



# European Construction Sector Observatory

Policy fact sheet

Lithuania

Multi-Apartment Renovation Programme

Thematic Objective 1

November 2019



# In a nutshell

Implementing body	Ministry of Environment Administrative body - Housing Energy Saving Agency (established in 2013) <sup>1</sup>
Key features & objectives	To renovate multi-apartment buildings built before 1993 in order to increase energy efficiency.
Implementation date	2004 -2020
Targeted beneficiaries	Owners of multi-apartment buildings
Targeted sub-sectors	Residential
Budget (EUR)	2005-2010: 40 million (state funding); 2010-2020: 160 million (state funding); 2010-2014: <ul style="list-style-type: none"> <li>• 173.4 million (EU funds – JESSICA I);</li> <li>• 80 million (private funds);</li> </ul> 2015-2020: <ul style="list-style-type: none"> <li>• 249 million (EU funds – JESSICA II);</li> <li>• 260 million (private funds);</li> </ul> Bridge arrangement between JESSICA I & II: <ul style="list-style-type: none"> <li>• 74 million (EU funds);</li> <li>• 218 million (private funds)<sup>2</sup>.</li> </ul>
Good practice	★ ★ ★ ☆ ☆
Transferability	★ ★ ★ ☆ ☆

Compared to its Nordic neighbours, Lithuania is a relatively high energy consumer (225 kWh/m<sup>2</sup>)<sup>3</sup> with a residential building sector that has considerable energy saving potential<sup>4</sup>. Although the residential sector accounts for 33% of the country's total energy consumption, it has the largest energy saving potential – opportunity to contribute about 48% of total energy savings<sup>5</sup>.

Table 1 provides some background figures on the construction of multi-apartment buildings in Lithuania, in which most citizens reside. There are

more than 37,267 multi-apartment buildings in Lithuania that contain three or more apartments<sup>6</sup> and approximately 35,000 buildings were constructed according to pre-1993 technical standards. 66% of the Lithuanian population resides in multi-apartment buildings that were built before 1993<sup>7</sup>.

Table 1: Multi-apartment buildings by construction year

Year of construction	Number of buildings	Square metres	%
Until 1940	10,362	3,790,024	7.4
1940-1960	3,740	2,259,107	4.4
1961-1992	21,090	39,244,450	76.4
1993 and later	2,075	4,092,634	11.8
<b>Total</b>	<b>37,267</b>	<b>51,386,305</b>	<b>100</b>

Source: Lithuanian Government, 2004<sup>8</sup>

Although 97% of these multi-apartment buildings are privately owned<sup>9</sup>, most of the buildings are in poor condition, due to lack of effective management and maintenance<sup>10</sup>. Multi-apartment buildings built prior to 1993 were typically built to a low standard and have not been properly maintained or modernised. The common features of these buildings include: inefficient heating systems and engineering equipment; poor quality windows, roofs and seals between panels; and huge energy losses<sup>11</sup>. On average, multi-apartment buildings consume about 9.5 TWh of energy per year, whereas renovated buildings can save up to 4.75 TWh per year<sup>12</sup>.

The Lithuanian Housing Situation Survey showed that:

- 60% of households in non-renovated multi-apartment buildings are dissatisfied with the energy efficiency of their homes;
- apartment owners strongly believe that the condition of their buildings needs to be improved<sup>13</sup>.

In addition to increasing energy efficiency and thermal comfort, the renovation of multi-apartment buildings can also potentially improve

the appearance of buildings and their surroundings and raise real-estate values<sup>14</sup>.

Improving the energy efficiency of multi-apartment buildings built during the Soviet era has been a government priority for over a decade<sup>15</sup>. As part of the Lithuanian Housing Strategy, the Multi-Apartment Building Renovation Programme is a government initiative that has been running since 2005<sup>16</sup>. Unfortunately, the programme did not manage to generate sufficient demand until 2015 – that year saw the introduction of a new management model and the JESSICA II funding mechanism.

**By 2020, the programme is on track to achieve over 75% of its original targets, in terms of renovation projects delivered. A significant number of projects are still ongoing and are due for completion in 2021. Once completed, the programme will have achieved a 19% surplus in renovation project delivery, albeit a year later than planned. One can say therefore that the measure has been successful; however, there is plenty of room for improvement.**

Considering the total number of multi-apartment buildings that are still in need of renovation, there are areas of the current programme implementation that could be reconsidered and improved upon. For example, better technical supervision is needed to assess renovation quality, better and more reliable data is needed on energy use/consumption to enable effective energy audits, and more diverse financial support instruments are required to encourage more homeowners to undertake renovation work.

## 1.

## General description

The Multi-Apartment Renovation Programme has two main implementation objectives:

1. To secure the funding and implementation of projects for the renovation (modernisation) of multi-apartment buildings, i.e.: to provide preferential loans and other statutory state aid to the owners of apartments and other premises and encourage them to take the initiative to implement energy-saving measures;
2. To develop public information, education and training on matters relating to improving the energy performance of buildings, their renovation (modernisation) and energy saving<sup>17</sup>.

To achieve these objectives, the programme has set the following quantifiable targets by 2020:

- Objective 1:** • Renovate at least 4,000 multi-apartment buildings;
- Objective 2:** • Improve resident awareness of the programme by 90%;
- Increase the number of people intending to participate in the programme by 60%<sup>18</sup>;
- Reduce total energy consumption by 1,000 GWh per year by 2020<sup>19</sup>.

All buildings built before 1993 are eligible for funding. The types of renovation measures that are eligible for funding include: wall and roof insulation; replacement of windows and entrance doors; modernisation of heating systems; renewal of ventilation systems or installation of recuperation systems; installation of alternative energy systems (solar, geothermal); glazing of balconies; and the renewal of other systems such as lifts, electrical systems, and hot/cold water pipes<sup>20</sup>.

On the renovation process itself, the average duration of a project is 24 months. Before joining the programme, an energy certificate needs to be issued, which must include data on energy

consumption over the previous 3 years<sup>21</sup>. In 99% of buildings, complex energy efficiency measures are required, such as insulation of walls, roofs, windows replacement, and modernisation of heating systems<sup>22</sup>.

Although the monitoring of programme implementation has been carried out by the Ministry of Environment, municipalities are expected to play an important role in achieving the main objectives of the programme. Municipalities are expected to develop, approve and supervise the implementation of municipal programmes in accordance with the programme objectives and tasks, coordinate the process of apartment building renovation in the municipal territory, linking it with municipal territory planning, renovation and management<sup>23</sup>.

In terms of its funding mechanism, the programme has been modified several times. At the beginning, the programme offered a combination of commercial loans with up to 50% in state grants. However, due to government budgetary constraints in the years after the financial crisis, the level of government subsidy available was reduced to 15%<sup>24</sup>. Furthermore, commercial banks were not very keen to risk issuing their own renovation loans<sup>25</sup>.

From 2010 onwards, the JESSICA I financial instrument was introduced<sup>26</sup> and apartment owners were offered a fixed 3% interest rate on loans. In addition, the loan period was tentatively set to between 10 and 20 years<sup>27</sup>.

In May 2015, Jessica II was established as the follow-up fund to JESSICA I from the European Structural and Investment Funds<sup>28</sup>. One important priority for Jessica II was to maximise the leverage of its assets through private finance in order to minimise state funding. Unlike its predecessor, JESSICA II attracted more funding from commercial banks to support the programme<sup>29</sup>. For example,

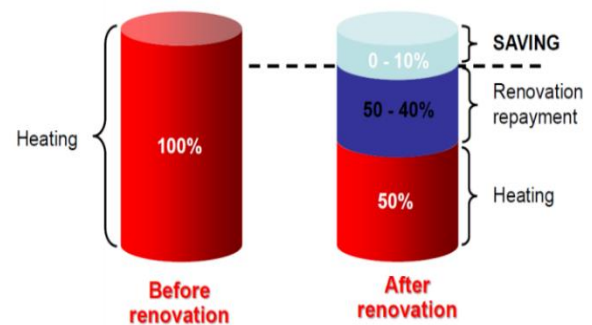
Šiaulių bankas contributed EUR 30 million to the programme in 2015<sup>30</sup>.

In practice, apartment owners are offered 100% grant for the preparation of technical and financial documentation for renovation projects. However, the loan rebate level varies based on the [EU] energy efficiency label achieved by a renovation project. Up to 2015, a 45% loan rebate was offered for efficiency savings of at least 20% for energy efficiency label D.

The loan rebate percentage has subsequently changed in 2015 and 2018, in line with the financial conditions of JESSICA II. Between 2015 and 2018, a 40% loan rebate was available for efficiency savings of at least 15% for energy efficiency label C. Since 2018 however, a 35% loan rebate is being offered for efficiency savings of at least 15% for energy efficiency label B<sup>31</sup>.

All financial plans for renovation projects are designed so that loan repayments cannot exceed 40-50% of heating costs before renovation<sup>32</sup>, as depicted in Figure 1.

Figure 1: Design of the Financial Plans for Renovation Projects



Source: Skema & Dzenajaviciene, 2017<sup>33</sup>

All services related to the renovation of multi-apartment buildings must be registered via the electronic catalogue of the Public Procurement Office from 2016 in order to ensure a more transparent procurement process<sup>34</sup>.

## 2.

## Achieved or expected results

To date, the programme has supported the completion of 3,158 multi-apartment building renovation projects. A further 1,609 projects are currently ongoing and are expected to be completed by 2021.

The programme's original target had been to deliver at least 4,000 renovation projects by 2020. With a year to go to that target deadline, the figure achieved so far is just above 75% of the original target. However, when one adds together the number of completed and ongoing projects (albeit that 1,609 will be delivered a year later than expected), the final number of renovation projects supported by the programme amounts to 4,767. This means that the programme will have achieved a 19% surplus in renovation project delivery.

In terms of overall energy consumption, the programme has so far achieved savings of 700.76 GWh, with total calculated savings of 2.3 TWh, which is below the original target of 1000 GWh per year by 2020.

There are several reasons why the original targets will not be met on time. The main cause is that the targets set in 2004 were too ambitious given the limited capacity of the state to subsidise renovation projects. Although the first renovation projects under the programme began in 2005, due to insufficient funding, renovation activities were very limited in practice. Between 2005 and 2010, only 375 multi-apartment buildings were renovated<sup>35</sup>.

As shown in Table 2, most renovation activities across Lithuania only began to increase from 2010 onwards with the introduction of the JESSICA funding mechanism<sup>36</sup>. For example, in the municipality of Kaunas, the second largest municipality in Lithuania, the first projects only began when the municipality received financial support from European Union funds<sup>37</sup>.

Table 2: Number of renovated buildings, 2004-2019

Year	Number of renovated buildings
2005-2011	822
2012	31
2013	41
2014	123
2015	574
2016	769
2017	403
2018	224
2019	171
<b>Total</b>	<b>3,158</b>

Source: Ministry of Environment, 2019<sup>38</sup>

Although the introduction of JESSICA funding did eventually lead to an increased take-up rate, during the JESSICA I (2010-2015) period, take up remained rather limited across Lithuania (see Table 2)<sup>39</sup>. One explanation for the limited take up is that multi-apartment building owners may have been poorly organised. As almost all apartments in multi-apartment buildings were privatised during the 1990s, to reach a common decision on renovation became more difficult and the authorities have a limited influence over the decision-making process. A majority vote is needed to initiate the renovation process. Another explanation is that many families in multi-apartment buildings were eligible for compensation/rebates on their heating bills and therefore had little incentive to join the programme<sup>40</sup>.

**The main turning point for the programme was the introduction of a new programme management model in 2013.**

Before 2013, although the programme required municipalities to play an active role in renovation projects, homeowners were ultimately responsible

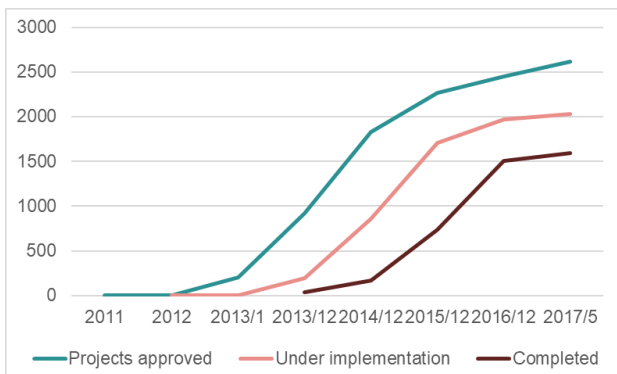
for the entire decision-making process, from the preparation of required documentation to project implementation.

**Under the new model, municipalities are responsible for preparing all renovation projects and for appointing programme administrators to implement and manage those projects, the procurement and loan administration process<sup>41</sup>.**

Moreover, the Housing Energy Efficiency Agency was established in 2013 to provide consulting services and assistance to homeowners on matters related to the renovation of multi-apartment buildings. The agency also evaluates and approves submitted investment plans and procurement documents, cooperates with municipal authorities, engineering consultancy companies, educational institutions, non-governmental organisations<sup>42</sup>.

With the introduction in 2015 of both a new management model and the support of JESSICA II funding, the programme’s take up rate increased significantly year on year, as shown in Figure 2.

Figure 2: Programme progress 2013-2017



Source: Skema & Dzenajaviciene (2017)<sup>43</sup>

Although this progress can be linked to the new role of municipalities in the renovation process, whereby they now take a more active role in programme and project implementation, the awareness raising activities carried out by the Housing Energy Efficiency Agency have also contributed to the total take up rate.

The Housing Energy Efficiency Agency has organised 1,280 seminars and training sessions for apartment owners and house managers<sup>44</sup>. They have also run nationwide publicity campaigns, making use of different media channels, such as TV, radio, national and local press, and the Internet. The campaigns aimed to encourage municipalities to take a more active role in the promotion of the multi-apartment building renovation programme by reporting on the advantages and process of the implementation results of the programme<sup>45</sup>.

The results of public opinion polls carried out in 2017 showed that 62% of flat owners in multi-apartment buildings were in favour of renovation activities<sup>46</sup>, and 88% of respondents learned about the programme after reading about it in the press. Furthermore, the number of apartment owners who wants to participate in the programme is most likely to increase to 60% by 2023<sup>47</sup>.

## 3.

## Perspectives and lessons learned

The renovation of multi-apartment buildings is a huge financial and organisational task. Although most multi-apartment buildings are privately owned, it is public authorities, and specifically municipalities, that are the key actors in providing assistance and for facilitating renovation activities on behalf of homeowners in multi-apartment buildings. Better coordination and closer cooperation between the main renovation stakeholders would help to improve the renovation process.

From a construction sector perspective, the renovation activities are essential to keep the construction sector among the most growing sectors of the country's economy. According to the director of the Housing Energy Efficiency Agency, "the rapidly increasing volume of renovation today allows us to talk not only about the quality of life of a significant part of the country, but also about the potential impact of the renovation on the country's economic processes - growth in the construction sector, job creation, and real estate market changes"<sup>48</sup>.

From a homeowner's perspective, a survey conducted by the research institute 'Spinter tyrimai' confirmed that the majority of apartment owners in renovated multi-apartment buildings considers the quality of their homes to be "very good" or "good" and was satisfied with the lower heating costs and the increased levels of comfort that they have achieved<sup>49</sup>.

However, the multi-apartment building renovation programme has many grey areas that require improvements.

**Quality standards are required for renovation work and technical supervision is needed to provide assurance of quality.**

According to an Associate Professor at Vilnius Gediminas Technical University, there is a need to

establish a clear system for assessing the quality of the insulation in renovated multi-apartment buildings as the insulation works are carried out without defined indicators for quality assessment during the renovation<sup>50</sup>.

**Energy audits need measured data on energy consumption, not only for the 3 years prior to renovation, but also for 3 years after renovation.**

This is important because energy audits need reliable data. In addition, measurements of microclimate indicators (temperature, moisture content and CO<sub>2</sub> concentration) were not defined before and after renovation for defining living standards inside renovated buildings<sup>51</sup>.

**More transparency is needed on how finance is allocated to the central government and municipalities.**

In 2012, for example, the funds from JESSICA I were used to buy military helicopters. Greater transparency would help to give stakeholders more confidence in the use of public funds<sup>52</sup>.

**Despite increasing public support for the Multi-Apartment Building Renovation Programme, many Lithuanian residents lack the financial capacity to participate in the programme.**

According to the EU survey on Income and Living Conditions in 2015, 31.1% of Lithuanian residents stated that they cannot afford to keep their house adequately heated and 17% reported that they live in housing affected by dampness, draughts and leaks<sup>53</sup>. In recent years, the public authorities began to offer 100% renovation subsidies for low-income homeowners in multi-apartment buildings. However, there is evidence to suggest that low-income homeowners may lose income support payments from the state if they are recorded as having voted against a renovation project<sup>54</sup>.



## 4.

## Conclusion and recommendations

**Overall, despite the slow start to the programme, it is on track to meet its objectives, albeit by 2021 rather than 2020. In fact, it should even surpass its original objectives by 19%, with 767 extra renovation projects supported than planned.**

The introduction of the new management model and the JESSICA II funding mechanism have improved the implementation of the programme. As a result, municipalities have begun to play a more active role in the programme and more apartment owners are now participating in the programme.

Looking forward, several recommendations are suggested:

- Continue to work closely with municipalities to improve the project identification, selection implementation and evaluation process, and to coordinate the renovation project administrators. Explore ways to use municipal borrowing capacity to bundle apartments and seek simplified contracting methods<sup>55</sup>;
- Provide support for multi-apartment owners in their collective decision-making to help them reach a consensus on investment and implementation decisions. Simple majorities should be enough to make decisions on Housing Owners Association (HOA) borrowing and contracting<sup>56</sup>;
- Establish a strong central competence centre to advise and guide homeowners and HOAs through the renovation process. This type of support measure would not only help to facilitate the process for beneficiaries, it would also probably attract greater participation<sup>57</sup>;
- Ensure that renovation projects are executed to a good standard of quality (e.g. effective use of technical standards, work supervision and quality assessments), and that sufficient and reliable data is made available so that energy audits can be carried out to assess the need for, and impact of, renovation work. Audits should

assess the quality of the building envelope, heating and ventilating systems, as well as microclimate parameters;

- To develop alternative public-private financial support programmes for multi-apartment building renovations, which could include the upgrade of entire neighbourhoods and infrastructure, together with the renovation of multi-apartment buildings into future energy efficiency improvement programmes.

Overall, the Renovation of Multi-Apartment Buildings 2004-2020 programme is a 3-star 'good practice' measure, using a scale of 1 (low) and 5 (high) stars. This score is based on several factors. On the one hand, the measure is broadly in line to meet its objectives, albeit not quite within the original timeframe. On the other hand, however, there are several issues that have acted as barriers to the programme.

The measure also receives a 3-star ranking for 'transferability', using a scale of 1 (low) and 5 (high) stars. The measure would probably be best suited to countries or regions that have residential housing sectors in a similar situation to the case of Lithuania – old building stock constructed in the Soviet era that has not been properly maintained and is highly energy inefficient. The current application of the programme is very dependent on EU funding, so would likely apply most readily to those countries that have recently acceded to the EU or that are in the process of accession. Ultimately however, the sustainability of this type of measure depends on the support of diverse funding sources (public and private).

# Endnotes

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