Pilot Case Factsheet — Rewarding Project Quality in National Renovation Support Programmes — Poland

Authors: Paweł Gilewski, Hanna Pilzak (KAPE)

September 2026

Background and objectives

The second Polish pilot case builds on the findings of the first ENEFIRST Plus pilot, which looked at small end users taking part in demand-response programmes. That pilot found that households rarely take part in demand-side flexibility. Technical readiness was not the main obstacle. The main barriers were low awareness, fragmented regulation and the modest financial gain available at typical Polish household consumption. The pilot concluded that the most solid foundation for future flexibility is an efficient building stock. **Demand reduction has to come first, and smart readiness can follow**.

Building on this, the second pilot moves to where that foundation is financed: **national support programmes for residential energy renovation**. Poland's residential stock is among the most energy-intensive in the EU, and most of its renovation is funded through a small number of large national programmes. How these programmes choose what to fund largely decides how well public money turns into energy savings. The flagship programme, "Clean Air" (Czyste Powietrze), run by the National Fund for Environmental Protection and Water Management (NFOŚiGW), was used as the pilot vehicle because of its nationwide scale. The approach itself was designed to be universal from the start.

Under the current logic of "Clean Air", an applicant who meets the formal criteria (eligible technology, scope of works and income group) is funded automatically. The programme does not distinguish a strong project from a weak one. Energy Efficiency First (EE1st) is not absent from the programme. Since 2024, a mandatory energy audit has closed the earlier gap that allowed heat sources to be replaced without insulation. The relevant question for the pilot is therefore not whether EE1st is formally present, but whether the allocation of support rewards the projects that deliver most of what the principle is meant to achieve. This question also has a second side. As technical standards have become more demanding, the programme may exclude households that cannot afford a compliant project. EE1st can end up working against the households it is meant to serve. This leads to the central question of the pilot: **can a project-quality layer, inserted between eligibility and disbursement, reward EE1st-consistent investments without excluding households that cannot finance them?**

Against this background, the pilot case aims to:

- **assess national support schemes** ("Clean Air" and the Thermomodernization and Renovation Fund, FTiR) against EE1st criteria and identify their systemic gaps;
- design a **quality-scoring layer** that complements existing eligibility rules without disrupting the programme model;
- use a **life-cycle cost-effectiveness metric** (**Final Unit Cost, FUC**) and an **affordability safeguard** against secondary energy poverty (**Net Energy Burden After, NEBA**);
- include **non-energy benefits** in a form that matches how well they can be measured; and
- **test** whether the methodology holds when transferred to a programme with a very different design.

ENEFIRST Plus has received funding from the European Union's LIFE programme under grant agreement No 101120880

Methodology

The pilot combines methodology design, stakeholder validation and quantitative testing on reference buildings. It does not propose new funding streams or change eligibility rules. It adds a quality dimension to the support that already exists, following the logic:

formal eligibility → project-quality scoring → operational recommendation

The first step was a **review of the "Clean Air" programme** and its decision logic. The review identified what the funding decision currently considers (CAPEX, technology eligibility and income group) and what it leaves out: life-cycle costs, the household's budget after the investment, system impact and non-energy benefits.

The second step was the **design of a scoring layer** with two tracks:

- **Track 1** is a continuous Total Score from 0 to 100, built from three weighted components:
  - **EE1st Score** (reduction in useful-energy demand plus FUC),
  - **Financial Accessibility** (NEBA),
  - **System Impact** (readiness attributes such as PV, heat-recovery ventilation and energy management or demand-side response). It is complemented by a small and capped recognition of non-energy benefits,
  - FUC expresses the lifetime cost of each unit of useful energy saved, relative to a counterfactual, over 15 years. NEBA expresses the share of household income taken up by energy costs and loan instalments after the investment.
- **Track 2** is a set of binary **warning flags**: an audit-quality gate, an energy-poverty flag and a financial-feasibility flag. The score drives a reward. The flags signal specific risks without disqualifying applications. All inputs come from data that the programme already collects, namely the mandatory energy audit and the energy performance certificate (EPC).

The third step was a **validation through three in-depth expert interviews**, held in June 2026 in a deliberate order. The first two covered the perspectives of a financing institution (mLeasing, mBank group) and a consumer-protection body (Federation of Consumers). The programme operator (NFOŚiGW) was interviewed last so it could respond to both earlier perspectives. In each interview the methodology was presented element by element, so every design decision can be traced to specific comments and every disagreement to named perspectives.

The fourth step was **quantitative validation on a reference single-family building**: a 300 m² house from the 1970s–80s with a useful-energy demand of 200 kWh/m² per year. It was tested across three investment archetypes:

- source-first (heat-source replacement only),
- EE1st-compliant (deep thermal renovation), and
- system-ready (deep renovation plus PV, heat-recovery ventilation and EMS/DSR).

The final step was a **counter-case on the Thermomodernization and Renovation Fund (FTiR)**, delivered by BGK. FTiR is the opposite of "Clean Air" on every dimension that matters for scoring. It has a collective borrower (a housing community), no income test, a commercial bank as first gatekeeper, and support that arrives only after completion as a premium repaying part of the loan. The methodology was applied to a 30-dwelling large-panel block from the mid-1970s across four variants. One of them was a payback-optimised package built specifically to clear the programme's minimum-savings threshold at the lowest cost.

Main results

The table below summarises the main results: the steps of the analysis, the main findings and what they mean for EE1st integration.

Analytical step	What the analysis found	Implication for EE1st
Programme review: "Clean Air"	Once formal criteria are met, funding is automatic, with no difference between strong and weak projects. Decisions rest on CAPEX and income. Life-cycle costs and the household's budget after the investment are not assessed. The historic source-first weakness has largely been fixed by the 2024 mandatory audit, but a new risk has emerged: standards may now sometimes be too demanding, thereby excluding households that cannot finance a compliant project.	**The programme's binding constraint has shifted** from weak projects being funded to households being excluded. A quality layer that works as a filter would make this worse, so EE1st has to be put into practice as a **reward and a warning, not a filter**.
Scoring layer design	Track 1 (Total Score): 40% EE1st Score + 35% Financial Accessibility + 25% System Impact, plus a capped non-energy-benefit recognition. Track 2: the score differentiates financing terms. The warning flags (audit-quality gate, energy-poverty risk, financial-feasibility risk) work independently of the score. The layer is an internal decision-support tool. It does not replace the income-based support matrix.	EE1st becomes a **measurable quality dimension of the funding decision** without adding administrative burden. Demand-side measures are always assessed and scored before or alongside heat-source replacement. The choice of scope stays with the household.
Core indicators: FUC and NEBA	Scoring FUC proportionally would penalise projects that add cost-effective depth, so it is scored against a benchmark instead. NEBA, tested under current tariffs, an ETS2 carbon price and an electricity price uplift, showed that affordability cannot be judged under today's prices alone: the carbon-pricing scenario exposes envelope-only renovations that keep a fossil-fuel heat source. A 10% threshold was set to trigger the energy-poverty flag.	Life-cycle cost-effectiveness and affordability are assessed together. This configuration is currently allowed by the programme.
Stakeholder validation	The three perspectives disagreed on one point, the **weight of non-energy benefits** (financing institution: lower it; operator: remove it; consumer body: keep it). Non-energy benefits were taken out of the weighted score and kept as fixed categories by project type. The consumer body's dissent is documented. The freed weight went to NEBA (+10) and System	Validation turned a technical proposal into one the operator can implement. **Audit quality became a hard gate before scoring**, and the EPC was adopted for ex-post verification.

Analytical step	What the analysis found	Implication for EE1st
	Impact (+5). The financing institution and the operator independently agreed on **using the score as a reward rather than a filter**.	
Validation on the reference building ("Clean Air")	**Source-first**: ~20 points (fails the energy-reduction gate). **EE1st-compliant renovation**: ~72 (strong band, reward). **System-ready**: ~82 (top of the strong band) but with a financial-feasibility flag. The gap between the last two comes entirely from System Impact, while Financial Accessibility falls by 28 sub-score points because of about PLN 40,000 (~ EUR 9090) of extra CAPEX.	The score separates weak from strong projects across the full range of eligible ones, but also reveals an **"above-80-points trap"**: the variant with the highest score is the one that the affordability indicator ranks lowest. More technology does not mean better EE1st, so readiness points must pass a cost test and the **financial-feasibility flag** must be raised at any score.
FTiR counter-case: support rule vs. score	The effective support rate is **inversely related to energy performance**. The renewable heat-source swap (10% savings, worst FUC) gets ~81% support, because it is exempt from the minimum-savings condition and can combine RES premiums and grants. The methodology scores it lowest (~33). The deep EE1st renovation gets only the base 26% premium, its median NEBA reaches 13.7% and it raises an energy-poverty flag. The system-ready variant (49% support) is the only one to reach the strong band (~75).	The source-first pattern that "Clean Air" closed in 2024 **returns in FTiR through the support formula** rather than the eligibility rules. The methodology finds divergences that the programme's own rules miss. In this segment, the obstacle to EE1st-compliant renovation is **affordability, not project quality**.
FTiR counter-case: what changes in the methodology	Debt is paid through a renovation-fund charge levied equally per m², but incomes vary, so one burden ratio hides a distribution. Paying for deep renovation would raise the charge from PLN 3.00 (~EUR 0.68) to PLN 10–11 (~EUR 2.27-2.5)/m² per month. Because the commercial bank is already the lender, the reward can be delivered through the lending margin.	The one real extension to the methodology: in multi-family buildings **NEBA must be reported as a distribution**, with the energy-poverty flag based on the share of dwellings above the threshold, not on the median. Universality was tested, not just claimed.

Taken together, the analysis shows that **EE1st can be built into the allocation of support in an existing national programme without disrupting how it works**. The mandatory audit and the EPC already provide the data needed to assess useful-energy reduction, life-cycle cost-effectiveness and household affordability. What was missing was a way to turn this information into differentiated support. The scoring layer provides it and keeps project quality separate from entitlement: the score can improve the terms of support, but it can never reduce the baseline support a household is entitled to.

The counter-case shows that the biggest opportunity lies in **how support formulas and quality assessment interact**. When the support rule responds to installed technologies rather than to the depth of renovation achieved, it can reward the weakest project most. When support is flat, it can make the EE1st-compliant option unaffordable. In both cases, the quality layer reveals the problem but cannot solve it by itself.

Where/how implementing EE1st makes a difference

The pilot shows that implementing EE1st in renovation support is not mainly about tightening eligibility rules. In Poland, the 2024 mandatory audit has already dealt with the most obvious source-first weakness. A key lesson is therefore that **formal compliance is necessary but not sufficient**. A programme can be fully consistent with EE1st in its eligibility rules and still fund a strong project and a weak one on the same terms. It can also, through its support formula, give the most money to projects that save the least energy.

A second lesson is that **EE1st must not become a barrier**. The pilot found that the programme's binding constraint has shifted: the problem is no longer that weak projects are funded, but that demanding standards may exclude households that cannot finance a compliant project. This is why the methodology is built as a reward-and-warning instrument rather than a filter. A project that meets the formal criteria keeps its entitlement. What a low score withholds is the reward, not the support. This framing is not a concession to political feasibility. It follows directly from what the analysis found.

A third lesson is that **affordability is a condition for EE1st, not a competing goal**. In the multi-family counter-case, the deep renovation that EE1st calls for got the full EE1st Score but failed on affordability, because a flat premium left the community with a residual loan it could not carry. The recommendations for FTiR follow from this. The renewable-source exemption from the minimum-savings condition should require prior or simultaneous envelope work. Support should be graduated by depth rather than by technology, by making permanent an instrument like the current thermomodernization grant, which is tied to the temporary KPO (Recovery and Resilience Plan) period. Where a deep renovation would burden too many dwellings, support should be varied within the community rather than withheld from the project.

The pilot also shows that effective implementation depends on more than the design of the methodology. **Governance matters.** The main remaining challenges are systemic constraints, not flaws in the methodology. The energy-auditor profession is unregulated, and regional funds have no tools to verify or reject poor audits. The grey economy distorts income-based assessment in both directions. When a grant is combined with a loan, the public operator takes up all available collateral, leaving nothing for a commercial bank, and BGK guarantees cannot improve the terms under KNF (Polish Financial Supervision Authority) rules. These constraints require inter-ministerial action beyond the operator's powers. The methodology can flag the risks they create, but it cannot resolve them. Knowing clearly what a scoring instrument can and cannot do is one of the pilot's main conclusions.

More broadly, the findings show that EE1st in support programmes should be treated as an **instrument that is recalibrated regularly, not a formula fixed once**. Prosumer rules, energy prices, carbon pricing and consumer behaviour all change faster than programme consultation cycles. The weights, benchmarks and thresholds of the scoring layer are therefore explicit calibration parameters. They are to be fitted to each programme and segment, tested on a sample of past applications, and revised as conditions change.

Stakeholder's experience: three perspectives on one methodology

The three in-depth interviews held in June 2026 tested the methodology from the side of the lender, the household and the programme operator:

- The **financing perspective** (mLeasing, mBank group) pointed to a barrier that lies outside project quality: when a grant is combined with a loan, the public operator takes up all available collateral, leaving nothing for a commercial bank, and BGK guarantees cannot improve the terms under KNF rules.
- The **consumer perspective** (Federation of Consumers) focused on households for whom a formally correct renovation can end in higher bills or a loan they cannot carry, and argued for keeping non-energy benefits visible in the assessment.
- The **operator** (NFOŚiGW), interviewed last, assessed what can work within existing procedures and identified the weakest link in the chain: an unregulated energy-auditor profession and regional funds with no tools to reject poor audits.

The stakeholders disagreed on one point, the weight of non-energy benefits, and this dissent is documented. On the main design choice, however, the financing institution and the operator reached the same conclusion independently: a quality score is acceptable only as a reward, never as a filter that reduces a household's entitlement. They also agreed that the score is only as reliable as the audit behind it, which is why audit quality became a hard gate before scoring. The remaining barriers, from audit quality to the grey economy and collateral rules, require inter-ministerial action that goes beyond what the operator, or any scoring instrument, can do alone.

About Enefirst Plus

Enefirst Plus is a 3-year project (November 2023 – October 2026) co-funded by the EU LIFE programme. Building on the previous Horizon 2020 Enefirst project, the aim of Enefirst Plus is to provide key stakeholders in all Member States with the technical support needed to effectively implement Energy Efficiency First across various sectors, particularly focusing on key decision-making processes.

Energy Efficiency First (EE1st) is an overarching principle for planning, policies and major investments having an impact on energy consumption. EE1st is about considering **energy efficiency and demand-response as energy resources** in the energy system, just as supply-side resources (e.g. generation capacities, network infrastructures). Implementing EE1st means that in planning exercises, policy design or decision-making about investments, the options considered include energy efficiency and demand-response, and that these options are compared with supply-side options on a **fair basis**, considering **multiple impacts and a long-term perspective**.

Implementing EE1st is easier said than done. Therefore, the general approach of Enefirst Plus is to complement existing resources to **plug EE1st in the decision making** for investments in energy infrastructure, energy planning, and designing incentives and policies.

Enefirst Plus is testing this approach in four countries (Croatia, Italy, Greece and Poland) and scrutinise the implementation of EE1st with **pilot cases** in each country. Two cycles, with four pilot cases each, will provide a diversity of **real-life examples** addressing typical situations where EE1st should be implemented. The new resources and pilot cases produced by the project, as well as experiences from other countries, serve as foundational elements for capacity building and experience sharing activities, and for the development of a community of practice.

Enefirst Plus' partners

IEECP INSTITUTE FOR EUROPEAN ENERGY AND CLIMATE POLICY

RAP REGULATORY ASSISTANCE PROJECT

Fraunhofer ISI

ΚΑΠΕ CRES

EIHP ENERGY INSTITUTE HRVOJE POŽAR

KAPE

ENEA Italian National Agency for New Technologies, Energy and Sustainable Economic Development

THE MEDIA NETWORK FOR EUROPE EURACTIV

Stay in touch!

Enefirst Plus' website: **https://ieecp.org/projects/enefirst-2/**

Continue the discussions on social media with **#EnefirstPlus**