

Análisis de Sensibilidad

VPN= 0		Δ
Inversión	27.66%	
Costos de O&M	N.A.	
Beneficios	-21.67%	

  

TIR<10%		Δ
Inversión	27.80%	
Costos de O&M	N.A.	
Beneficios	-21.80%	

  

TRI<10%		Δ
Inversión	-53.50%	
Costos de O&M	N.A.	
Beneficios	-31.80%	

  

TSD	10.00%

	Flujo Original									
	Año 0	Año 1	Año 2	Año 3	Año 4	Año 5	Año 6	Año 7	Año 8	
	2023	2024	2025	2026	2027	2028	2029	2030	2031	
Beneficios	-	138,128,510.07	106,323,919.67	106,291,883.57	106,296,770.33	106,301,226.86	106,305,251.18	106,308,841.03	106,312,439.45	
Tiempos de viaje	-	1,473,109.27	1,478,863.70	1,484,183.60	1,489,070.35	1,493,526.89	1,497,551.20	1,501,141.05	1,504,738.51	
O&M	-	98,788,925.82	98,788,925.82	98,751,569.82	98,751,569.82	98,751,569.82	98,751,569.82	98,751,569.82	98,751,569.82	
Liberación de recursos Ambiental	-	31,810,344.83	-	-	-	-	-	-	-	
Inversión	404,540,064.66	6,056,130.16	6,056,130.16	6,056,130.16	6,056,130.16	6,056,130.16	6,056,130.16	6,056,130.16	6,056,130.16	
	404,540,064.66	-	-	-	-	-	-	25,961,250.00	-	
O&M	-	37,286,356.02	37,286,356.02	37,323,712.02	37,323,712.02	37,323,712.02	37,331,150.87	37,331,150.87	37,331,150.87	
Operación	-	30,918,931.00	30,918,931.00	30,918,931.00	30,918,931.00	30,918,931.00	30,918,931.00	30,918,931.00	30,918,931.00	
Mantenimiento	-	6,191,940.22	6,191,940.22	6,229,296.22	6,229,296.22	6,229,296.22	6,229,296.22	6,229,296.22	6,229,296.22	
O&M Infraestructura	-	175484.8	175484.8	175484.8	175484.8	175484.8	182923.648	182923.648	182923.648	
Flujo	(404,540,064.66)	100,842,154.05	69,037,563.65	68,968,171.55	68,973,058.31	68,977,514.84	68,974,100.31	68,977,690.16	68,981,288.61	

	Δ	VPN	TIR	TRI	2023	2024	2025	2026	2027	2028	2029	2030	2031
					Variación en la Inversión	-53.5%	422,135,645.99	41.50%	11.59%	(188,111,130.06)	100,842,154.05	69,037,563.65	68,968,171.55
	-30.0%	327,068,730.80	26.34%	17.45%	(283,178,045.26)	100,842,154.05	69,037,563.65	68,968,171.55	68,973,058.31	68,977,514.84	68,974,100.31	68,977,690.16	68,981,288.61
	-20.0%	286,614,724.34	22.63%	19.94%	(323,632,051.72)	100,842,154.05	69,037,563.65	68,968,171.55	68,973,058.31	68,977,514.84	68,974,100.31	68,977,690.16	68,981,288.61
	-10.0%	246,160,717.87	19.73%	22.43%	(364,086,058.19)	100,842,154.05	69,037,563.65	68,968,171.55	68,973,058.31	68,977,514.84	68,974,100.31	68,977,690.16	68,981,288.61
	0.0%	115,329,907.73	14.13%	21.97%	(420,313,075.08)	88,857,642.24	61,089,448.17	61,217,460.27	61,335,805.79	61,444,515.70	61,543,654.91	61,633,179.16	61,713,038.31
	10.0%	165,252,704.94	15.46%	27.42%	(444,994,071.12)	100,842,154.05	69,037,563.65	68,968,171.55	68,973,058.31	68,977,514.84	68,974,100.31	68,977,690.16	68,981,288.61
	20.0%	124,798,698.47	13.82%	29.91%	(485,448,077.59)	100,842,154.05	69,037,563.65	68,968,171.55	68,973,058.31	68,977,514.84	68,974,100.31	68,977,690.16	68,981,288.61
	27.7%	93800431	12.72%	31.82%	(516,446,345.39)	100,842,154.05	69,037,563.65	68,968,171.55	68,973,058.31	68,977,514.84	68,974,100.31	68,977,690.16	68,981,288.61
	27.8%	93,244,573.43	12.70%	31.86%	(517,002,202.63)	100,842,154.05	69,037,563.65	68,968,171.55	68,973,058.31	68,977,514.84	68,974,100.31	68,977,690.16	68,981,288.61
	30.0%	84,344,692.01	12.41%	32.41%	(525,902,084.05)	100,842,154.05	69,037,563.65	68,968,171.55	68,973,058.31	68,977,514.84	68,974,100.31	68,977,690.16	68,981,288.61

	Δ	VPN	TIR	TRI	2023	2024	2025	2026	2027	2028	2029	2030	2031
					Variación en Beneficios	-31.8%	(91,322,513.35)	6.34%	9.60%	(404,540,064.66)	56,917,287.85	35,226,557.20	35,167,352.57
	-30.0%	(74,509,538.37)	7.04%	10.28%	(404,540,064.66)	59,403,601.03	37,140,387.75	37,080,606.48	37,084,027.21	37,087,146.78	37,082,524.95	37,085,037.85	37,087,556.77
	-21.8%	2,082,903.24	10.08%	13.67%	(404,540,064.66)	70,730,138.85	45,858,949.16	45,796,540.93	45,800,362.38	45,803,847.38	45,799,555.55	45,802,362.81	45,805,176.81
	-21.7%	3,310,995.7	10.13%	13.73%	(404,540,064.66)	70,911,749.92	45,998,743.63	45,936,293.27	45,940,121.14	45,943,612.01	45,939,325.47	45,942,137.45	45,944,956.17
	-20.0%	18,895,878.22	10.72%	14.48%	(404,540,064.66)	73,216,452.03	47,172,779.72	47,109,794.84	47,113,704.24	47,117,269.47	47,113,050.07	47,115,921.95	47,118,800.72
	-10.0%	112,301,294.81	14.13%	19.36%	(404,540,064.66)	87,029,303.04	58,405,171.69	58,338,983.19	58,343,381.27	58,347,392.15	58,343,575.19	58,346,806.05	58,350,044.66
	0.0%	115,329,907.73	14.13%	21.97%	(420,313,075.08)	88,857,642.24	61,089,448.17	61,217,460.27	61,335,805.79	61,444,515.70	61,543,654.91	61,633,179.16	61,713,038.31
	10.0%	299,112,127.99	20.57%	31.18%	(404,540,064.66)	114,655,005.05	79,669,955.62	79,597,359.91	79,602,735.34	79,607,637.52	79,604,625.43	79,608,574.26	79,612,532.56
	20.0%	392,517,544.59	23.69%	38.11%	(404,540,064.66)	128,467,856.06	90,302,347.59	90,226,548.27	90,232,412.37	90,237,760.21	90,235,150.54	90,239,458.36	90,243,776.51
	30.0%	485,922,961.18	26.79%	45.72%	(404,540,064.66)	142,280,707.07	100,934,739.56	100,855,736.62	100,862,089.41	100,867,882.90	100,865,675.66	100,870,342.47	100,875,020.46

Año 9	Año 10	Año 11	Año 12	Año 13	Año 14	Año 15	Año 16	Año 17	Año 18	Año 19	Año 20
2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043
106,316,046.56	106,319,662.29	106,323,286.69	106,326,919.77	106,330,551.56	106,334,212.08	106,337,874.36	106,341,539.40	106,345,216.24	106,348,901.89	106,352,586.38	106,356,269.72
1,508,346.59	1,511,962.32	1,515,576.71	1,519,219.79	1,522,861.59	1,526,512.11	1,530,171.38	1,533,839.43	1,537,516.26	1,541,201.91	1,544,896.40	1,548,593.74
98,751,569.82	98,751,569.82	98,751,569.82	98,751,569.82	98,751,569.82	98,751,569.82	98,751,569.82	98,751,569.82	98,751,569.82	98,751,569.82	98,751,569.82	98,751,569.82
-	-	-	-	-	-	-	-	-	-	-	-
6,056,130.16	6,056,130.16	6,056,130.16	6,056,130.16	6,056,130.16	6,056,130.16	6,056,130.16	6,056,130.16	6,056,130.16	6,056,130.16	6,056,130.16	6,056,130.16
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	25,961,250.00	-	-	-	-	-	-
37,331,150.87	53,031,138.87	37,339,036.05	37,339,036.05	37,339,036.05	37,339,036.05	37,339,036.05	37,347,394.34	37,347,394.34	37,347,394.34	37,347,394.34	37,347,394.34
30,918,931.00	30,918,931.00	30,918,931.00	30,918,931.00	30,918,931.00	30,918,931.00	30,918,931.00	30,918,931.00	30,918,931.00	30,918,931.00	30,918,931.00	30,918,931.00
6,229,296.22	21,929,284.22	6,229,296.22	6,229,296.22	6,229,296.22	6,229,296.22	6,229,296.22	6,229,296.22	6,229,296.22	6,229,296.22	6,229,296.22	6,229,296.22
182923.648	182923.648	190808.8269	190808.8269	190808.8269	190808.8269	190808.8269	199167.1165	199167.1165	199167.1165	199167.1165	199167.1165
68,984,895.69	53,288,523.42	68,984,250.64	68,987,883.72	68,991,525.51	68,995,176.03	68,998,835.31	68,994,145.06	68,997,821.90	69,001,507.55	69,005,202.04	69,008,905.38

2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043
68,984,895.69	53,288,523.42	68,984,250.64	68,987,883.72	68,991,525.51	68,995,176.03	68,998,835.31	68,994,145.06	68,997,821.90	69,001,507.55	69,005,202.04	69,008,905.38
68,984,895.69	53,288,523.42	68,984,250.64	68,987,883.72	68,991,525.51	68,995,176.03	68,998,835.31	68,994,145.06	68,997,821.90	69,001,507.55	69,005,202.04	69,008,905.38
68,984,895.69	53,288,523.42	68,984,250.64	68,987,883.72	68,991,525.51	68,995,176.03	68,998,835.31	68,994,145.06	68,997,821.90	69,001,507.55	69,005,202.04	69,008,905.38
68,984,895.69	53,288,523.42	68,984,250.64	68,987,883.72	68,991,525.51	68,995,176.03	68,998,835.31	68,994,145.06	68,997,821.90	69,001,507.55	69,005,202.04	69,008,905.38
61,793,088.89	56,882,786.36	56,702,247.10	56,782,874.74	56,863,695.66	56,944,710.31	57,025,919.17	57,107,322.71	57,188,921.37	57,270,715.64	57,352,705.99	57,434,892.87
68,984,895.69	53,288,523.42	68,984,250.64	68,987,883.72	68,991,525.51	68,995,176.03	68,998,835.31	68,994,145.06	68,997,821.90	69,001,507.55	69,005,202.04	69,008,905.38
68,984,895.69	53,288,523.42	68,984,250.64	68,987,883.72	68,991,525.51	68,995,176.03	68,998,835.31	68,994,145.06	68,997,821.90	69,001,507.55	69,005,202.04	69,008,905.38
68,984,895.69	53,288,523.42	68,984,250.64	68,987,883.72	68,991,525.51	68,995,176.03	68,998,835.31	68,994,145.06	68,997,821.90	69,001,507.55	69,005,202.04	69,008,905.38
68,984,895.69	53,288,523.42	68,984,250.64	68,987,883.72	68,991,525.51	68,995,176.03	68,998,835.31	68,994,145.06	68,997,821.90	69,001,507.55	69,005,202.04	69,008,905.38

2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043
35,176,392.89	19,478,870.81	35,173,445.47	35,175,923.23	35,178,406.94	35,180,896.59	35,183,392.22	35,177,535.53	35,180,043.14	35,182,556.75	35,185,076.39	35,187,602.07
37,090,081.72	21,392,624.73	37,087,264.63	37,089,807.79	37,092,357.04	37,094,912.41	37,097,473.90	37,091,683.24	37,094,257.03	37,096,836.98	37,099,423.12	37,102,015.46
45,807,997.54	30,110,837.04	45,805,774.14	45,808,615.21	45,811,463.09	45,814,317.80	45,817,179.35	45,811,689.47	45,814,564.76	45,817,446.94	45,820,336.03	45,823,232.04
45,947,781.65	30,250,625.91	45,945,567.77	45,948,413.62	45,951,266.29	45,954,125.80	45,956,992.16	45,951,507.10	45,954,387.22	45,957,274.25	45,960,168.19	45,963,066.07
47,721,686.38	32,024,590.96	47,719,593.30	47,722,499.77	47,725,413.20	47,728,333.62	47,731,261.04	47,725,837.18	47,728,778.65	47,731,727.17	47,734,682.76	47,737,645.44
58,353,291.04	42,658,557.19	58,351,921.97	58,355,191.74	58,358,469.36	58,361,754.83	58,365,048.17	58,359,991.12	58,363,300.28	58,366,617.36	58,369,942.40	58,373,275.41
61,793,088.89	56,882,786.36	56,702,247.10	56,782,874.74	56,863,695.66	56,944,710.31	57,025,919.17	57,107,322.71	57,188,921.37	57,270,715.64	57,352,705.99	57,434,892.87
79,616,500.35	63,920,489.65	79,616,579.31	79,620,575.70	79,624,581.67	79,628,597.24	79,632,622.44	79,628,299.00	79,632,343.52	79,636,397.74	79,640,461.67	79,644,535.35
90,248,105.01	74,552,455.88	90,248,907.97	90,253,267.67	90,257,637.82	90,262,018.45	90,266,409.58	90,262,452.94	90,266,865.15	90,271,287.93	90,275,721.31	90,280,165.32
100,879,709.66	85,184,422.11	100,881,236.64	100,885,959.65	100,890,693.98	100,895,439.66	100,900,196.71	100,896,606.88	100,901,386.77	100,906,178.12	100,910,980.95	100,915,795.30

