevant;
- Client right to proceed or not proceed to the works phase;

- Consequences if the client does not approve the design phase deliverables;
- Treatment of design phase costs;
- Ownership and permitted use of design phase outputs if the contract does not proceed to the works phase.

The contract should make clear that the design phase is intended to reduce risk, validate assumptions and support cost certainty before full implementation of the works.

To address the possibility that the project does not proceed, the Contract should include a dedicated mechanism dealing with abortive design-phase or development costs within the Design Gateway or Commercial Schedules. The Contract should clearly define which design and Investment Grade Audit costs are recoverable, the circumstances in which reimbursement applies, the evidential requirements for recovery, and the allocation of risk between the University and the ESCO. Common mechanisms include capped reimbursement of agreed and evidenced costs where the project does not proceed for reasons outside the ESCO's control, milestone-based development fees linked to completion of specified deliverables, shared-risk arrangements under which each Party bears its own costs up to a defined gateway stage, or success-fee structures where recovery depends on the project proceeding to implementation. The Contract should also distinguish between cancellation for University convenience, funding failure, failure to achieve agreed technical or financial thresholds, and ESCO default. In practice, public sector EPCs commonly include cost caps, open-book accounting requirements, provisions governing ownership and permitted use of partially completed design documents, and staged decision gateways to allow progressive refinement of scope, pricing and savings assumptions before commitment to full implementation.

7.6 Effect of Client Approval

The contract should clarify the legal effect of client approval of design documents and design phase deliverables.

Client approval should not relieve the ESCO of responsibility for:

- Design adequacy;
- Technical performance;
- Compliance with the contract;
- Compliance with applicable law;
- Delivery of the agreed works;
- Delivery of the guaranteed energy savings;
- Performance of systems within the ESCO's control.

An exception may be required where the client expressly instructs the ESCO to adopt a specific design solution against the ESCO's written advice. In that case, the contract should clearly state how any resulting impact on performance guarantees, liability, cost or programme is to be treated.

This provision is important to ensure that the design phase does not weaken the performance-based nature of the EPC.

7.7 Works Schedule, Cost Certainty and Payment

The Works Schedule should be updated so that it can be finalised or refined during the design phase.

The contract should provide that:

- The ESCO's final cost proposal must be consistent with the tendered cost parameters, unless otherwise agreed;

- Any cost reductions identified during the design phase should be transparently reported;
- Cost increases should only be permitted where clearly justified, documented and approved by the client;
- The client may withhold approval to proceed if the final cost proposal is unacceptable;
- The contract should identify whether any design phase costs are payable if the project does not proceed to the works phase;
- Payment provisions should distinguish between design phase payments, works phase payments and services or guarantee period payments;
- Any grant funding, client contribution, ESCO finance or private finance should be clearly reflected in the payment schedule.

The future template should also include provisions requiring the ESCO to provide sufficient cost transparency to support client approval. This may include:

- Cost breakdowns;
- Supporting quotations;
- Open-book review mechanisms;
- Quantity surveyor review;
- Other project-appropriate cost verification processes.

7.8 Performance Guarantee and Measurement & Verification

The national EPC template already includes provisions for guarantee, baseline adjustment and energy savings calculation. These should be retained but updated to support the EasyPro model.

Recommended updates include:

- Retention of kWh energy savings as the primary enforceable guarantee metric where appropriate;
- Inclusion of carbon reduction reporting as a required contract output;
- Optional inclusion of a carbon performance target where appropriate;
- Alignment with the EasyPro calculation methodology template;
- Clear linkage to the M&V plan;
- Updated baseline adjustment provisions to reflect occupancy, weather, building use, operational changes, additional works and client-controlled changes;
- Clear rules for calculating and reporting savings where measures include electrification, renewable generation, fuel switching or heat recovery;
- Clear treatment of export electricity, avoided fossil fuel use, renewable energy generation and changes in grid emissions factors.

The lawyer should avoid introducing carbon guarantees unless the calculation methodology, data sources, emissions factors, baseline assumptions and liability implications are sufficiently robust. In many projects, carbon reduction may be more appropriate as a reported target or project objective rather than a legally guaranteed outcome.

7.9 Maintenance and Operational Responsibilities

The future template should strengthen maintenance provisions.

The contract should clarify:

- Which systems are maintained by the ESCO;
- Which systems remain under client maintenance;
- Preventative maintenance requirements;
- Reactive maintenance requirements;
- Response times;
- Access obligations;
- Record-keeping;
- Asset labelling and asset registers;
- Operations manuals;
- Client obligations not to interfere with ESCO-controlled systems;
- Consequences of maintenance failures for the performance guarantee;
- How maintenance responsibilities apply to both newly installed equipment and relevant existing equipment;
- How maintenance obligations interact with warranties, defects liability and handover.

The guiding principle should be that where the ESCO is responsible for guaranteeing performance, it must have sufficient operational control and maintenance responsibility to manage that performance.

Where the client retains maintenance responsibility for any relevant systems, the contract should state clearly how failures or omissions by the client will affect the performance guarantee, baseline adjustment, payment or liability position.

7.10 Risk Allocation and Material Change

The future template should include clearer risk allocation provisions.

The lawyer should review and update clauses dealing with:

- Material change;
- Baseline adjustment;
- Force majeure;
- Change in law;
- Variations;
- Client obligations;
- ESCO obligations;
- Existing equipment;
- Replacement of existing equipment;
- Availability of equipment;
- Access to premises;
- Data provision;
- Operational control;

- Interface with third-party contractors.

The material change provisions should be expanded so that they address the types of changes most likely to affect decarbonisation-focused EPCs, including:

- Changes in occupancy;
- Changes in building use;
- Changes in operating hours;
- Changes in heating, cooling or ventilation requirements;
- Installation of additional equipment by the client or third parties;
- Removal, replacement or upgrade of existing equipment;
- Changes to campus energy systems;
- Changes in energy supply arrangements;
- Changes in statutory or regulatory requirements;
- Changes affecting carbon reporting assumptions.

The contract should set out a clear process for notifying, assessing and agreeing the impact of a material change. This should include how any changes affect the:

- Baseline;
- Guarantee;
- M&V plan;
- Payment mechanism;
- Programme;
- Risk allocation.

7.11 Complementary Contracting Models and Additional Works

The future template should include flexibility to integrate or coordinate with complementary contracting models.

This may include provisions allowing:

- Certain measures to be delivered under an Energy Supply Contract;
- Certain assets to be leased or delivered as a service;
- Future works packages to be added by variation;
- Phased implementation of decarbonisation measures;
- Coordination with third-party contractors or campus-wide projects;
- Separate treatment of renewable generation, heat supply, storage, private wire, district heating or other infrastructure arrangements.

The contract should maintain a clear distinction between:

- Measures included in the EPC guarantee;
- Measures delivered under separate but related arrangements;
- Client-side works;

- Third-party works;
- Future optional works.

This distinction is necessary to avoid disputes about responsibility, performance, payment and risk.

7.12 Funding, Finance and Environmental Incentives

The future template should include stronger provisions dealing with funding and finance.

Decarbonisation projects may involve multiple funding sources, including:

- Client capital contributions;
- Grant funding;
- ESCO finance;
- Private finance;
- Public sector borrowing;
- Leasing;
- Service-based payments;
- Environmental incentives.

The contract should clearly state:

- Which party is responsible for securing each funding source;
- How grant funding is treated;
- Whether grant funding reduces the client payment, ESCO finance requirement or overall contract value;
- How payment obligations are structured;
- Whether payments are fixed, performance-linked or a hybrid;
- How delays in funding affect programme and obligations;
- Who owns or benefits from environmental incentives, credits, rebates or subsidies;
- What happens if expected funding is not received.

These provisions are important because decarbonisation measures may not generate sufficient financial savings to support a traditional savings-funded EPC model.

7.13 New or Expanded Schedules

The lawyer should consider expanding the schedule structure of the national EPC template to include the following additional or revised schedules

Schedule 1: Energy Savings Model, Energy Savings Allocation and Carbon Reduction Targets
Should include energy savings model (e.g. shared savings or performance guaranteed) and related information about savings allocation, and, where appropriate, carbon reduction targets.

Schedule 2: Baseline and Measurement & Verification Plan
Should align with the EasyPro calculation methodology and IPMVP approach.

Schedule 3: Investment Grade Audit / Technical Proposal
Should include the ESCO's technical assumptions and design basis.

Schedule 4: Works Schedule and Programme
Should allow for design phase refinement.

Schedule 5: Services and Maintenance Schedule
Should clearly define ESCO and client responsibilities.

Schedule 6: Client Information Schedule
Should include baseline data and client-provided assumptions.

Schedule 7: Premises
Should define the physical and operational boundary of the contract.

Schedule 8: Design Documents
Should be expanded to include design phase deliverables and approval process.

Schedule 9: Roles and Responsibilities
Should clarify client, ESCO, adviser and third-party responsibilities.

Schedule 10: Pay and Conditions of Employment
Should be retained where required for public sector contracts.

Schedule 11: Client Requirements
Should include output requirements, design criteria, operational constraints and decarbonisation objectives.

Schedule 12: Risk Allocation Matrix
Should define allocation of key technical, financial, operational and external risks.

Schedule 13: Funding and Payment Structure
Should define grants, client contributions, ESCO finance, private finance and payment flows.

Schedule 14: Carbon Reporting Methodology

Should define how carbon reductions are calculated and reported. It should include the applicable carbon accounting standards, emissions boundaries, reporting frequency, verification procedures, emissions factors and data sources to be used throughout the EPC Performance Period. The methodology should also address the treatment of fuel switching measures (including electrification and renewable energy integration), the application and periodic updating of grid electricity carbon intensity factors over long-term contracts, and the process for adjusting calculations where national emissions factors or regulatory methodologies change during the term of the EPC.

Schedule 15: Design Phase Deliverables and Decision Gateway
Should define the required design phase outputs, review process and conditions for proceeding to the works phase.

Schedule 16: Insurance Requirements
Should define the risk coverage requirements to make sure that the ESCO is properly insured for the specific risks created by the EPC.

8 Integration with Tendering and Contracts (WP4)

8.1 Overview

Work Package 4 (WP4) focuses on the development and implementation of the EasyPro tendering process. The future EasyPro low-carbon EPC template contract should be integrated directly into this process, ensuring that the contractual structure is aligned with procurement strategy, market engagement and project delivery.

This section explains how the template design guidance should be translated into tender documentation and contract implementation.

The purpose is to ensure that:

- Bidders understand the proposed contractual structure from the outset;
- The procurement process supports rather than undermines the EPC model;
- Technical and commercial risks are progressively clarified;
- The contract is capable of being implemented in practice;
- The future template supports both project delivery and market confidence.

8.2 Retention of Core EPC Principles

The future EasyPro EPC template contract should retain the core principles of EPC, namely:

- Performance-based delivery;
- Guaranteed energy savings;
- Measurement and verification;
- ESCO accountability for performance;
- Defined baseline and adjustment mechanisms;
- Payment linked to contractual performance.

Stakeholder feedback indicated that the EPC model remains valuable, provided that the contract is adapted to the realities of low-carbon retrofit projects.

It is therefore important that the EasyPro contract does not become a conventional works contract. The distinguishing feature of the EPC model must remain the link between project delivery, measured performance and contractual accountability.

8.3 Key Contractual Innovation: Integration of the Design Phase

8.3.1 Limitation of the Standard EPC Template

The standard EPC template assumes that design documents are sufficiently developed at the point of contract execution. This can create difficulties for complex decarbonisation projects, where:

- Detailed design is costly;
- Technical constraints are not fully known at tender stage;
- ESCOs are reluctant to commit to fixed prices and guarantees without further investigation;
- Clients may not be able to define all technical requirements in advance.
- This creates a tension between procurement efficiency and technical certainty.

8.3.2 EasyPro Approach: Design-Integrated EPC

The future EasyPro template should address this issue by integrating a design phase into the EPC contract.

Under this approach:

- The ESCO is selected through competitive dialogue and final tender;
- The contract is awarded on the basis of an agreed proposal, pricing framework and performance approach;
- The ESCO then undertakes a detailed design phase;

- The design phase produces final design documents, confirmed costs, programme and performance commitments;
- The client reviews the design phase deliverables at a decision gateway;
- The client decides whether to proceed to the works phase.

This model allows the client to secure an ESCO partner through procurement while avoiding the need for all bidders to complete expensive detailed design work before contract award.

8.3.3 Benefits of Design Integration

The design-integrated approach provides several benefits:

- Reduced bid-stage burden: ESCOs are not required to complete full design work at tender stage.
- Improved cost certainty: Pricing is based on detailed, validated design.
- Better risk allocation: Design risks are resolved before performance guarantees are finalised.
- Increased competition: Lower barriers to entry for ESCOs.

This represents a structural improvement to EPC procurement, rather than a fundamental change to the EPC model.

8.4 Clarification of Maintenance Responsibilities

8.4.1 Challenges in Standard EPC Contracts

In traditional EPCs, maintenance responsibilities can be:

- Ambiguous or inconsistently defined;
- Split between client and ESCO;
- Misaligned with performance guarantees.
- This creates risks such as:
- Disputes over underperformance;
- Unclear accountability;
- Reduced effectiveness of performance guarantees.

8.4.2 EasyPro Approach to Maintenance

The updated EPC contract introduces clear and structured maintenance provisions, including:

Alignment between:

- Performance guarantees and
- Maintenance obligations

Definition of:

- Preventative maintenance requirements;
- Reactive maintenance responsibilities;
- Access and operational control provisions.

In general:

- Where the ESCO guarantees performance, it also assumes responsibility for maintaining the relevant systems.

8.4.3 Operational Integration

The future contract should also address:

Interaction between:

- ESCO-installed systems;
- Existing building infrastructure;

Coordination with:

- Client maintenance teams;
- Third-party contractors.

This ensures:

- Performance is not compromised by external factors;
- Responsibilities are clearly defined across all parties.

8.5 Tendering Process Integration

8.5.1 Pre-Qualification (PQQ Stage)

At the PQQ stage:

ESCOs are informed that:

- The future EasyPro EPC template contract will be used once drafted and approved;
- The future template should include a design phase and structured maintenance obligations.

This ensures:

- Early alignment with contractual expectations;
- Filtering of bidders based on capability and acceptance of the model.

8.5.2 Competitive Dialogue

The procurement process uses competitive dialogue, reflecting:

- The complexity of EPC projects;
- The need for iterative development of solutions.

During this stage, ESCOs develop:

- Initial technical concepts;
- Delivery strategies;
- Key aspects discussed include:
- Design approach;
- Risk allocation;
- Maintenance strategies.

8.5.3 Final Tender and Contract Award

At final tender stage, ESCOs submit:

- Refined proposals;
- Indicative performance commitments;

- The selected ESCO enters into:
- The EasyPro EPC contract;

Including the design phase as the first contractual stage.

8.6 Performance Measurement and Contract Integrity

Despite the structural changes recommended, the future contract should maintain the integrity of EPC as a performance-based model:

Performance is measured in:

- kWh energy savings;
- Verification is conducted using:
- IPMVP-aligned methodologies;

Financial mechanisms are linked to:

- Verified performance outcomes.

This ensures that:

- Contracts remain enforceable and bankable;
- Performance guarantees are objective and measurable;
- The model remains familiar to ESCOs and financiers.

8.7 Alignment with Decarbonisation Objectives

While the future contract should not automatically introduce carbon-based guarantees, it should support decarbonisation through:

Inclusion of:

- Low-carbon technologies;
- Electrification strategies;
- Renewable energy systems;
- Design-stage optimisation of:
- System efficiency;
- Energy demand reduction;
- Long-term improvement of building performance.

This approach ensures that:

- Decarbonisation is embedded in project design, rather than contract metrics;
- EPC remains a practical and deliverable mechanism for low-carbon investment.

9 Conclusions

9.1 Overview

This deliverable has presented design guidelines for the future EasyPro low-carbon EPC template contract, developed in response to the evolving requirements of building retrofit programmes and the growing emphasis on decarbonisation within the Irish public sector.

The work undertaken has demonstrated that while existing EPC templates provide a robust and proven foundation for delivering energy efficiency projects, they require targeted adaptation to remain effective in the context of more complex, capital-intensive, and risk-sensitive decarbonisation investments.

9.2 Key Findings

The review of existing EPC models, combined with practical experience and stakeholder engagement, has highlighted several critical challenges:

Traditional EPCs are primarily structured around energy and cost savings, which do not fully align with decarbonisation-driven investment strategies;

- Increasing reliance on high-cost, low-savings technologies, such as heat electrification, weakens conventional EPC financial models;
- Procurement complexity and high bid costs create barriers to market participation;
- Risk allocation and design uncertainty can lead to pricing inefficiencies and procurement failure;
- Maintenance and operational responsibilities are not always clearly aligned with performance guarantees.
- These challenges confirm that the limitations of EPCs in the current market are not due to the concept itself, but rather to how contracts are structured and implemented.

9.3 EasyPro Approach and Contribution

The EasyPro EPC template design guidance addresses these challenges through a set of targeted and practical enhancements, while retaining the core strengths of the EPC model.

The most significant contributions include:

- Integration of a formal design phase within the EPC contract
  This reduces bid-stage burden, improves cost certainty, and enables more effective risk management through a structured decision gateway.
- Clear alignment between maintenance responsibilities and performance guarantees
  Ensuring accountability and supporting the long-term delivery of guaranteed outcomes.
- Retention of energy (kWh) as the primary contractual performance metric
  Maintaining measurability, enforceability, and alignment with established M&V practices.
- Embedding decarbonisation through design rather than contractual metrics
  Enabling the deployment of low-carbon technologies while preserving the integrity of EPC structures.
- Improved alignment with procurement processes and market realities
  Supporting competitive dialogue, reducing transaction costs, and increasing ESCO participation.

These enhancements represent an evolution of the EPC model, rather than a fundamental redesign, ensuring continuity with established practices while addressing current market needs.

9.4 Integration within the EasyPro Framework

The future EPC template contract, once drafted by a suitably qualified lawyer in line with these guidelines, will form a central component of the broader EasyPro toolkit, complementing:

- Technical project development methodologies (D2.1);
- Standardised calculation and evaluation approaches (D2.3);
- Structured risk assessment frameworks (D2.6).

Together, these elements provide a coherent and integrated framework for the development, procurement, and delivery of EPC projects.

Furthermore, the future lawyer-drafted template contract should be designed for direct application within Work Package 4, ensuring that the contractual approach is not theoretical but capable of being implemented in real procurement processes.

9.5 Implications for EPC Deployment

The findings of this deliverable have broader implications for the future deployment of EPCs:

- EPCs remain a viable and valuable mechanism for delivering building retrofit projects;
- The transition to decarbonisation does not require abandoning EPCs, but rather adapting them to new technical and financial realities;

Structural improvements to procurement and contract design can significantly enhance:

- Project deliverability;
- Market participation;
- Financial viability.

The EasyPro approach demonstrates that EPCs can continue to play a central role in achieving climate objectives, provided that they are implemented in a way that reflects current market conditions and stakeholder requirements.

9.6 Final Remarks

The EasyPro low-carbon EPC template design guidelines provide a practical, market-aligned and scalable basis for preparing a new template contract for energy and decarbonisation projects in the public sector.

By combining:

- Standardised methodologies;
- Stakeholder-driven design;
- Targeted contractual enhancements;
- the EasyPro framework supports the development of EPC projects that are:
- Technically robust;
- Financially viable;
- Contractually clear;
- Deliverable in practice.

As such, this deliverable contributes to the overarching objective of EasyPro: to enable the wider adoption of EPCs and support the transition to a low-carbon built environment, while maintaining the reliability and accountability that underpin the EPC model.

Appendix 1 – Low Carbon Energy Performance Contract Template

FLEXIBLE LOW CARBON ENERGY PERFORMANCE CONTRACT FOR IRISH UNIVERSITIES AND HIGHER EDUCATION INSTITUTIONS

(Guaranteed Savings / Shared Savings Structure)

This Low Carbon Energy Performance Contract ("Agreement") is made on:

Date: [Date]

BETWEEN:

(1) University [Name of university], a higher education institution established under the laws of Ireland with registered address at [University's address] ("University")

AND

(2) Energy Service Company (ESCO)

[Full legal name of ESCO], a company incorporated in [Ireland/jurisdiction] with registered office at [ESCO's address] ("ESCO")

The University and the ESCO are together referred to as the "Parties".

1. DEFINITIONS

In this Agreement, unless the context otherwise requires:

- **"Baseline Energy Consumption"** means the historical energy consumption of the Facilities calculated in accordance with Schedule 2.
- **"Carbon Reduction Measures"** means the works, technologies, operational measures and improvements identified in Schedule 4.
- **"Commencement Date"** means [include commencement date].
- **"Energy Savings Model"** means either:
    - the Guaranteed Savings Model; or
    - the Shared Savings Model.
- **"Energy Savings"** means the verified reduction in energy use compared to the Baseline Energy Consumption.
- **"Facilities"** means the buildings, campuses and associated infrastructure listed in Schedule 7.
- **"Guaranteed Savings"** means the minimum annual savings guaranteed by the ESCO under Clause 8A.

- **"Measurement & Verification (M&V)"** means the methodology described in Schedule 2 and aligned with the International Performance Measurement and Verification Protocol (IPMVP).
- **"Works Completion"** means the stage at which the installation, commissioning and testing of the Carbon Reduction Measures have been completed to the extent that the Facilities are capable of safe and beneficial operation in accordance with this Agreement, excluding minor defects or omissions that do not materially impair operation or performance.
- **"Performance Period"** means the period commencing on Carbon Reduction Measures Installation Completion and continuing for [number of years] years.
- **"SEAI"** means Sustainable Energy Authority of Ireland.
- **"Shared Savings"** means the proportion of verified Energy Savings allocated to each Party under Clause 8B.
- **"Applicable Law"** includes:
    - Irish procurement law;
    - climate and energy legislation;
    - building regulations;
    - public sector obligations relating to energy efficiency and decarbonisation.

2. PURPOSE

The purpose of this Agreement is to:

1. reduce operational carbon emissions;
2. improve energy efficiency;
3. modernise campus infrastructure;
4. support compliance with Irish and EU climate obligations;
5. deliver financial and energy savings;
6. facilitate long-term sustainability and decarbonisation objectives.

3. SCOPE OF SERVICES

The ESCO shall perform the services described in this Agreement and Schedules 3, 4, 5 and 8.

3.1 Energy Audit

The ESCO shall conduct a detailed audit of the Facilities including:

- thermal performance;
- HVAC systems;

- lighting;
- controls;
- renewable energy opportunities;
- electrical distribution;
- water and heat recovery systems.

3.2 Design and Engineering

The ESCO shall design low carbon interventions including [include only the interventions that apply]:

- heat pump systems;
- solar PV;
- battery storage;
- building management systems;
- LED lighting upgrades;
- insulation improvements;
- district heating integration;
- demand response technologies.

3.3 Installation

The ESCO shall supply, install, commission and test all measures identified in Schedule 1.

3.4 Operations Support

The ESCO shall provide:

- maintenance;
- optimisation;
- monitoring;
- training;
- reporting.

4. UNIVERSITY OBLIGATIONS

The University shall:

1. provide reasonable access to the Facilities;
2. provide historical utility and operational data;
3. cooperate with surveys, commissioning and testing;

4. maintain operational conditions substantially consistent with baseline assumptions;
5. nominate a contract manager and key operational contacts.

5. PROCUREMENT AND REGULATORY COMPLIANCE

The ESCO shall comply with:

- Irish public procurement requirements;
- EU procurement directives as implemented in Ireland;
- health and safety legislation;
- GDPR obligations;
- SEAI guidance where applicable;
- campus operational and security requirements.

The Parties acknowledge that this Agreement may have been procured under:

- a competitive dialogue procedure;
- a framework agreement;
- a negotiated procedure;
- another lawful public procurement mechanism [please specify it].

6. CARBON AND SUSTAINABILITY REQUIREMENTS

6.1 Carbon Reduction Targets

The ESCO shall use reasonable skill and care to achieve annual carbon reductions of not less than:

- [include target here] tCO_2e per annum; or
- [include target here] % reduction against baseline.

Where the Guaranteed Savings Model applies, such reductions may form part of the Guaranteed Savings.

6.2 Sustainability Standards

Works shall, where applicable, align with:

- Nearly Zero Energy Building (NZEB) principles;
- ISO 50001 energy management practices;
- circular economy principles;
- embodied carbon reduction objectives.

6.3 Renewable Electricity

Where feasible, electricity supplied under the project shall derive from renewable sources certified under Irish or EU guarantees of origin schemes.

7. PROGRAMME AND MILESTONES

Milestone	**Target Date**
Contract Award	[include date here]
Investment Grade Audit Completion	[include date here]
Financial Close	[include date here]
Construction Start	[include date here]
Works Completion	[include date here]
Start of Performance Period	[include date here]

8. ENERGY SAVINGS MODEL

8.1 Election of Energy Savings Model

The Parties shall select one of the following energy savings models in Schedule 1:

(a) the Guaranteed Savings Model under Clause 8A; or
(b) the Shared Savings Model under Clause 8B.

Only one model shall apply during the Performance Period unless otherwise agreed in writing through a formal variation.

The provisions of the non-selected model shall be deemed deleted and of no effect.

8A. GUARANTEED SAVINGS MODEL

(Applicable only where selected in Schedule 1)

8A.1 Savings Guarantee

The ESCO guarantees annual Energy Savings during the Performance Period of not less than:

- [include savings here] € per annum; and/or
- [include savings here] kWh per annum; and/or
- [include savings here] % reduction against Baseline Energy Consumption.

8A.2 Payment Structure

The University shall pay the ESCO:

1. implementation payments during construction;
2. fixed service payments during the Performance Period;
3. any agreed performance incentive payments.

8A.3 Payment Reductions

Payments may be reduced where:

- Guaranteed Savings are not achieved;
- service levels are missed;
- reporting obligations are breached.

8A.4 Shortfall Compensation

Where verified Energy Savings are below the Guaranteed Savings for any Contract Year, the ESCO shall compensate the University for the value of the shortfall within [30] days of verification.

8A.5 Excess Savings

Unless otherwise stated in Schedule 1:

- savings above the Guaranteed Savings shall accrue to the University; or
- excess savings shall be shared:
    - University: [include value here] %
    - ESCO: [include value here] %.

8A.6 ESCO Performance Risk

Under the Guaranteed Savings Model, the ESCO accepts primary performance risk relating to achievement of Guaranteed Savings, subject to:

- baseline adjustments;
- agreed operational assumptions;
- relief events;
- force majeure.

8B. SHARED SAVINGS MODEL

(Applicable only where selected in Schedule 1)

8B.1 Shared Savings Principle

Verified Energy Savings achieved during the Performance Period shall be shared between the Parties in the proportions specified in Schedule 1.

8B.2 Financing Responsibility

Unless otherwise specified in Schedule 13:

- the ESCO shall arrange or provide project financing;
- the University shall repay the ESCO through the agreed share of achieved savings.

8B.3 Allocation of Savings

Verified annual Energy Savings shall be allocated as follows:

- University share: [include value here] %
- ESCO share: [include value here] %.

8B.4 No Guaranteed Savings Obligation

Under the Shared Savings Model:

- the ESCO does not guarantee a minimum level of Energy Savings unless expressly stated in Schedule 1;
- ESCO compensation depends on actual verified savings achieved.

8B.5 Underperformance

Where Energy Savings are lower than forecast:

- payments to the ESCO shall reduce proportionately based on actual verified savings;
- the ESCO shall not be liable for shortfall compensation unless expressly stated otherwise in Schedule 1.

8B.6 Shared Performance Risk

Performance and financial risk relating to actual Energy Savings shall be shared between the Parties in accordance with this Agreement.

8C. OPTIONAL MODEL TRANSITION

The Parties may agree that:

1. the Agreement initially operates under the Shared Savings Model; and
2. transitions to the Guaranteed Savings Model upon:
    - refinancing;
    - stabilisation of operations;
    - completion of optimisation activities; or

- another trigger event specified in Schedule 1.

Any transition shall:

- be documented through a written variation;
- include revised payment mechanisms;
- include updated Measurement & Verification procedures if required.

9. MEASUREMENT AND VERIFICATION

Savings shall be measured in accordance with:

- IPMVP;
- Schedule 2;
- agreed metering and monitoring protocols.

The University shall have audit rights relating to all energy and performance data.

10. FINANCING

The project may be financed through:

- university capital expenditure;
- green loans;
- energy efficiency financing;
- climate investment funds;
- third-party financing structures.

Where third-party financing applies:

- the ESCO shall cooperate with lenders;
- step-in rights may be granted to financiers.

11. PAYMENT MECHANISM

Payments shall be made in accordance with the Energy Savings Model selected in Schedule 1.

The University shall pay:

1. implementation payments during construction;
2. service payments during the Performance Period;
3. performance-linked payments where applicable.

Payment calculations, reconciliation mechanisms and adjustment procedures are set out in Schedule 6.

12. DATA, METERING AND DIGITAL SYSTEMS

12.1 Data Ownership

The University retains ownership of operational and energy data.

12.2 Cybersecurity

The ESCO shall comply with:

- university cybersecurity requirements;
- applicable Irish and EU cybersecurity obligations.

12.3 Smart Systems

The ESCO may install:

- submeters;
- IoT devices;
- smart controls;
- cloud-based monitoring systems.

13. MAINTENANCE AND LIFECYCLE OBLIGATIONS

The ESCO shall:

- maintain installed equipment;
- replace failed components;
- maintain warranties;
- ensure lifecycle performance standards.

Response times and maintenance standards are set out in Schedule 5.

14. CHANGE IN LAW

If a change in law materially affects:

- project economics;
- carbon accounting;
- taxation;
- energy regulation;

- procurement obligations,

the Parties shall negotiate equitable adjustments.

15. FORCE MAJEURE

Neither Party shall be liable for failure to perform due to events beyond reasonable control including:

- natural disasters;
- war;
- terrorism;
- national energy emergencies;
- pandemics;
- utility outages.

16. INSURANCE

The ESCO shall maintain:

- public liability insurance;
- professional indemnity insurance;
- employer liability insurance;
- contractor all-risk insurance;
- cyber liability insurance.

Minimum coverage limits are specified in Schedule 16.

17. INTELLECTUAL PROPERTY

17.1 University Materials

The University retains ownership of all pre-existing materials and data.

17.2 ESCO Materials

The ESCO retains ownership of proprietary software and methodologies.

17.3 Licence

The ESCO grants the University a perpetual licence to use operational documentation necessary for operation and maintenance.

18. CONFIDENTIALITY

The Parties shall keep confidential:

- commercial information;
- technical information;
- pricing;
- research-sensitive infrastructure data.

Disclosure may occur where required by:

- law;
- court order;
- Freedom of Information obligations.

19. TERM AND TERMINATION

19.1 Term

This Agreement shall continue for:

- the implementation period; and
- the Performance Period.

19.2 Termination for Cause

Either Party may terminate for:

- material breach;
- insolvency;
- persistent underperformance;
- corruption or procurement violations.

19.3 Termination Assistance

Upon expiry or termination, the ESCO shall provide transition assistance for up to [6–12] months.

20. DISPUTE RESOLUTION

Disputes shall be resolved through:

1. good faith negotiation;
2. mediation;
3. arbitration or litigation in Ireland.

This Agreement shall be governed by the laws of Ireland.

The courts of Ireland shall have exclusive jurisdiction unless arbitration is agreed.

21. ANTI-CORRUPTION AND ETHICS

The ESCO warrants compliance with:

- anti-bribery legislation;
- university ethics policies;
- public procurement integrity obligations.

22. SOCIAL VALUE AND EDUCATIONAL COLLABORATION (OPTIONAL)

The Parties may collaborate on:

- student internships;
- research projects;
- living lab initiatives;
- decarbonisation innovation;
- sustainability reporting.

23. NOTICES

All notices shall be:

- in writing;
- delivered by hand, email or registered post;
- sent to the addresses set out below.

EXECUTION

Signed for and on behalf of the University

Name:_____
Title:_____
Date: _____

Signed for and on behalf of the ESCO

Name:_____
Title:_____
Date: _____

SCHEDULE 1 — ENERGY SAVINGS MODEL, ENERGY SAVINGS ALLOCATION & CARBON REDUCTION TARGETS

Part A — Selected Energy Savings Model

☐ Guaranteed Savings Model
☐ Shared Savings Model

Part B — Savings Allocation

- Guaranteed savings (if applicable)
- Shared savings percentages
- Excess savings allocation

Part C — Carbon Reduction Targets

- Annual carbon reduction targets, including tCO_2e reductions and percentage reductions against baseline emissions
- Scope 1, Scope 2 and, where applicable, Scope 3 emissions reporting requirements

SCHEDULE 2 — BASELINE & M&V PLAN

- Baseline definition
- IPMVP methodology
- EasyPro calculation approach
- Metering architecture
- Verification rules

SCHEDULE 3 — INVESTMENT GRADE AUDIT / TECHNICAL PROPOSAL

- ESCO technical assumptions
- Proposed measures
- Energy model
- Carbon model
- Cost assumptions

SCHEDULE 4 — WORKS PROGRAMME

- Project timeline
- Design refinement stage
- Construction phases
- Commissioning plan
- Gateways

SCHEDULE 5 — SERVICES & MAINTENANCE

- Maintenance obligations
- Response times
- Performance standards
- Lifecycle management

SCHEDULE 6 — CLIENT INFORMATION & COMMERCIAL PARTICULARS

- Baseline data
- Tariffs
- Selected savings model
- Payment structure and reconciliation mechanisms
- Assumptions

SCHEDULE 7 — PREMISES

- Asset boundary
- Included/excluded buildings
- Metering boundary

SCHEDULE 8 — DESIGN DOCUMENTS

- Design deliverables
- Approval workflow
- IFC documentation

SCHEDULE 9 — ROLES & RESPONSIBILITIES

- Authority duties
- ESCO duties
- Advisors
- Third parties

SCHEDULE 10 — PAY & CONDITIONS OF EMPLOYMENT

- Labour compliance
- Transfer of Undertakings (Protection of Employment), if applicable
- Public sector requirements

SCHEDULE 11 — CLIENT REQUIREMENTS

- Output specifications
- Operational constraints
- Decarbonisation requirements
- SEAI alignment

SCHEDULE 12 — RISK ALLOCATION MATRIX

- Technical risks
- Financial risks
- Operational risks
- External risks
- Energy price risk
- Change in law treatment

SCHEDULE 13 — FUNDING & PAYMENT STRUCTURE

- Capital cost
- Financing structure
- Inflation adjustment
- Energy price assumptions

- Funding sources
- Grants
- Payment flows
- Indexation

SCHEDULE 14 — CARBON REPORTING METHODOLOGY

- Emissions factors
- Reporting standards
- Verification
- Scope coverage

SCHEDULE 15 — DESIGN GATEWAY & DELIVERABLES

- Design stage outputs
- Approval gates
- Go/no-go criteria
- Governance process

SCHEDULE 16 — INSURANCE REQUIREMENTS

- Minimum policy limits
- Insurer requirements
- Evidence obligations
- Renewal procedures

OPTIONAL IRISH PUBLIC SECTOR CLAUSES

The University may additionally include:

- Climate Action Plan alignment obligations;
- SEAI monitoring requirements;
- Public Spending Code compliance;
- Freedom of Information provisions;
- Comptroller and Auditor General audit rights;

- Tax clearance requirements;
- Prompt payment obligations.

Appendix 2 – Low Carbon Energy Supply Contract Template

LOW CARBON ENERGY SUPPLY CONTRACT FOR IRISH UNIVERSITIES AND HIGHER EDUCATION INSTITUTIONS

This Low Carbon Energy Supply Contract ("Agreement") is made on:

Date: [Date]

BETWEEN:

(1) University [Name of university], a higher education institution established under the laws of Ireland with registered address at [University's address] ("University")

AND

(2) Energy Supplier

[Supplier Name], a company incorporated in [Ireland/jurisdiction] under company number [include company number here] whose registered office is at [include company's address here] ("**Supplier**").

The University and the Energy Supplier are together referred to as the "Parties".

1. RECITALS

A. The University seeks to procure low carbon energy supply solutions to support decarbonisation, sustainability and climate objectives.

B. The Supplier is engaged in the generation, supply, management and/or delivery of low carbon electricity, heat and associated energy services.

C. The Parties intend that this Contract shall:

- support the reduction of greenhouse gas emissions;
- increase renewable energy consumption;
- improve energy resilience;
- support compliance with Irish and EU climate obligations;
- contribute to sustainable campus operations.

2. DEFINITIONS

In this Contract:

"**Applicable Law**" means all Irish and EU laws, regulations, directives and codes applicable to the Contract.

"**Carbon Intensity**" means the quantity of greenhouse gas emissions associated with supplied energy expressed in gCO_2e/kWh.

"**Commencement Date**" means the date of this Contract.

"**Energy Supply Services**" means the supply of electricity, thermal energy, renewable gas and related services under this Contract.

"**Facilities**" means the campuses, buildings and infrastructure listed in Schedule 1.

"**Force Majeure Event**" has the meaning given in Clause 18.

"**Guaranteed Renewable Share**" means the minimum proportion of supplied energy derived from renewable sources.

"**Green Attributes**" means renewable energy certificates, guarantees of origin, carbon credits or similar environmental attributes associated with energy supply.

"**Metering System**" means the metering equipment and monitoring systems used to measure energy supply and consumption.

"**Renewable Energy**" means electricity or thermal energy generated from renewable sources including:

- wind;
- solar;
- hydro;
- geothermal;
- sustainable biomass;
- renewable hydrogen;
- renewable gas.

"**SEAI**" means Sustainable Energy Authority of Ireland.

"**Supply Point**" means each delivery point identified in Schedule 1.

"**Term**" means the duration specified in Clause 4.

3. CONTRACT DOCUMENTS

The following documents form part of this Contract:

1. This Contract;
2. Schedule 1 — Facilities and Supply Points;
3. Schedule 2 — Technical Specifications;
4. Schedule 3 — Pricing Mechanism;
5. Schedule 4 — Service Levels;
6. Schedule 5 — Metering and Reporting;
7. Schedule 6 — Sustainability and Carbon Requirements;

8. Schedule 7 — University Policies.

In the event of inconsistency, the above order of precedence shall apply.

4. TERM

4.1 Contract Term

This Contract shall commence on the Commencement Date and continue for:

- an Initial Term of [Number of years] years; and
- any extension periods agreed in writing.

4.2 Extension Option

The University may extend the Contract for up to [include number of additional years] additional years upon written notice.

5. SCOPE OF SUPPLY

The Supplier shall provide [include only the points that apply]:

- renewable electricity supply;
- low carbon heat supply;
- renewable gas supply (where applicable);
- balancing and grid services;
- metering services;
- energy monitoring services;
- carbon reporting services.

The supply includes [include only the points that apply]:

- on-site generation;
- private wire arrangements;
- power purchase agreements (PPAs);
- district heating supply;
- battery-supported supply systems.

6. RENEWABLE ENERGY REQUIREMENTS

6.1 Renewable Share

The Supplier guarantees that not less than [90–100] % of supplied electricity shall derive from Renewable Energy sources.

6.2 Guarantees of Origin

The Supplier shall provide valid renewable energy certificates or Guarantees of Origin evidencing renewable supply.

6.3 Carbon Intensity Threshold

The average annual Carbon Intensity of supplied electricity shall not exceed:

- [Include carbon intensity of supplied electricity] gCO_2e/kWh.

7. SUPPLY OBLIGATIONS

The Supplier shall:

1. deliver energy continuously and reliably;
2. comply with grid and network operator requirements;
3. maintain required licences and authorisations;
4. coordinate with network operators;
5. maintain system resilience measures;
6. minimise supply interruptions.

8. UNIVERSITY OBLIGATIONS

The University shall:

1. provide access to Facilities and metering systems;
2. cooperate with connection and maintenance activities;
3. provide accurate consumption information where required;
4. notify the Supplier of material operational changes affecting demand.

9. PRICING AND PAYMENT

9.1 Contract Price

The University shall pay:

- fixed energy charges;
- variable consumption charges;
- network and pass-through charges where applicable.

9.2 Pricing Structure

Pricing may include:

- fixed-price supply;
- indexed pricing;
- hybrid pricing structures;

- time-of-use tariffs;
- demand-response incentives.

Detailed pricing arrangements are set out in Schedule 3.

9.3 Invoicing

Invoices shall:

- be issued monthly;
- identify consumption by Supply Point;
- separately identify taxes and levies;
- include carbon reporting data.

Payment shall be made within [30] days of valid invoice receipt.

10. METERING AND DATA

10.1 Metering

The Supplier may install:

- smart meters;
- submeters;
- monitoring systems;
- data acquisition equipment.

10.2 Data Ownership

The University shall own all consumption and operational data generated under this Contract.

10.3 Access to Data

The Supplier shall provide:

- online dashboards;
- downloadable reports;
- carbon accounting data;
- interval consumption data.

11. SUSTAINABILITY AND CARBON REPORTING

The Supplier shall provide:

- annual carbon intensity reports;
- renewable energy verification;
- greenhouse gas reporting data;

- Scope 2 emissions reporting support.

Reports shall align where practicable with:

- the Greenhouse Gas Protocol;
- Irish public sector reporting requirements;
- SEAI reporting methodologies.

12. ON-SITE GENERATION (OPTIONAL)

Where applicable, the Supplier may:

- design;
- finance;
- install;
- own;
- operate

on-site renewable generation systems including:

- solar PV;
- wind generation;
- battery storage;
- heat pumps;
- thermal storage systems.

Ownership arrangements shall be specified in Schedule 2.

13. ENERGY RESILIENCE AND SECURITY

The Supplier shall:

- maintain continuity plans;
- support emergency response procedures;
- notify the University of supply risks;
- coordinate outage management.

Critical facilities may receive priority restoration arrangements where agreed.

14. MAINTENANCE AND ACCESS

The Supplier may access Facilities for:

- inspections;

- maintenance;
- repairs;
- meter replacement;
- system upgrades.

Except in emergencies, reasonable notice shall be provided.

15. COMPLIANCE WITH LAW

The Supplier shall comply with:

- Irish energy regulation;
- environmental legislation;
- health and safety requirements;
- cybersecurity obligations;
- public procurement obligations applicable to subcontractors.

16. CYBERSECURITY

The Supplier shall:

- implement appropriate cybersecurity controls;
- protect operational technology systems;
- comply with University cybersecurity policies;
- promptly notify the University of cyber incidents.

17. INSURANCE

The Supplier shall maintain:

- public liability insurance;
- employer liability insurance;
- professional indemnity insurance;
- cyber liability insurance.

Evidence of insurance shall be provided upon request.

18. FORCE MAJEURE

Neither Party shall be liable for failure to perform due to events beyond reasonable control including:

- extreme weather;

- transmission failures;
- grid outages;
- war;
- terrorism;
- pandemics;
- governmental restrictions.

The affected Party shall:

- notify the other Party promptly;
- mitigate impacts where reasonably practicable.

19. CHANGE IN LAW

If a change in law materially affects:

- pricing;
- taxation;
- carbon accounting;
- energy market regulation;
- renewable certification,

the Parties shall negotiate equitable adjustments.

20. CONFIDENTIALITY

The Parties shall keep confidential:

- pricing data;
- operational data;
- technical information;
- commercially sensitive information.

Disclosure may occur where required by:

- law;
- regulatory obligation;
- court order;
- Freedom of Information legislation.

21. INTELLECTUAL PROPERTY

Each Party retains ownership of its pre-existing intellectual property.

The University shall receive a licence to use all operational reports and sustainability reporting outputs generated under this Contract.

22. LIMITATION OF LIABILITY

Neither Party excludes liability for:

- fraud;
- wilful misconduct;
- death or personal injury caused by negligence.

Subject to the above, the Supplier's aggregate liability shall not exceed [100–150]% of annual Contract value except where otherwise expressly stated.

23. TERMINATION

23.1 Termination for Cause

Either Party may terminate this Contract for:

- material breach;
- insolvency;
- persistent supply failure;
- unlawful conduct.

23.2 Termination for Convenience

The University may terminate for convenience upon [90–180] days' written notice.

Termination compensation arrangements shall be set out in Schedule 3.

24. DISPUTE RESOLUTION

Disputes shall be resolved through:

1. negotiation;
2. mediation;
3. arbitration or litigation.

This Contract shall be governed by the laws of Ireland.

The courts of Ireland shall have exclusive jurisdiction unless arbitration is agreed.

25. PUBLIC PROCUREMENT COMPLIANCE

The Supplier acknowledges that the University is subject to:

- Irish public procurement law;
- EU procurement directives;
- public accountability requirements.

The Supplier shall:

- maintain audit records;
- cooperate with audits;
- comply with ethical procurement standards.

26. FREEDOM OF INFORMATION

The Supplier acknowledges that the University may be subject to:

- the Freedom of Information Act 2014;
- public disclosure obligations.

The University shall consult with the Supplier before disclosure of commercially sensitive material where reasonably practicable.

27. SOCIAL VALUE AND EDUCATIONAL COLLABORATION

Where agreed, the Supplier shall support:

- student engagement;
- sustainability education;
- research collaboration;
- internships;
- decarbonisation initiatives;
- campus innovation programmes.

28. NOTICES

All notices shall:

- be in writing;
- be delivered by hand, registered post or email;
- be sent to the addresses specified below.

EXECUTION

SIGNED for and on behalf of the UNIVERSITY:

Signature:_____
Name:_____
Title:_____
Date:_____

SIGNED for and on behalf of the SUPPLIER:

Signature:_____
Name:_____
Title:_____
Date: _____

SCHEDULE 1 — FACILITIES AND SUPPLY POINTS

Include:

- campus locations;
- meter identifiers;
- delivery points;
- estimated annual demand.

SCHEDULE 2 — TECHNICAL SPECIFICATIONS

Include:

- voltage requirements;
- supply quality standards;
- renewable generation assets;
- connection specifications;
- resilience requirements.

SCHEDULE 3 — PRICING MECHANISM

Include:

- tariff structure;
- indexation methodology;
- balancing costs;
- pass-through charges;
- termination compensation.

SCHEDULE 4 — SERVICE LEVELS

Include:

- outage response times;
- service desk requirements;
- reporting obligations;
- performance indicators.

SCHEDULE 5 — METERING AND REPORTING

Include:

- meter hierarchy;
- reporting intervals;
- dashboard requirements;
- data access procedures.

SCHEDULE 6 — SUSTAINABILITY REQUIREMENTS

Include:

- renewable energy thresholds;
- carbon intensity limits;
- reporting methodologies;
- emissions accounting requirements.

SCHEDULE 7 — UNIVERSITY POLICIES

Include:

- campus access procedures;
- cybersecurity standards;
- contractor requirements;
- sustainability policies;
- health and safety rules.