C 3. Construction of the Aquapark, Wellness and Hotel Complex at Kechnec

The Construction of the complex Aquapark Kechnec will serve for relaxation – sports activities associated with bathing, wellness programs and the possibility of temporary accommodation in the hotel *** for visitors. The project Aquapark Kechnec is divided into three main parts:

- **The main construction object of the Aquapark – SO.01, with year-round operation**
- **The outdoor area – SO.02 with relaxation and children's pool**
- **Hotel *** SO 13, which is connected to the main building of the Aquapark**

The customers of the Aquapark, of the Wellness and hotel complex at Kechnec will be domestic and foreign visitors, who will be able to take over a year of operation the water in swimming pools, comfortable accommodation with a restaurant and will be available to the sports.

The main purpose of this investment is to create a new recreational area in Kechnec operating throughout the year. In terms of the architectural and artistic solution, the Aquapark, Wellness centre and hotel complex, is one functional unit with a direct transition to the Wellness Centre and into the accommodation area by means of a closed funicular.

The Aquapark Complex will be implemented in the unbuilt part of Kechnec. Its capacity is assumed at 470 guests. The daily attendance of the area is envisaged as 2000 visitors. It is planned as a facility with a year-round operation. Due to the fact that in its vicinity there are no facilities of similar nature, it is realistic to expect that the planned capacity and attendance traffic facilities will be achieved.

A view of the construction objects of the Aquapark, Wellness and hotel complex in Kechnec

Ground plan of the building Aquapark, Wellness and hotel complex Kechnec:

The architectural design of the area is shown in the following visualization of the project and its main construction objects:

SO 01 AQUAPARK – The main construction object

Visualization of the construction object SO 13 - Hotel ***

Visualization of object SO 03 Roads and Parkings within the area

The Aquapark Kechnec will consist of two basic units – of the part with the year-round operation, which is represented by the main building (SO - 01) and of the summer part (SO 02), which will be used only during favourable weather conditions and will be made up of two pools – a children's pool and a relaxation pool, completed by a playground, small architecture and cafeterias providing food and soft drinks.

In the open air premises there will be parking places for 99 cars, with a possibility of a triple increase of its capacity. The layout also includes sanitary facilities (showers, toilets, changing rooms, locker rooms).

Visitors of the Aquapark will be provided fast food – either as a counter sale or a restaurant service.

C. 4 Capacity of the Facility of the Aquapark of Kechnec

In accordance with the project design of the construction of the Aquapark, Wellness and hotel complex in Kechnec, the following capacities are planned for each facility:

Visitors	**immediate capacity of the area**	**470 visitors**
	estimated daily number of visitors	**2000 visitors**
Employees	**main construction object – Aquapark**	**18 persons**
	restaurant	**6 persons (max. 15)**
	swimming pool	**6 persons**
Capacity of the hotel ***		
	number of rooms	**60**
	number of accommodated guests	**132**
	number of places in the restaurant + hotel	**250 person**

By the construction of a modern recreational area in conjunction with the beautiful environment of the municipality of Kechnec, a facility will be created, attracting visitors for making family encounters in a pleasant ambience, for taking a rest after a busy working day in the nearby industrial park, or for students from nearby colleges and universities of nearby Košice to come and enjoy swim-

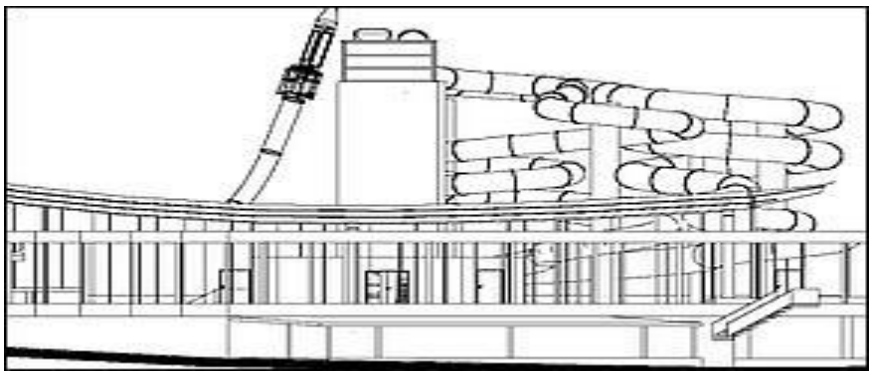
ming or simply have fun in the water or by the water. Since in the vicinity of the city of Košice there is no similar facility (Aquapark, wellness, accommodation complex), this facility will be an attractive destination not only for residents of Kechnec, but also for people from the entire region of Kosice, and from the cities of Michalovce, Prešov, Rožňava and their surroundings. Thus an important parameter is the fact that there is no similar facility within the radius of 60 km.

In terms of the transboundary impact of Slovakia to neighbouring Hungary, no adverse effects on the environment can be expected. The implementation of a new recreational facility will have no negative impacts on the parameters of pollution sources (soil, water and air), negative impacts on the neighbouring country - the Republic of Hungary.

The total investment costs (construction and technologies) will amount to 44.8 million. €. The planned implementation period is 2 years.

C 5 Source of Thermal Energy of the Aquapark of Kechnec

The heat source is provided by geothermal water from the well, where the supplied water has temperature of 50 degrees C and the discharged water temperature of 17 degrees C. The geothermal well KG-l Kechnec was drilled in 2007 by the company URANPRES Ltd., *Spišská Nová Ves*, to a depth of 1,114 m. The borehole captured thermal water with temperature of 76.6 degrees C. The aim was to drill geothermal water to be used for recreational purposes. This is an overflow borehole. The yield of the well is 7.7 litres/second. A natural source of thermal mineral water is interesting in terms of energy and also in terms of its chemical composition suitable **for recreational and rehabilitation purposes**. Water will be pumped from the source and processed so that after the use of its thermal energy it could be used directly in the thermal mineral pools.



C 6 Comparison of the Project of the Aquapark of Kechnec with Similar Facilities in the Region and in the Vicinity

Based on information obtained in similar facilities with recreational and accommodation character following facts can be stated:

- The existing hotels are insufficiently equipped for providing a full range of services. The sports and recreational facilities lack services for children – children's play areas, playgrounds, children's pools, and animation).
- The number of hotels of the *** and **** classes is insufficient, they often lack premises for a higher number of visitors (congress tourism), especially in tourist centres of international importance and in larger cities.
- Return on investment in hotel facilities is a long-time process, resulting in lack of capital for making repairs and investment in hotel facilities.
- Throughout the regions there are predominantly hotels of the ** and *** class. This structure does not correspond with the current demand of the tourists and is incomparably lower

than the European standard of hotels in that respect the existing hotels satisfy only the demand of the segment of customers who prefer low price to quality.

- Hotels in the regions are do not belong to multinational hotel companies, which could have a negative impact on other small and medium-size enterprises / hotels. In many cases, multinational companies, through their reservation systems, provide an inflow of clients into a given region.
- Hotels participate only in a very limited extent in modern programs (such as the "Green Program" aimed at improving the environment), or in other specifically targeted programs and projects.
- Despite the relatively large number of dining facilities, facilities serving fast food and additional meals (buffets, snack bars) are still a problem. Many of them do not meet the aesthetic criteria and partly also their hygiene standards are problematic.
- It is desirable to increase the proportion of dining facilities that provide a typical range of meals of national or regional cuisine.
- There is lack of sports and recreational facilities providing wellness services.

C.6.1 The Aquapark Novolandia Lučenec – Rapovce

The daily capacity of this facility is designed on the basis of the maximum capacity of the facility and of the assumptions of the investor. The momentary maximum capacity for each sector of the facility is based on the project data used for obtaining a building permit:

Tab. C.6.1

Sector of the facility	*Capacity / day*		
	Project with year-round operation	***Project without summer season***	***Project only with summer season***
The Aquapark in total	3000 persons	2000 persons	1000 persons
Hotel	120 beds	120 beds	-
Wellness centre	200 persons	200 persons	-
Indoor swimming pool	250 persons	250 persons	-
Sitting pool 1 year-round zone	256 persons	256 persons	-
Sitting pool 2 year-round zone	384 persons	384 persons	-
Sitting pool 1 summer zone	256 persons	256 persons	256 persons
Sitting pool 1 summer zone	384 persons	384 persons	384 persons
Parking in front of the hotel [1]	22 places	22 places	-
Parking in front of the facility	113 places	113 places	113 places
Buffets within the facility (for rent)	7 pc	7 pc	7 pc
Tennis courts	2 pc	2 pc	-
Open-air museum of folk architecture	yes	yes	-

x) The data are drawn from the feasibility study to the geothermal project Lučenec – Rapovce.

Neither the existing potential nor the current state of tourism, do not rank this region to those with high priority. The study, however, shows that even in this area development of tourism can be taken into consideration with benefits to the local and regional economy. At present, the utilization of similar facilities is not very favourable. The modest capacities, with the exception of Spa *Dudince,*

are underused. This facility with less than 40% share of capacities makes over 80% of the total output (performance) of the entire region.

C.6.2 The Aquapark Aquacity Poprad

The Aquapark Aquacity Poprad is built under the High Tatra mountains above a geothermal source (max. temperature 38 degrees C), which supplies heating energy for the facility. It includes accommodation capacities and modern spa facilities operated throughout the year.

The daily capacity of this facility is designed on the basis of the maximum capacity of the facility and of the assumptions of the investor. The momentary maximum capacity for each sector of the facility is based on the project data used for obtaining a building permit:

Tab C.6.2.

Sector of the facility	*Capacity / day*		
	Project with year-round operation	***Project without summer season***	***Project only with summer season***
The Aquapark in total	1200 persons	600 persons	600 persons
Hotel	134 beds	134 beds	-
Wellness centre	200 persons	200 persons	-
Indoor swimming pool	250 persons	250 persons	-
Parking in front of the hotel	22 places	22 places	-
Parking in front of the facility	193 places	193 places	193 places
Buffets within the facility (for rent)	5 pc	1 pc	4 pc
Beach volleyball courts	2 pc	2 pc	-

x) The data are drawn from the feasibility study to the project Aquacity Poprad.

Ancillary services:

- 2x volleyball courts
- 5x buffets

The utilization of the facilities of the equipment Aquacity Poprad can be considered as very successful. The hotel facilities are sufficiently used, their average occupancy does not decline. The average occupancy is 70 to 80%. Equally, the entire operation of the Aquapark can be evaluated as economically efficient.

C.6.3 The Most Visited Water Facilities in the Slovak Republic

Based on the available published data in the sector of thermal pools, or water parks in Slovakia (the economic weekly TREND), we have compiled a list of the most visited water attractions. The summary has been is prepared on the basis of average annual attendance of each facility.

Facility	Number of visitors in 2008
1. Aquacity Poprad	**892 673**
2. Aquapark Tatralandia	**752 627**
3. Thermalpark Veľký Meder	**614 371**
4. Thermal swimming pool Podhájska	**575 000**
5. Thermal swimming pool Vadaš	**555 033**
6. Thermal park Bešeňová	**488 000**
7. Aquapark Senec	**255 000**
8. Thermal swimming pool Komárno	**82 154**
9. Aquapark Kováčová	**80 000**
10. Wellness Patince	**71 860**

In terms of prices, which were collected at facilities in 2008, we have compiled the following ranking (source: Profit, Economic Weekly):

Prices at selected pools and water parks in 2008

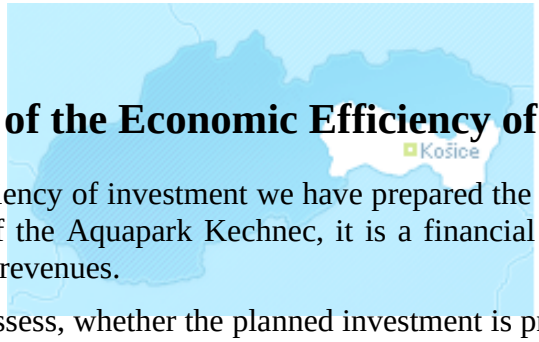
Facility	Prices in SK/€
Zlaté piesky Bratislava	**40/1.33**
Margita-Ilona Levice	**65-95/2.16-3.15**
Triton Košice	**100/3.32**
Aquapark Kováčová	**110/3.65**
Thermalpark Dunajská Streda	**160-180/5.31-5.97**
Thermalpark Veľký Meder	**190/6.31**
Aquapark Tatralandia	**490-700/16,26-23.24**
Aquacity Poprad	**550-700/18.26-23.24**
Aquapark Senec	**350-600/11.62-19.92**

The prices are depending on the scope of services provided, on the size of the facility and also on the availability and thus on the attendance of individual sectors of the facility. On the other hand, it should be noted that at present the scope of services is the most valued asset in terms of the number of visitors. The proof of that is Aquapark Poprad, which in spite of the highest price is the most visited facility of its kind in the Slovak market. Competitors for the domestic providers of services of this kind are, however, the facilities in Hungary and Austria, where the water parks and wellness hotels have a long tradition. **These facilities – especially those near the border of Slovakia with Hungary and Austria, however, are benefiting mainly from visitors from Slovakia, who in some cases make up to 70% of all visitors** (for example, in the vicinity of the city of Miskolc). **Based on the above mentioned, it can be concluded that a similar facility, especially in the surroundings of the city of Košice would attract visitors provided that it would provide similar services in terms of their scope and quality level.**

Summary of the comparison of the main principles of successful operation of similar facilities in Slovakia:

- **It is essential to extend the season by providing other services to ensure attendance also outside the season, or to provide services on the year-round basis.**
- **The amount of the admission fee can be increased, but the services provided to the visitors must be adequately improved.**
- **Critical for the pricing of services is cleanliness, attractiveness and the scope of services and the feeling of wellness.**

- **Small summer pools (open air pools) and wellness centres will survive only with the support of the towns and municipalities.**
- **Desirable and/or advantageous is the cooperation of companies whose business is related to the region, and which can be helpful by providing opportunities for construction, revitalization and acquisition of additional resources for the development from the funds of the European Union, etc.**



D – Assessment of the Economic Efficiency of the Investment

To assess the economic efficiency of investment we have prepared the Cost Benefit Analysis (hereinafter: CBA). In the case of the Aquapark Kechnec, it is a financial CBA, which is used for investment projects generating revenues.

The objective of CBA is to assess, whether the planned investment is profitable and worth to be implemented, or it is uneconomic and it is preferable to invest the funds otherwise.

For preparation of CBA, we have selected the following procedure:

Basic parameters of CBA:

- **Determination of economic lifetime – duration of the project**
- **Determination of the cost of investment**
- **Estimation of the income for financial CBA, calculation of discount rate**
- **Calculation of Cash Flow for alternative financial CBA**
- **Calculation of indicators for the evaluation of dynamic investment: NPV (net present value) and IRR (Internal Rate of Return**

D. 1 Calculation of the Static Indicators of the Economic Efficiency of the Investment

- **Economic lifetime – duration of the project**

Duration of the project does not mean only the length of implementation of the project, but the project's economic lifetime, this means the maximum number of years corresponding to the experienced cycle of the project. It should be long enough in order to fully demonstrate the impacts of the project.

For this investment, economic lifetime of the project, typical for this sector was determined, up to a period of 30 years. In the sphere of investment into equipment, the estimated lifetime is 3-10 years, depending on the nature of each equipment.

The evaluation of economic efficiency of Aquapark Kechnec during the planned lifetime (30 years) constitutes a separate attachment to this study called "Overview of selected indicators of investment over the lifetime of the project (Annex № 1). For each indicator of economic efficiency of the investment there are embedded in the text separate tables to the respective evaluation of individual indicators in shortened 10-year evaluation period, which corresponds to maximum payback period of the investment (investment recovery period).

- **Determination of the cost of investment**

The costs of investment of **AQUAPARK Kechnec** are budgeted at a total amount of € 44 794 948. The budget includes the total construction costs of the buildings in the amount of € 41 082 947 and the costs of the technological part in the amount of € 117 002. The total cost of the work, including VAT of 19% is € 53 305988. The summary budget and recapitulation of the construction costs broken down by individual construction objects constitutes a separate attachment to this material (Annex № 2). The value of investments referred to in the budget of the construction is further increased by the price of land in the amount of € 1.2 million and other costs of project documentation in the amount of € 1,000,000. When calculating the economic efficiency of the investment, we have also taken into consideration the value of the costs spent on drilling the geothermal well, which is about € 1.1 million.

A part of the costs of investment is the **cost of depreciation (amortization)**, which we have calculated in accordance with regulatory standards (depreciation categories according to Law № 595/2003) in the amount of € 2,121,000 / year. Depreciations are a significant cost factor, although they do not entail direct financial expenditure. They are included in the acquisition costs of invest-

ment. For this reason, we have not included depreciations into the investment costs over the lifetime of the investment, because it would mean doubling the costs and incorrect calculation of the effectiveness of the investment project, see Tab. D.l.1. On the other hand, depreciations included in the cash flow are shown in Table D.1.5.

Overview of investment costs of the project Tab. D.1.1

Year	-1	0	1	2	3	4	5	6	7	8	9	10
Investment costs in total	24 580	22 397	0	0	0	0	0	0	0	117	0	0
Land	1 200											
Buildings	20 483	20 483										
Equipment		117								117		
Amortization			x	x	x	x	x	x	x	x	x	x
Other investment expenses	669	669										
Pre-investment costs (drilling)	1 100											
Ancillary budgetary costs	1 128	1 128										

Note: The total overview of the investment costs can be updated with regard to the time interval elapsed since the preparation of the project documentation of the construction project.

- **Operating costs of the project**

The operating costs in the feasibility study of Aquapark Kechnec are projected at average amount of about € 8 million / year and they represent the costs of ensuring the volume of the provided services and other costs (wages, energy costs and other external and internal services) that reduce the cash flow of the project. These costs are specified in Table. D.l.2.

Overview of the operating costs of the project Tab. D.1.2

Year	-1	0	1	2	3	4	5	6	7	8	9	10
Operating costs in total	0	1000	8086	8095	8095	7995	7995	7995	7995	7995	7995	7995
Personal expenses			14	23	23	23	23	23	23	23	23	23
Electric power			780	780	780	780	780	780	780	780	780	780
Gas			5	5	5	5	5	5	5	5	5	5
Supply of water			224	224	224	224	224	224	224	224	224	224
Maintenance			6719	6719	6719	6719	6719	6719	6719	6719	6719	6719
External services and supplies			160	160	160	160	160	160	160	160	160	160
Administrative costs			33	33	33	33	33	33	33	33	33	33
Publicity and advertising			133	133	133	33	33	33	33	33	33	33
Other operating costs		1000	17	17	17	17	17	17	17	17	17	17

- **Calculation of project revenues**

When calculating the expected project revenues (estimate future income) in CBA, the most critical issue is the reliable determination of the future sales of products and services, which have to be estimated for each year of the project lifetime. Since this is a brand new investment, without a possibility of comparing the yields of an existing facility in operation, in determining the future yields we used comparable performance data of similar facilities in Slovakia, as specified in Section C). In determining future revenues we used as a basis average revenues of facilities providing comparable services and performance. Individual receipts are specified in the projection of revenues, see Tab D.l.4. Based on these calculations, profit from this investment was calculated as follows:

Profit before taxes and amortization Tab. D.1.3

Year	1	2	3	4	5	6	7	8	9	10
Operating costs	8 086	8 095	8 095	7 995	7 995	7 995	7 995	7 995	7 995	7 995
Operating revenues	14 498	14 498	14 498	14 498	14 498	14 498	14 498	14 498	14 498	14 498
Profit before taxes and amortization	6 411	6 403	6 403	6 503	6 503	6 503	6 503	6 503	6 503	6 503

The projection of revenues, which is the basis for the calculation of earnings before taxes (EBITDA) is calculated by using steady annual revenues and is listed in Table. D.1.4. A reserve is in the possible extension of services and in the subsequent increase of revenues. We estimate it at 20%.

Projection of revenues Tab. D.1.4

Specification of the service				Expected income in the years									
				1	2	3	4	5	6	7	8	9	10
Service A	accommo-dation	suites	season	189	189	189	189	189	189	189	189	189	189
			off-season	186	186	186	186	186	186	186	186	186	186
		rooms	season	1 080	1 080	1 080	1 080	1 080	1 080	1 080	1 080	1 080	1 080
			off-season	1 037	1 037	1 037	1 037	1 037	1 037	1 037	1 037	1 037	1 037
Service B	external pool	3 hrs.	(off-season)	617	617	617	617	617	617	617	617	617	617
		all-day + other services		2 205	2 205	2 205	2 205	2 205	2 205	2 205	2 205	2 205	2 205
	internal pool	complex water world		4 410	4 410	4 410	4 410	4 410	4 410	4 410	4 410	4 410	4 410
Service C	massages, sauna			1 244	1 244	1 244	1 244	1 244	1 244	1 244	1 244	1 244	1 244
Service D	bowling			27	27	27	27	27	27	27	27	27	27
Service E	restaurant services	hotel		270	270	270	270	270	270	270	270	270	270
		stands		1 050	1 050	1 050	1 050	1 050	1 050	1 050	1 050	1 050	1 050
	refreshment	hotel		423	423	423	423	423	423	423	423	423	423
		stands		1 050	1 050	1 050	1 050	1 050	1 050	1 050	1 050	1 050	1 050
Other services F				711	711	711	711	711	711	711	711	711	711
Total revenues				**14 498**	**14 498**	**14 498**	**14 498**	**14 498**	**14 498**	**14 498**	**14 498**	**14 498**	**14 498**

➢ **Calculation of cash flow of the project**

Cash flow (hereinafter CF) is an expression of the cash flows of the investment project, which in a simplified way means quantification of the surplus of revenues over the expenditures of the project. The calculation of CF is based on the calculation of estimated revenues and its aim is to determine as close as possible:
– the selling price of the goods or services,
– the number of the sold goods / services and yields,
– the difference between revenue and expenditure of the project and the cash flow.

The value of cash flows resulting from sales was calculated on the basis of the average prices of comparable services in comparable facilities in Slovakia during the entire lifetime of the project.

The values of the free cash flow for each year of the lifetime of the investment are calculated in accordance with procedures established for assessing the effectiveness of an investment by using the direct method, as listed in Table D.1.5.

Cash Flow of the project …… …… Tab. D.1.5

Year	0	1	2	3	4	5	6	7	8	9	10
EBITDA		*6 411*	*6 403*	*6 403*	*6 503*	*6 503*	*6 503*	*6 503*	*6 386*	*6 503*	*6 503*
Amortization (-)		*2 121*	*2 121*	*2 121*	*2 121*	*2 121*	*2 121*	*2 121*	*2 121*	*2 121*	*2 121*
EBIT		4 290	4 282	4 282	4 382	4 382	4 382	4 382	4 265	4 382	4 382
EBIT.(1-T)		3 475	3 468	3 468	3 549	3 549	3 549	3 549	3 454	3 549	3 549
Amortization (+)		2 121	2 121	2 121	2 121	2 121	2 121	2 121	2 121	2 121	2 121
Capital investment	-46 976										
Free CF	-46 976	5 596	5 589	5 589	5 670	5 670	5 670	5 670	5 575	5 670	5 670

D. 2 Calculation of the Dynamic Indicators of Efficiency Evaluation

The most often used methods for evaluating the effectiveness of an investment plan, in addition to the above indicated static indicators, are dynamic indicators, which evaluate the effectiveness of an investment in time. In considering this investment, we have taken this dynamic approach as a basis. These parameters taken into consideration are the following:

Net present value (NPV), which must be positive when an effective investment

- **Net present value (NPV), which must be positive in the case of an effective investment**
- **The discounted payback period, which must be shorter than the lifetime of the investment**
- **Internal rate of return (IRR), which must be greater than the required return on investment**
- **Return on investment (ROI)**

❑ **Net Present Value (NPV)**

The method of net present value (NPV) is the basis of all dynamic methods and at the same time it is the most often used and the most appropriate method, as it gives an understandable result and clear decision-making criteria. The net present value of an investment project is determined by simply comparing the discounted future cash flows and the initial investment expenses. By discounting by means of the discount rate, the cash flows are converted to their present value, i.e. the value in the year in which the investment is implemented and is put into operation.

The essence of discounting is the expression of the future cash flows at the value, which it has at the moment of evaluation of the investment. The value of the future cash flows is determined from the present value:

$$\mathbf{FV = PV\ (1 + r)^n}, \text{ where}$$

FV is the future value,
PV is the present value,
r is the interest rate,
n is number of years during which the value is invested

The resulting NPV tells us, how much money above the invested amount will the investor receive, in other words, by what amount will the original value of the investment increase.

When calculating the NPV of the investment in Aquapark Kechnec, we used as a basis a discount rate of 5% and an estimated inflation rate of 3.8%.

Taking into account the generally applicable principle, which determines, when is an investment project acceptable, the following shall apply:

- **if the NPV is positive (NPV is greater than 0) – the investment project is acceptable,**
- **if the NPV is negative (NPV is less than 0) – the investment project is not acceptable.**

Based on the above mentioned, it can be concluded that in this case the investment project Aquapark Kechnec, due to achieving a positive NPV, is acceptable. At the total discount rate of 8.8%, the NPV assumes in the course of 30 years the following value:

$$\mathbf{NPV_{(8.8\%,\ 30Y)} = € 11,\ 562\ million}$$

where: $NPV = CF_0/(1+r)^0 + ... + CF_n/(1+r)^n + ... + CF_n/(1+r)^{30}$

Note: The calculation of the cumulative NPV for the rate of 8.8% p.a is in the Annex № 3.

- **Payback period (PP)**

When evaluating an investment, the calculation of the payback period - PP is carried out on the basis of the cash flows of each year.

Therefore, for the calculation of the payback period, we worked out the overview of the cash flows for each year of the project lifetime. These cash flows are then accumulated and the sum of years in which the cumulative cash flows equal to the costs of investment, represent the payback period of the investment (investment recovery period). In our case it is possible to follow the procedure for determining the payback period, as the costs of the investment project are relatively well-defined, representing € 46 976 thousand. On the basis of the steady distribution of cash flow, which has an increasing tendency, we have worked out a basic overview of the cumulative cash flow. For visual representation of the payback period of investment, the cash flow in the first 10 years as follows:

Accumulated cash flow ……Tab. D.1.6

Years	CF in each year	Accumulated CF
0	-46 976	-46 976
1	5 596	-41 380
2	5 589	-35 791
3	5 589	-30 201
4	5 670	-24 531
5	5 670	-18 861
6	5 670	-13 191
7	5 670	-7 520
8	5 575	-1 945
9	5 670	3 725
10	5 670	9 395

Note: The table shows the payback period between the 8th and the 9th year.

- **The average payback period**

This indicator shows at what time should, at a uniform implementation of cash flows, occur the payback of the investment. The average payback period is calculated by the following formula:

$$t = \frac{C_o}{\text{ØCF}} = \frac{46\,976}{5\,518} = 8{,}51 \text{ years}$$

where: C_0 are the investment costs, CF the average annual yield

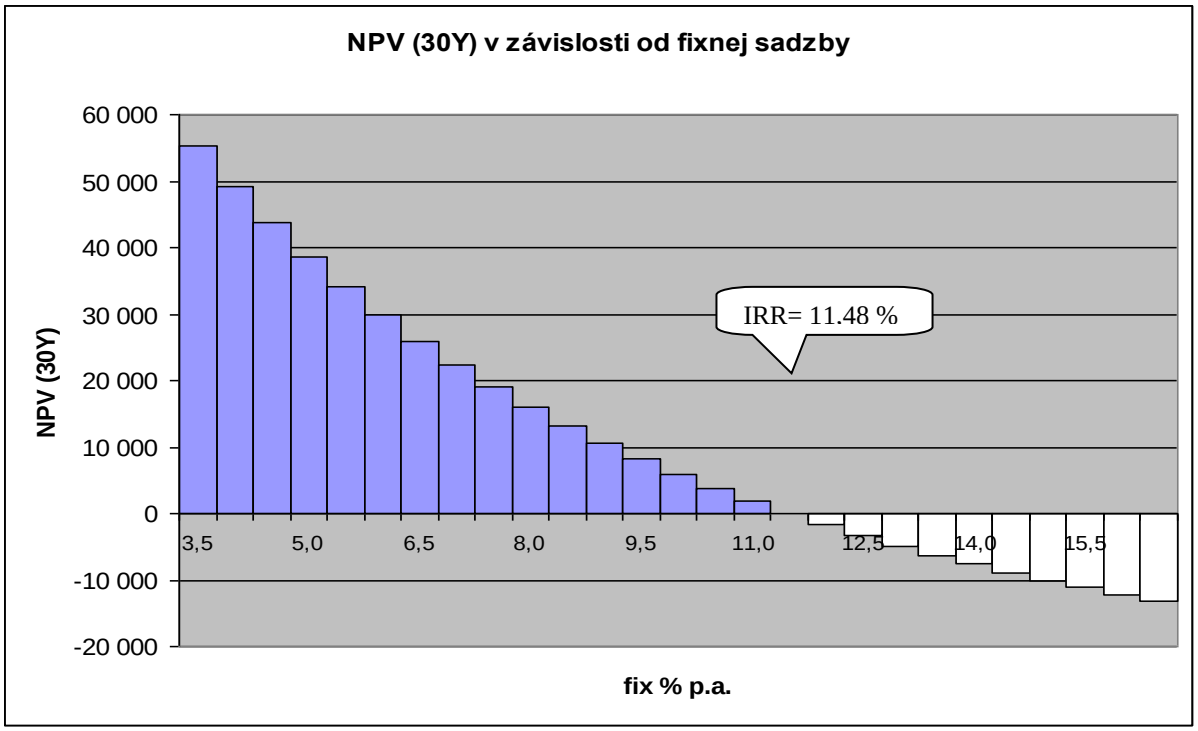
Based on that calculation, it can be concluded that the payback period of the Aquapark Kechnec amounting to 8.51 years can be considered as a relatively effective payback period for this type of investment. The average payback period is also significantly shorter than the lifetime of the investment calculated for 30 years. In addition to that, the return on this investment is based on a significantly conservative calculation of yields, which may be about 20% higher in the case of an optimistic scenario of the development of revenues. The assumption of increasing revenues is based on the options of expanding the range of services, in view of the absence of similar facilities in the city Košice and its surroundings, and on anticipated options of their utilization within the extension of social and health care of the employees of the plants established in the Industrial Park of Kechnec.

- **Internal Rate of Return**

The internal rate of return (IRR) is a dynamic method of assessing the profitability of an investment. The IRR is defined as the discount rate, at which the present value of the cash flows equals to the input capital expenditure. Therefore, IRR is the discount rate at which the NPV of cash flows equals to zero.

The internal rate of return (IRR) is thus searching of the discount rate, at which the present value of the expected revenues equals to the present value of capital expenditures. Compared to the net present value (NPV), which indicates the absolute return on investment, the IRR expresses the appreciation of the invested funds, which is in the case of the investment in the Aquapark Kechnec the following:

Diagram D.1.7



Text in the Diagram D.1.7:
NPV (30Y) v závislosti od fixnej sadzby = **NPV (30Y) depending on the fixed rate**

Note:
IRR_{30Y} = 11,48 % p.a. (IRR_{10Y} = 3,45 %; IRR_{15Y} = 8,45 %; IRR_{20Y} = 10,32 %; IRR_{25Y} = 11,10 %)
What is the meaning of IRR calculation modified for a shorter period of lifetime investment.

Based on the above calculation it can be concluded that the IRR of this investment is 11.48%, which means the rate of recovery of funds invested in the project Aquapark Kechnec. Since the IRR is higher than the discounted interest rate plus the expected inflation rate, it follows from the calculation that the investment project is acceptable also in this regard.

❑ Calculation of profitability

When calculating the profitability of an investment, the criterion for evaluating is the achievement of maximum profitability. This enables us to assess, how high value of profit can be created from one unit of the invested capital:

$$R = \frac{Z}{IK} = \frac{118\,680}{46\,976} = 2{,}52$$

where: R = profitability
Z = net profit
IK = invested capital

From the profitability of this investment it follows that during the lifetime of the project the invested funds will be returned with a value 2.5 times higher. Although the profitability of the Aquapark Kechnec is considered in the long term, it has acceptable parameters in terms of the efficiency of investment.

D. 3 Financing Options

The economic evaluation of the project includes the adoption of a decision, from which sources should the project be financed. Based on the review of the fundamental sources of funding, we have chosen the funds that are eligible for long-term method of financing of the investment. These are the basic sources of funding:

- **Depreciation (amortization)** – although it is the financial expression for the reduction of the property value, in this case can only be an additional source of funding for the development needs of this investment, which the investment will need during its lifetime cycle.
- **Long-term investment loan** – it means an immediate source of funding, where the interest may be paid out of the future investment returns (revenues). In this case, we calculated with a fixed interest rate of 5% pa. On the basis of the conditions that the banking market currently provides, however, it should be noted that this investment will require a longer period for payment (at least in the range of 8.5 years). A longer period for payment of the loan is desirable in view of the other costs associated with financing of the investment (interest), so that the generated revenues should not be fully used for the repayment of the loan. In view of the existing conditions for bank lending, such period for payment of the loan may be fully acceptable by the banks
- Based on our review, however, more suitable for this investment would be a multi-source financing, which could lower the cost of financing and take into consideration the specific aspects of this investment, such as the land ownership, the already implemented pre-investment costs in the form of the drilling of the geothermal well and the like.
- **Public-private partnerships (PPP)** – This is a form of cooperation between public authorities and the private sector for the purpose of financing, construction, renovation, operation and maintenance of the infrastructure and provision of services by means of this infrastructure. Projects implemented through PPP are characterized mainly by long duration of cooperation, which is typically from 10 to 30 years. In Slovakia, the legislation limits the duration of the concession to 30 years.
- **Institutional PPP** – The institutional PPP are the form of cooperation between public and private partners in providing public services through a joint venture for financing, construction, operation and maintenance of infrastructure and providing services.

These forms of financing are the possible ways of ensuring the funding the investment of the Aquapark Kechnec that we consider suitable for this type of investment. These methods of financing can also be structured (associated) out of a number of these options, which would spread the risks of financing. The structured, multi-source funding could lead to the selection of the most optimal form also in terms of price and financing.

E. Conclusions

The results of processing Feasibility study can be summarized in the as following conclusions:

1. **The planned investment Aquapark Kechnec fits into the geographic and economic structure of the Košice Self-governing Region. The Aquapark, when its construction will be completed, can positively affect the economic activity of the region with a number of parameters and also contribute to increased employment, although so far only with a small potential labour input. However, it may subsequently attract more business and service activities into the region.**
2. **The investment will have excellent accessibility, due to its location of Kechnec in the centre of the important "traffic junction" of the East Slovakian Region.**
3. **A significant impetus for the implementation of the Aquapark Kechnec is the natural energy of the geothermal water, which will be an essential energy source used during the operation of the investment.**
4. **In the field of tourism further development opportunities are expected resulting from the policy documents prepared by the Government of the Slovak Republic. These can be supported in selected areas of tourism. The priorities of the Košice Self-governing Region can also include investments of this nature.**
5. **The Industrial Zone of Kechnec can significantly contribute to the development of the future Aquapark investment, by increased health and social care of employees in the Industrial Zone park, both in terms of support for this investment and of a significant potential pool of customers of the Aquapark.**
6. **Within a radius of about 60 km there are no sport and recreational facilities of a similar like range, providing wellness services, which is a significant opportunity for optimum utilization of the facilities of the Aquapark and for increasing its capacity by extending its scope of services.**
7. **On the basis of the Cost Benefit Analysis (CBA) acceptable assessments of the economic efficiency of investment have been generated, namely:**
   - **Payback period of investment – 8.51 years**
   - **Acceptable NPV – €11.562 million**
   - **Acceptable internal rate of return on investment - IRR 11.48%**
   - **Profitability achieved over the lifetime of investment – index 2.52**
   - **Options and reserves in revenues resulting from a conservative estimate of utilization capacities (up 70%) and from the possibility of expansion of services by about 20%.**
8. **Financing of the investment can be secured in several ways, of which we see as a real option multi-source financing (loan + shareholders' capital or depreciation). Another option is a partnership of the public and private sector – the PPP, namely its institutional form, by establishment of a joint venture.**

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