

Information booklet sustainable renovation Buitendok

May 2022, for the General Assembly of June 2

FROM: Board of the owners association and the sustainability committee

CONTENTS

Dear neighbours, 3

Why an 'insulation package'? 4

THIS CAME OUT OF THE RESEARCH 4

WHAT WILL IT COST? 5

WHY IS IT SO EXPENSIVE?..... 5

WHAT IF WE JUST DO NOTHING? 6

the HOA costs per package 6

MONTHLY COSTS PER TYPE apartment 7

Decision making process 7

ENERGY SAVING 7

 Our consumption 7

IF INFLATION REMAINS HIGH 8

MORE DIFFERENCES 9

3. Solar Panels 9

HOW DOES IT WORK? 9

WHAT CAN BE INSTALLED ON OUR ROOF? 10

 Available space 10

 And is the roof suitable? 10

THREE FREQUENTLY ASKED QUESTIONS 10

COSTS FOR THE HOA 10

HOA decision 10

LOAN: NO 'PERSONAL' LOAN..... 11

INTEREST DEDUCTIBLE 11

MONTHLY COSTS TOO HIGH 11

PREPARING IN JUNE 12

THE TWO DECISION PROPOSALS 12

APPENDIX 1: Technical condition of the outer dock / possibilities for improvement 13

 Target value = Very Energy Efficient 13

APPENDIX 2: Justification 15

 Sources of data; uncertainties..... 15

DEAR NEIGHBOURS,

After months of research, here it is: the information booklet with proposals for insulating our apartments. We present them with mixed feelings.

It is clear that the window frames will have to be replaced in the short term. And there is more major maintenance to come. Because the Home Owners' Association (HOA) has far too little cash for this, we risked having to save large sums of money for years before we would get any comfort in return. In the meantime, the energy bill would increase.

We are pleased that there is now a proposal to replace the window frames and to improve the insulation of the building. There are even two detailed renovation plans for the members to express their preference for.

The unpleasant news is that it will cost a lot more money than expected. This is due to sharply increased material prices and construction costs. Nobody is happy about that. But there's not much we can do about it: if the project is postponed, the costs for HOA members could rise even further.

Fortunately, there is also good news. Thanks to government subsidies and loans from the Heat Fund or the municipality, the building can be improved NOW, and not in 2034. This will hopefully allow the HOA to escape even further rising costs.

We realize that the high costs will require adjustments from all of us, and for some that will be very difficult. We have therefore explored all the options, but the bottom line is that the costs have always been high. We can honestly say now: these are the two best proposals out there at the moment.

Go read and make your consideration. We look forward to seeing you on June 2, at the General Members Assembly.

1. TWO INSULATION PLANS AND A DEFERRAL PLAN

WHY AN 'INSULATION PACKAGE'?

The window frames and façade panels need to be replaced. And in 2032 the roofing will have to be renewed as well. This will cost a couple of million together and the owners association does not have that money at hand, nor will we have it in 12 years' time with the current monthly contributions.

This prompted the HOA in 2019 to take a broader look. It became clear that the building would have to be better insulated in the future, and that subsidies and loans are available for this.

Could we solve the maintenance problems with that government support and at the same time make our building more comfortable and energy efficient? And could all this be done in the short term, so that the current residents could benefit immediately? A package of measures was sought that met these requirements:

- Replacement of window frames and panels, renewal of roofing.
- These parts had to meet higher insulation requirements than now.
- Additional insulation measures such as floor insulation or solar panels were added if they gave comfort without increasing costs.

Additional measures, as under point three, can have two benefits. They lead to more energy savings. And they can provide additional subsidies or loans.

THIS CAME OUT OF THE RESEARCH

With this in mind, the HOA looked for the best combination of measures. We call this insulation packages. In June 2021, the general assembly decided to have two promising packages investigated further. That has now been completed. These packages have been adjusted slightly. We put them side by side here, with the third being a 'postponement plan'. Here, major maintenance, without extra insulation, will not be carried out until 2034. The HOA is not counting on a subsidy or advantageous loan for this, so a lot of savings have to be made. Details follow later. Here is the overview first:

No.	Name package	Measures
1	Very Energysaving Package (ZEP)	Insulating window frames, panels and roof, floor and façade
2	Alternative Package	Insulating window frames, panels and roof, parts of the floor
3	Postponementtill 2034	No insulating measures, but saving for new window frames

In these plans, new window frames are made of very durable plastic, because better insulating aluminum window frames are now unaffordable. And in the contractor's proposal it will not be sliding doors but tilt/turn doors. The board realizes that this has disadvantages for the small apartments (space occupation). And are sliding doors perhaps feasible after all? In the ZEP this does not seem possible, but in the alternative package it is. See further the explanation in Appendix 1.

WHAT WILL IT COST?

How large will the investment be? What does that mean for the monthly costs? And what will it yield in terms of energy savings? We now have the answers to these questions. As we said, more insulation requires more investment, but can be more advantageous due to energy savings and advantageous financing. How does the balance of costs and benefits work out for the packages? Here is a first overview of the monthly costs.

No.	Name package	Owner Association costs per 2023	Gas costs	Total	Inflation save	Sustainable	Value apartment	Solar panels	Loan until
1	Very Energysaving Package (ZEP)	320	63	383	+	+++	+	Yes	2052
2	Alternative Package	340	83	423	0	++	+	Yes	2042
3	Postponement till 2034	355	125	480	--	0	-	?	-

This table shows the calculated amounts for an average apartment. Further on, we also give the costs for three different apartment types at Buitendok.

In the first column you can see the amount the HOA has to charge per month to cover all costs. Consider that the average owner's association contribution would be 147 euros next year according to the current agreements. With all the choices shown, this amount would have to be more than doubled. That is very unpleasant news; of course we will explain it below.

In the second column you see the expected costs for gas consumption. There you can see that insulation does provide some savings. In the third column, HOA costs and gas costs are added together - that makes it easier to compare.

The other columns summarize additional pros and cons of each choice package.

WHY IS IT SO EXPENSIVE?

A doubling of the monthly HOA fee: that's a shock. Yet there is an explanation for this increase. It was already known that the HOA was not saving enough for major maintenance; this gap was only partly filled last year. So there was still an increase in the air. However, no one had imagined that it would involve so much money. Why is that?

Well: the world changed tremendously last year. Energy became very expensive, prices of building materials are rising sharply and you notice that in building costs. At the same time, borrowing money has becoming more expensive. Economists don't think this inflation will stop soon. So we have to deal with it. That means: carefully weighing up what is the best choice for us now.

The amounts in the table are based on current prices at the end of April 2022. But they are not yet final. The plans still have to be worked out in detail. No contractor will give a fixed price for a HOA that will not decide until September. However, the amounts do offer a fair comparison. Because if the construction costs go up or down, that applies to all three of our choice options.

WHAT IF WE JUST DO NOTHING?

The high costs are a major setback. Nevertheless, as a HOA we cannot bury our heads in the sand: the window frames will have to be replaced. So doing nothing is not an option. If we do not increase the monthly contribution, the HOA budget will be at least €6 million short of essential maintenance by 2034. And that would mean a lot:

- OR all members would then have to contribute amounts of as much as 30,000 euros.
- OR: further postponement of maintenance, many complaints (windows can no longer open and close) and a drop in property value.
- Meanwhile, the energy costs and annual repair costs will continue to rise.

It must not come to that.

THE HOA COSTS PER PACKAGE

The amount you pay to the HOA each month consists of two parts. The first is the 'general HOA contribution', for cleaning, management, joint electricity use and suchlike. These costs are easy to predict: next year they will be € 59 per month for an average home.

The second part of your HOA contribution is for major maintenance: last year for an average home € 86 per month, but this amount will inevitably rise. It is used to cover two types of costs:

- a. Expenses according to MJOP (Multi-Year Maintenance Plan), separate from preservation. These amounts are planned years ahead. And we save for this purpose.
- b. Costs of preservation. These are large investments in the short term, but because of favorable loans, these costs are spread over 20 to 30 years.

Borrowing for preservation (b) can have advantages. You can carry out some measures sooner and better; at the same time, planned expenditure from the MJOP (a) becomes superfluous. For example, if we purchase insulating window frames now, the item 'replacement window frames' will not be needed in 2034. In this way we have always examined which items in the MJOP will become obsolete.

If we compare the options available to the HOA, this can be seen in the Very Energy Efficient Package (ZEP). This contains the most insulation measures, but still requires a lower HOA contribution than the alternative package. This is because we can get a 30-year loan for this ZEP. That is 10 years longer than the other package and so the annual repayment is lower.

Surprisingly, the deferral package, which does not include any sustainability measures, is still the most expensive. The explanation is that construction costs continue to rise with deferral. Even with a low inflation rate of 2.5%, the prices in 2034 will be about 35% higher than now. It is almost impossible to save up for that.

And isn't there an interim solution, with only the replacement of window frames and panels? We looked into that. But even with an extra favorable loan, the monthly HOA costs for the first fifteen years would not be any lower than with the Very Energy Efficient Package (ZEP). And in the meantime, the energy costs would remain high.

MONTHLY COSTS PER TYPE APARTMENT

Above we discussed the amounts per average apartment. But what you really pay as a HOA member depends on the surface area of your home. Those areas are translated into 'fractions'. Here we show what that means for three types of apartments.

No.	Name package	Appartment 40m ²	Maisonette 85m ²	Atelier >100m ²	Mean sized
1	Very Energysaving Package (ZEP)	220	445	540	320
2	Alternative Package	233	473	573	340
3	Postponement till 2034	244	494	599	355
0	If nothing further was necessary	101	205	248	147

On the bottom line you always see the amount now in the plan for 2023.

DECISION MAKING PROCESS

At this moment not all details have been finalized. Only when the General Assembly on June 2 has made a choice for an insulation plan, tenders from contractors can be requested. Also, details about the financing can then be checked and arranged. A clear budget and financing plan will be available at the September General Assembly. After approval of the general assembly, and consent of the tenants, these amounts are final. Rising prices are then at the risk of the contractor.

2. A CLOSER LOOK AT THE THREE OPTIONS

ENERGY SAVING

Increasing the HOA contribution hurts, but insulating does mean that we can save on energy. That's mainly in gas consumption. Chapter 3 of this booklet deals with electricity costs (and how to reduce them using solar panels).

There is a warning here: how much you really save can vary greatly from household to household. It depends on your heating behaviour: how often are you at home, how high do you set the thermostat and how long do you spend in the shower?

Here we give average figures for energy consumption per type of home. Your situation may be different. So take your own energy bill, look at your gas consumption per year and compare it with the figures in the table below. And remember that we have calculated with a tariff of € 1.80 that most of us are not paying yet, but which you will hardly be able to avoid in the near future.

Our consumption

According to network company Liander, an apartment at Buitendok uses an average of 832 m³ of gas per year. At a gas price of 1 euro at the end of last year, that amounts to 832 euros. But the Ukraine war has made gas very expensive. Anyone who has to sign an energy contract now is already paying €1.80 or €2.80 per cubic meter. That says a lot about what is to come. Experts do not expect a decline.

For the time being, we are assuming a fairly low rate (1.80). That will cost members of our HOA an average of €50 extra per month. That certainly makes insulation useful. Therefore, the expected savings per insulation package have been calculated:

- Very Energy Efficient Package: 50% savings
- Alternative Package: 34% saving

	Current consumption (m³/yr)	Postponement	Alternative	Very Energy Efficient
2-room apartment	670	€100	€66	€50
Maisonette	900	€135	€89	€68
Atelier	1600	€240	€158	€120
Mean	832	€125	€83	€63

Here we show the figures for three types of homes, based on their current average gas consumption. You can see that with insulation we can save a lot. If we choose the Very Energy Efficient Package, a small home can save 50 euros per month. For an Atelier, that saving can go up to 120 euros per month. And if you calculate with a higher gas price, the savings will of course be even higher. These are estimates, of course: reality can turn out better or worse. But it is clear that insulating can ease the pain of investment.

IF INFLATION REMAINS HIGH

Partly due to the Ukraine war, there is serious inflation for the first time in thirty years. That has an impact, including on Buitendok. That's why we thought in two scenarios.

In the basic variant, inflation is estimated cautiously. For construction costs: a sharp increase of 20% between April 2021 and autumn 2022 (because it is already a fact). But for subsequent years only 2.5% inflation per year. And for gas price, we chose one of the lowest expected rates: 1.80 per cubic meter. The results are shown in the tables.

But an inflation variant was also explored, with higher price increases:

- For the gas rate, we assumed 2.80 per cubic meter.
- For maintenance costs we assumed a 4% price increase per year from 2023 onwards.

The impact of inflation proved to be greatest in the 'postponement' variant, i.e. if the HOA does not tackle major maintenance to window frames and the roof until 2034. Then an average HOA member will soon have to spend 120 euros extra per month on the HOA contribution and gas. With the Very Energy Efficient package the costs increase by only € 45. And even with the alternative package the loss is less than € 60 per month. This can also be explained:

- The benefit of insulation becomes even greater with extra high gas prices
- If we tackle the insulation quickly, the costs are fixed in 2022. The loan repayments will remain the same for years. Only other maintenance can become more expensive.

The high inflation rate makes it wise not to wait with this investment.

MORE DIFFERENCES

We mention some more differences between the measure packages. Most were given a comparative score in the table. We can be brief about three:

- Sustainability. Good insulation and solar panels help, also for the energy label.
- Home value. A low gas bill is beneficial, overdue maintenance is not.
- Solar panels. Hard to achieve with deferral package, due to roof maintenance in 2034.

Loan duration: With the two insulation packages there is a loan, with ZEP even 30 years. This is a long-term commitment, but it is not a personal loan. See the chapter 4 on 'personal finance'. For the HOA, the burden becomes lighter and lighter. Even with low inflation, the repayment after 2042 weighs half as much as it does now.

Nuisance: Every renovation causes inconvenience. This applies least to roof insulation and 'hanging' floors. Replacement of window frames and panels will cause more inconvenience, but can be planned well and need not take more than a day. More nuisance is to be expected with the insulation of masonry facades (cavity walls). This measure is included in the ZEP. The outer brick layer is removed, a thicker insulation board is installed and the facade is finished with stone strips. Afterwards you have the familiar sight, but it will make some noise and the plants close to the facade may be damaged.

3. SOLAR PANELS

The flat roofs of Buitendok make it possible to install solar panels and generate your own electricity. Each owner/occupier can decide for him or herself whether he or she actually wants to do this.

Due to the high price of electricity, the purchase of solar panels pays for itself within 7 years on average. And those who finance the panels with a loan will earn back the interest more than once. It is therefore to be expected that many residents will want to participate, if the opportunity is offered.

HOW DOES IT WORK?

The basic principle is that every resident can decide for himself or herself whether to participate. It does not matter whether you live upstairs or downstairs. The roof belongs to the HOA - so it belongs to all of us.

Solar panels are not an investment for the HOA and no money is borrowed from the Heat Fund for them. There are two major differences with the insulation packages:

- The role of the HOA is small. It only makes solar panels possible.
- Participation is voluntary. Residents themselves choose whether they want solar panels.

The sustainability committee and Eigen Haard have worked together to find the best approach. Energy cooperatives have been consulted, which could lay down a solar power plant. But individual ownership of solar panels currently appears to be the most advantageous for participants. It works like this:

- The roof is divided into 194 equal 'lots', each suitable for 6 solar panels.
- Each lot gets an electricity connection to the meter box of one home
- Residents decide for themselves whether they want solar panels.
- The HOA arranges for a one-time central purchase and sets rules for installation and maintenance, also for later entrance or exit.

- Eigen Haard also offers its tenants the opportunity to participate. The housing corporation makes the investment and deducts an amount from the rent.

WHAT CAN BE INSTALLED ON OUR ROOF?

Available space

Available flat roof Outer dock: more than 5000 m²

Suitable for solar panels: more than 2000 m²

Number of panels (165 x 100 cm): at least 1200

And is the roof suitable?

Solar panels need a solid foundation. The planned roof insulation meets this requirement. The roof appears to be suitable for an extra load of 40 kilos per square meter. Solar panels can meet this requirement. The installer must take this into account: no anchoring with heavy paving stones, but with metal racks for example.

THREE FREQUENTLY ASKED QUESTIONS

- No danger of leakage? In the past there were leaks. This was due to poorly sealed seams. That has been remedied. Solar panels have no effect on this.
- Can't we have a green roof? Unfortunately, the bearing capacity is too small. A sedum roof, saturated with water, weighs up to 80 kg/m². The roof can't support that.
- Is there room on the grid? The electricity grid is becoming full to capacity for new (large) users, but solar panels are more than welcome. Certainly in Amsterdam-North.

COSTS FOR THE HOA

The HOA does not invest in solar panels. It does incur limited other costs, however, as part of the proposed insulation packages:

Power connection. The power lines to the meter boxes belong to the HOA. So the extension for the solar panels is a task of the HOA. This is done in one go for all 194 homes. A patchwork of connected/not connected homes, with additions at a later date, is more expensive all together. Total costs: one-time €105,000, or €540 per home.

These costs are included in both proposals (ZEP and alternative) for frame replacement and insulation. They represent just over 1 percent of the total investment.

Other costs. Research costs are covered by a grant from the municipality.

In addition, there will be costs for subdivision of the roof, an installation plan and possible central procurement. All of this is expected to cost less than 20,000 euros.

HOA DECISION

General assembly of the owner's association on 2 June: agree to work out the installation of solar panels as part of the chosen sustainability package in more detail and offer it for decision at the extra general assembly autumn 2022.

4. THE COMMUNITY ASSOCIATION AND YOUR PERSONAL FINANCES

The increase in the owner's association contribution, which is necessary to finance the renovation, affects everyone's wallet. That's why we list financial information here.

LOAN: NO 'PERSONAL' LOAN

In two proposed packages, the HOA takes out an "Energy (Saving) Loan" from the National Heat Fund or the Municipality of Amsterdam. Such a loan means no personal debt, because it is taken out by the HOA. It therefore has no effect on your credit registration, or on any (other) loans you take out yourself.

You only have to contribute to the repayment through your monthly HOA contribution, as long as you are the owner. If you sell your home, you also take no debt with you.

INTEREST DEDUCTIBLE

For most private owners, their share of the interest paid is deductible on their income tax return. The interest falls under 'home improvement financing'.

With the Very Energy Efficient Pack (ZEP), that interest per private owner is an average of 2,000 euros per year (from about 1370 euros for small apartments to 3370 euros for the studios). Depending on your income, this can lead to a significant tax refund.

MONTHLY COSTS TOO HIGH

For some HOA members, an increase in the monthly costs will hit them particularly hard. As a result, you may find yourself in a tight spot. Who can advise you?

The municipality of Amsterdam has a special team of financial advisors for homeowners. The Mortgage Team of the municipality has the required financial and legal knowledge in the field of mortgages and money problems.

Do you think you can manage with smart budgeting and applying for available government funds? Or would you like someone to think with you? The neighborhood team may be able to do something for you. They know about the rising costs in our complex.

The Budget Coach can help you make an overview of your income and expenses. She can think along with you about difficult choices to get your budget back in balance. The Budget Coach for Buitendok is Conny Blokker. Would you like to know more or make an appointment?

Please contact us at 06 - 10027037 or c.blokker@buurteamamsterdamnoord.nl. You can also find more information at: <https://doras.nl/budget-op-maat/>.

5. DECISION-MAKING AT THE GENERAL ASSEMBLY

PREPARING IN JUNE

These are important matters that will be discussed at the AGM on June 2, but the meeting does not have to make any major decisions yet. The HOA is not yet making a financial commitment. Two plans for 'insulation packages' have been investigated. They are described in detail in this information booklet. And in this meeting we will choose which of these two plans must be worked out in detail so that we can make a final decision at the General Assembly in September.

In September, everything that is currently unclear or uncertain (such as construction costs, loan interest and energy rates) should be clear. In the run-up to that second General Assembly, all HOA members will receive the information they need to make a final decision. So also their exact cost picture. With that information, the GA can then decide whether to support the plan or reject it. According to the rules of the financier, the Heat Fund, this September decision requires a high turnout and two-thirds majority of votes from private owners. So no decision can be made lightly.

But first, the board hopes that a well-considered decision will be made at the June general assembly to take the next step: working out one of the two packages. Then we will have something to sink our teeth into together in September.

THE TWO DECISION PROPOSALS

1. "...to mandate the board to further develop package 1 (ZEP) and to offer it for final decision at the extra general assembly in fall 2022"
2. "...to mandate the board to further develop package 2 (Alternative) and to offer it for final decision-making at the extra General Assembly in autumn 2022".

For decision on solar panels: see chapter 3.

APPENDIX 1: TECHNICAL CONDITION OF THE OUTER DOCK / POSSIBILITIES FOR IMPROVEMENT

It was already known that stiff, draughty sliding doors and window frames are a growing problem at Buitendok. Upstairs apartments suffer from extreme summer heat. And there are moisture problems, such as the condensation that sometimes runs off the concrete beam in the studios.

For good improvement plans, an expert opinion was needed. That is why the building was structurally screened in March. Improvement measures were then worked out in detail and calculated. During the information evenings in April, members of the HOA were informed about the possibilities. Here we summarize the main points.

Target value = Very Energy Efficient

Each measure indicates how much the insulation can be improved. This is based on the detailed 'building scan' commissioned by Van der Leij construction company. It was always investigated whether it was possible to comply with the national requirements of the Very Energy Efficient Package (ZEP) for home insulation. We have called these ZEP standards 'target values'.

Two things are always mentioned below:

- The current insulation status, as a percentage of the target value
- The feasibility of that target value (=100%).

If a component goes from 50% to 100% of the target value, it means that it could soon be twice as well insulated as it is now.

Aluminum window frames [Insulation from 30% to 100% target value]

Sliding door and windows are very outdated. There is a lot of corrosion and they are poorly lockable and not 'thermally broken' (i.e. cold permeable). The door frames are often damaged and do not keep out the cold very well anymore. Postponing replacement until 2034 is unwise. Many window frames will then have to be replaced. This leads to additional costs.

Better sealing and insulating windows with triple glazing provide a lot of comfort and energy savings. This certainly applies to the studios with their very large glass surfaces. However, there are two points of attention:

- Aluminum window frames have become very expensive and less durable. Therefore, high-quality plastic window frames are proposed. They are optimally insulated and require little maintenance. Appearance and layout will remain the same as much as possible. See Welstand, p15
- The sliding mechanism and the lock on the current sliding doors are vulnerable points. Moreover, doors with triple glazing become too heavy. Therefore, replacement by tilt-turn doors has been elaborated. A requirement is that the doors on balconies open outwards.

ONLY when choosing the alternative package (not triple but HR++ glass) are sliding doors possible. In that case 100% of the target value is not achieved. And it can be a bit more expensive than calculated. The board can get a mandate from the general assembly to keep the option of sliding doors open, unless the costs rise disproportionately as a result.

Masonry walls (from 43% to 100% target value)

These are cavity walls, with a cavity already filled with reasonable insulating material. To meet the highest insulation requirements, however, more insulation is needed, and this can be achieved. The outer layer of bricks is removed, thick insulation plates are installed and stone strips are placed over them. It sounds radical, and it does lead to a few days of noise and inconvenience. But this technique

is widely used and clearly improves the insulation. The appearance of the building remains practically the same.

Facade panels (from 20 to 100% target)

The gray trespa panels at the gallery apartments have had their day. And they are moderately insulated. New panels can get much better insulation. They will look fresh again and offer more comfort.

Roof insulation (from 27% to 100% target value)

By adding thicker insulation boards, it is fairly easy to make gains on the roof. The asphalt layer and the gravel will have to be replaced. And because of the thicker insulation layer, the roof edge must be raised. This measure is feasible and can also be combined with installing solar panels (see chapter B).

For a small part of the roofs only limited extra insulation is possible. This is the part of the roof of the lower apartments, which also serves as a gallery floor for the upper apartments.

Floors

The floors with crawl space, on the first floor, are already reasonably insulated. Additional insulation is possible with underfloor material (Tonzon). [54 => 100% target value]. In a slimmed-down plan, this measure is omitted.

The concrete floors of the high-rise where you can walk underneath are poorly insulated. Insulation material can be fixed to them [10 => 100% target value]. Additional advantage: the thermal bridge to the studio apartments is interrupted.

Attention is still needed for the connection of the 'packed beam' to the window frames of the studios.

Architectural requirements

Because the Buitendok has recently become a protected cityscape, the design for the adjustments to the building must be approved by the city's Architectural Committee (Welstand). This applies in particular to the appearance and layout of the window frames.

An architect who is familiar with the building has been asked to take a look and ensure that the treatment by the building aesthetics committee goes smoothly.

APPENDIX 2: JUSTIFICATION

All information in this booklet has been carefully collected and processed under the joint responsibility of the Board and the Sustainability Committee of the HOA Buitendok. In collecting this information, there was intensive collaboration with three parties and their construction and financial experts:

- Stichting Eigen Haard as the major owner. Represented by Steven Hagen
- Consultancy firm De WarmteTransitieMakers (DWTM), specifically Aleida Verheus
- Van der Leij Bouwbedrijven, represented by Ward Boers and Niels Welmer

Information was also obtained and consultations held with: the national Heat Fund, the subsidy provider RvO, the municipality of Amsterdam, architectural firm JHK, HOA Binnendok, Liander, CBS, the umbrella organization HOA-belang and four parties in the field of solar energy. Also, the drafter of the 'custom advice' from 2021, bureau Steeds, answered further questions.

Sources of data; uncertainties

Construction costs:

- Renovation 2023: cost estimates prepared by Van der Leij construction companies, under the direction of the Construction Team in which the HOA and Eigen Haard participated actively. The estimates are based on inquiries with specialized parties in the fields of window frames, roofing and insulation.
- Other maintenance. costs based on existing MJOP Buitendok of May 2021. All amounts therein have been increased by 16% due to sharp cost increases last year.

The amounts of renovation 2023 can be 5% higher or lower; in September they are fixed. Costs of other maintenance depend on future inflation. Here the price risk is greater.

Funding

- Grant: data based on current percentages and conditions RvO as of May 2022.
- Loans: according to current maximum amounts, percentages and conditions of Heat Fund and municipality of A'dam as of May 2022. No more favorable financiers have been found.

In some areas it is not yet entirely certain whether the HOA will be able to meet conditions. This is mentioned in the description of the ZEP and the Alternative Package, in chapter 1.

Energy consumption

- Actual consumption: based on open data from Liander over the past three years
- Consumption per dwelling type: based on calculation and survey by Steeds in 2020 and own survey by HOA committee in January 2022.
- Expected savings: calculated by agency Steeds in 2021 and verified by DWTM using a government calculation tool in May 2022.
- Energy tariffs: current information from e.g. MilieuCentraal and Vereniging Eigen Huis, May 2022

Permits

- Welstand. When making the plans, the fact that Buitendok has been included in the IJplein conservation area since 2021 was taken into account. New window frames, insulated facades and any elevated eaves must meet the requirements of the local Welstand committee.
- Flora, fauna. The complex is regularly visited by legally protected bats. Because of the required permit, research is ongoing, so these animals will not be harmed unnecessarily.