

Plan de Expansión del Sistema
Interconectado Nacional
2019 – 2033

Tomo I
Estudios Básicos

Anexo Tomo I - 1

**“Variables Históricas &
Proyección de la Demanda del
Escenario Pesimista y
Optimista”**

Variables Históricas de las Distribuidoras.

AÑO	CONSUMO ALUMBRADO			CONSUMO COMERCIAL			CONSUMO GOBIERNO			CONSUMO INDUSTRIAL		
	Edechi	Edemet	Ensa	Edechi	Edemet	Ensa	Edechi	Edemet	Ensa	Edechi	Edemet	Ensa
	MWh											
2001	15,660.00	42,190.00	23,439.34	126,080.00	906,240.00	586,030.00	30,990.00	342,830.00	204,770.00	46,050.00	154,570.00	228,544.00
2002	12,470.00	40,520.00	26,182.00	144,700.00	961,280.00	627,545.00	33,350.00	338,760.00	209,207.00	38,060.00	129,480.00	200,176.00
2003	14,850.00	45,960.00	34,126.00	185,520.00	1,092,210.00	670,156.00	34,540.00	342,740.00	212,637.00	7,320.00	42,250.00	197,699.00
2004	17,490.00	50,640.00	38,719.00	185,590.00	1,177,950.00	701,632.00	44,190.00	356,700.00	234,869.00	7,610.00	42,290.00	187,857.00
2005	17,960.00	53,300.00	38,887.00	187,870.00	1,234,530.00	754,165.00	45,870.00	349,710.00	245,339.00	6,330.00	45,290.00	206,406.00
2006	18,859.00	56,192.00	41,416.00	137,203.00	1,177,248.00	804,951.00	46,340.00	355,149.00	253,565.00	64,674.00	152,864.00	238,829.00
2007	19,600.00	57,300.00	43,083.00	146,060.00	1,304,240.00	876,240.00	49,280.00	376,760.00	270,778.00	55,900.00	160,770.00	254,264.00
2008	20,364.21	59,148.17	45,559.00	153,000.00	1,377,000.00	923,216.00	49,074.80	371,862.02	275,195.00	62,000.00	146,000.00	261,613.00
2009	21,382.00	60,514.00	46,650.00	155,500.00	1,363,220.00	943,236.00	52,610.00	390,030.00	289,576.00	56,120.00	191,600.00	277,487.00
2010	22,590.00	61,280.00	47,795.00	179,210.00	1,460,420.00	967,009.00	54,320.00	399,850.00	296,196.00	53,300.00	191,470.00	226,006.00
2011	23,360.00	63,400.00	49,381.00	203,320.00	1,579,670.00	1,014,028.00	56,340.00	402,380.00	309,880.00	52,910.00	186,970.00	229,904.00
2012	24,990.00	69,990.00	51,912.00	238,360.00	1,744,930.00	1,108,826.00	60,210.00	423,330.00	338,842.00	49,610.00	193,760.00	234,584.00
2013	27,850.00	81,950.00	54,536.00	246,880.00	1,818,340.00	1,171,332.00	61,720.00	411,700.00	356,598.00	48,780.00	190,470.00	241,373.00
2014	28,950.00	83,660.00	56,909.00	248,980.00	1,898,190.00	1,224,990.00	63,180.00	414,120.00	381,119.00	49,950.00	190,170.00	225,041.00
2015	31,140.00	89,660.00	59,921.00	310,000.00	2,059,590.00	1,334,533.00	70,890.00	465,720.00	413,543.00	49,760.00	181,450.00	228,002.00
2016	35,561.27	95,205.29	63,089.00	322,528.81	2,146,580.59	1,407,222.00	86,731.10	481,222.83	426,491.00	51,405.27	179,540.50	218,715.00
2017	37,990.87	103,501.57	65,834.74	343,621.79	2,187,274.34	1,431,723.89	87,599.85	487,341.16	434,244.52	50,934.87	148,571.34	207,763.06
2018	39,641.02	110,474.71	67,572.44	348,150.61	2,215,499.85	1,383,956.29	91,017.14	495,571.96	439,057.70	53,099.50	128,813.30	139,491.56

AÑO	CONSUMO OTROS			CONSUMO RESIDENCIAL			PERDIDAS NO TECNICAS			PERDIDAS TECNICAS		
	Edechi	Edemet	Ensa	Edechi	Edemet	Ensa	Edechi	Edemet	Ensa	Edechi	Edemet	Ensa
	MWh						%					
2001	3,930.00	4,930.00	2,943.00	109,640.00	546,370.00	506,543.00	0.45	0.70	0.00	0.59	0.91	0.00
2002	4,020.00	4,580.00	10,660.00	121,660.00	590,900.00	548,460.00	0.42	0.77	0.00	0.55	1.00	0.00
2003	1,250.00	6,650.00	3,377.00	122,570.00	621,740.00	596,944.00	0.48	0.73	0.00	0.62	0.95	0.00
2004	1,130.00	7,230.00	4,331.00	128,530.00	677,040.00	632,178.00	0.47	0.58	0.00	0.62	0.75	0.00
2005	1,070.00	7,500.00	3,854.00	134,030.00	694,150.00	667,650.00	0.48	0.56	0.00	0.62	0.73	0.00
2006	0.00	0.00	3,735.00	137,671.00	710,532.00	686,002.00	0.51	0.62	0.00	0.67	0.81	0.00
2007	0.00	0.00	3,738.00	149,520.00	747,930.00	731,013.00	0.50	0.50	0.00	0.65	0.65	0.00
2008	1,684.15	12,045.84	2,983.00	155,121.82	750,908.63	741,150.00	0.40	0.49	0.00	0.53	0.64	0.00
2009	540.00	4,230.00	2,886.00	175,360.00	835,170.00	791,411.00	0.44	0.55	0.54	0.58	0.72	0.79
2010	430.00	4,180.00	2,666.00	191,290.00	910,370.00	872,384.00	0.50	0.52	0.59	0.65	0.68	0.79
2011	420.00	4,270.00	2,660.00	203,540.00	960,650.00	919,934.00	0.50	0.54	0.57	0.66	0.70	0.80
2012	470.00	4,590.00	2,700.00	220,310.00	1,041,090.00	986,615.00	0.48	0.54	0.56	0.63	0.70	0.80
2013	530.00	4,560.00	2,750.00	230,900.00	1,116,990.00	1,032,117.00	0.46	0.53	0.65	0.60	0.68	0.59
2014	610.00	4,420.00	2,836.00	245,100.00	1,194,360.00	1,088,851.00	0.54	0.53	0.66	0.71	0.69	0.59
2015	720.00	4,690.00	2,869.00	271,600.00	1,273,170.00	1,170,155.00	0.66	0.55	0.74	0.86	0.72	0.59
2016	780.44	4,745.84	3,292.00	301,741.48	1,272,670.32	1,220,689.00	0.59	0.57	0.78	0.77	0.74	0.58
2017	799.96	4,510.72	3,975.75	310,091.38	1,313,144.31	1,255,690.82	0.15	0.39	0.71	1.46	0.83	0.58
2018	800.47	4,328.17	3,056.76	319,365.91	1,323,663.38	1,264,046.95	0.09	0.31	0.71	0.37	0.61	0.59

Variables Históricas de los Grandes Usuarios.

AÑO	Grandes Usuarios			
	Consumo del metro	Alta tensión	Baja tensión	Perdidas
	MWh	MWh	MWh	%
2001	0.00	0.00	0.00	0.00
2002	0.00	0.00	0.00	0.00
2003	0.00	0.00	0.00	0.00
2004	0.00	0.00	0.00	0.00
2005	0.00	57,999.41	29,169.86	0.68
2006	0.00	32,621.01	6,138.59	0.74
2007	0.00	35,211.00	16,310.00	0.65
2008	0.00	36,343.00	17,903.00	0.58
2009	0.00	36,848.18	20,481.03	0.69
2010	0.00	172,140.31	44,437.51	0.71
2011	0.00	183,223.88	82,609.41	0.72
2012	0.00	210,925.63	85,753.70	0.71
2013	0.00	218,272.80	100,577.47	0.70
2014	0.00	210,463.22	125,038.72	0.72
2015	0.00	194,748.43	58,125.87	0.78
2016	0.00	184,463.00	85,841.64	0.77
2017	0.00	185,250.00	237,107.18	0.77
2018	41,037.36	158,759.00	512,537.96	0.77
2019	92,599.00	0.00	0.00	0.00
2020	125,647.00	0.00	0.00	0.00
2021	145,734.40	0.00	0.00	0.00
2022	165,821.80	0.00	0.00	0.00
2023	185,909.20	0.00	0.00	0.00
2024	205,996.60	0.00	0.00	0.00
2025	226,084.00	0.00	0.00	0.00
2026	238,427.20	0.00	0.00	0.00
2027	250,770.40	0.00	0.00	0.00
2028	263,113.60	0.00	0.00	0.00
2029	275,456.80	0.00	0.00	0.00
2030	287,800.00	0.00	0.00	0.00
2031	322,544.00	0.00	0.00	0.00
2032	357,288.00	0.00	0.00	0.00
2033	392,032.00	0.00	0.00	0.00

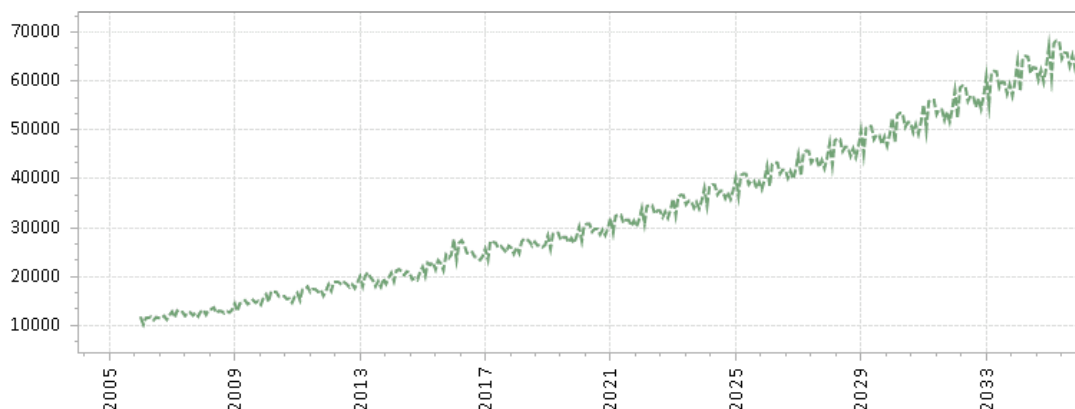
Variables Históricas de las Variables Explicativas.

AÑO	Variables Explicativas								
	Fc	COSTMARG	PIB	PIBCOM	PIBIND	POB	TEMPMAX	TEMPMIN	IMAE
	%	Balboas por MWh	Millones de Balboa	Millones de Balboa	Millones de Balboa	Habitantes	Celcius	Celcius	Millones de Balboa
2001	0.00	620.44	13,266.11	3,111.56	1,355.61	2,291,948.01	36.22	25.51	123.15
2002	0.00	546.65	13,561.99	3,088.72	1,319.72	2,346,159.27	36.67	25.53	123.74
2003	0.00	667.11	14,147.55	3,105.33	1,298.25	2,400,747.63	36.43	25.34	128.51
2004	0.00	678.43	15,211.02	3,426.64	1,332.42	2,455,910.38	36.34	25.25	137.66
2005	0.00	1,079.94	16,287.68	3,832.23	1,356.23	2,511,845.11	36.23	25.62	145.83
2006	0.00	1,507.19	17,696.90	4,260.50	1,408.68	2,568,668.39	36.08	25.68	158.02
2007	0.00	1,865.75	19,771.87	4,666.23	1,492.82	2,626,334.81	35.88	25.52	173.43
2008	0.00	2,790.00	21,822.69	5,074.28	1,547.65	2,684,755.60	35.65	25.30	190.97
2009	0.00	1,843.27	22,520.74	4,937.03	1,542.51	2,743,877.77	36.15	26.01	193.93
2010	0.700	2,139.19	24,389.34	5,691.49	1,553.61	2,803,625.55	35.92	26.12	205.81
2011	0.700	2,666.48	26,995.35	6,442.05	1,604.00	2,863,856.05	35.70	25.46	223.57
2012	0.720	2,325.07	29,876.34	6,994.16	1,662.42	2,924,621.10	36.16	25.74	245.16
2013	0.710	2,537.20	31,851.90	7,266.56	1,699.83	2,985,990.05	36.13	25.53	265.70
2014	0.720	2,604.66	33,780.00	7,266.45	1,956.74	3,047,864.86	36.40	25.79	278.57
2015	0.730	1,093.57	35,731.60	7,609.61	1,930.53	3,110,145.26	37.54	26.80	290.23
2016	0.770	724.65	37,471.80	7,875.89	1,876.88	3,172,855.22	37.42	26.59	302.89
2017	0.770	702.12	38,456.90	7,212.80	2,131.30	3,236,183.25	37.46	26.57	318.63
2018	0.760	920.43	39,887.70	7,469.70	2,146.20	3,299,844.00	36.42	25.34	328.92
2019	0.711	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2020	0.714	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2021	0.718	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2022	0.721	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2023	0.724	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2024	0.728	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2025	0.731	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2026	0.734	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2027	0.738	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2028	0.741	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2029	0.744	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2030	0.748	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2031	0.751	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2032	0.755	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2033	0.750	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Proyección de la Demanda en el escenario Pesimista.

EDECHI

Consumo Residencial



Variable Dependiente: CRES

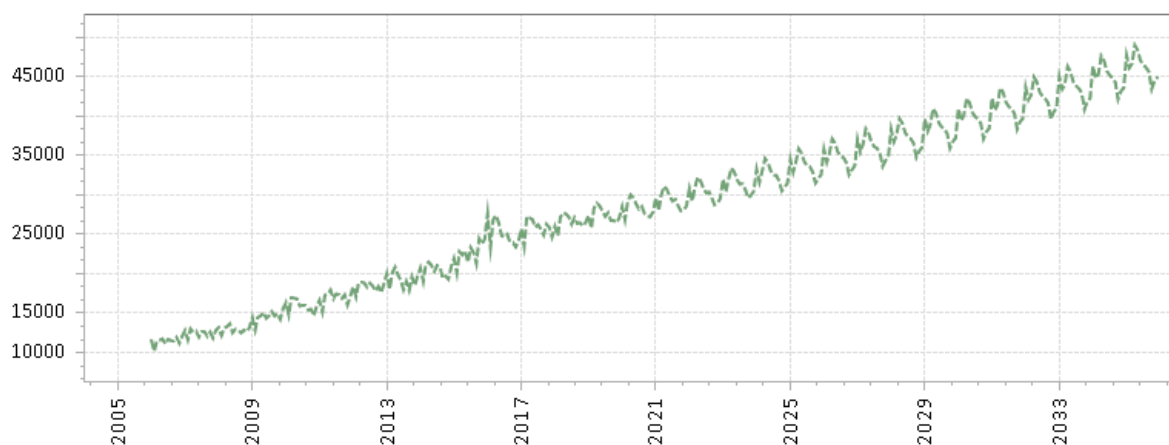
Estadístico - F = 739.88968118949
 Probabilidad Estadístico - F = 0.000000000000000000
 R-Squared = 0.985451663140973
 R-Squared Ajustado = 0.984119773146837

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-39.002	3.171	-12.298	0
LOG(PIB/POB)	0.063	0.076	0.83	0.407
LOG(POB)	3.351	0.18	18.606	0
@seas(2)	-0.102	0.013	-7.475	0
@seas(3)	0.002	0.014	0.186	0.852
@seas(4)	0.006	0.013	0.449	0.653
@seas(5)	0	0.013	0.001	0.999
@seas(6)	-0.057	0.013	-4.103	0
@seas(7)	-0.042	0.013	-3.075	0.002
@seas(8)	-0.047	0.014	-3.364	0
@seas(9)	-0.092	0.013	-6.644	0
@seas(10)	-0.063	0.015	-4.222	0
@seas(11)	-0.106	0.013	-7.67	0
@seas(12)	-0.062	0.013	-4.503	0

Indicadores de bondad estadísticos:

Root Mean Squared Error: 714.742237460265
 Mean Absolute Error: 507.872349410842
 Mean Absolute Percent Error: 2.61516671071961
 Theil Inequality Coefficient: 0.0184831546380333
 Covariance Proportion: 25397950.4202269
 Akaike information criterion: -3.77690384783048
 Schwarz information criterion: -3.50319882153886
 Hannan-Quinn information criterion: -3.6657367169009
 Durbin-Watson statistic: 0.612682524316506
 Log-Likelihood: 308.598500130778

Consumo Comercial



Variable Dependiente: CCOM

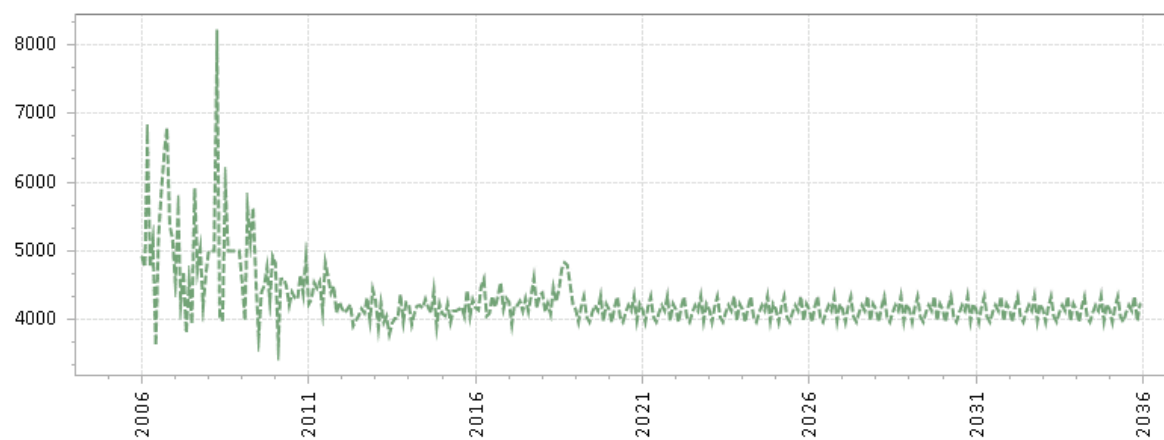
Estadístico - F = 226.490417224318
 Probabilidad Estadístico - F = 0.000000000000000000
 R-Squared = 0.957714988550616
 R-Squared Ajustado = 0.953486487405677

Variable	Coefficient	Std. Error	t-Statistic	Prob.
c	-279.207	570.93	-0.489	0.625
PIBCOM	7.825	1.78	4.395	0
CCOM(-12)	0.864	0.035	24.298	0
@seas(2)	-225.195	430.606	-0.522	0.601
@seas(3)	-202.48	431.543	-0.469	0.639
@seas(4)	119.309	425.95	0.28	0.779
@seas(5)	16.478	426.528	0.038	0.969
@seas(6)	-182.867	432.131	-0.423	0.672
@seas(7)	-264.565	430.534	-0.614	0.539
@seas(8)	-345.864	437.467	-0.79	0.43
@seas(9)	-423.338	438.985	-0.964	0.336
@seas(10)	-763.511	460.586	-1.657	0.099
@seas(11)	-620.709	451.312	-1.375	0.171
@seas(12)	-585.943	446.325	-1.312	0.191

Indicadores de bondad estadísticos:

Root Mean Squared Error: 852.190669949395
 Mean Absolute Error: 641.720079576046
 Mean Absolute Percent Error: 3.24183262349193
 Theil Inequality Coefficient: 0.0213826220740854
 Covariance Proportion: 22486553.9646972
 Akaike information criterion: 16.829874443584
 Schwarz information criterion: 17.1186062921538
 Hannan-Quinn information criterion: 16.947198774625
 Durbin-Watson statistic: 0.601759014576799
 Log-Likelihood: -1197.75095993805

Consumo Industrial



Variable Dependiente: CIND

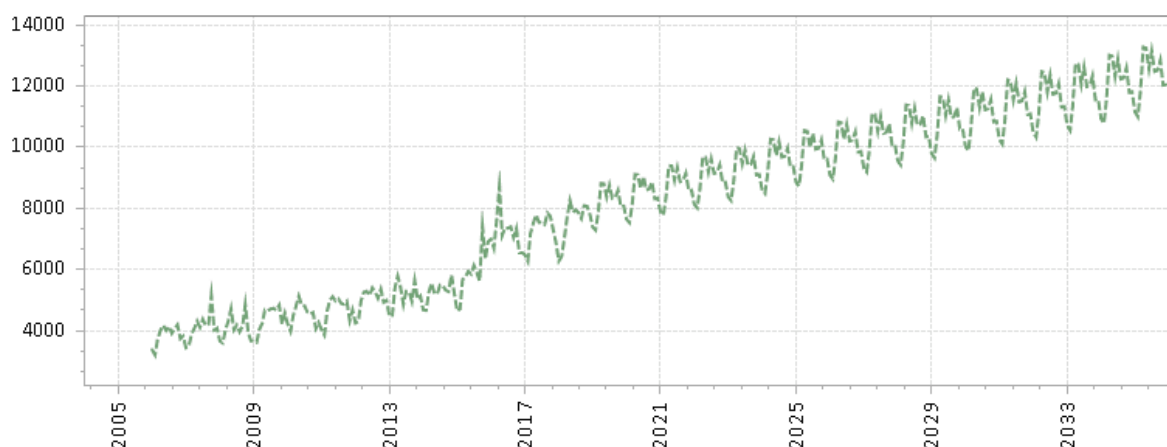
Estadístico - F = 2.1517300288456
 Probabilidad Estadístico - F = 0.01767741457219650000
 R-Squared = 0.164651416618269
 R-Squared Ajustado = 0.0881309356978048

Variable	Coefficient	Std. Error	t-Statistic	Prob.
c	6.549	0.582	11.241	0
LOG(CIND(-12))	0.218	0.069	3.155	0.001
@seas(2)	-0.035	0.039	-0.893	0.372
@seas(3)	0.005	0.039	0.137	0.891
@seas(4)	0.034	0.039	0.862	0.39
@seas(5)	-0.02	0.039	-0.516	0.606
@seas(6)	-0.035	0.039	-0.879	0.38
@seas(7)	-0.008	0.039	-0.217	0.827
@seas(8)	0.011	0.039	0.286	0.775
@seas(9)	-0.003	0.039	-0.09	0.928
@seas(10)	0.035	0.039	0.882	0.379
@seas(11)	-0.032	0.039	-0.81	0.418
@seas(12)	0.014	0.039	0.378	0.705

Indicadores de bondad estadísticos:

Root Mean Squared Error: 473.581289362655
 Mean Absolute Error: 288.590076738193
 Mean Absolute Percent Error: 6.55636380327356
 Theil Inequality Coefficient: 0.0537317356013047
 Covariance Proportion: 27087.4973796218
 Akaike information criterion: -1.74726092461038
 Schwarz information criterion: -1.47915277950977
 Hannan-Quinn information criterion: -1.63831690292943

Consumo Gobierno



Variable Dependiente: CGOB

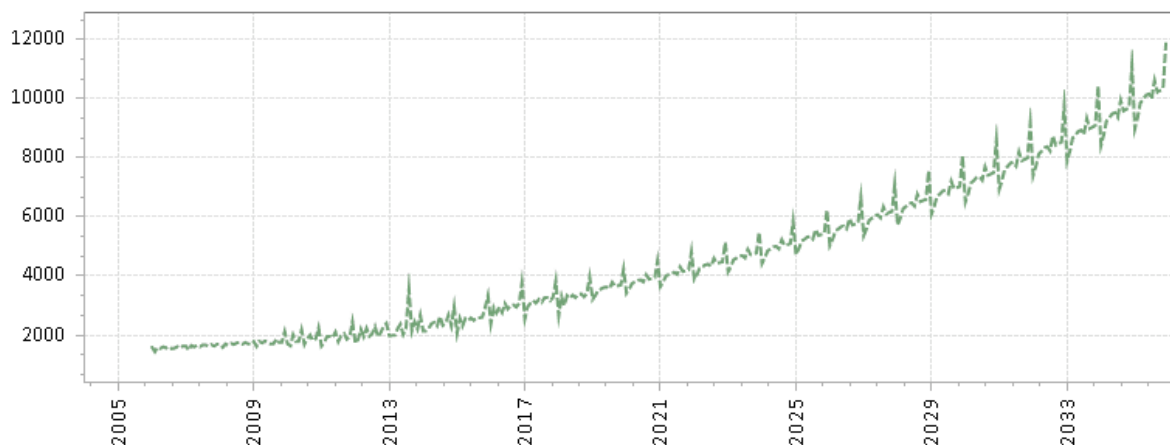
Estadístico - F = 67.1776863533783
 Probabilidad Estadístico - F = 0.00000000000000000000
 R-Squared = 0.849336062415902
 R-Squared Ajustado = 0.836692934786467

Variable	Coefficient	Std. Error	t-Statistic	Prob.
c	2.282	0.229	9.923	0
LOG(PIB)	0.795	0.029	26.838	0
@seas(2)	-0.016	0.037	-0.429	0.668
@seas(3)	0.054	0.038	1.428	0.155
@seas(4)	0.168	0.037	4.435	0
@seas(5)	0.164	0.038	4.327	0
@seas(6)	0.11	0.038	2.903	0.004
@seas(7)	0.153	0.038	4.035	0
@seas(8)	0.1	0.038	2.629	0.009
@seas(9)	0.1	0.038	2.655	0.008
@seas(10)	0.125	0.038	3.281	0.001
@seas(11)	0.058	0.038	1.532	0.127
@seas(12)	0.058	0.038	1.532	0.127

Indicadores de bondad estadísticos:

Root Mean Squared Error: 553.10315148156
 Mean Absolute Error: 442.719347745462
 Mean Absolute Percent Error: 7.93339282808598
 Theil Inequality Coefficient: 0.0508244811015751
 Covariance Proportion: 1356055.98014114
 Akaike information criterion: -1.75181551002392
 Schwarz information criterion: -1.49766084275313
 Hannan-Quinn information criterion: -1.6485888844645
 Durbin-Watson statistic: 0.331358692038086
 Log-Likelihood: 149.641609781866

Consumo alumbrado



Variable Dependiente: CALP

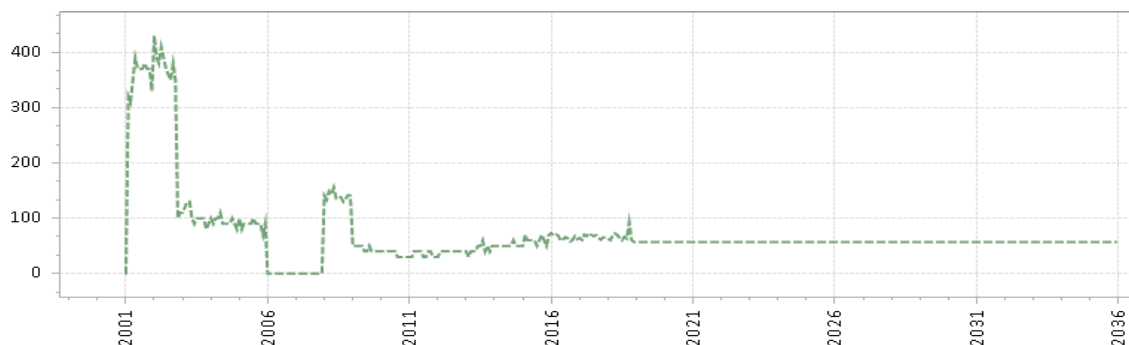
Estadístico - F = 137.355491623363
 Probabilidad Estadístico - F = 0.000000000000000000
 R-Squared = 0.920168189412033
 R-Squared Ajustado = 0.91346901649556

Variable	Coefficient	Std. Error	t-Statistic	Prob.
c	7.18	0.023	306.271	0
@trend	0.005	0	39.226	0
@seas(2)	0.037	0.03	1.254	0.211
@seas(3)	0.082	0.03	2.736	0.006
@seas(4)	0.088	0.03	2.94	0.003
@seas(5)	0.097	0.03	3.242	0.001
@seas(6)	0.096	0.03	3.214	0.001
@seas(7)	0.074	0.03	2.476	0.014
@seas(8)	0.129	0.03	4.289	0
@seas(9)	0.086	0.03	2.879	0.004
@seas(10)	0.087	0.03	2.892	0.004
@seas(11)	0.087	0.03	2.917	0.004
@seas(12)	0.219	0.03	7.288	0

Indicadores de bondad estadísticos:

Root Mean Squared Error: 174.624799819071
 Mean Absolute Error: 129.230744912488
 Mean Absolute Percent Error: 5.76562141543828
 Theil Inequality Coefficient: 0.0374829579466573
 Covariance Proportion: 331230.579647397
 Akaike information criterion: -2.2177526154817
 Schwarz information criterion: -1.9635979482109
 Hannan-Quinn information criterion: -2.11452599390423

Consumo Otros



Archivo Fórmula: $COTR = COTR (t-1) * (1+\%)$

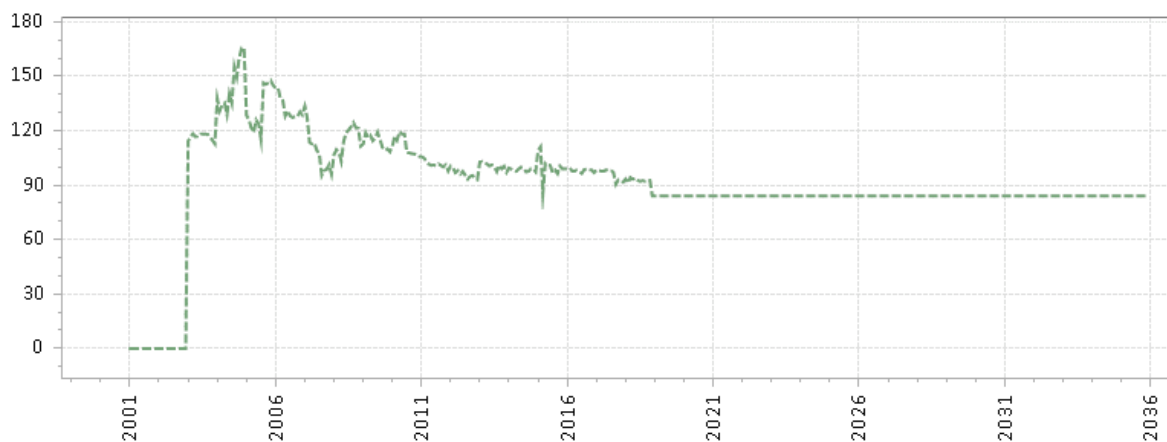
Datos Tendencia Residuos

Año Inicial: 2001 Cargar Datos Generar Proyección Tasa tendencial mensual: 0.00 Aceptar Proyección

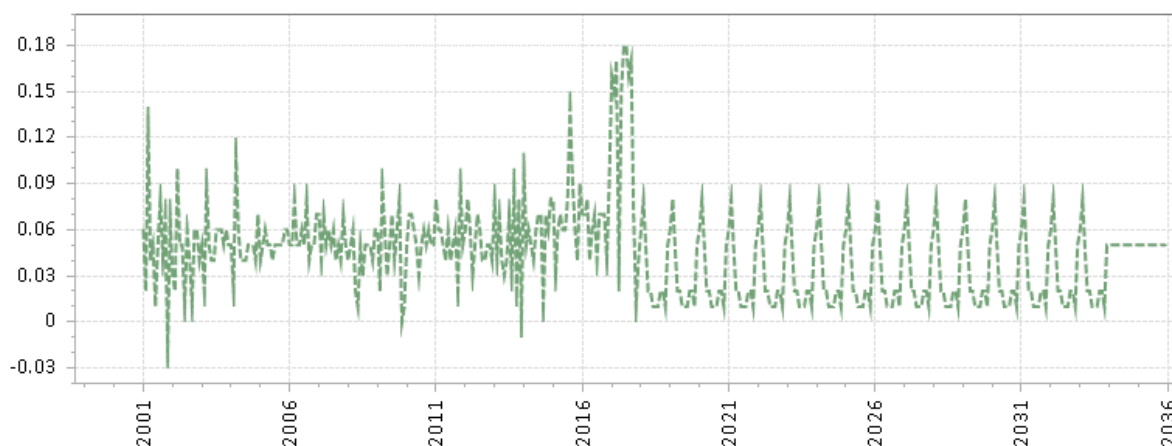
Año Final: 2018

Año	Mes	Consumo Otros [MWh]	Tasa [%]
2001	1	0.000	0.000
2001	2	320.000	0.000
2001	3	310.000	-3.130
2001	4	350.000	12.900
2001	5	390.000	11.430
2001	6	370.000	-5.130
2001	7	370.000	0.000

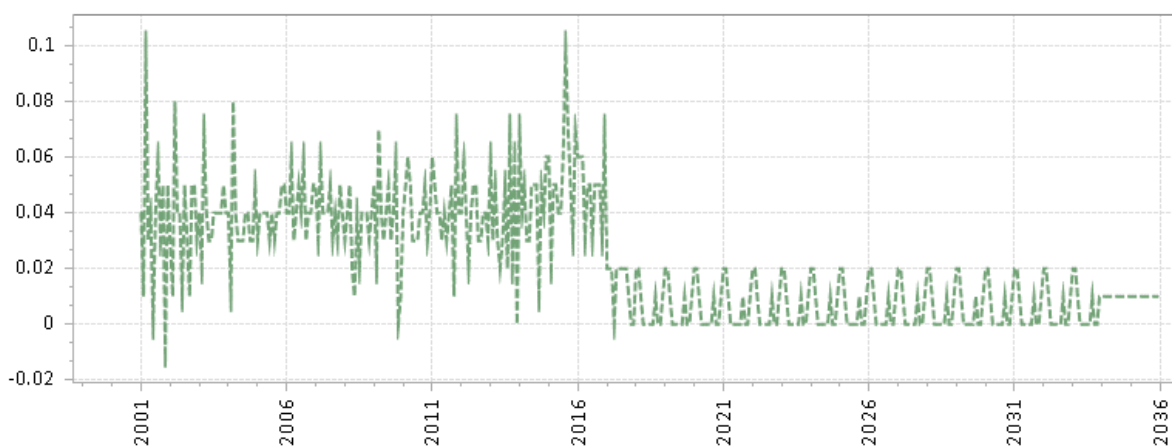
Tarifa media de la distribuidora real



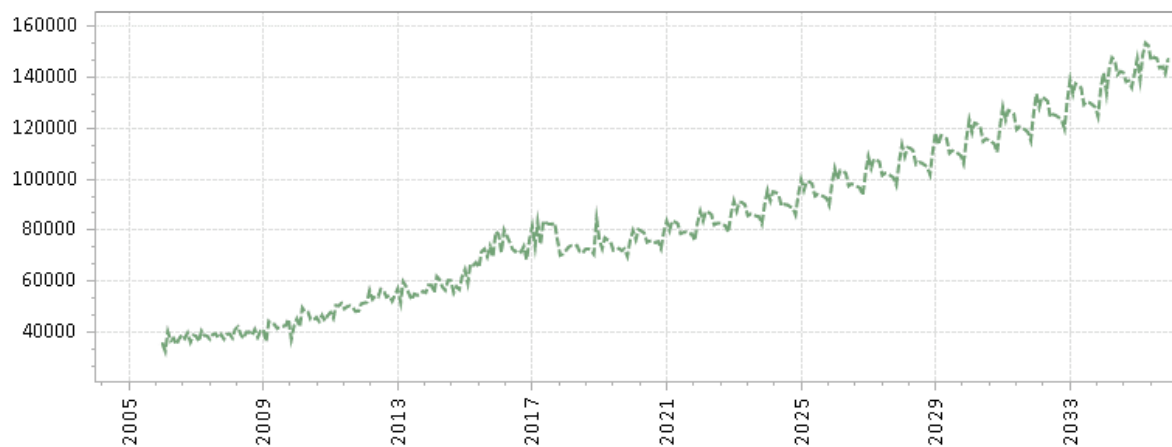
Pérdidas técnicas



Pérdidas no técnicas

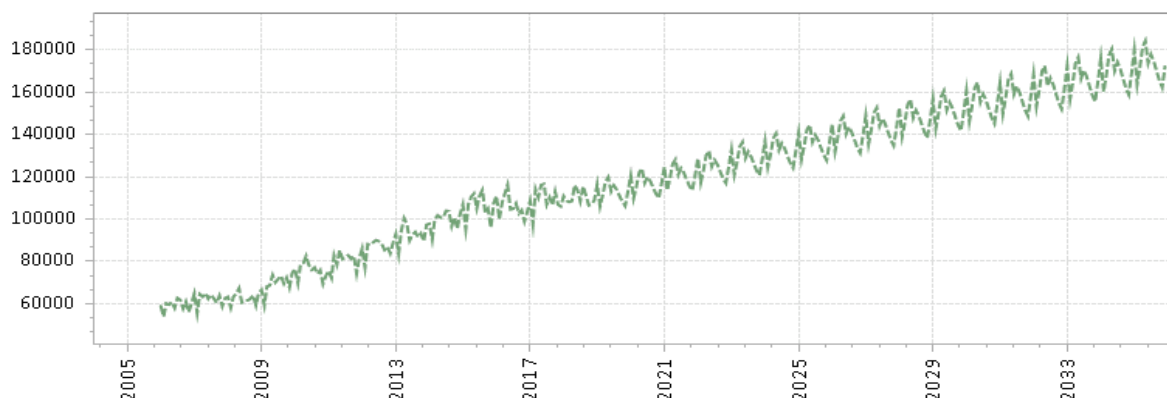


Consumo Total



EDEMET

Consumo Residencial



Variable Dependiente: CRES

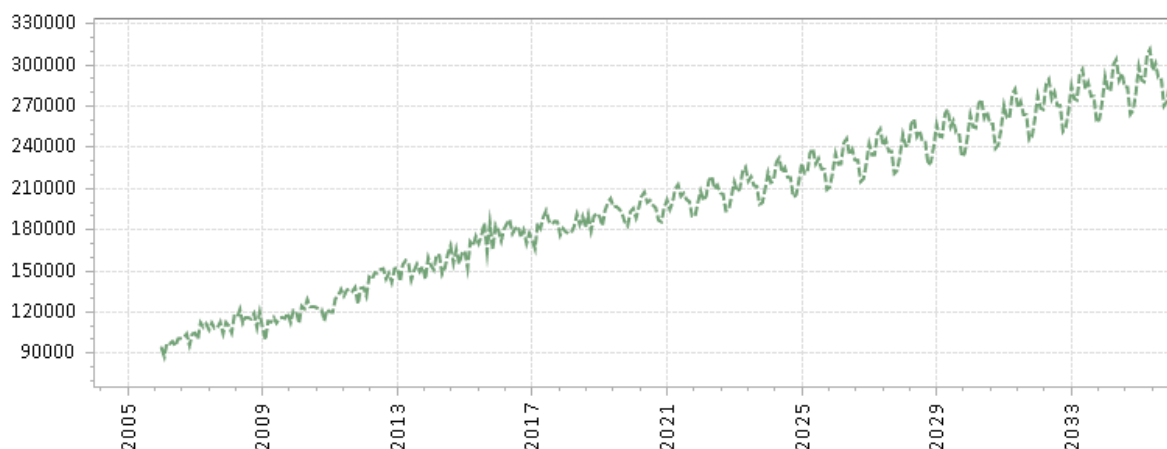
Estadístico - F = 366.995499653071
 Probabilidad Estadístico - F = 0.00000000000000000000
 R-Squared = 0.968550319240446
 R-Squared Ajustado = 0.965911185190694

Variable	Coefficient	Std. Error	t-Statistic	Prob.
c	4.87	0.099	48.917	0
log(PIB)	0.839	0.012	65.419	0
@seas(2)	-0.095	0.016	-5.809	0
@seas(3)	-0.051	0.016	-3.153	0.001
@seas(4)	0.003	0.016	0.183	0.854
@seas(5)	0.016	0.016	1.024	0.307
@seas(6)	-0.043	0.016	-2.623	0.009
@seas(7)	-0.021	0.016	-1.309	0.192
@seas(8)	-0.041	0.016	-2.526	0.012
@seas(9)	-0.071	0.016	-4.319	0
@seas(10)	-0.099	0.016	-5.992	0
@seas(11)	-0.12	0.016	-7.304	0
@seas(12)	-0.063	0.016	-3.829	0

Indicadores de bondad estadísticos:

Root Mean Squared Error: 3296.35659445982
 Mean Absolute Error: 2630.74140858222
 Mean Absolute Percent Error: 3.16320325983052
 Theil Inequality Coefficient: 0.0186914542486927
 Covariance Proportion: 342024298.786467
 Akaike information criterion: -3.42622367956383
 Schwarz information criterion: -3.17206901229303
 Hannan-Quinn information criterion: -3.32299705798636
 Durbin-Watson statistic: 0.740059727781883
 Log-Likelihood: 280.245447005979

Consumo Comercial



Variable Dependiente: CCOM

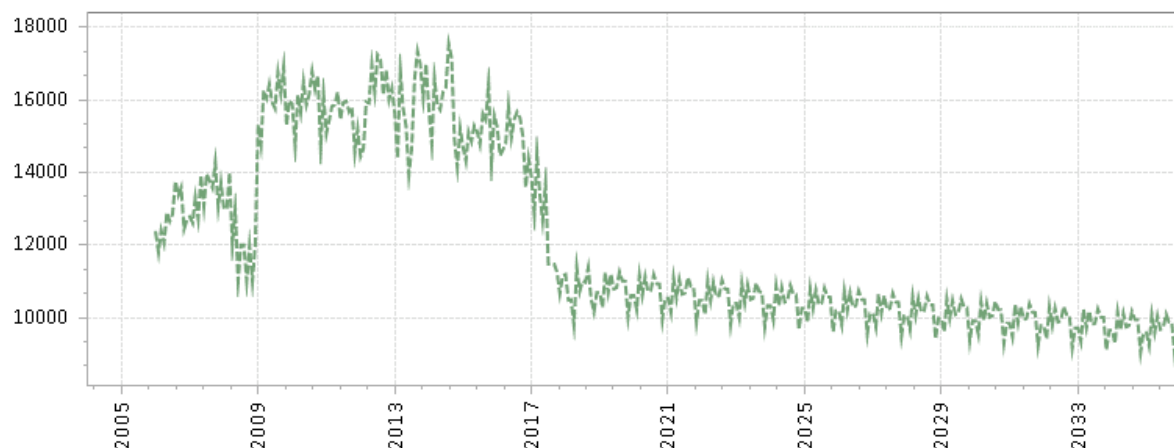
Estadístico - F = 268.262646160446
 Probabilidad Estadístico - F = 0.00000000000000000000
 R-Squared = 0.964062729446503
 R-Squared Ajustado = 0.960469002391153

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.996	0.223	8.924	0
LOG(PIBCOM)	0.301	0.038	7.938	0
LOG(CCOM(-12))	0.676	0.034	19.742	0
@seas(2)	-0.011	0.015	-0.719	0.473
@seas(3)	-0.013	0.015	-0.835	0.405
@seas(4)	0.007	0.015	0.47	0.638
@seas(5)	0.01	0.015	0.682	0.496
@seas(6)	-0.006	0.015	-0.386	0.699
@seas(7)	-0.001	0.015	-0.072	0.942
@seas(8)	-0.013	0.015	-0.835	0.405
@seas(9)	-0.013	0.015	-0.878	0.381
@seas(10)	-0.038	0.016	-2.314	0.022
@seas(11)	-0.035	0.016	-2.127	0.035
@seas(12)	-0.02	0.016	-1.254	0.212

Indicadores de bondad estadísticos:

Root Mean Squared Error: 5501.40109058063
 Mean Absolute Error: 4222.99297382372
 Mean Absolute Percent Error: 2.87939963227199
 Theil Inequality Coefficient: 0.0183690297998418
 Covariance Proportion: 751793076.049171
 Akaike information criterion: -3.5771709344378
 Schwarz information criterion: -3.28843908586792
 Hannan-Quinn information criterion: -3.45984660339678
 Durbin-Watson statistic: 0.912303859668477
 Log-Likelihood: 271.556307279522

Consumo Industrial



Variable Dependiente: CIND

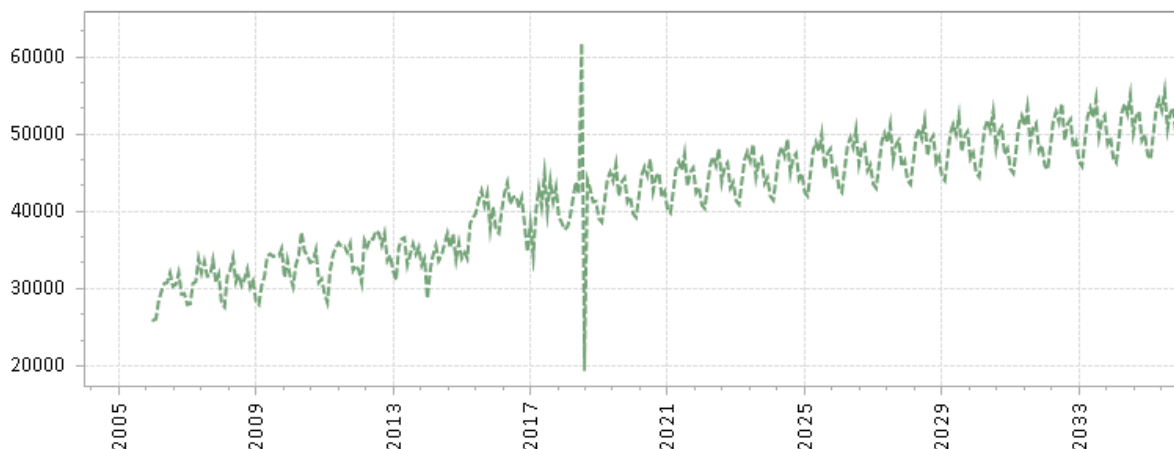
Estadístico - F = 1.15130301667873
 Probabilidad Estadístico - F = 0.32413123450775400000
 R-Squared = 0.0881011392416999
 R-Squared Ajustado = 0.011578157919325

Variable	Coefficient	Std. Error	t-Statistic	Prob.
c	10.673	0.411	25.956	0
LOG(PIBIND)	-0.226	0.083	-2.722	0.007
@seas(2)	-0.037	0.055	-0.687	0.493
@seas(3)	0.052	0.055	0.937	0.35
@seas(4)	0.001	0.055	0.027	0.978
@seas(5)	0.049	0.055	0.888	0.375
@seas(6)	0.012	0.055	0.225	0.822
@seas(7)	0.016	0.055	0.298	0.765
@seas(8)	0.056	0.055	1.011	0.313
@seas(9)	0.034	0.055	0.626	0.531
@seas(10)	0.034	0.055	0.621	0.535
@seas(11)	-0.059	0.055	-1.078	0.282
@seas(12)	0	0.055	-0.012	0.989

Indicadores de bondad estadísticos:

Root Mean Squared Error: 1853.46002101614
 Mean Absolute Error: 1669.72939430572
 Mean Absolute Percent Error: 11.7310791658842
 Theil Inequality Coefficient: 0.064434613884492
 Covariance Proportion: 323699.838599087
 Akaike information criterion: -1.00074235754145
 Schwarz information criterion: -0.746587690270658
 Hannan-Quinn information criterion: -0.897515735963982
 Durbin-Watson statistic: 0.138377232878394
 Log-Likelihood: 91.0579038882333

Consumo Gobierno



Variable Dependiente: CGOB

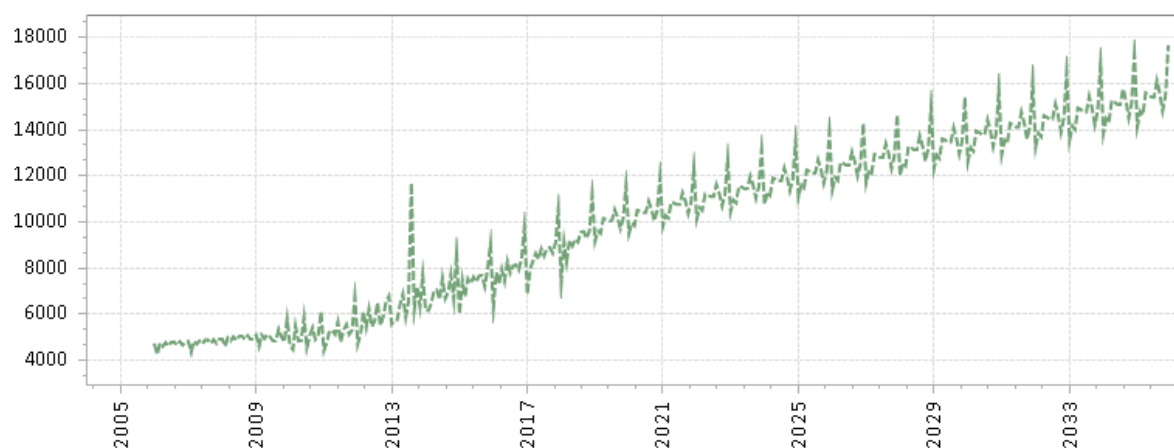
Estadístico - F = 25.1633972847347
 Probabilidad Estadístico - F = 0.000000000000000000
 R-Squared = 0.678623351829028
 R-Squared Ajustado = 0.651654682052443

Variable	Coefficient	Std. Error	t-Statistic	Prob.
c	7.516	0.191	39.353	0
LOG(PIB)	0.368	0.024	14.972	0
@seas(2)	-0.013	0.031	-0.416	0.677
@seas(3)	0.049	0.031	1.561	0.12
@seas(4)	0.115	0.031	3.658	0
@seas(5)	0.137	0.031	4.344	0
@seas(6)	0.11	0.031	3.512	0
@seas(7)	0.156	0.031	4.945	0
@seas(8)	0.062	0.031	1.963	0.051
@seas(9)	0.103	0.031	3.282	0.001
@seas(10)	0.114	0.031	3.595	0
@seas(11)	0.04	0.031	1.293	0.197
@seas(12)	0.056	0.031	1.774	0.078

Indicadores de bondad estadísticos:

Root Mean Squared Error: 2830.04400743262
 Mean Absolute Error: 1668.83350665332
 Mean Absolute Percent Error: 4.58201396856742
 Theil Inequality Coefficient: 0.0400655324032018
 Covariance Proportion: 15489689.9122946
 Akaike information criterion: -2.12315508056619
 Schwarz information criterion: -1.86900041329539
 Hannan-Quinn information criterion: -2.01992845898872
 Durbin-Watson statistic: 2.15628733542432
 Log-Likelihood: 178.606096284163

Consumo alumbrado



Variable Dependiente: CALP

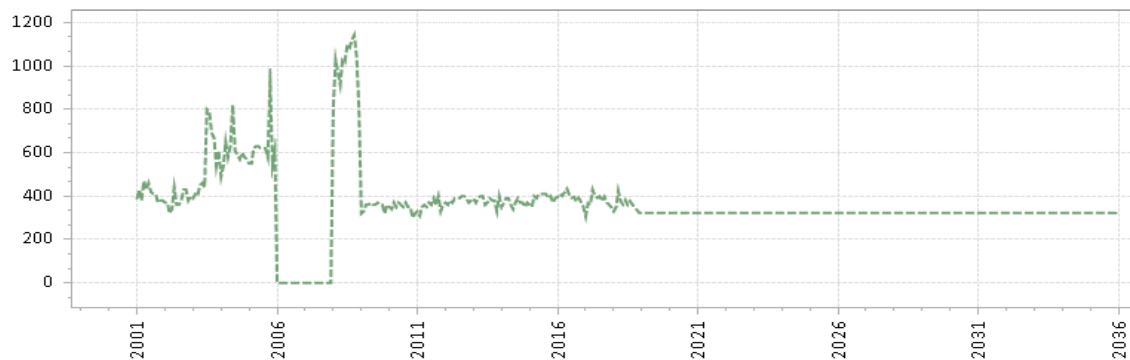
Estadístico - F = 64.5769437571697
 Probabilidad Estadístico - F = 0.000000000000000000
 R-Squared = 0.844213567634751
 R-Squared Ajustado = 0.831140580303402

Variable	Coefficient	Std. Error	t-Statistic	Prob.
c	2.162	0.242	8.903	0
LOG(PIB)	0.835	0.031	26.681	0
@seas(2)	0.043	0.04	1.095	0.274
@seas(3)	0.031	0.04	0.773	0.44
@seas(4)	0.093	0.04	2.326	0.021
@seas(5)	0.087	0.04	2.173	0.031
@seas(6)	0.078	0.04	1.953	0.052
@seas(7)	0.076	0.04	1.898	0.059
@seas(8)	0.119	0.04	2.966	0.003
@seas(9)	0.083	0.04	2.085	0.038
@seas(10)	0.031	0.04	0.786	0.432
@seas(11)	0.073	0.04	1.832	0.069
@seas(12)	0.201	0.04	5.002	0

Indicadores de bondad estadísticos:

Root Mean Squared Error: 674.325007431524
 Mean Absolute Error: 488.001710569569
 Mean Absolute Percent Error: 7.74679670477562
 Theil Inequality Coefficient: 0.0516834535255677
 Covariance Proportion: 2135218.13110181
 Akaike information criterion: -1.64232380312282
 Schwarz information criterion: -1.38816913585202
 Hannan-Quinn information criterion: -1.53909718154535
 Durbin-Watson statistic: 1.20604000360677
 Log-Likelihood: 141.10125664358

Consumo Otros



Archivo Fórmula: $COTR = COTR (t-1) * (1+\%)$

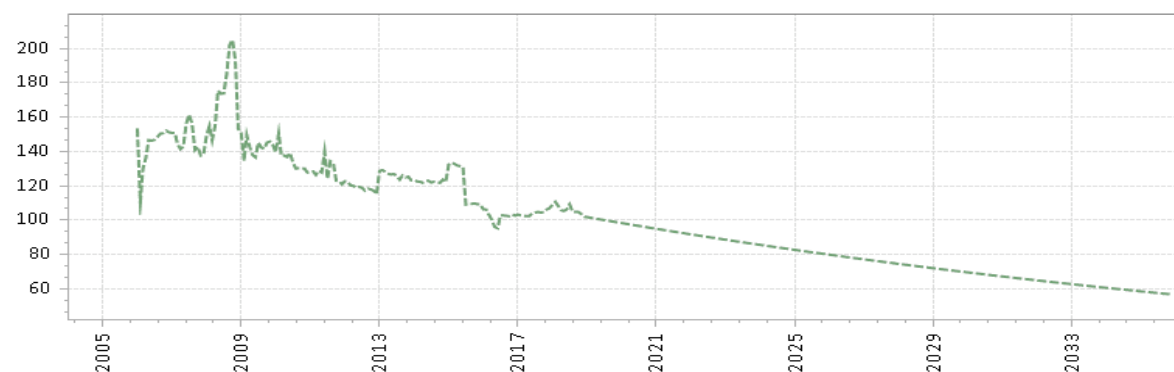
Datos Tendencia Residuos

Año Inicial: 2001 Cargar Datos Generar Proyección Tasa tendencial mensual: 0.02 Aceptar Proyección

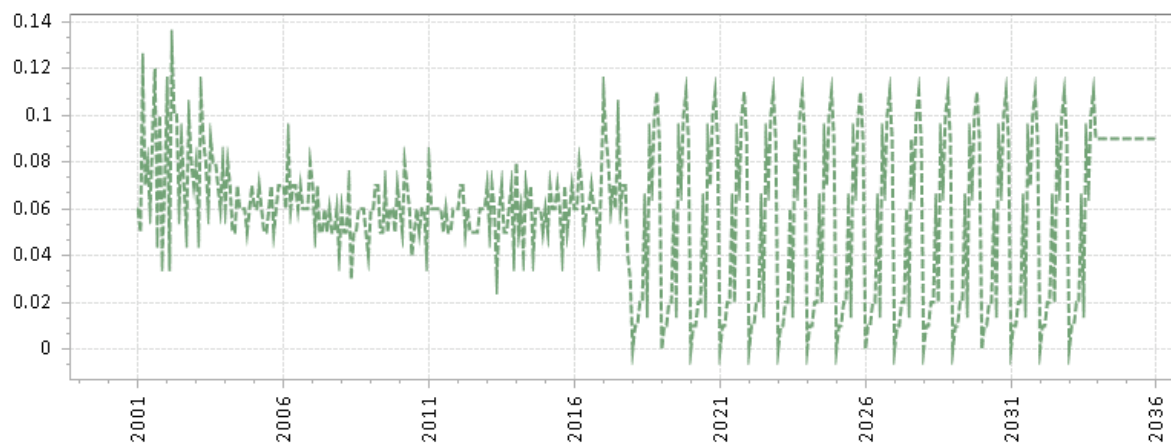
Año Final: 2018

Año	Mes	Consumo Otros [MWh]	Tasa [%]
2001	1	390.000	0.000
2001	2	430.000	10.260
2001	3	380.000	-11.630
2001	4	470.000	23.680
2001	5	430.000	-8.510
2001	6	460.000	6.980
2001	7	420.000	-8.700
2001	8	410.000	-2.380

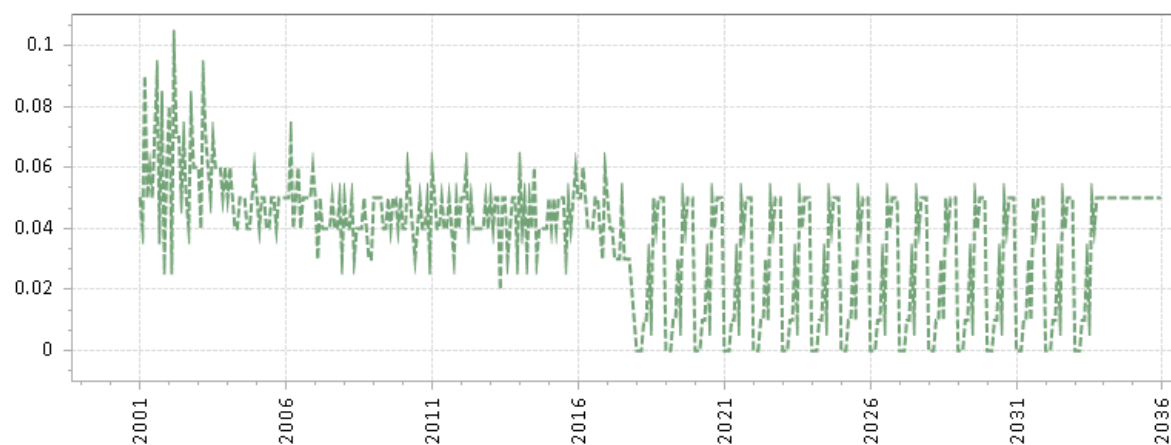
Tarifa media de la distribuidora real



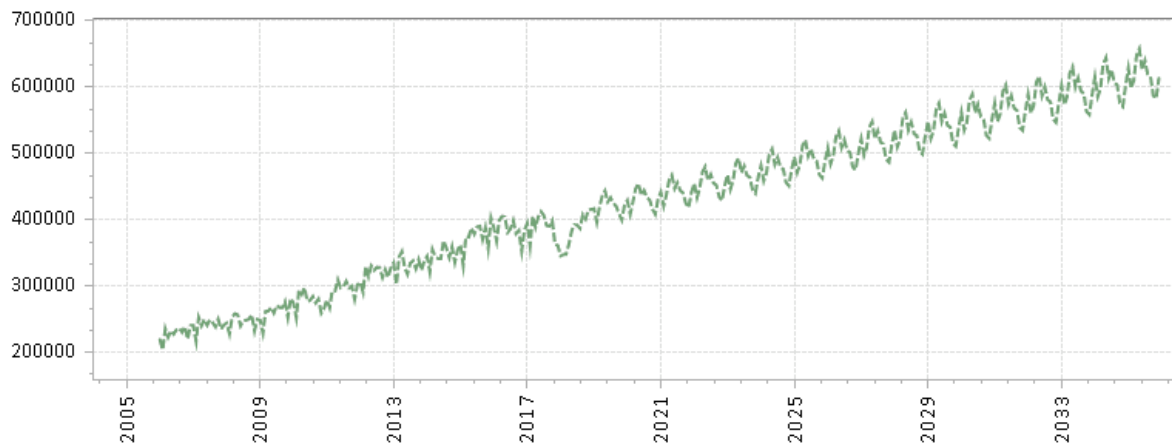
Pérdidas técnicas



Pérdidas no técnicas

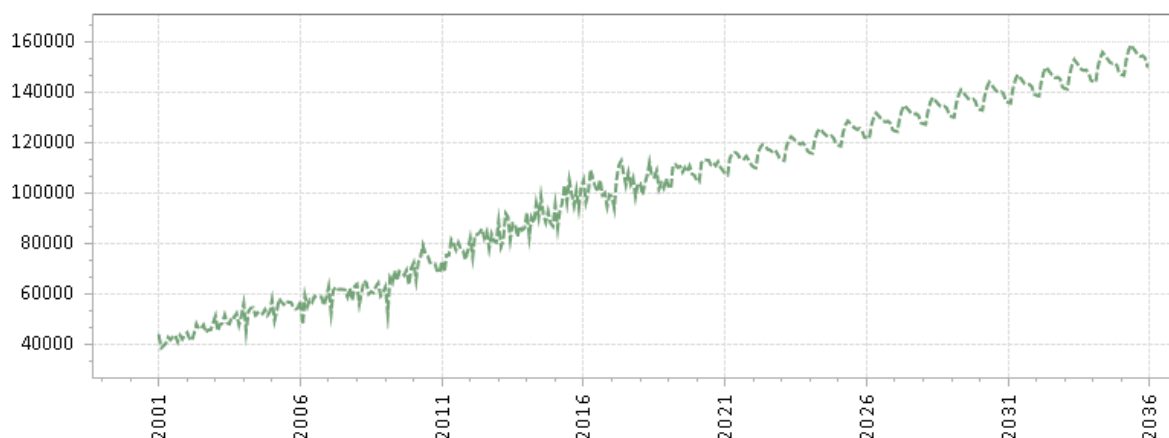


Consumo Total



ENSA

Consumo Residencial



Variable Dependiente: CRES

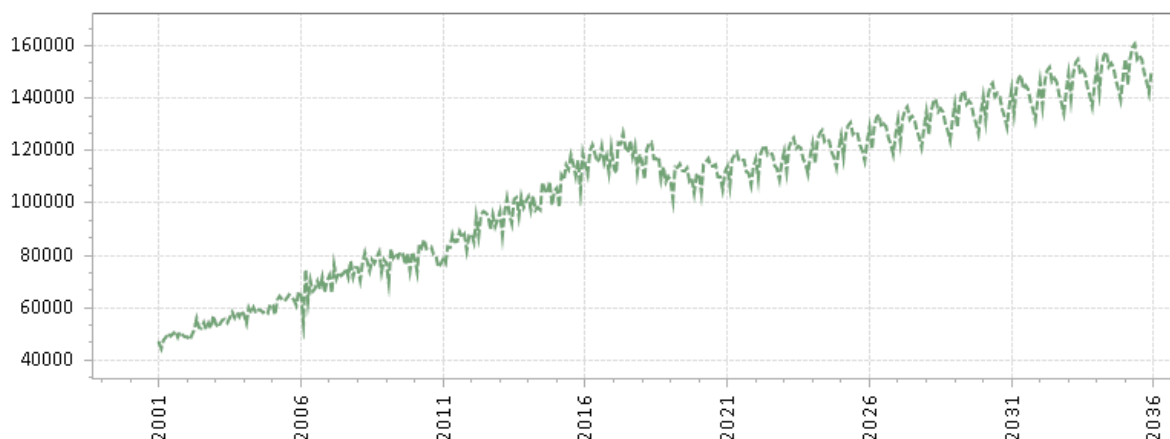
Estadístico - F = 2607.38765491851
 Probabilidad Estadístico - F = 0.000000000000000000
 R-Squared = 0.981276845063744
 R-Squared Ajustado = 0.980900500240904

Variable	Coefficient	Std. Error	t-Statistic	Prob.
c	-0.076	0.39	-0.195	0.845
log(PIB)	0.247	0.034	7.204	0
log(CRES(-12))	0.615	0.044	13.834	0
log(TEMPMAX)	0.223	0.094	2.382	0.018
log(TEMPMIN)	0.573	0.108	5.259	0

Indicadores de bondad estadísticos:

Root Mean Squared Error: 3374.6800328642
 Mean Absolute Error: 2541.40180762273
 Mean Absolute Percent Error: 3.45525644172086
 Theil Inequality Coefficient: 0.0218893270048651
 Covariance Proportion: 387579901.814794
 Akaike information criterion: -3.69111081874028
 Schwarz information criterion: -3.60978434830292
 Hannan-Quinn information criterion: -3.65821278656956
 Durbin-Watson statistic: 1.61847665648791
 Log-Likelihood: 381.493303511509

Consumo Comercial



Variable Dependiente: CCOM

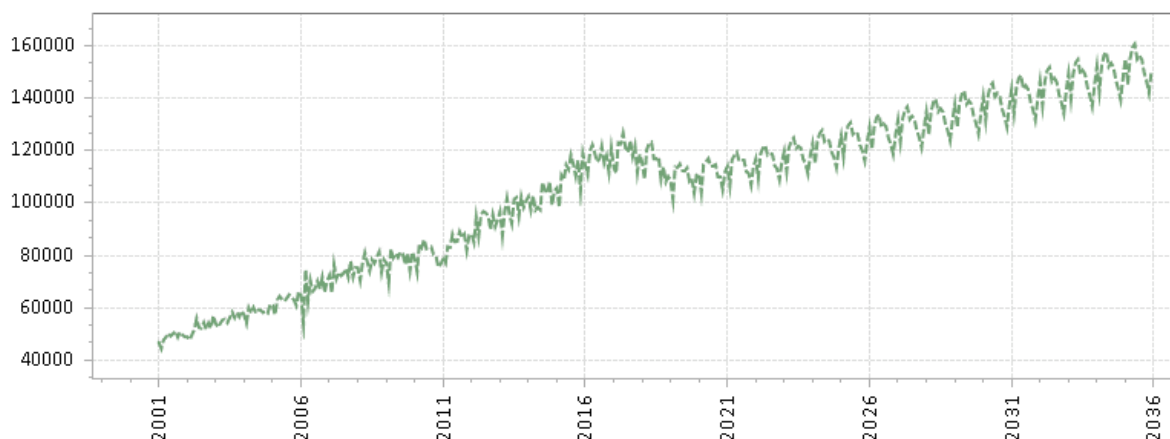
Estadístico - F = 704.850269527394
 Probabilidad Estadístico - F = 0.00000000000000000000
 R-Squared = 0.979685778561871
 R-Squared Ajustado = 0.978295858147683

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	2.14	0.21	10.194	0
LOG(PIBCOM)	0.222	0.027	8.124	0
LOG(CCOM(-12))	0.694	0.032	21.627	0
@seas(2)	-0.02	0.013	-1.505	0.133
@seas(3)	-0.001	0.013	-0.103	0.917
@seas(4)	0.006	0.013	0.515	0.606
@seas(5)	0.008	0.013	0.659	0.51
@seas(6)	-0.002	0.013	-0.201	0.84
@seas(7)	0	0.013	-0.03	0.975
@seas(8)	-0.004	0.013	-0.3	0.764
@seas(9)	-0.014	0.013	-1.095	0.274
@seas(10)	-0.021	0.013	-1.596	0.111
@seas(11)	-0.031	0.013	-2.286	0.023
@seas(12)	-0.014	0.013	-1.035	0.301

Indicadores de bondad estadísticos:

Root Mean Squared Error: 3789.41033640458
 Mean Absolute Error: 2843.00894232327
 Mean Absolute Percent Error: 3.19484731638681
 Theil Inequality Coefficient: 0.0215871791388535
 Covariance Proportion: 466357749.558428
 Akaike information criterion: -3.57129862812761
 Schwarz information criterion: -3.34358451090301
 Hannan-Quinn information criterion: -3.47918413804959
 Durbin-Watson statistic: 1.31947942925355
 Log-Likelihood: 378.272460069016

Consumo Industrial



Variable Dependiente: CCOM

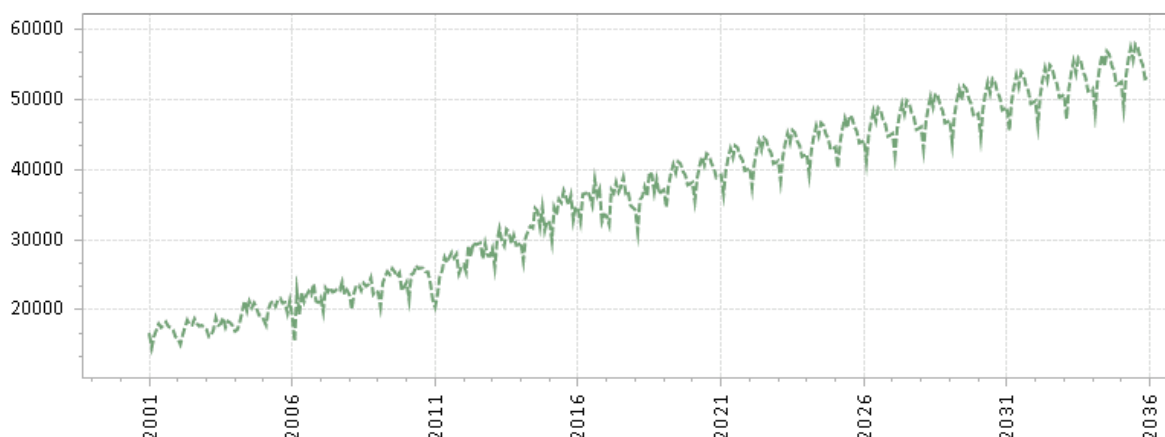
Estadístico - F = 704.850269527394
 Probabilidad Estadístico - F = 0.000000000000000000
 R-Squared = 0.979685778561871
 R-Squared Ajustado = 0.978295858147683

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	2.14	0.21	10.194	0
LOG(PIBCOM)	0.222	0.027	8.124	0
LOG(CCOM(-12))	0.694	0.032	21.627	0
@seas(2)	-0.02	0.013	-1.505	0.133
@seas(3)	-0.001	0.013	-0.103	0.917
@seas(4)	0.006	0.013	0.515	0.606
@seas(5)	0.008	0.013	0.659	0.51
@seas(6)	-0.002	0.013	-0.201	0.84
@seas(7)	0	0.013	-0.03	0.975
@seas(8)	-0.004	0.013	-0.3	0.764
@seas(9)	-0.014	0.013	-1.095	0.274
@seas(10)	-0.021	0.013	-1.596	0.111
@seas(11)	-0.031	0.013	-2.286	0.023
@seas(12)	-0.014	0.013	-1.035	0.301

Indicadores de bondad estadísticos:

Root Mean Squared Error: 3789.41033640458
 Mean Absolute Error: 2843.00894232327
 Mean Absolute Percent Error: 3.19484731638681
 Theil Inequality Coefficient: 0.0215871791388535
 Covariance Proportion: 466357749.558428
 Akaike information criterion: -3.57129862812761
 Schwarz information criterion: -3.34358451090301
 Hannan-Quinn information criterion: -3.47918413804959
 Durbin-Watson statistic: 1.31947942925355
 Log-Likelihood: 378.272460069016

Consumo Gobierno



Variable Dependiente: CGOB

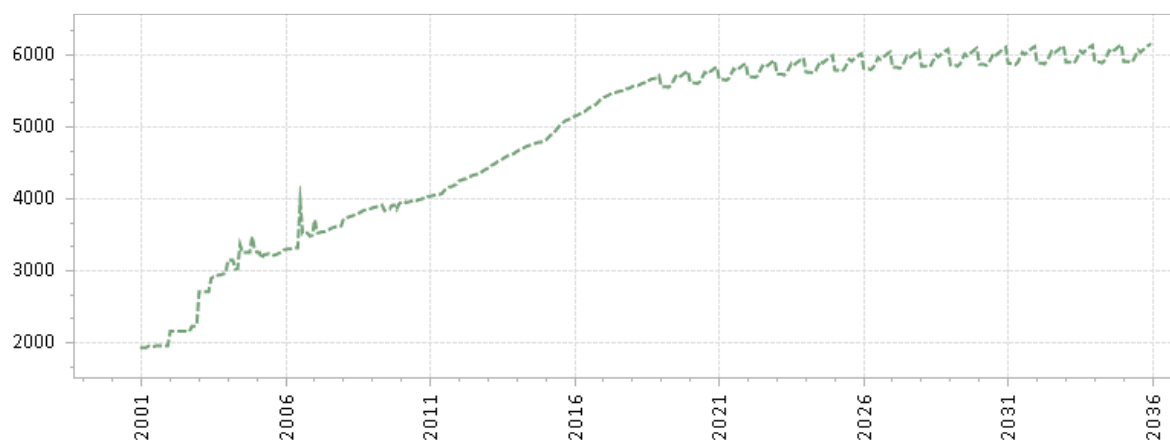
Estadístico - F = 529.235810426402
 Probabilidad Estadístico - F = 0.000000000000000000
 R-Squared = 0.969025743952116
 R-Squared Ajustado = 0.967194753446823

Variable	Coefficient	Std. Error	t-Statistic	Prob.
c	5.039	0.065	76.981	0
LOG(PIB)	0.667	0.008	77.81	0
@seas(2)	-0.072	0.015	-4.59	0
@seas(3)	0.01	0.015	0.694	0.488
@seas(4)	0.053	0.015	3.371	0
@seas(5)	0.082	0.015	5.239	0
@seas(6)	0.051	0.015	3.233	0.001
@seas(7)	0.088	0.015	5.593	0
@seas(8)	0.079	0.015	4.991	0
@seas(9)	0.049	0.015	3.127	0.002
@seas(10)	0.033	0.015	2.142	0.033
@seas(11)	-0.005	0.015	-0.324	0.745
@seas(12)	-0.003	0.015	-0.213	0.831

Indicadores de bondad estadísticos:

Root Mean Squared Error: 1202.95729557804
 Mean Absolute Error: 958.080744008428
 Mean Absolute Percent Error: 3.66944489215556
 Theil Inequality Coefficient: 0.0225231352251267
 Covariance Proportion: 43207839.8497311
 Akaike information criterion: -3.19981001407572
 Schwarz information criterion: -2.99666825805769
 Hannan-Quinn information criterion: -3.11774024738257
 Durbin-Watson statistic: 0.818269179059302
 Log-Likelihood: 358.579481520178

Consumo alumbrado



Variable Dependiente: CALP

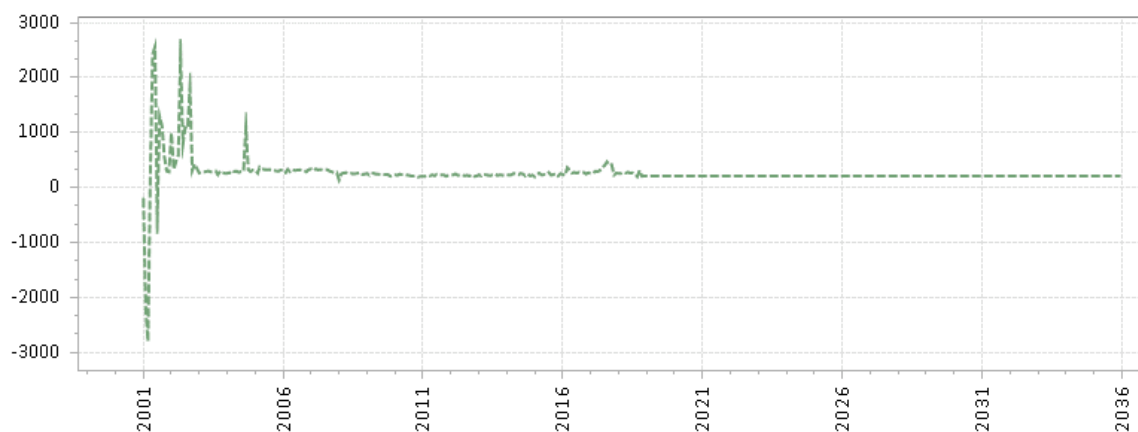
Estadístico - F = 390.269129651714
 Probabilidad Estadístico - F = 0.000000000000000000
 R-Squared = 0.960814319922229
 R-Squared Ajustado = 0.958352392378076

Variable	Coefficient	Std. Error	t-Statistic	Prob.
c	1.237	0.103	11.936	0
LOG(CALP(-12))	0.856	0.012	68.319	0
@seas(2)	0	0.017	-0.003	0.997
@seas(3)	0	0.017	-0.002	0.997
@seas(4)	0	0.017	-0.023	0.98
@seas(5)	0	0.017	0.021	0.983
@seas(6)	0.002	0.017	0.121	0.903
@seas(7)	0.003	0.017	0.22	0.826
@seas(8)	0.003	0.017	0.178	0.858
@seas(9)	0.003	0.017	0.223	0.823
@seas(10)	0.004	0.017	0.259	0.795
@seas(11)	0.005	0.017	0.302	0.762
@seas(12)	0.005	0.017	0.331	0.74

Indicadores de bondad estadísticos:

Root Mean Squared Error: 270.777905320786
 Mean Absolute Error: 235.333401226064
 Mean Absolute Percent Error: 5.7531431201922
 Theil Inequality Coefficient: 0.0320366166024641
 Covariance Proportion: 848166.10606773
 Akaike information criterion: -3.09572143638526
 Schwarz information criterion: -2.88427261324813
 Hannan-Quinn information criterion: -3.01018655274138

Consumo Otros



Archivo Fórmula: $COTR = COTR (t-1) * (1+\%)$

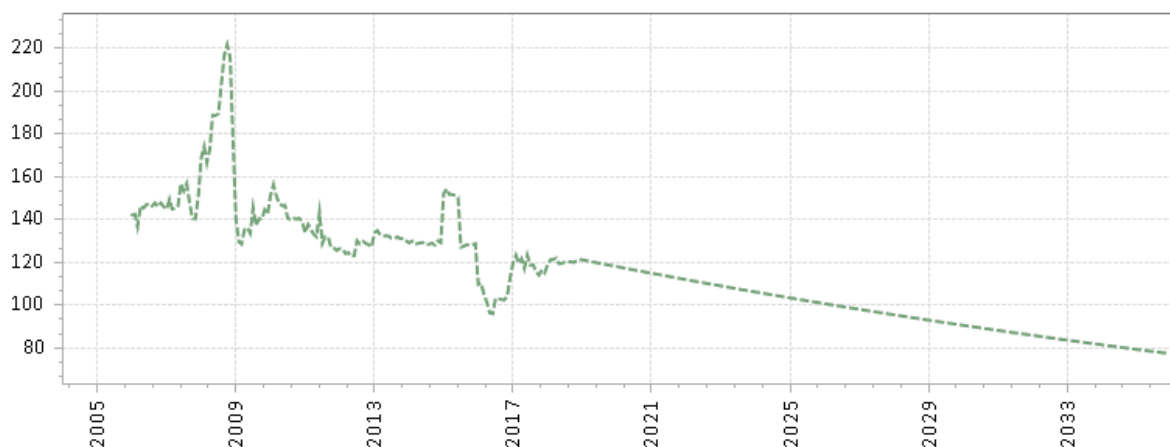
Datos Tendencia Residuos

Año Inicial: 2001 Cargar Datos Generar Proyección Tasa tendencial mensual: 0.00 Aceptar Proyección

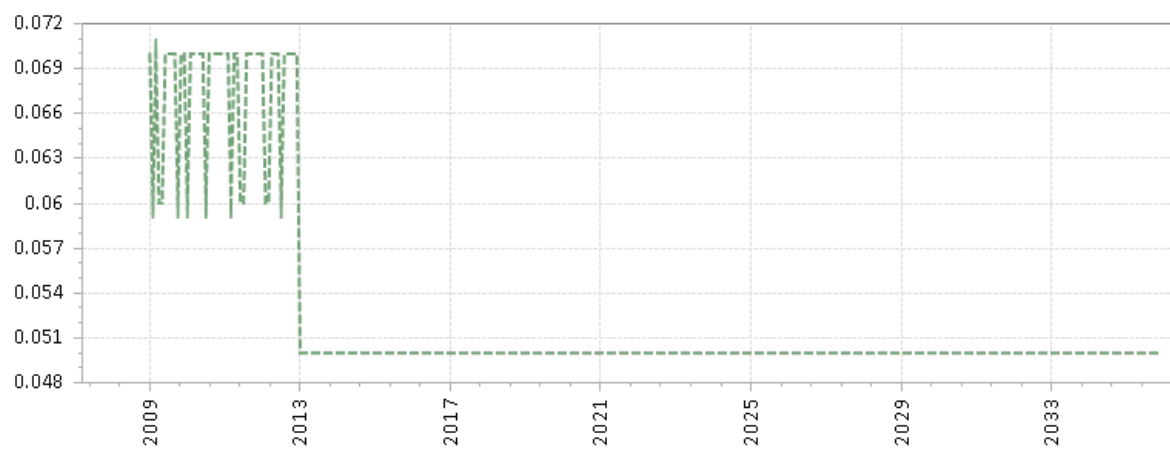
Año Final: 2018

Año	Mes	Consumo Otros [MWh]	Tasa [%]
2001	1	-203.000	0.000
2001	2	-2222.000	994.580
2001	3	-2796.000	25.830
2001	4	174.000	-106.220
2001	5	2421.000	1291.380
2001	6	2560.000	5.740
2001	7	-571.000	-122.300

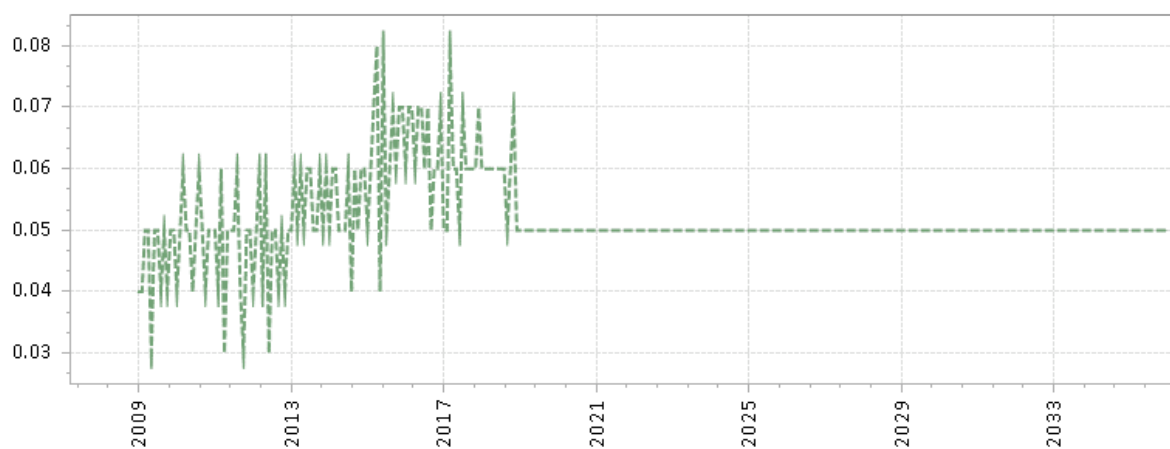
Tarifa media de la distribuidora real



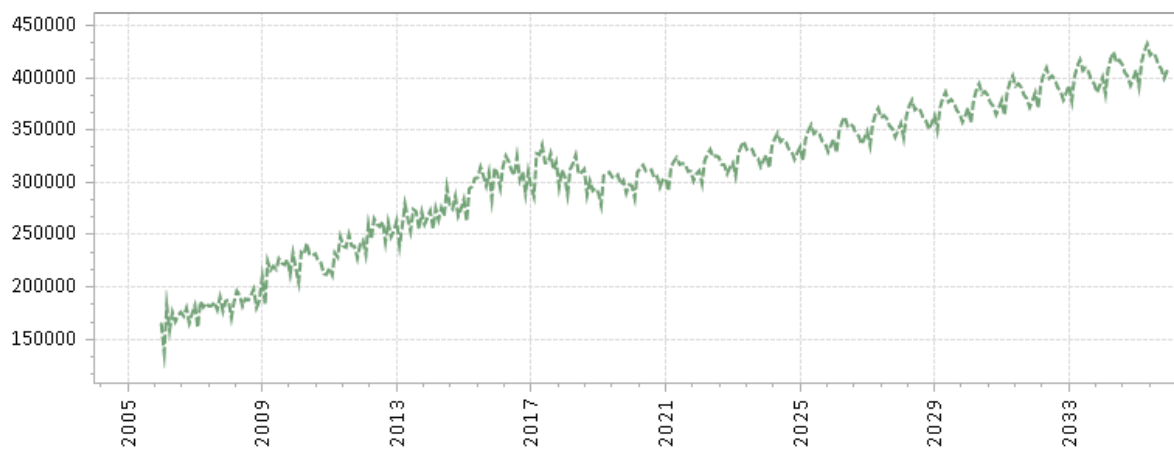
Pérdidas técnicas



Pérdidas no técnicas

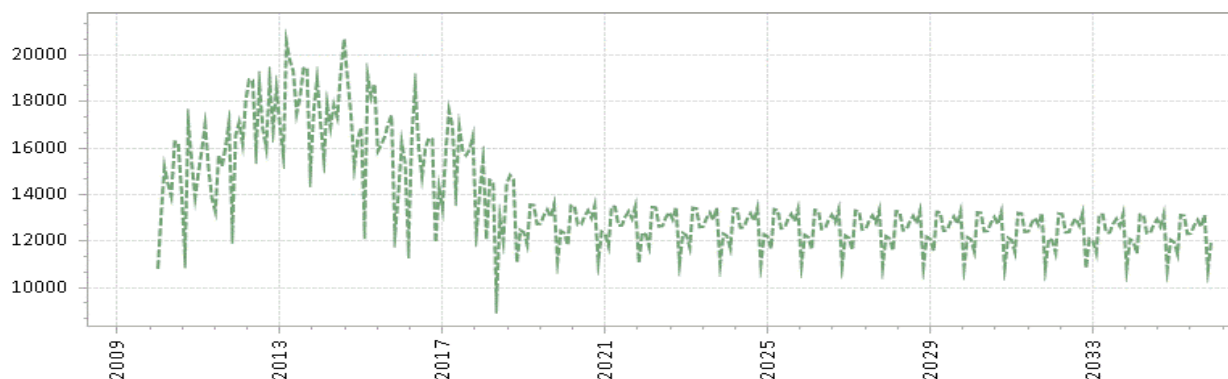


Consumo Total



GRANDES USUARIOS

Alta Tensión



Variable Dependiente: GU_AT

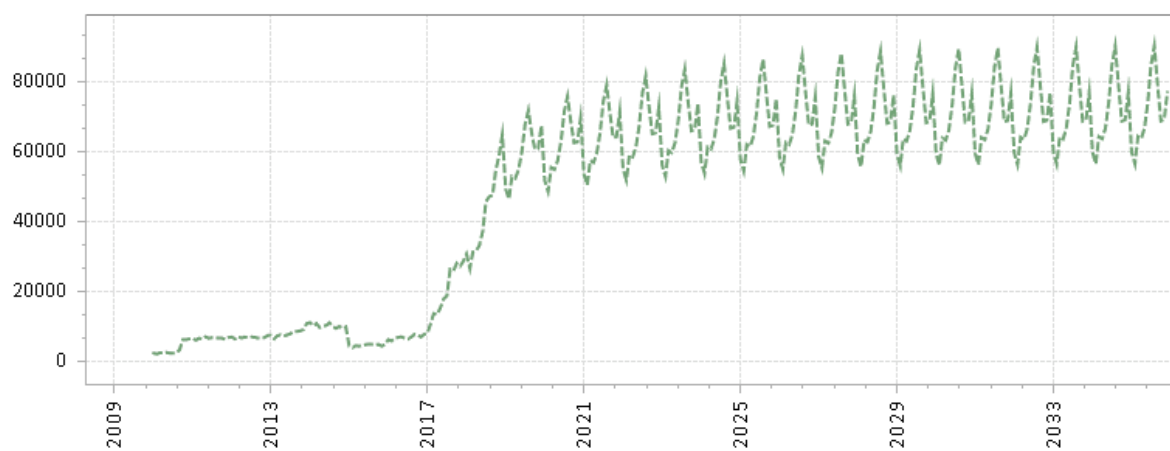
Estadístico - F = 1.38439029028088
 Probabilidad Estadístico - F = 0.18689858864765200000
 R-Squared = 0.148842254884461
 R-Squared Ajustado = 0.0413275923435513

Variable	Coefficient	Std. Error	t-Statistic	Prob.
c	10.15	0.704	14.404	0
log(PIB)	-0.065	0.089	-0.731	0.466
@seas(2)	-0.043	0.069	-0.627	0.531
@seas(3)	0.091	0.07	1.311	0.192
@seas(4)	0.09	0.069	1.298	0.197
@seas(5)	0.028	0.069	0.415	0.678
@seas(6)	0.03	0.069	0.436	0.663
@seas(7)	0.058	0.069	0.839	0.403
@seas(8)	0.076	0.069	1.096	0.275
@seas(9)	0.052	0.069	0.758	0.45
@seas(10)	0.093	0.07	1.321	0.189
@seas(11)	-0.103	0.069	-1.479	0.142
@seas(12)	0.007	0.07	0.1	0.92

Indicadores de bondad estadísticos:

Root Mean Squared Error: 2098.91790006356
 Mean Absolute Error: 1690.4146383047
 Mean Absolute Percent Error: 10.7933632914396
 Theil Inequality Coefficient: 0.0658803241893755
 Covariance Proportion: 772231.346014005
 Akaike information criterion: -0.877413373420817
 Schwarz information criterion: -0.554564244229939
 Hannan-Quinn information criterion: -0.746509777923306
 Durbin-Watson statistic: 0.940135633503981
 Log-Likelihood: 60.3803221647241

Baja Tensión



Variable Dependiente: GU_BT

Estadístico - F = 3.75959461055013
 Probabilidad Estadístico - F = 0.00014829486304995900
 R-Squared = 0.352145241946554
 R-Squared Ajustado = 0.258479493794248

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	2.376	1.057	2.246	0.027
LOG(GU_BT(-12))	0.763	0.118	6.451	
@seas(2)	-0.013	0.288	-0.046	0.963
@seas(3)	0.017	0.288	0.058	0.953
@seas(4)	0.014	0.288	0.051	0.959
@seas(5)	0.025	0.289	0.087	0.93
@seas(6)	0.049	0.289	0.172	0.863
@seas(7)	0.081	0.289	0.282	0.778
@seas(8)	0.056	0.289	0.333	0.739
@seas(9)	0.065	0.289	0.225	0.822
@seas(10)	0.032	0.291	0.111	0.911
@seas(11)	0.033	0.29	0.115	0.908
@seas(12)	0.059	0.291	0.202	0.84

Indicadores de bondad estadísticos:

Root Mean Squared Error: 10345.312882247
 Mean Absolute Error: 7235.79590766159
 Mean Absolute Percent Error: 43.4141058958423
 Theil Inequality Coefficient: 0.301967061149325
 Covariance Proportion: 47241657.859456
 Akaike information criterion: 1.86520287380689
 Schwarz information criterion: 2.21245835806816
 Hannan-Quinn information criterion: 2.00556921462562

Pérdidas Técnicas



Variable Dependiente: PERT_GU

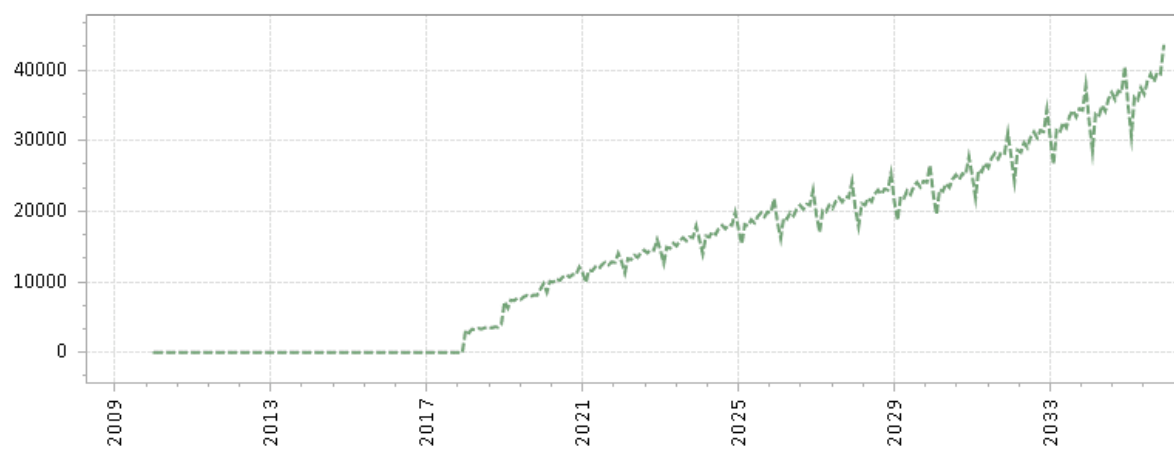
Estadístico - F = 2.90824522371572
 Probabilidad Estadístico - F = 0.00210402284736179000
 R-Squared = 0.296007257486207
 R-Squared Ajustado = 0.194225174231201

Variable	Coefficient	Std. Error	t-Statistic	Prob.
PERT_GU(-12)	0.228	0.107	2.139	0.035
c	0.054	0.008	6.773	0
@seas(2)	-0.006	0.004	-1.475	0.143
@seas(3)	0	0.004	0.215	0.83
@seas(4)	-0.009	0.004	-2.141	0.035
@seas(5)	-0.009	0.004	-2.141	0.035
@seas(6)	-0.006	0.004	-1.475	0.143
@seas(7)	-0.008	0.004	-1.947	0.054
@seas(8)	-0.004	0.004	-1.065	0.289
@seas(9)	-0.005	0.004	-1.272	0.206
@seas(10)	-0.01	0.004	-2.331	0.022
@seas(11)	-0.01	0.004	-2.219	0.029
@seas(12)	0	0.004	-0.087	0.93

Indicadores de bondad estadísticos:

Root Mean Squared Error: 0.00845770097852363
 Mean Absolute Error: 0.00654264296628438
 Mean Absolute Percent Error: 10.5041058272798
 Theil Inequality Coefficient: 0.0674081847245419
 Covariance Proportion: 2.67601662125617E-05
 Akaike information criterion: -6.4693581169209
 Schwarz information criterion: -6.12210263265963
 Hannan-Quinn information criterion: -6.32899177610217

Consumo del Metro de Panamá



Variable Dependiente: CMETRO

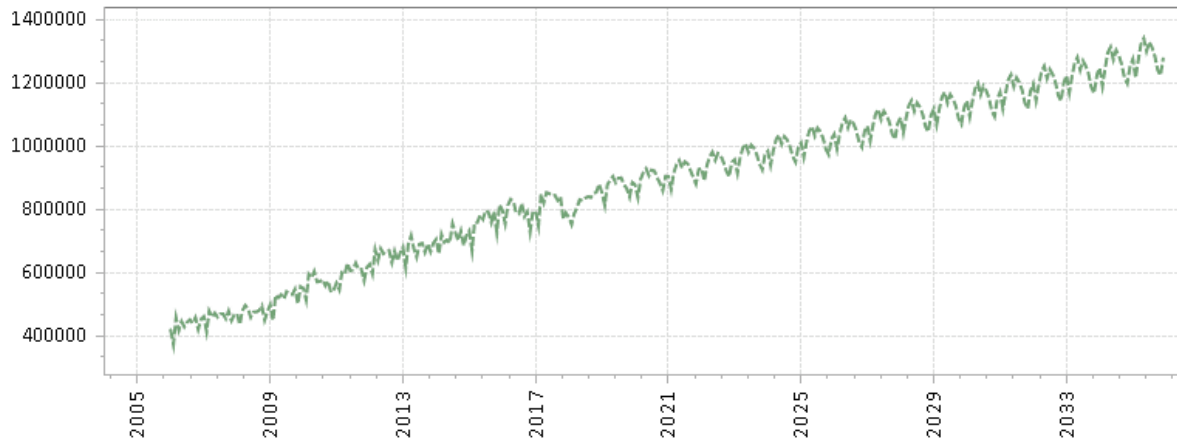
Estadístico - F = 1913.62448556805
 Probabilidad Estadístico - F = 0.000000000000000000
 R-Squared = 0.98867672400488
 R-Squared Ajustado = 0.988160072628677

Variable	Coefficient	Std. Error	t-Statistic	Prob.
CMETRO(-12)	1.048	0.006	150.83	0
c	800.432	256.501	3.12	0.002
@seas(2)	-100.406	347.079	-0.289	0.772
@seas(3)	25.229	346.96	0.072	0.942
@seas(4)	16.8	346.956	0.048	0.961
@seas(5)	56.013	346.992	0.161	0.871
@seas(6)	36.074	346.969	0.103	0.917
@seas(7)	77.925	347.029	0.224	0.822
@seas(8)	100.394	347.079	0.289	0.772
@seas(9)	75.81	347.025	0.218	0.827
@seas(10)	106.371	347.095	0.306	0.759
@seas(11)	101.163	347.081	0.291	0.77
@seas(12)	191.757	347.416	0.551	0.581

Indicadores de bondad estadísticos:

Root Mean Squared Error: 3025.18321273035
 Mean Absolute Error: 2324.66631718371
 Mean Absolute Percent Error: 37.1710351615036
 Theil Inequality Coefficient: 0.085967467433375
 Covariance Proportion: 109459780.021804
 Akaike information criterion: 17.0245574157268
 Schwarz information criterion: 17.1950835434599
 Hannan-Quinn information criterion: 17.0929866828801

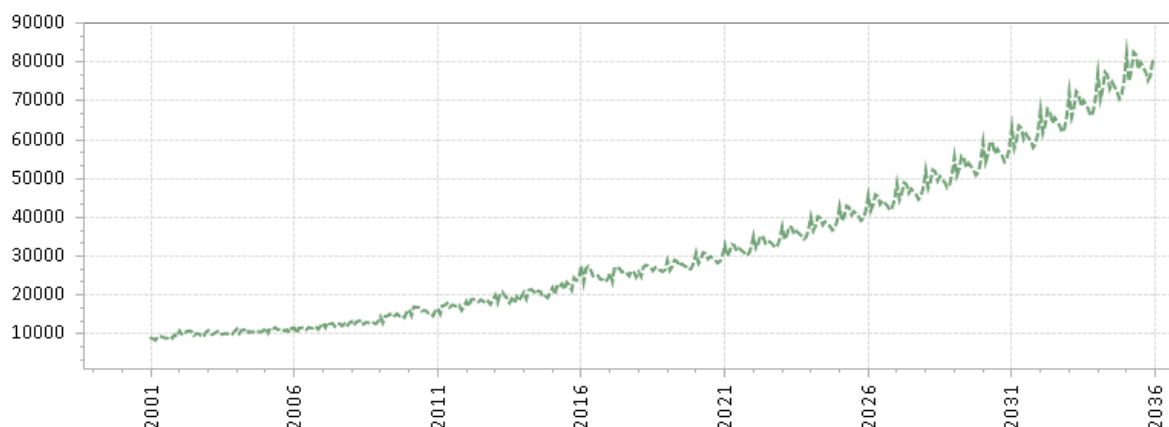
CONSUMO TOTAL DEL PAÍS



Proyección de la Demanda en el escenario Optimista.

EDECHI

Consumo Residencial



Variable Dependiente: CRES

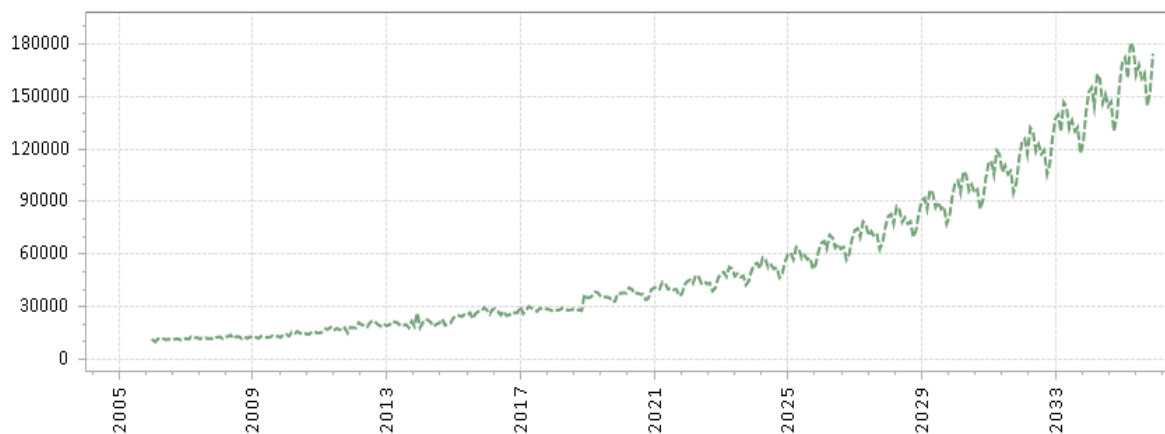
Estadístico - F = 536.158505626322
 Probabilidad Estadístico - F = 0.000000000000000000
 R-Squared = 0.969413440497551
 R-Squared Ajustado = 0.967605368014648

Variable	Coefficient	Std. Error	t-Statistic	Prob.
c	2.853	0.086	32.999	0
log(PIB)	0.905	0.011	79.89	0
@seas(2)	-0.096	0.02	-4.635	0
@seas(3)	-0.069	0.02	-3.304	0.001
@seas(4)	-0.012	0.02	-0.609	0.543
@seas(5)	-0.026	0.02	-1.277	0.202
@seas(6)	-0.078	0.02	-3.767	0
@seas(7)	-0.062	0.02	-2.987	0.003
@seas(8)	-0.083	0.02	-4.007	0
@seas(9)	-0.104	0.02	-4.996	0
@seas(10)	-0.137	0.02	-6.557	0
@seas(11)	-0.127	0.02	-6.08	0
@seas(12)	-0.082	0.02	-3.94	0

Indicadores de bondad estadísticos:

Root Mean Squared Error: 1087.04581135315
 Mean Absolute Error: 836.87705249924
 Mean Absolute Percent Error: 5.01977249613708
 Theil Inequality Coefficient: 0.0315546124964313
 Covariance Proportion: 30290831.853129
 Akaike information criterion: -2.64293621378384
 Schwarz information criterion: -2.43979445776581
 Hannan-Quinn information criterion: -2.56086644709069
 Durbin-Watson statistic: 0.479389504502752
 Log-Likelihood: 298.437111088655

Consumo Comercial



Variable Dependiente: CCOM

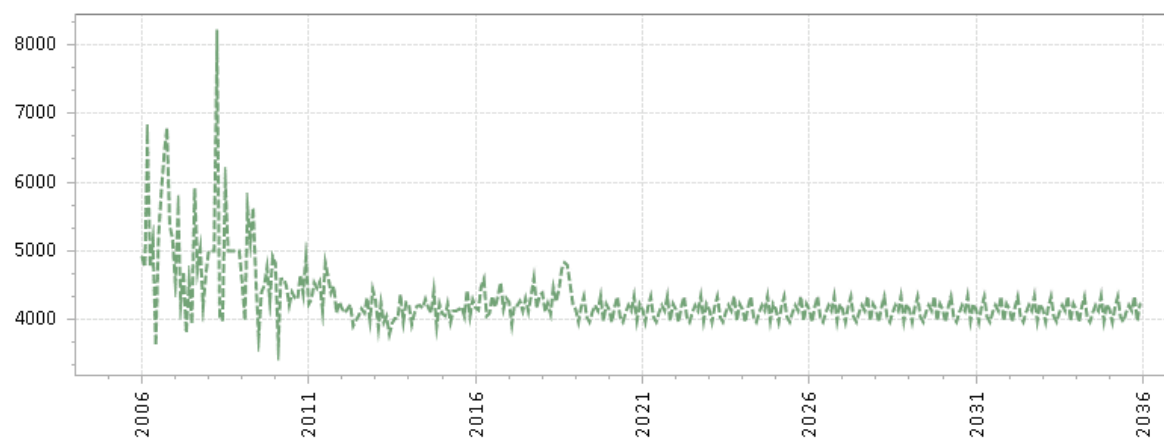
Estadístico - F = 137.596337056945
 Probabilidad Estadístico - F = 0.000000000000000000
 R-Squared = 0.932247641104116
 R-Squared Ajustado = 0.925472405214528

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.125	0.247	-0.507	0.612
LOG(PIBCOM)	0.588	0.081	7.222	0
LOG(CCOM(-12))	0.645	0.046	13.745	0
@seas(2)	0.002	0.035	0.063	0.949
@seas(3)	-0.025	0.035	-0.728	0.467
@seas(4)	0.013	0.035	0.389	0.697
@seas(5)	0.004	0.035	0.114	0.909
@seas(6)	-0.03	0.035	-0.864	0.388
@seas(7)	-0.021	0.035	-0.617	0.537
@seas(8)	-0.041	0.035	-1.149	0.252
@seas(9)	-0.038	0.035	-1.068	0.287
@seas(10)	-0.084	0.037	-2.266	0.025
@seas(11)	-0.067	0.036	-1.842	0.067
@seas(12)	-0.025	0.036	-0.696	0.487

Indicadores de bondad estadísticos:

Root Mean Squared Error: 1728.1858747382
 Mean Absolute Error: 1193.19157436211
 Mean Absolute Percent Error: 5.48255682823448
 Theil Inequality Coefficient: 0.041080202131248
 Covariance Proportion: 34784958.1973738
 Akaike information criterion: -1.96771790127622
 Schwarz information criterion: -1.67898605270633

Consumo Industrial



Variable Dependiente: CIND

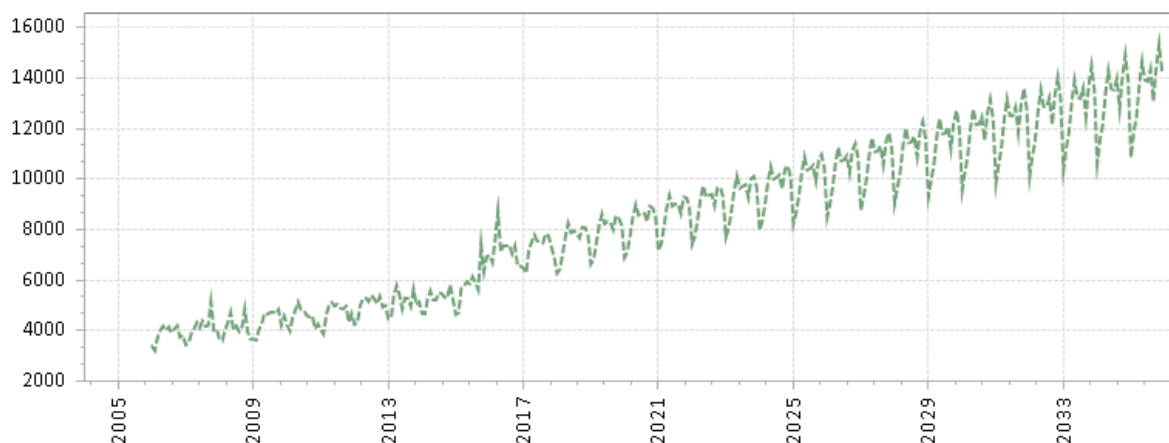
Estadístico - F = 2.1517300288456
 Probabilidad Estadístico - F = 0.01767741457219650000
 R-Squared = 0.164651416618269
 R-Squared Ajustado = 0.0881309356978048

Variable	Coefficient	Std. Error	t-Statistic	Prob.
c	6.549	0.582	11.241	0
LOG(CIND(-12))	0.218	0.069	3.155	0.001
@seas(2)	-0.035	0.039	-0.893	0.372
@seas(3)	0.005	0.039	0.137	0.891
@seas(4)	0.034	0.039	0.862	0.39
@seas(5)	-0.02	0.039	-0.516	0.606
@seas(6)	-0.035	0.039	-0.879	0.38
@seas(7)	-0.008	0.039	-0.217	0.827
@seas(8)	0.011	0.039	0.286	0.775
@seas(9)	-0.003	0.039	-0.09	0.928
@seas(10)	0.035	0.039	0.882	0.379
@seas(11)	-0.032	0.039	-0.81	0.418
@seas(12)	0.014	0.039	0.378	0.705

Indicadores de bondad estadísticos:

Root Mean Squared Error: 473.581289362655
 Mean Absolute Error: 288.590076738193
 Mean Absolute Percent Error: 6.55636380327356
 Theil Inequality Coefficient: 0.0537317356013047
 Covariance Proportion: 27087.4973796218
 Akaike information criterion: -1.74726092461038
 Schwarz information criterion: -1.47915277950977
 Hannan-Quinn information criterion: -1.63831690292943

Consumo Gobierno



Variable Dependiente: CGOB

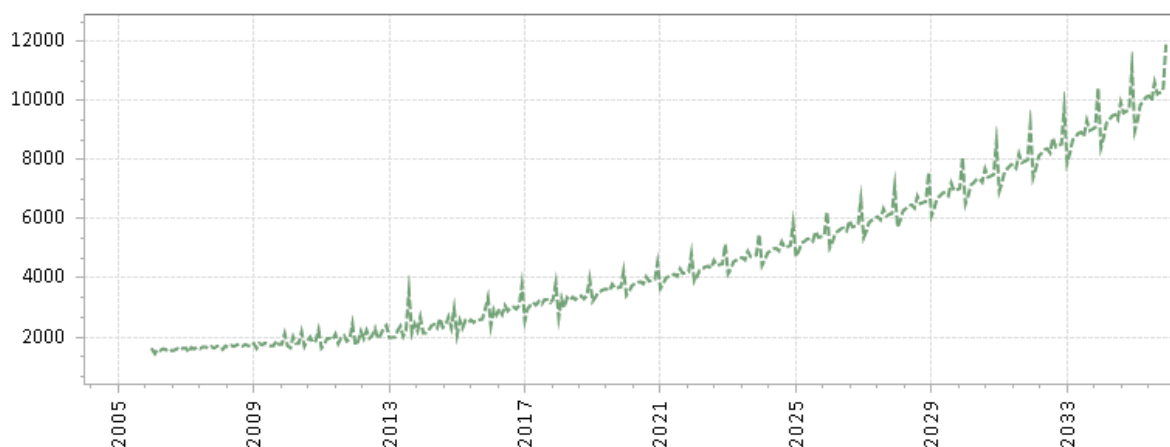
Estadístico - F = 60.4688114840684
 Probabilidad Estadístico - F = 0.000000000000000000
 R-Squared = 0.847074405754971
 R-Squared Ajustado = 0.833065954373747

Variable	Coefficient	Std. Error	t-Statistic	Prob.
c	0.325	0.32	1.014	0.312
LOG(CGOB(-12))	0.967	0.038	25.382	0
@seas(2)	0.005	0.038	0.149	0.881
@seas(3)	0.005	0.038	0.136	0.891
@seas(4)	0.008	0.039	0.227	0.82
@seas(5)	0.011	0.039	0.293	0.769
@seas(6)	0.009	0.039	0.247	0.804
@seas(7)	0.008	0.039	0.224	0.822
@seas(8)	0.011	0.039	0.3	0.763
@seas(9)	0.006	0.039	0.156	0.875
@seas(10)	0.01	0.039	0.269	0.788
@seas(11)	0.016	0.038	0.417	0.677
@seas(12)	0.012	0.038	0.31	0.756

Indicadores de bondad estadísticos:

Root Mean Squared Error: 566.071320961598
 Mean Absolute Error: 458.997524658545
 Mean Absolute Percent Error: 8.0321275150961
 Theil Inequality Coefficient: 0.049601546209634
 Covariance Proportion: 1365792.38535567
 Akaike information criterion: -1.7875948558893
 Schwarz information criterion: -1.51948671078869
 Hannan-Quinn information criterion: -1.67865083420835

Consumo alumbrado



Variable Dependiente: CALP

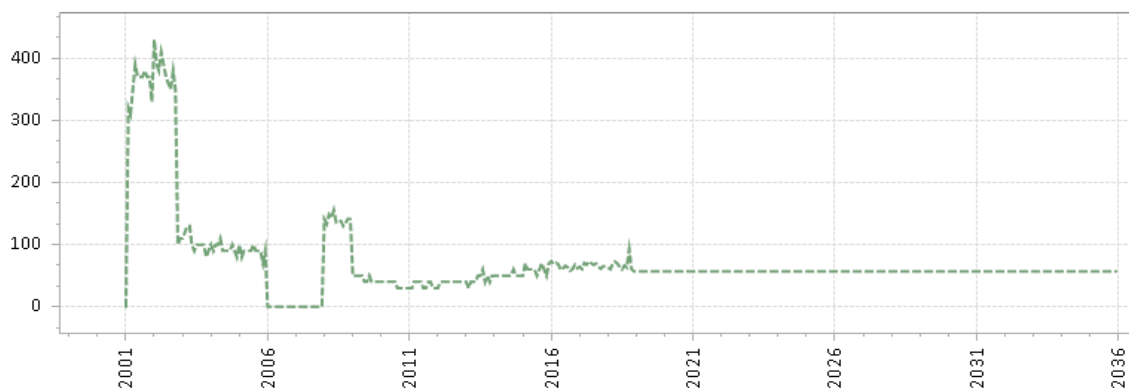
Estadístico - F = 137.355491623363
 Probabilidad Estadístico - F = 0.000000000000000000
 R-Squared = 0.920168189412033
 R-Squared Ajustado = 0.91346901649556

Variable	Coefficient	Std. Error	t-Statistic	Prob.
c	7.18	0.023	306.271	0
@trend	0.005	0	39.226	0
@seas(2)	0.037	0.03	1.254	0.211
@seas(3)	0.082	0.03	2.736	0.006
@seas(4)	0.088	0.03	2.94	0.003
@seas(5)	0.097	0.03	3.242	0.001
@seas(6)	0.096	0.03	3.214	0.001
@seas(7)	0.074	0.03	2.476	0.014
@seas(8)	0.129	0.03	4.289	0
@seas(9)	0.086	0.03	2.879	0.004
@seas(10)	0.087	0.03	2.892	0.004
@seas(11)	0.087	0.03	2.917	0.004
@seas(12)	0.219	0.03	7.288	0

Indicadores de bondad estadísticos:

Root Mean Squared Error: 174.624799819071
 Mean Absolute Error: 129.230744912488
 Mean Absolute Percent Error: 5.76562141543828
 Theil Inequality Coefficient: 0.0374829579466573
 Covariance Proportion: 331230.579647397
 Akaike information criterion: -2.2177526154817
 Schwarz information criterion: -1.9635979482109
 Hannan-Quinn information criterion: -2.11452599390423

Consumo Otros



Archivo Fórmula: $COTR = COTR(t-1) * (1+\%)$

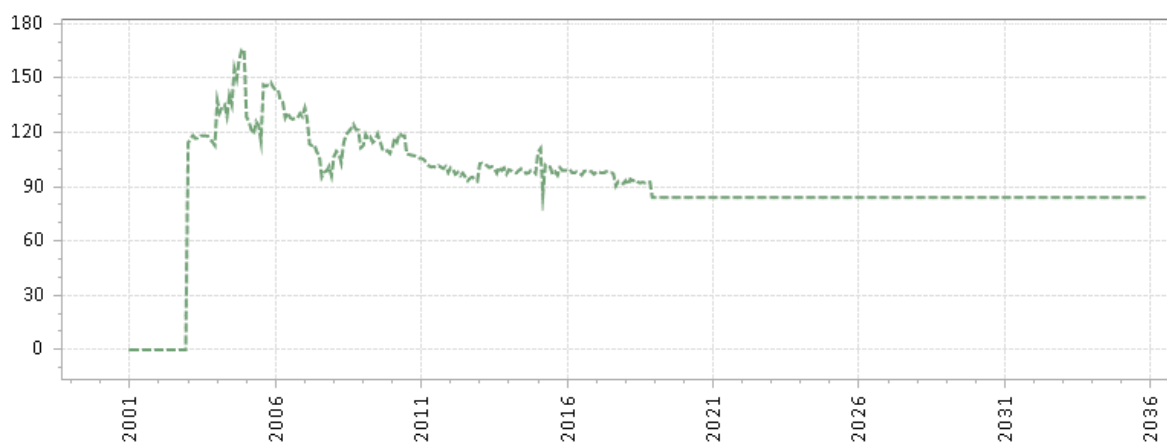
Datos Tendencia Residuos

Año Inicial: 2001 Cargar Datos Generar Proyección Tasa tendencial mensual: 0.00 Aceptar Proyección

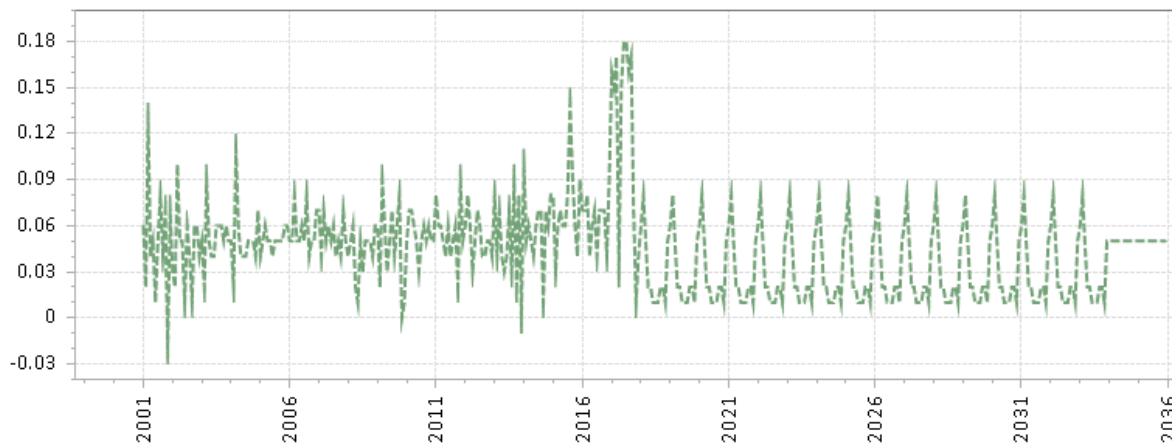
Año Final: 2018

Año	Mes	Consumo Otros [MWh]	Tasa [%]
2001	1	0.000	0.000
2001	2	320.000	0.000
2001	3	310.000	-3.130
2001	4	350.000	12.900
2001	5	390.000	11.430
2001	6	370.000	-5.130
2001	7	370.000	0.000

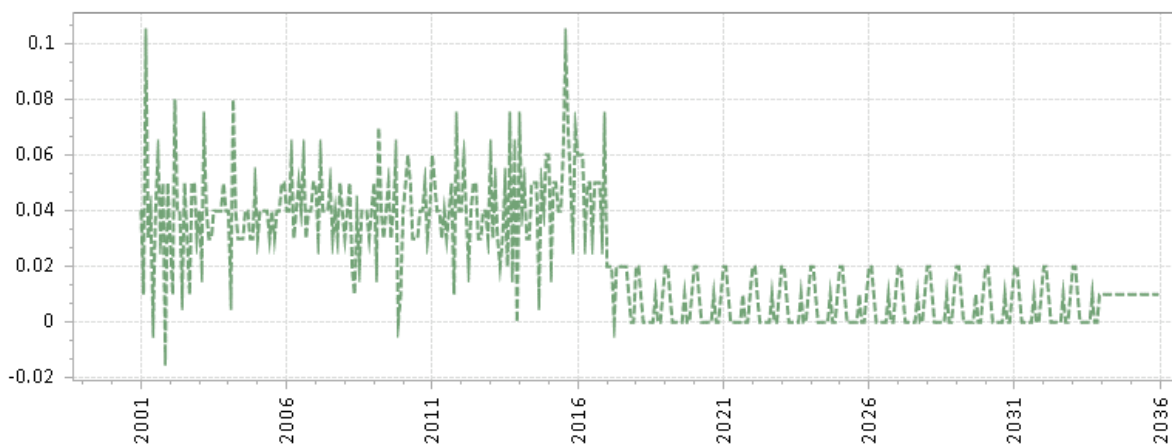
Tarifa media de la distribuidora real



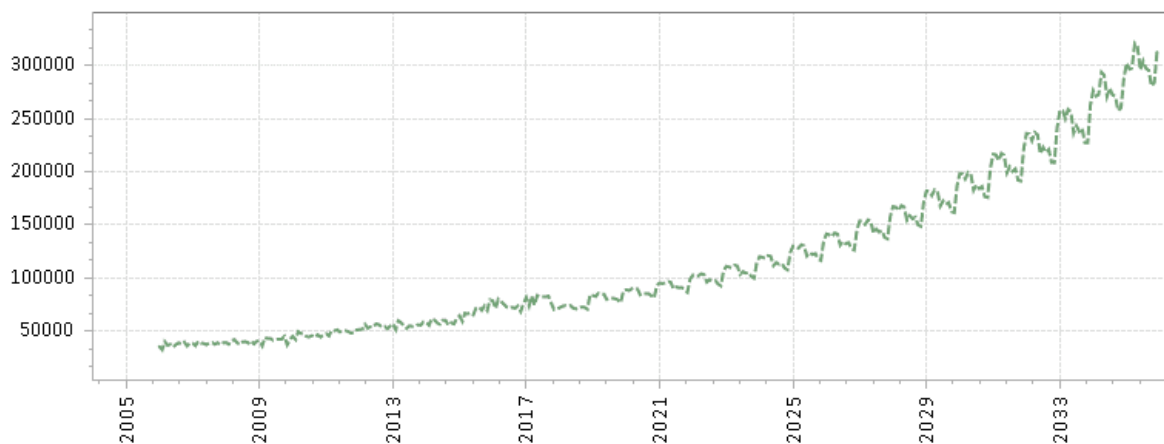
Pérdidas técnicas



Pérdidas no técnicas

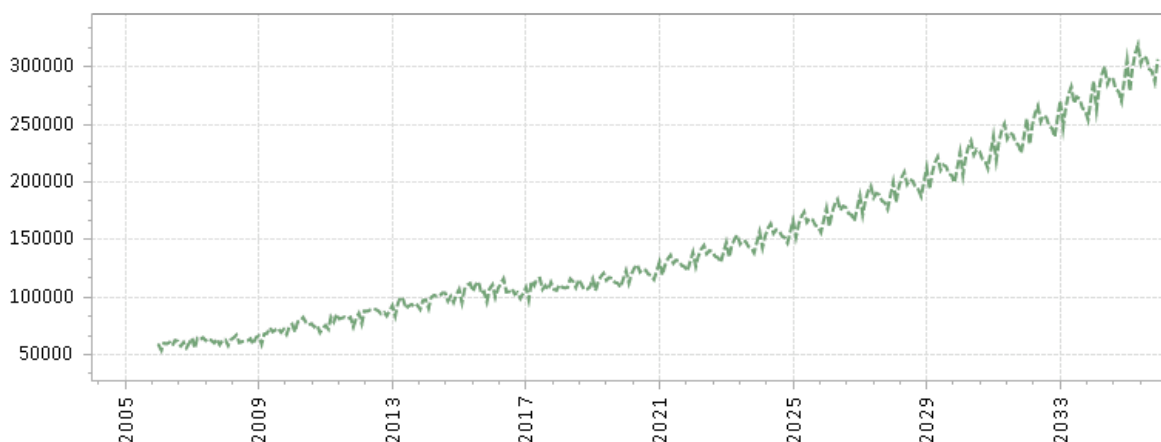


Consumo Total



EDEMET

Consumo Residencial



Variable Dependiente: CRES

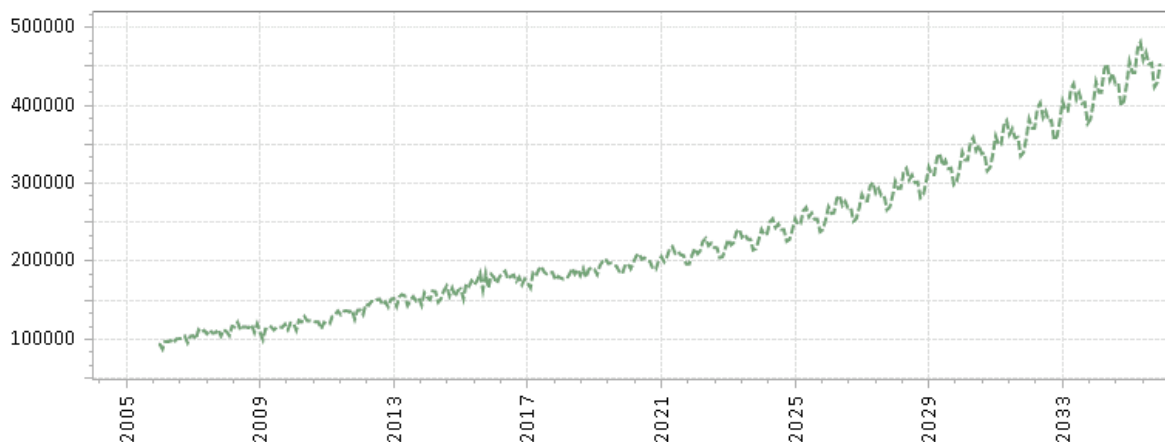
Estadístico - F = 359.693752852111
 Probabilidad Estadístico - F = 0.000000000000000000
 R-Squared = 0.970527304629683
 R-Squared Ajustado = 0.967829100123949

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-6.489	3.681	-1.762	0.08
LOG(PIB/POB)	0.568	0.088	6.424	0
LOG(POB)	1.483	0.209	7.094	0
@seas(2)	-0.096	0.015	-6.037	0
@seas(3)	-0.033	0.017	-1.933	0.055
@seas(4)	0.004	0.015	0.278	0.78
@seas(5)	0.022	0.016	1.415	0.159
@seas(6)	-0.034	0.016	-2.123	0.035
@seas(7)	-0.018	0.016	-1.172	0.243
@seas(8)	-0.03	0.016	-1.857	0.065
@seas(9)	-0.065	0.016	-4.074	0
@seas(10)	-0.077	0.017	-4.432	0
@seas(11)	-0.114	0.016	-7.068	0
@seas(12)	-0.056	0.016	-3.467	0

Indicadores de bondad estadísticos:

Root Mean Squared Error: 3360.59265194339
 Mean Absolute Error: 2654.58526155658
 Mean Absolute Percent Error: 3.09165814093541
 Theil Inequality Coefficient: 0.0190499083790724
 Covariance Proportion: 345167930.914645
 Akaike information criterion: -3.47832774504435
 Schwarz information criterion: -3.20462271875272
 Hannan-Quinn information criterion: -3.36716061411477
 Durbin-Watson statistic: 0.687602113661573
 Log-Likelihood: 285.309564113459

Consumo Comercial



Variable Dependiente: CCOM

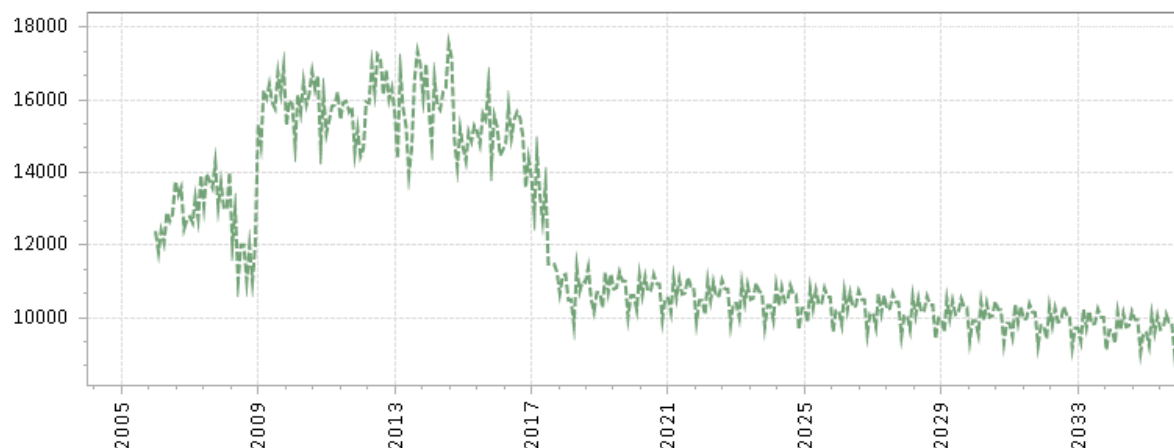
Estadístico - F = 268.262646160445
 Probabilidad Estadístico - F = 0.000000000000000000
 R-Squared = 0.964062729446503
 R-Squared Ajustado = 0.960469002391153

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.996	0.223	8.924	0
LOG(PIBCOM)	0.301	0.038	7.938	0
LOG(CCOM(-12))	0.676	0.034	19.742	0
@seas(2)	-0.011	0.015	-0.719	0.473
@seas(3)	-0.013	0.015	-0.835	0.405
@seas(4)	0.007	0.015	0.47	0.638
@seas(5)	0.01	0.015	0.682	0.496
@seas(6)	-0.006	0.015	-0.386	0.699
@seas(7)	-0.001	0.015	-0.072	0.942
@seas(8)	-0.013	0.015	-0.835	0.405
@seas(9)	-0.013	0.015	-0.878	0.381
@seas(10)	-0.038	0.016	-2.314	0.022
@seas(11)	-0.035	0.016	-2.127	0.035
@seas(12)	-0.02	0.016	-1.254	0.212

Indicadores de bondad estadísticos:

Root Mean Squared Error: 5501.4010905924
 Mean Absolute Error: 4222.99297383317
 Mean Absolute Percent Error: 2.87939963227768
 Theil Inequality Coefficient: 0.0183690297998811
 Covariance Proportion: 751793076.048632
 Akaike information criterion: -3.5771709344378
 Schwarz information criterion: -3.28843908586791
 Hannan-Quinn information criterion: -3.45984660339678
 Durbin-Watson statistic: 0.912303859667977
 Log-Likelihood: 271.556307279522

Consumo Industrial



Variable Dependiente: CIND

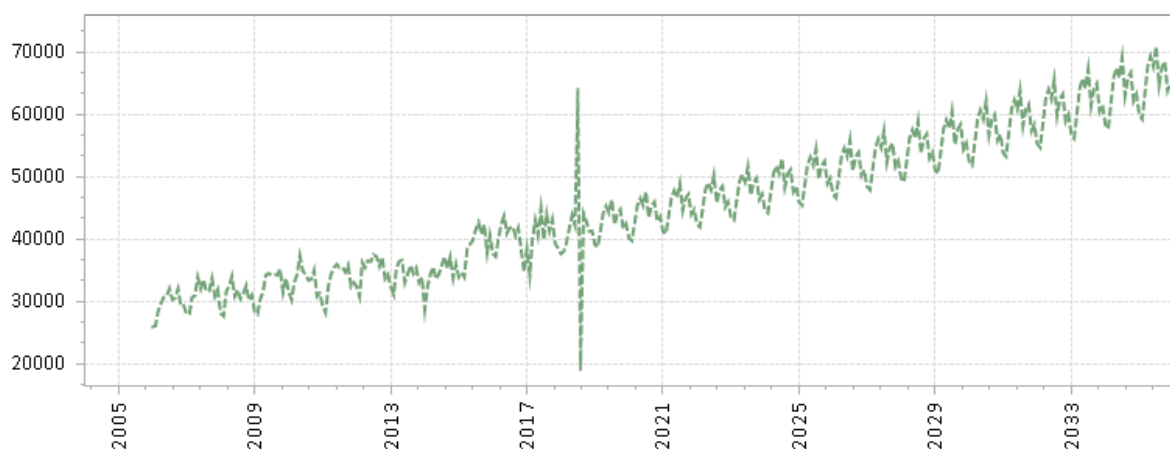
Estadístico - F = 1.15130301667873
 Probabilidad Estadístico - F = 0.32413123450775400000
 R-Squared = 0.0881011392416999
 R-Squared Ajustado = 0.011578157919325

Variable	Coefficient	Std. Error	t-Statistic	Prob.
c	10.673	0.411	25.956	0
LOG(PIBIND)	-0.226	0.083	-2.722	0.007
@seas(2)	-0.037	0.055	-0.687	0.493
@seas(3)	0.052	0.055	0.937	0.35
@seas(4)	0.001	0.055	0.027	0.978
@seas(5)	0.049	0.055	0.888	0.375
@seas(6)	0.012	0.055	0.225	0.822
@seas(7)	0.016	0.055	0.298	0.765
@seas(8)	0.056	0.055	1.011	0.313
@seas(9)	0.034	0.055	0.626	0.531
@seas(10)	0.034	0.055	0.621	0.535
@seas(11)	-0.059	0.055	-1.078	0.282
@seas(12)	0	0.055	-0.012	0.989

Indicadores de bondad estadísticos:

Root Mean Squared Error: 1853.46002101614
 Mean Absolute Error: 1669.72939430572
 Mean Absolute Percent Error: 11.7310791658842
 Theil Inequality Coefficient: 0.064434613884492
 Covariance Proportion: 323699.838599087
 Akaike information criterion: -1.00074235754145
 Schwarz information criterion: -0.746587690270658
 Hannan-Quinn information criterion: -0.897515735963982
 Durbin-Watson statistic: 0.138377232878394
 Log-Likelihood: 91.0579038882333

Consumo Gobierno



Variable Dependiente: CGOB

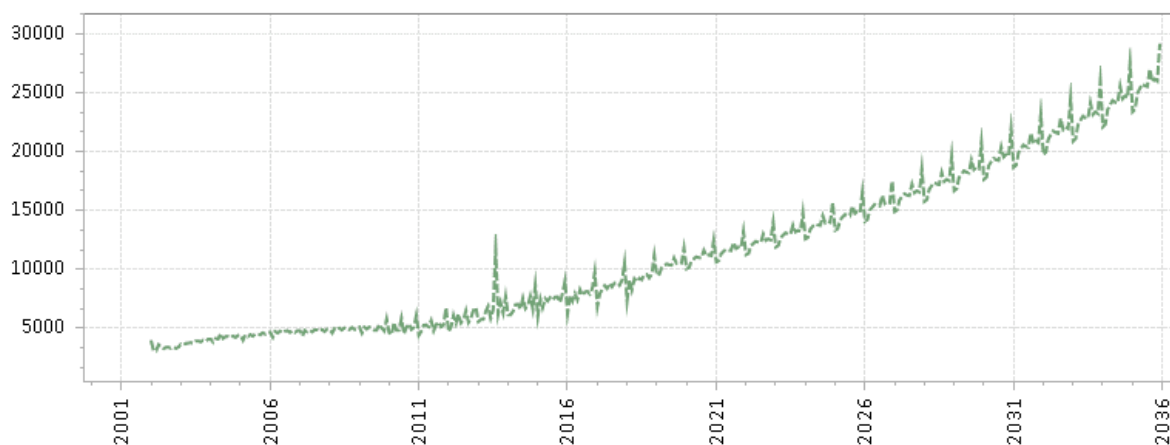
Estadístico - F = 25.1633972847347
 Probabilidad Estadístico - F = 0.000000000000000000
 R-Squared = 0.678623351829028
 R-Squared Ajustado = 0.651654682052443

Variable	Coefficient	Std. Error	t-Statistic	Prob.
c	7.516	0.191	39.353	0
LOG(PIB)	0.368	0.024	14.972	0
@seas(2)	-0.013	0.031	-0.416	0.677
@seas(3)	0.049	0.031	1.561	0.12
@seas(4)	0.115	0.031	3.658	0
@seas(5)	0.137	0.031	4.344	0
@seas(6)	0.11	0.031	3.512	0
@seas(7)	0.156	0.031	4.945	0
@seas(8)	0.062	0.031	1.963	0.051
@seas(9)	0.103	0.031	3.282	0.001
@seas(10)	0.114	0.031	3.595	0
@seas(11)	0.04	0.031	1.293	0.197
@seas(12)	0.056	0.031	1.774	0.078

Indicadores de bondad estadísticos:

Root Mean Squared Error: 2830.04400743263
 Mean Absolute Error: 1668.83350665333
 Mean Absolute Percent Error: 4.58201396856744
 Theil Inequality Coefficient: 0.0400655324032019
 Covariance Proportion: 15489689.9122945
 Akaike information criterion: -2.12315508056619
 Schwarz information criterion: -1.86900041329539
 Hannan-Quinn information criterion: -2.01992845898872
 Durbin-Watson statistic: 2.15628733542432
 Log-Likelihood: 178.606096284163

Consumo alumbrado



Variable Dependiente: CALP

Estadístico - F = 177.95317000009
 Probabilidad Estadístico - F = 0.000000000000000000
 R-Squared = 0.917900242037002
 R-Squared Ajustado = 0.912742142060269

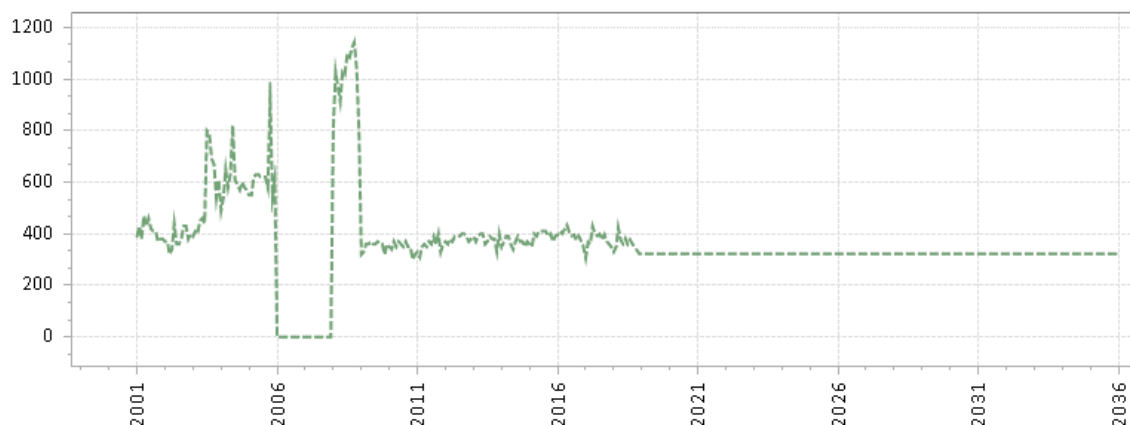
Variable	Coefficient	Std. Error	t-Statistic	Prob.
c	8.078	0.023	346.786	0
@trend	0.004	0	45.338	0
@seas(2)	0.005	0.029	0.168	0.866
@seas(3)	0.054	0.029	1.821	0.07
@seas(4)	0.067	0.029	2.254	0.025
@seas(5)	0.077	0.029	2.602	0.009
@seas(6)	0.066	0.029	2.233	0.026
@seas(7)	0.059	0.029	1.982	0.048
@seas(8)	0.111	0.029	3.749	0
@seas(9)	0.064	0.029	2.169	0.031
@seas(10)	0.07	0.029	2.351	0.019
@seas(11)	0.058	0.029	1.973	0.049
@seas(12)	0.166	0.029	5.569	0

Indicadores de bondad estadísticos:

Root Mean Squared Error: 552.593464101242
 Mean Absolute Error: 373.227481995197
 Mean Absolute Percent Error: 6.41857715044581
 Theil Inequality Coefficient: 0.0458318440981064
 Covariance Proportion: 2748509.83694618

 Akaike information criterion: -1.9870918234221
 Schwarz information criterion: -1.77564300028497
 Hannan-Quinn information criterion: -1.90155693977822

Consumo Otros



Archivo Fórmula: $COTR = COTR (t-1) * (1+\%)$

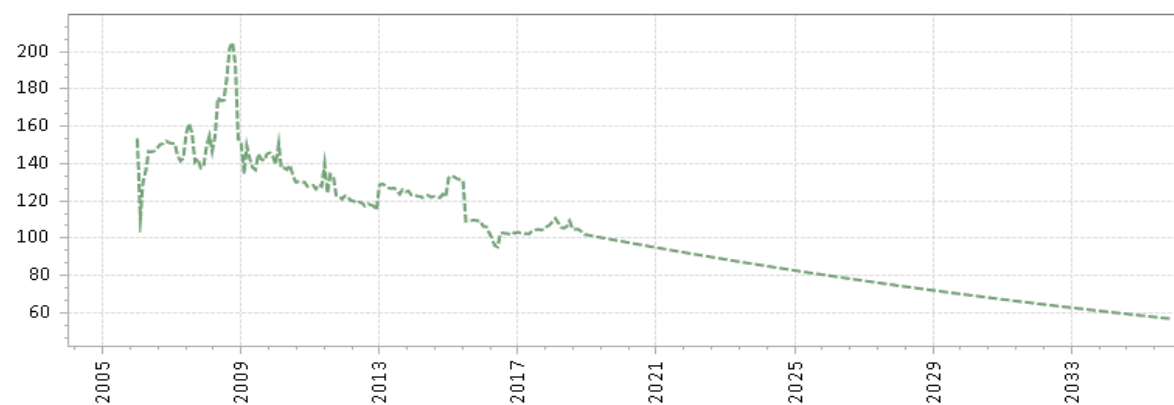
Datos Tendencia Residuos

Año Inicial: 2001 Cargar Datos Generar Proyección Tasa tendencial mensual: 0.02 Aceptar Proyección

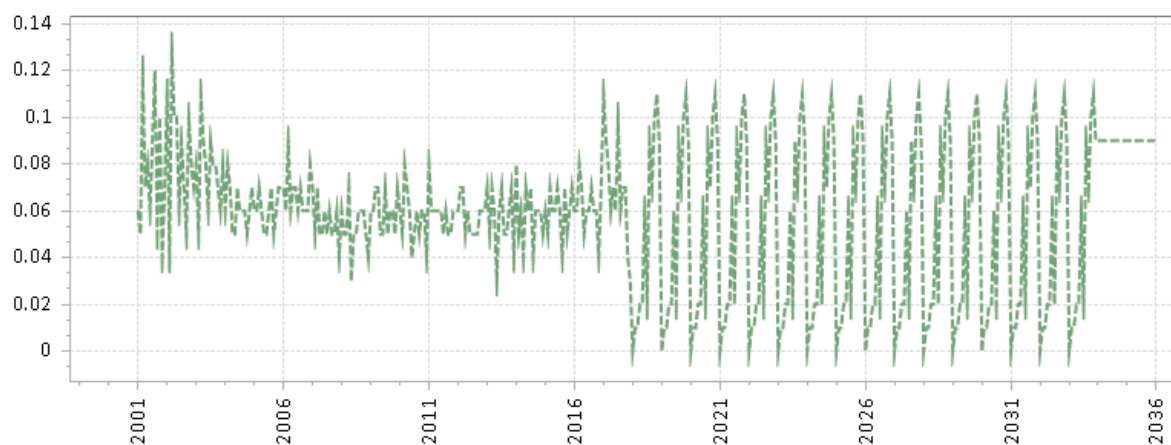
Año Final: 2018

Año	Mes	Consumo Otros [MWh]	Tasa [%]
2001	1	390.000	0.000
2001	2	430.000	10.260
2001	3	380.000	-11.630
2001	4	470.000	23.680
2001	5	430.000	-8.510
2001	6	460.000	6.980
2001	7	420.000	-8.700
2001	8	410.000	-2.380

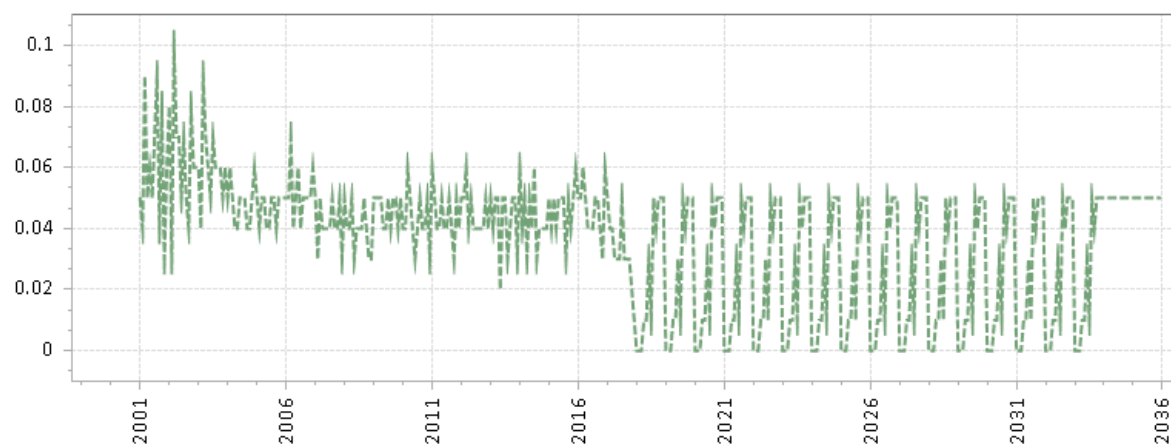
Tarifa media de la distribuidora real



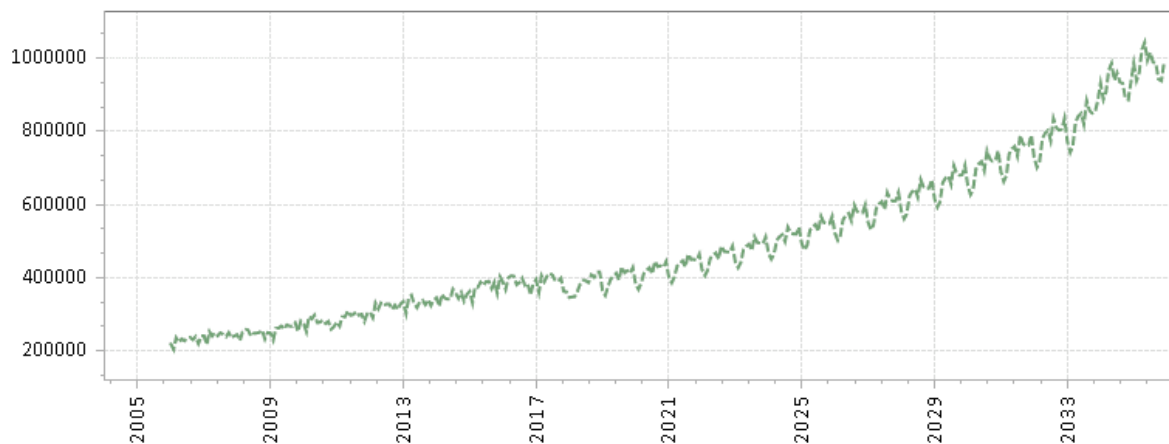
Pérdidas técnicas



Pérdidas no técnicas

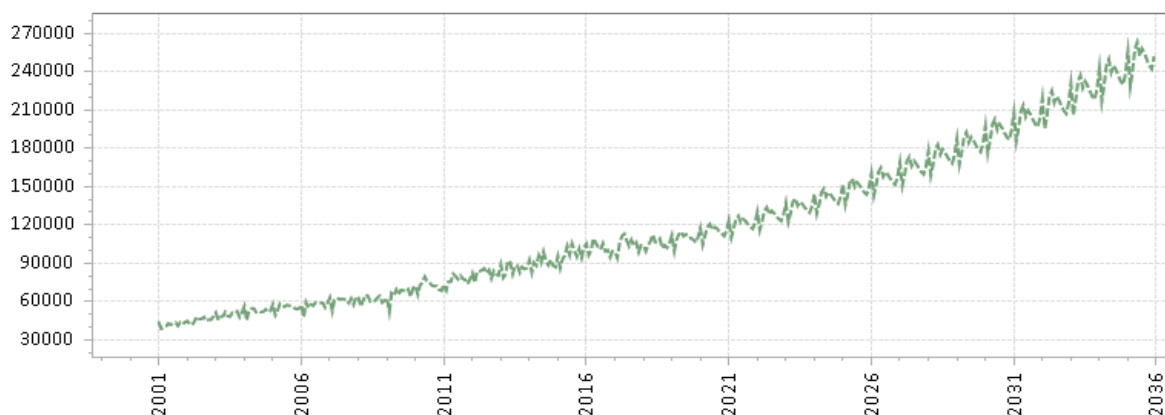


Consumo Total



ENSA

Consumo Residencial



Variable Dependiente: CRES

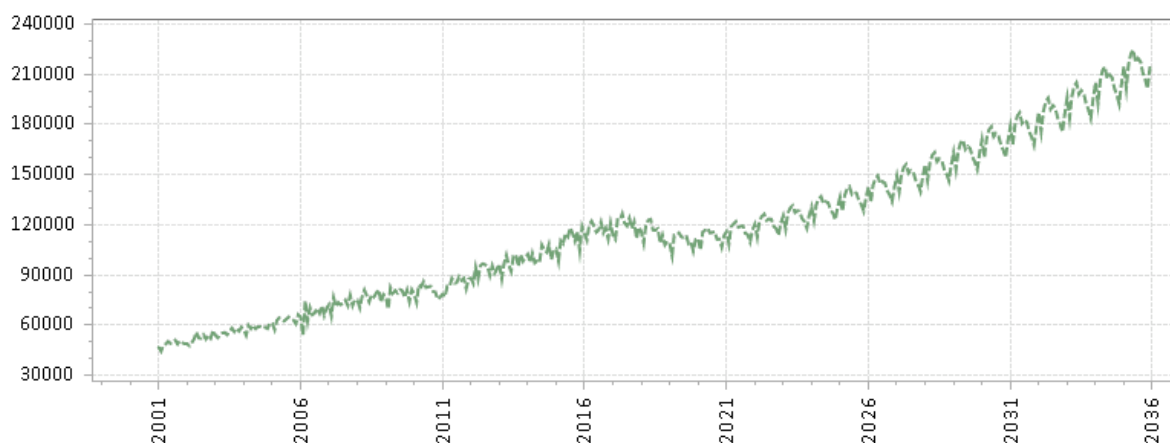
Estadístico - F = 735.127699913991
 Probabilidad Estadístico - F = 0.000000000000000000
 R-Squared = 0.980506140214758
 R-Squared Ajustado = 0.979172349808399

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	3.289	0.325	10.115	0
LOG(PIB)	0.409	0.046	8.849	0
LOG(CRES(-12))	0.431	0.059	7.234	0
@seas(2)	-0.066	0.015	-4.294	0
@seas(3)	-0.039	0.014	-2.737	0.006
@seas(4)	-0.002	0.013	-0.217	0.828
@seas(5)	0.005	0.013	0.422	0.673
@seas(6)	-0.02	0.013	-1.484	0.139
@seas(7)	-0.01	0.013	-0.737	0.461
@seas(8)	-0.02	0.013	-1.494	0.136
@seas(9)	-0.034	0.014	-2.421	0.016
@seas(10)	-0.046	0.014	-3.228	0.001
@seas(11)	-0.055	0.014	-3.757	0
@seas(12)	-0.037	0.014	-2.63	0.009

Indicadores de bondad estadísticos:

Root Mean Squared Error: 2795.49568414173
 Mean Absolute Error: 2097.18049039612
 Mean Absolute Percent Error: 2.88963807483886
 Theil Inequality Coefficient: 0.0181361661075422
 Covariance Proportion: 385829460.81108
 Akaike information criterion: -3.56253698121607
 Schwarz information criterion: -3.33482286399147
 Hannan-Quinn information criterion: -3.47042249113805
 Durbin-Watson statistic: 1.24990011001487
 Log-Likelihood: 377.378772084039

Consumo Comercial



Variable Dependiente: CCOM

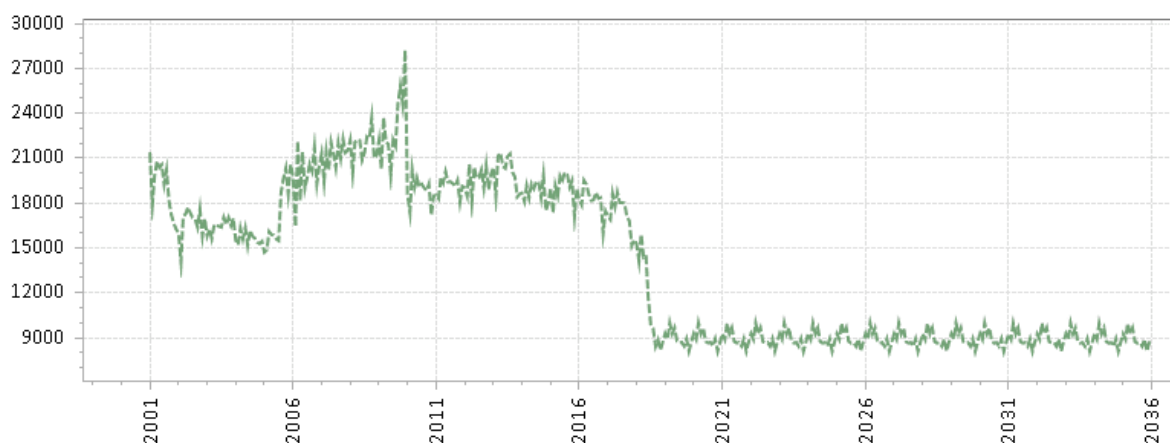
Estadístico - F = 704.850269527395
 Probabilidad Estadístico - F = 0.000000000000000000
 R-Squared = 0.979685778561871
 R-Squared Ajustado = 0.978295858147683

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	2.14	0.21	10.194	0
LOG(PIBCOM)	0.222	0.027	8.124	0
LOG(CCOM(-12))	0.694	0.032	21.627	0
@seas(2)	-0.02	0.013	-1.505	0.133
@seas(3)	-0.001	0.013	-0.103	0.917
@seas(4)	0.006	0.013	0.515	0.606
@seas(5)	0.008	0.013	0.659	0.51
@seas(6)	-0.002	0.013	-0.201	0.84
@seas(7)	0	0.013	-0.03	0.975
@seas(8)	-0.004	0.013	-0.3	0.764
@seas(9)	-0.014	0.013	-1.095	0.274
@seas(10)	-0.021	0.013	-1.596	0.111
@seas(11)	-0.031	0.013	-2.286	0.023
@seas(12)	-0.014	0.013	-1.035	0.301

Indicadores de bondad estadísticos:

Root Mean Squared Error: 3789.4103364092
 Mean Absolute Error: 2843.00894232691
 Mean Absolute Percent Error: 3.19484731639045
 Theil Inequality Coefficient: 0.0215871791388795
 Covariance Proportion: 466357749.558423
 Akaike information criterion: -3.57129862812761
 Schwarz information criterion: -3.34358451090301
 Hannan-Quinn information criterion: -3.47918413804959
 Durbin-Watson statistic: 1.31947942925235
 Log-Likelihood: 378.272460069017

Consumo Industrial



Variable Dependiente: CIND

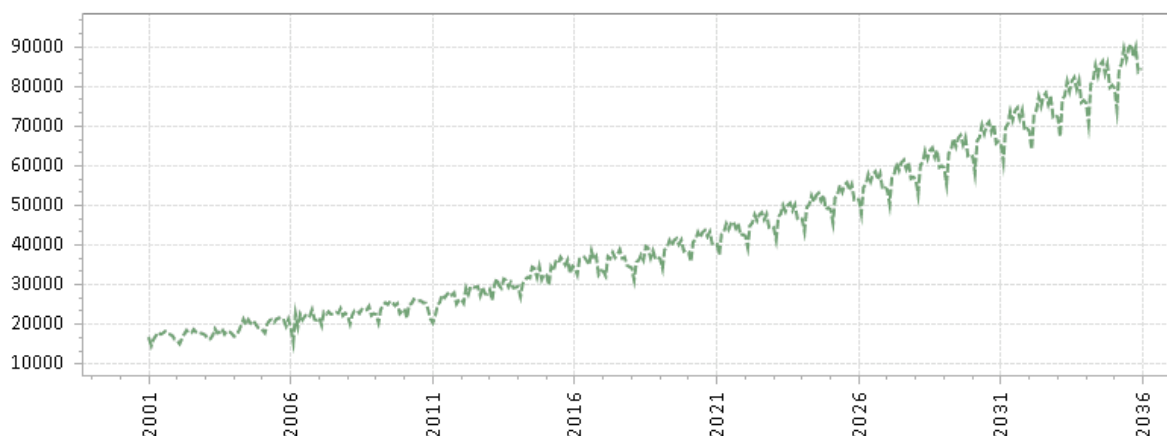
Estadístico - F = 6.07167279990537
 Probabilidad Estadístico - F = 0.00000000565173510595
 R-Squared = 0.276131483650045
 R-Squared Ajustado = 0.230652833408163

Variable	Coefficient	Std. Error	t-Statistic	Prob.
c	2.183	0.954	2.287	0.023
LOG(CIND(-12))	0.775	0.097	7.995	0
@seas(2)	-0.009	0.053	-0.169	0.865
@seas(3)	0.016	0.053	0.309	0.757
@seas(4)	0	0.053	-0.002	0.997
@seas(5)	0.009	0.053	0.172	0.863
@seas(6)	-0.013	0.053	-0.245	0.806
@seas(7)	-0.015	0.053	-0.292	0.77
@seas(8)	-0.014	0.053	-0.271	0.786
@seas(9)	-0.021	0.053	-0.395	0.692
@seas(10)	-0.008	0.053	-0.16	0.872
@seas(11)	-0.03	0.053	-0.564	0.572
@seas(12)	-0.014	0.053	-0.264	0.791

Indicadores de bondad estadísticos:

Root Mean Squared Error: 3495.31657958615
 Mean Absolute Error: 2953.88866979473
 Mean Absolute Percent Error: 17.7029445562157
 Theil Inequality Coefficient: 0.0979061493135285
 Covariance Proportion: -65671.063884448
 Akaike information criterion: -0.819474245014327
 Schwarz information criterion: -0.608025421877196
 Hannan-Quinn information criterion: -0.733939361370448

Consumo Gobierno



Variable Dependiente: CGOB

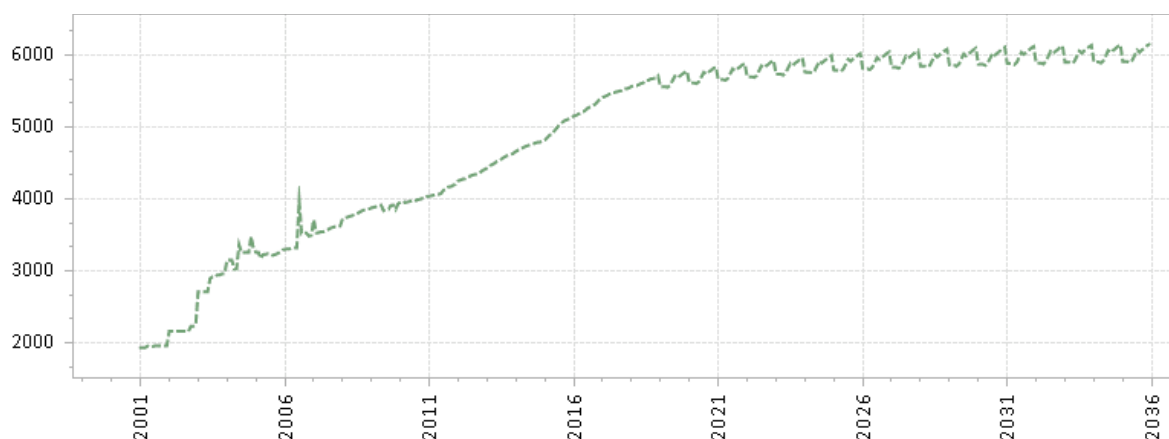
Estadístico - F = 655.725311563574
 Probabilidad Estadístico - F = 0.000000000000000000
 R-Squared = 0.974850414909912
 R-Squared Ajustado = 0.973363739929217

Variable	Coefficient	Std. Error	t-Statistic	Prob.
c	9.644	0.011	865.069	0
@trend	0.004	0	86.624	0
@seas(2)	-0.074	0.014	-5.231	0
@seas(3)	0.051	0.014	3.637	0
@seas(4)	0.061	0.014	4.288	0
@seas(5)	0.101	0.014	7.148	0
@seas(6)	0.066	0.014	4.648	0
@seas(7)	0.094	0.014	6.661	0
@seas(8)	0.101	0.014	7.143	0
@seas(9)	0.06	0.014	4.266	0
@seas(10)	0.084	0.014	5.935	0
@seas(11)	0.01	0.014	0.71	0.477
@seas(12)	0.012	0.014	0.906	0.365

Indicadores de bondad estadísticos:

Root Mean Squared Error: 1074.3576461018
 Mean Absolute Error: 800.072767339748
 Mean Absolute Percent Error: 3.08266195086338
 Theil Inequality Coefficient: 0.0200982167773271
 Covariance Proportion: 44224573.1284679
 Akaike information criterion: -3.40812502448025
 Schwarz information criterion: -3.20498326846222
 Hannan-Quinn information criterion: -3.3260552577871

Consumo alumbrado



Variable Dependiente: CALP

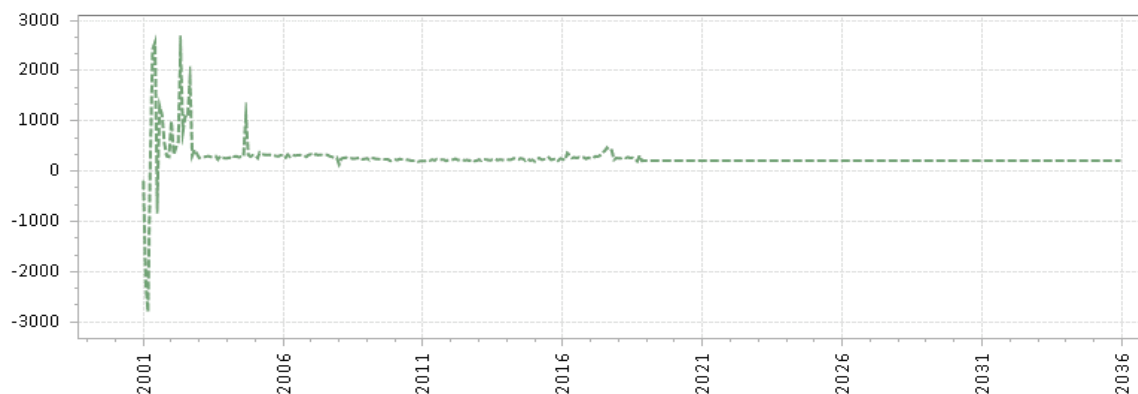
Estadístico - F = 390.269129651714
 Probabilidad Estadístico - F = 0.000000000000000000
 R-Squared = 0.960814319922229
 R-Squared Ajustado = 0.958352392378076

Variable	Coefficient	Std. Error	t-Statistic	Prob.
c	1.237	0.103	11.936	0
LOG(CALP(-12))	0.856	0.012	68.319	0
@seas(2)	0	0.017	-0.003	0.997
@seas(3)	0	0.017	-0.002	0.997
@seas(4)	0	0.017	-0.023	0.98
@seas(5)	0	0.017	0.021	0.983
@seas(6)	0.002	0.017	0.121	0.903
@seas(7)	0.003	0.017	0.22	0.826
@seas(8)	0.003	0.017	0.178	0.858
@seas(9)	0.003	0.017	0.223	0.823
@seas(10)	0.004	0.017	0.259	0.795
@seas(11)	0.005	0.017	0.302	0.762
@seas(12)	0.005	0.017	0.331	0.74

Indicadores de bondad estadísticos:

Root Mean Squared Error: 270.777905320786
 Mean Absolute Error: 235.333401226064
 Mean Absolute Percent Error: 5.7531431201922
 Theil Inequality Coefficient: 0.0320366166024641
 Covariance Proportion: 848166.10606773
 Akaike information criterion: -3.09572143638526
 Schwarz information criterion: -2.88427261324813
 Hannan-Quinn information criterion: -3.01018655274138

Consumo Otros



Archivo Fórmula: $COTR = COTR(t-1) * (1+\%)$

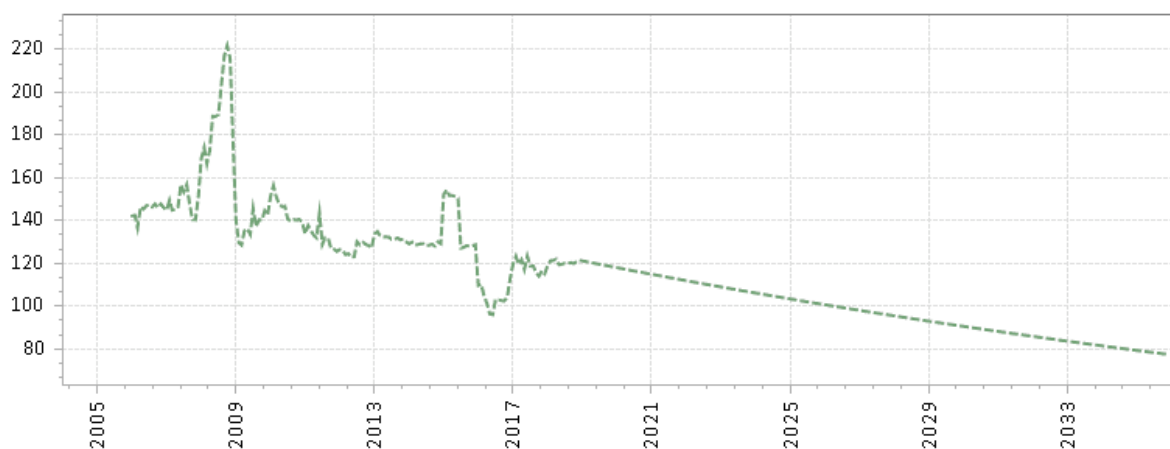
Datos Tendencia Residuos

Año Inicial: 2001 Cargar Datos Generar Proyección Tasa tendencial mensual: 0.00 Aceptar Proyección

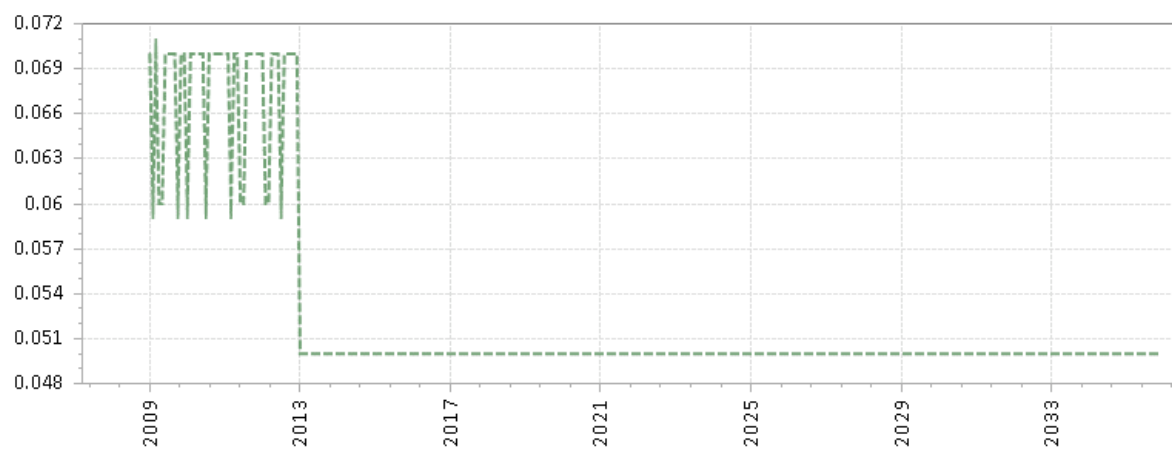
Año Final: 2018

Año	Mes	Consumo Otros [MWh]	Tasa [%]
2001	1	-203.000	0.000
2001	2	-2222.000	994.580
2001	3	-2796.000	25.830
2001	4	174.000	-106.220
2001	5	2421.000	1291.380
2001	6	2560.000	5.740
2001	7	-571.000	-122.300

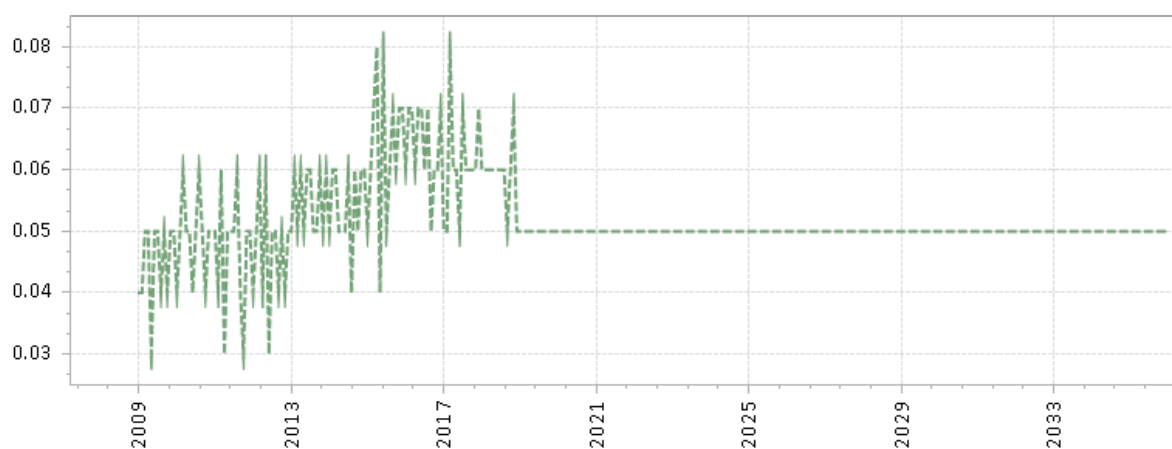
Tarifa media de la distribuidora real



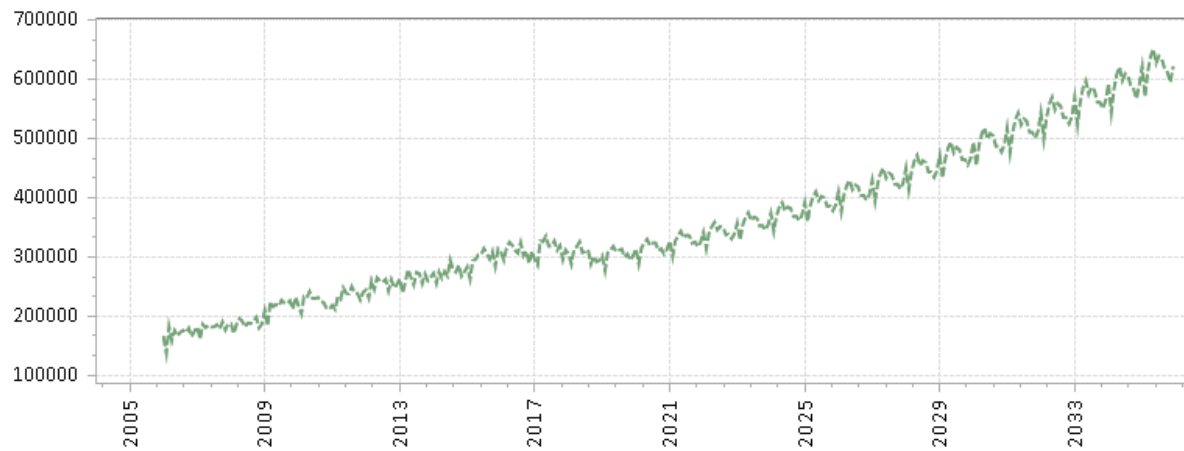
Pérdidas técnicas



Perdidas no técnicas

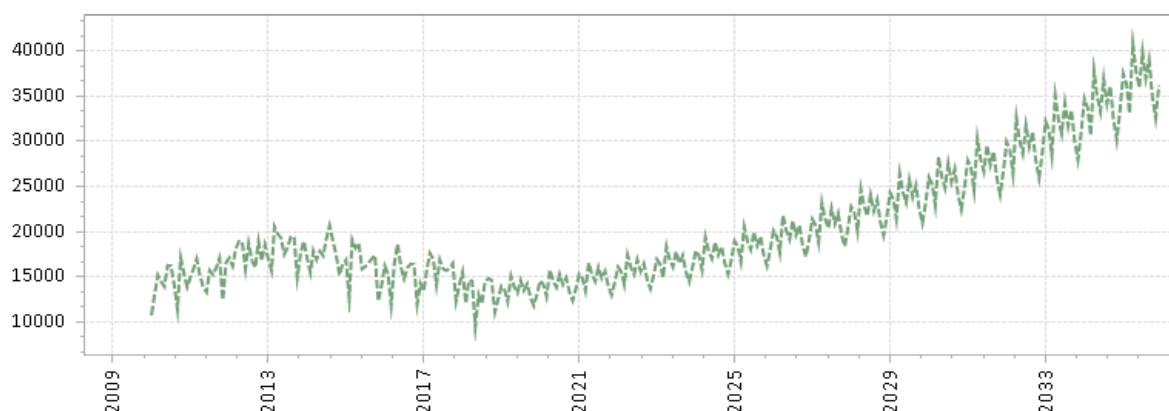


Consumo Total



GRANDES USUARIOS

Alta Tensión



Variable Dependiente: GU_AT

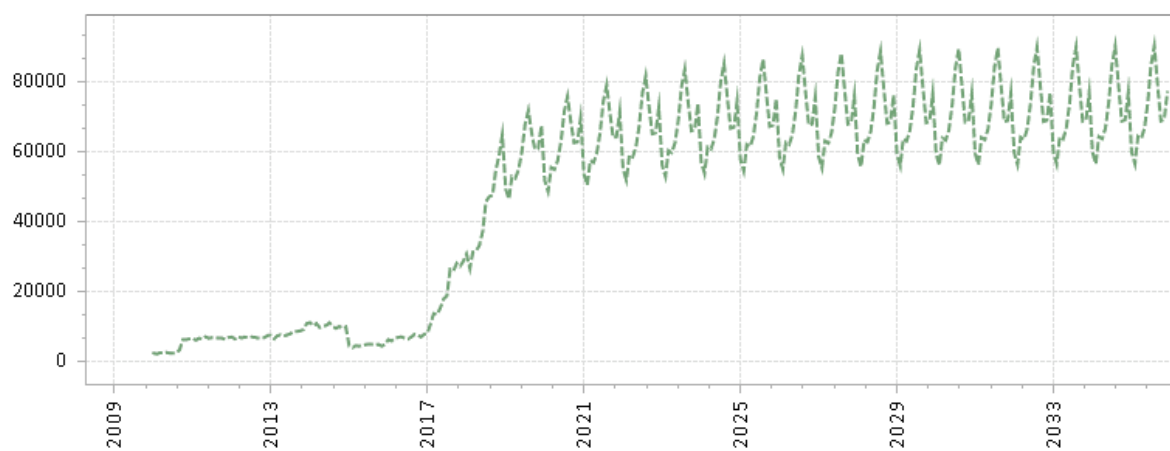
Estadístico - F = 7.87309991744362
 Probabilidad Estadístico - F = 0.00000000022458366050
 R-Squared = 0.521263779511437
 R-Squared Ajustado = 0.455055578805572

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	115.065	12.28	9.369	0
LOG(PIB/POB)	2.732	0.334	8.178	0
LOG(POB)	-5.876	0.682	-8.605	0
@seas(2)	-0.036	0.052	-0.7	0.485
@seas(3)	-0.137	0.059	-2.319	0.022
@seas(4)	0.066	0.052	1.267	0.207
@seas(5)	-0.018	0.052	-0.343	0.731
@seas(6)	-0.074	0.054	-1.371	0.173
@seas(7)	0.023	0.052	0.448	0.655
@seas(8)	-0.06	0.055	-1.089	0.278
@seas(9)	-0.011	0.053	-0.219	0.826
@seas(10)	-0.125	0.058	-2.13	0.035
@seas(11)	-0.205	0.054	-3.793	0
@seas(12)	-0.109	0.054	-2.004	0.047

Indicadores de bondad estadísticos:

Root Mean Squared Error: 1561.14938639907
 Mean Absolute Error: 1257.45194671056
 Mean Absolute Percent Error: 8.01861513169899
 Theil Inequality Coefficient: 0.0488044344197419
 Covariance Proportion: 2755401.13865533
 Akaike information criterion: -1.43434257289958
 Schwarz information criterion: -1.08665889530941
 Hannan-Quinn information criterion: -1.29336947005611
 Durbin-Watson statistic: 1.64972269591526
 Log-Likelihood: 91.4544989365775

Baja Tensión



Variable Dependiente: GU_BT

Estadístico - F = 3.75959461055013
 Probabilidad Estadístico - F = 0.00014829486304995900
 R-Squared = 0.352145241946554
 R-Squared Ajustado = 0.258479493794248

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	2.376	1.057	2.246	0.027
LOG(GU_BT(-12))	0.763	0.118	6.451	
@seas(2)	-0.013	0.288	-0.046	0.963
@seas(3)	0.017	0.288	0.058	0.953
@seas(4)	0.014	0.288	0.051	0.959
@seas(5)	0.025	0.289	0.087	0.93
@seas(6)	0.049	0.289	0.172	0.863
@seas(7)	0.081	0.289	0.282	0.778
@seas(8)	0.056	0.289	0.333	0.739
@seas(9)	0.065	0.289	0.225	0.822
@seas(10)	0.032	0.291	0.111	0.911
@seas(11)	0.033	0.29	0.115	0.908
@seas(12)	0.059	0.291	0.202	0.84

Indicadores de bondad estadísticos:

Root Mean Squared Error: 10345.312882247
 Mean Absolute Error: 7235.79590766159
 Mean Absolute Percent Error: 43.4141058958423
 Theil Inequality Coefficient: 0.301967061149325
 Covariance Proportion: 47241657.859456
 Akaike information criterion: 1.86520287380689
 Schwarz information criterion: 2.21245835806816
 Hannan-Quinn information criterion: 2.00556921462562

Pérdidas Técnicas



Variable Dependiente: PERT_GU

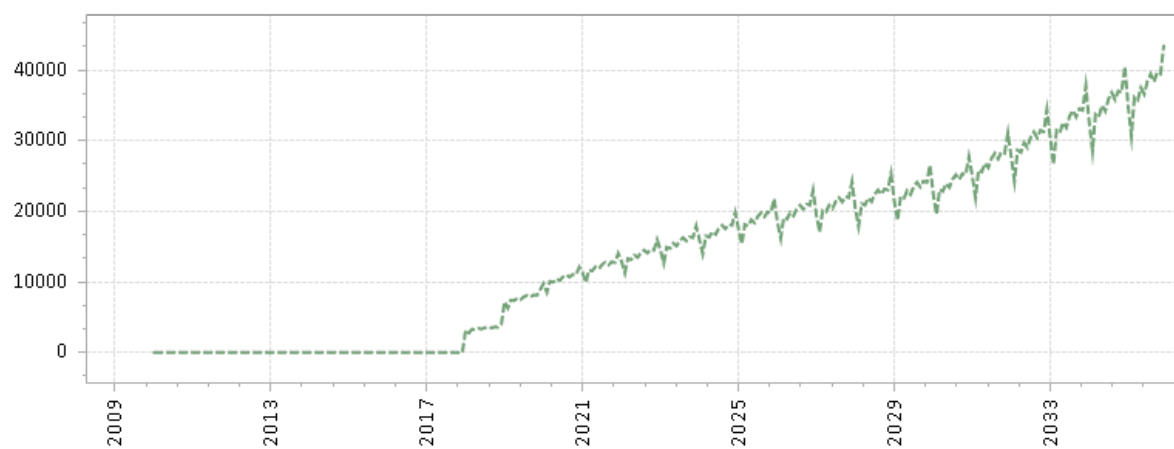
Estadístico - F = 2.90824522371572
 Probabilidad Estadístico - F = 0.00210402284736179000
 R-Squared = 0.296007257486207
 R-Squared Ajustado = 0.194225174231201

Variable	Coefficient	Std. Error	t-Statistic	Prob.
PERT_GU(-12)	0.228	0.107	2.139	0.035
c	0.054	0.008	6.773	0
@seas(2)	-0.006	0.004	-1.475	0.143
@seas(3)	0	0.004	0.215	0.83
@seas(4)	-0.009	0.004	-2.141	0.035
@seas(5)	-0.009	0.004	-2.141	0.035
@seas(6)	-0.006	0.004	-1.475	0.143
@seas(7)	-0.008	0.004	-1.947	0.054
@seas(8)	-0.004	0.004	-1.065	0.289
@seas(9)	-0.005	0.004	-1.272	0.206
@seas(10)	-0.01	0.004	-2.331	0.022
@seas(11)	-0.01	0.004	-2.219	0.029
@seas(12)	0	0.004	-0.087	0.93

Indicadores de bondad estadísticos:

Root Mean Squared Error: 0.00845770097852363
 Mean Absolute Error: 0.00654264296628438
 Mean Absolute Percent Error: 10.5041058272798
 Theil Inequality Coefficient: 0.0674081847245419
 Covariance Proportion: 2.67601662125617E-05
 Akaike information criterion: -6.4693581169209
 Schwarz information criterion: -6.12210263265963
 Hannan-Quinn information criterion: -6.32899177610217

Consumo del Metro de Panamá



Variable Dependiente: CMETRO

Estadístico - F = 1913.62448556805
 Probabilidad Estadístico - F = 0.00000000000000000000
 R-Squared = 0.98867672400488
 R-Squared Ajustado = 0.988160072628677

Variable	Coefficient	Std. Error	t-Statistic	Prob.
CMETRO(-12)	1.048	0.006	150.83	0
c	800.432	256.501	3.12	0.002
@seas(2)	-100.406	347.079	-0.289	0.772
@seas(3)	25.229	346.96	0.072	0.942
@seas(4)	16.8	346.956	0.048	0.961
@seas(5)	56.013	346.992	0.161	0.871
@seas(6)	36.074	346.969	0.103	0.917
@seas(7)	77.925	347.029	0.224	0.822
@seas(8)	100.394	347.079	0.289	0.772
@seas(9)	75.81	347.025	0.218	0.827
@seas(10)	106.371	347.095	0.306	0.759
@seas(11)	101.163	347.081	0.291	0.77
@seas(12)	191.757	347.416	0.551	0.581

Indicadores de bondad estadísticos:

Root Mean Squared Error: 3025.18321273035
 Mean Absolute Error: 2324.66631718371
 Mean Absolute Percent Error: 37.1710351615036
 Theil Inequality Coefficient: 0.085967467433375
 Covariance Proportion: 109459780.021804
 Akaike information criterion: 17.0245574157268
 Schwarz information criterion: 17.1950835434599
 Hannan-Quinn information criterion: 17.0929866828801

CONSUMO TOTAL DEL PAÍS

