



ENERGY SECTOR FINANCING OVERVIEW



INTERSOLAR



ENERGY SECTOR

Power

Conventional

- Combined cycle heat and power
- Hydroelectric plants

Renewables

- Wind
- Mini hydroelectric plants
- Solar Photovoltaic
- Biomass and biogas

Energy efficiency

- Cogeneration
- Equipment substitution
- Luminaries

Oil & Gas

Upstream

- Shipping boats
- Platform fabrication and maintenance

Midstream

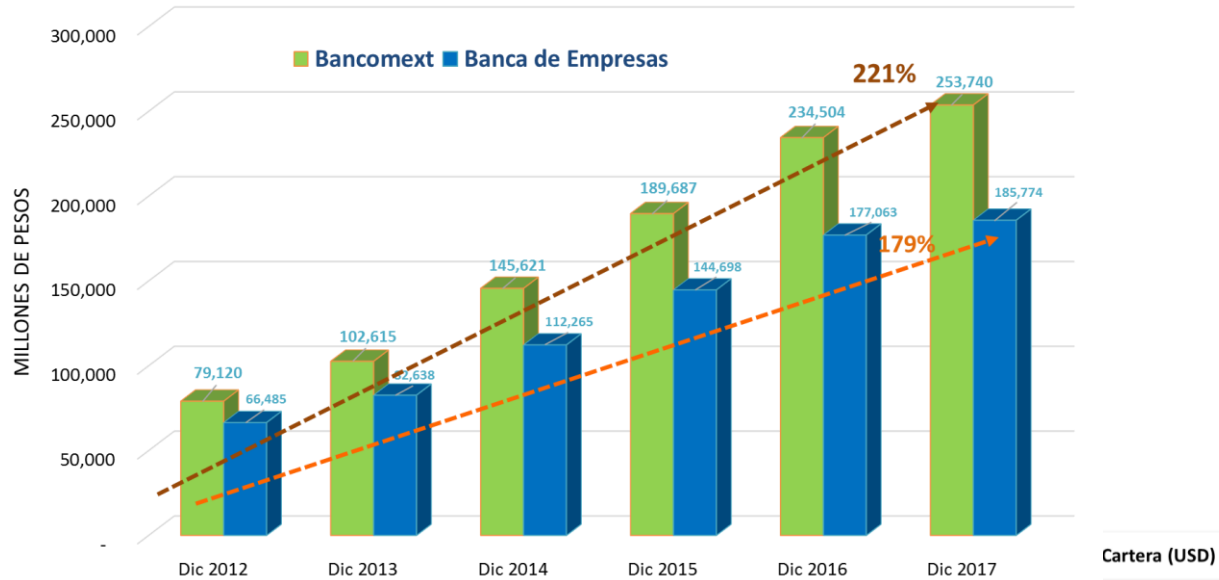
- Pipeline construction
- Compression stations
- Hydrocarbon's storage

Downstream

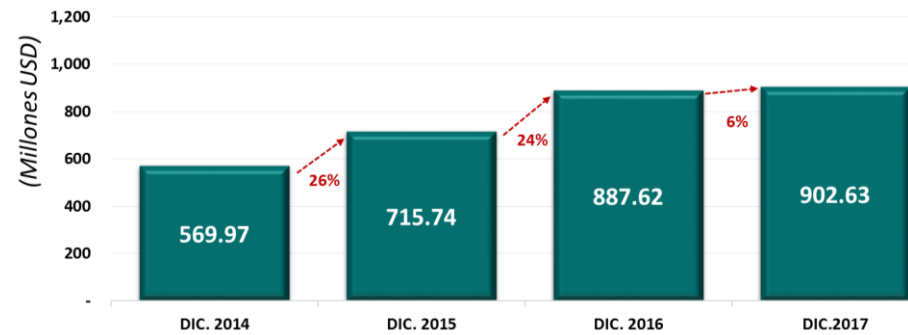
- Petro chemistry Plants
- Refineries
- Auxiliary services



Bancomext: Portfolio



Energy Sector



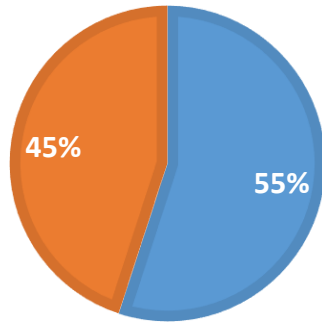
*As of Dec 2017, Bancomext has an additional Balance of \$242 MUSD in complementary loans. Total Energy Sector: \$1,180 MUSD.



Bancomext Projects

PROJECTS: POWER & ENERGY

■ Syndicated loans ■ Bancomext Direct Loans



ENVIRONMENTAL EQUIVALENCES

EMISSIONS REDUCTION*

- GG Mitigation
- Hectares of Reforested Woodlands
- Planted trees
- Private vehicles removed from the streets
- Homes that could be supplied with the Energy

1.5 millions tonCO₂
eq¹

590 thousand²

40 millions²

498 thousand³

2.1 millions⁴

Source: ¹SEMARNAT (2016), ²EPA US Environmental Protection Agency (2015), ³SEDEMA CDMX (2016), ⁴CONUEE (2016)

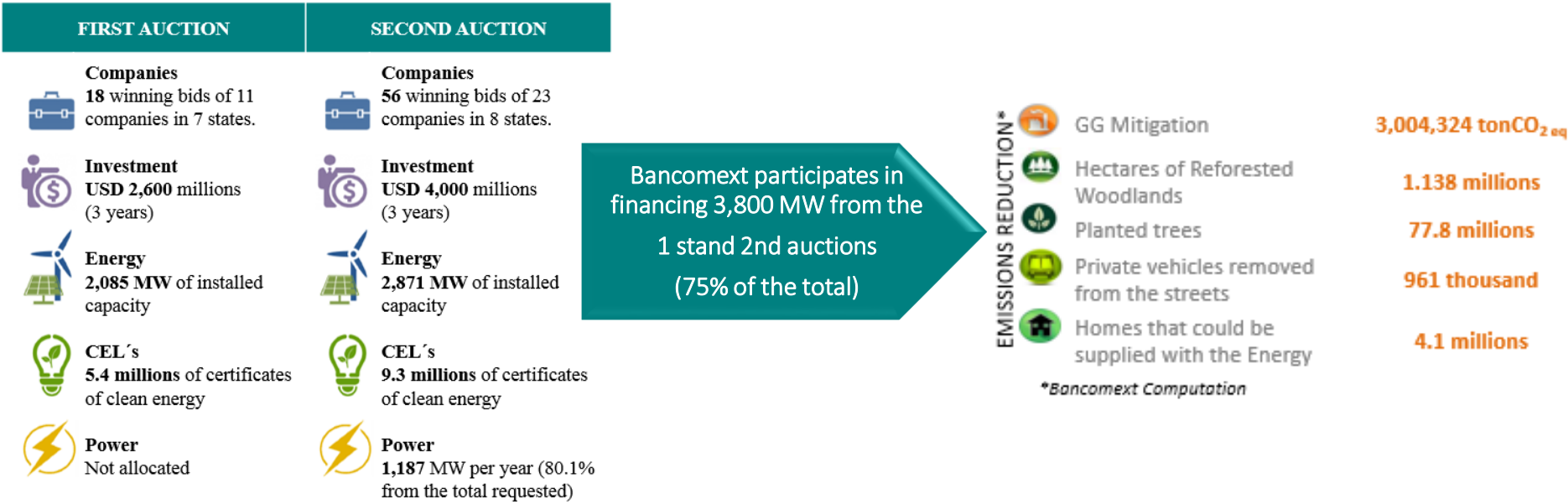
Some projects financed by Bancomext

<p>EOLIA</p> <p>4,565,669 CER Mexico</p>	<p>EURUS</p> <p>250 MW parque eólico en el Estado de Oaxaca, México USD 365 millones</p>	<p>DESARROLLOS MEX EOLICOS 2</p> <p>90 MW parque eólico en el Estado de Oaxaca, México MXN 4,011 millones</p>	<p>EÓLICA SANTA CATARINA</p> <p>Generación de 22 MW Municipio de Santa Catarina Nuevo León USD 36 millones</p>	<p>DEMEX 1</p> <p>90 MW parque eólico en el Estado de Oaxaca, México USD 226 millones</p>	<p>P.E. INGENIO</p> <p>Generación de 50 MW Parque Eólico en Oaxaca USD 135 millones</p>	<p>HIDROELECTRICA TRIGOMIL</p> <p>Generación de 14 MW Planta hidroeléctrica en el Estado de Jalisco USD 15 millones</p>	<p>LA BUFA</p> <p>Generación de 250 MW parque eólico de en el Estado de Zacatecas USD 223 millones</p>	<p>NEGOCIOS RENOVABLES INTELIGENTES</p> <p>Proyecto de Eficiencia Energética en el Estado de México USD 185 millones</p>	<p>SISTINDACEMA</p> <p>Proyecto de Eficiencia Energética en el Estado de Yucatán USD 30 millones</p>
<p>VENTIKA I</p> <p>126 MW parque eólico en el Estado de Nuevo León USD 315 millones</p>	<p>VENTIKA II</p> <p>126 MW parque eólico en el Estado de Nuevo León USD 324 millones</p>	<p>AVANT</p> <p>30 MW planta solar fotovoltaica en Estado de Chihuahua MXN 776 millones</p>	<p>ACT ENERGY</p> <p>300MW planta de cogeneración eficiente en el Estado de Tabasco USD 680 millones</p>	<p>EMPLAME I</p> <p>810 MW ciclo combinado en el Estado de Sonora, México USD 476 millones</p>	<p>HIDROELECTRICA TACOTAN</p> <p>Generación de 14 MW Planta hidroeléctrica en el Estado de Jalisco USD 15 millones</p>	<p>BRASKEM IDESA</p> <p>Desarrollo de un cracker de etano y tres plantas de polietileno en Coahuila USD 3,108 millones</p>	<p>TAG PIPELINES NORTE</p> <p>Desarrollo de un gasoducto de 441 km correspondiente a la sección norte denominada Fases I y II USD 1,274 millones</p>	<p>FERMACA</p> <p>Emisión de cartas de crédito, para el respaldo de diversos proyectos de Grupo Farmaca. USD 310 millones</p>	<p>MADERO RESERVE</p> <p>Financiamiento de una Refinería USD 100 millones</p>



Bancomext Pipeline

- **30 projects:**
 - Generating Capacity 6,850 MW
 - Syndicated Loans – Bancomext Participation \$2,000 MUSD
 - 60% Approved and in Construction
- **Green Pipeline:**
 - Renewables 5,000 MW: 4,000 Solar (22) - 1,000 Wind (5)
 - 3 WTE Projects
 - Among the main Banks financing projects from the Auctions of the Energy Reform





PROJECT STRUCTURING ENERGY SECTOR





STRUCTURING



BEST PRACTICES:

International Banks

National Banks

Multilateral Banks

- IDB

- IFC

Technical Support
Programs

- GIZ

Funding Banks

- JBIC

- KFW

- Other Organisms



STRUCTURE: PROJECT FINANCE

Facilities:

- Senior Loan
- SBLC
- Hedging
- VAT



Lenders

Stockholders
(shares)

SPV



OFFTAKERS
Purchase Agreement,
Sale of Energy and
CEL's & PPA'S

TRUST

Permits &
Licenses

Land Rights

EPC

O&M

REGULATION

- National
- International

BANK SYNDICATE

ADVISORS



CREDIT PROCESS



Due Diligence

- Technical
- Administrative/Legal
- E&S
- Financial / Tax
- Merchant
- Insurance



Construction

- Budget
- Timeline
- E&S



Operation

- Production Output
- O&M
- Financial Ratios
- Dividend Test
- Compliance
- E&S



Repayment

- Payment
- Retirement of Equipment
- E&S





Due Diligence - TECHNICAL





Due Diligence – ADMINISTRATIVE / LEGAL

Sponsor / SPV

- Expertise
- Executives
- Corporate Structure
- Soundness
- KYC



Land

- Main & Secondary's
- Private Property or Ejido
- Right of Use
 - Purchase – Rent – Usufruct
 - Tenor
- Right of Way
- Property Register





Due Diligence – LEGAL

Main Contracts

- PPA´s
- EPC/MSA/TSA
- O&M
- Interconnection

- Interrelation
- Guarantees
- Indemnities
- LD



Permitting

- Generation
- Interconnection
- SCT
- Construction & Land Use
- Civil Protection



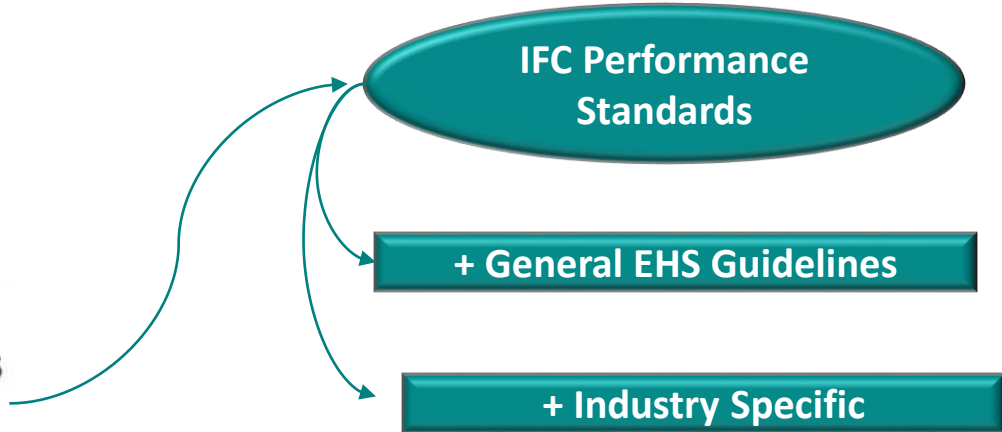


Due Diligence – ENVIRONMENTAL & SOCIAL (E&S)



EQUATOR PRINCIPLES

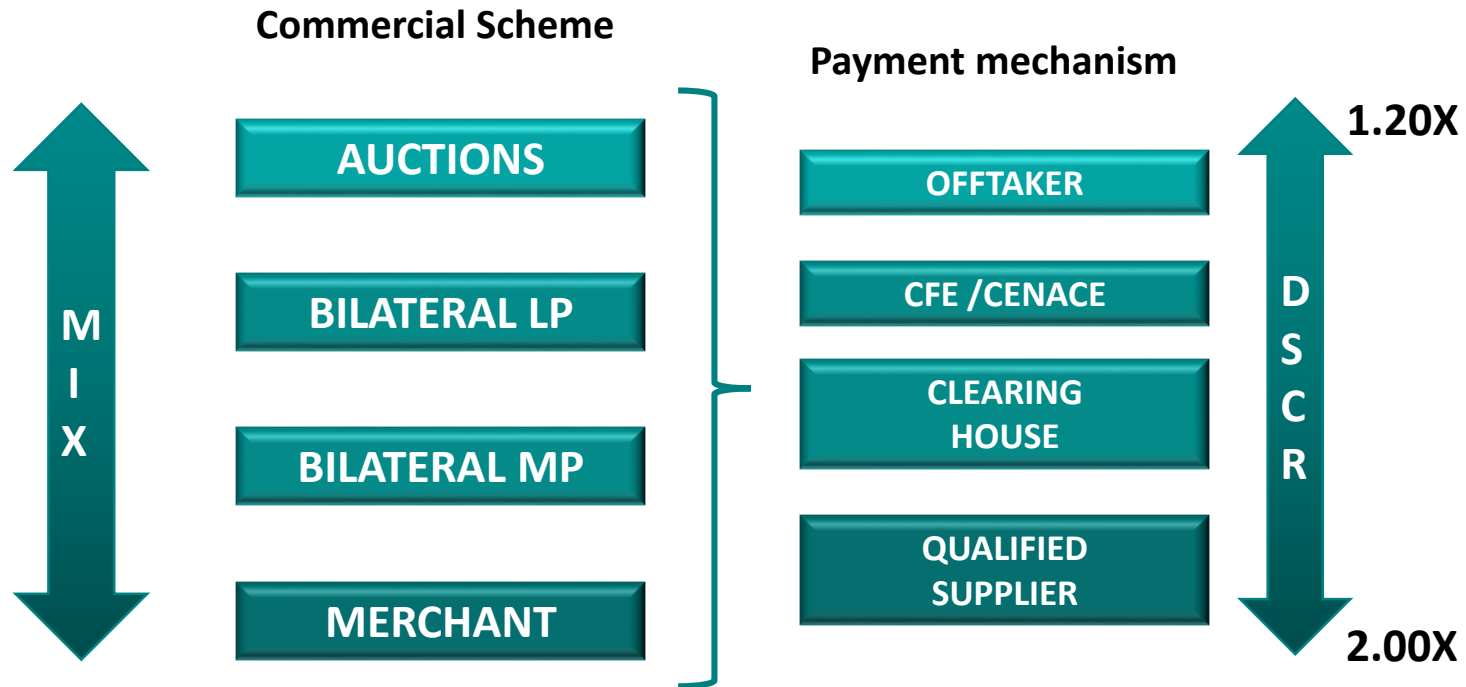
1. REVIEW AND CATEGORIZATION
2. ENVIRONMENTAL AND SOCIAL ASSESSMENTS
3. APPLICABLE ENVIRONMENTAL AND SOCIAL STANDARDS
4. ENVIRONMENTAL AND SOCIAL MANAGEMENT SYSTEM AND EQUATOR PRINCIPLES ACTION PLAN
5. STAKEHOLDER ENGAGEMENT
6. GRIEVANCE MECHANISM
7. INDEPENDENT REVIEW
8. COVENANT
9. INDEPENDENT MONITORING AND REPORTING
10. REPORTING AND TRANSPARENCY



- Environmental Impact Assessment (MIA)
- Environmental & Social Management Plan
- Social Impact Assessment (EVS)
- Budget
- ETJ
- Termination of Project
- CONAGUA
- INAH



Due Diligence – Market





Due Diligence – Market

1. ENERGY

Spot Price Determination

Generation Matrix
CFE & PRODESEN



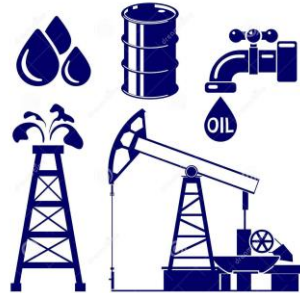
Fuel Costs
(Oil and Natural Gas):
World Bank, EIA y IMF.



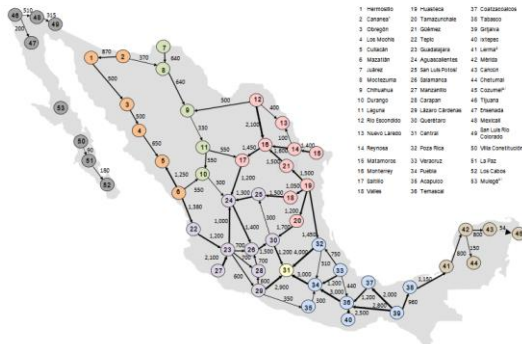
Macroeconomics
FX: USD/MXN



Energy Demand
GDP and Energy Demand



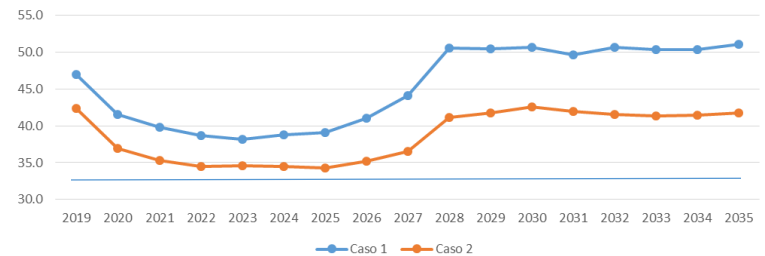
+ Congestion/Curtailment
Grid Congestion



SENSIBILITY ANALYSIS



Precios de Venta Energía (USD/MWh)





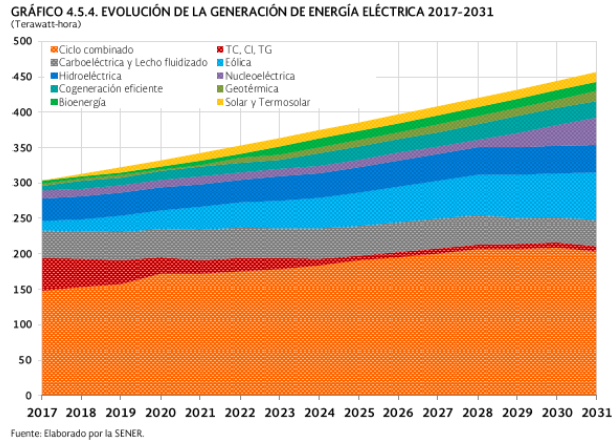
Due Diligence – Market

2. CEL's

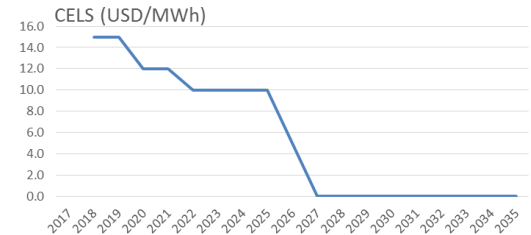
CEL's Requirements per Participant



Renewable Energy Generation



CEL's Prices



3. POWER

HISTORIC / Critical Hours Projection

Time	ENE	FEB	MAR	AP	MAY	JUN	JUL	AGO	SEP	OCT	NOV	DIC	Per Hour
1	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	1	1	1	0	0	0	0	0	0	0	3
15	0	0	0	0	0	1	0	1	0	0	0	0	2
16	0	0	0	8	10	4	7	3	2	0	0	0	34
17	0	0	0	8	24	35	20	21	7	0	0	0	115
18	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0
20	25	35	20	1	0	0	0	0	2	0	0	0	84
21	0	0	15	9	0	0	0	3	12	0	0	0	40
22	0	0	0	14	6	0	0	1	0	1	0	0	22
23	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0
Per Month	26	35	37	41	41	40	27	26	12	15	0	0	300

Figure 7.2: 100 Critical System Hours (2013 – 2015) Published by CENACE

Project Generation Matrix

Month/Hour	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	21.7	42.5	43.2	43.3	42.0	41.3	41.1	41.5	40.2	20.0	0.0	0.0	0.0	0.0	0.0	0.0
2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	28.8	47.1	48.7	47.7	47.1	46.9	46.7	47.2	46.5	30.9	0.9	0.0	0.0	0.0	0.0	0.0
3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.3	41.9	51.0	51.3	51.0	51.5	50.3	50.6	50.9	50.2	36.9	2.3	0.0	0.0	0.0	0.0	0.0
4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	22.4	48.8	51.6	52.9	51.6	51.3	50.7	49.5	46.8	41.6	12.2	0.0	0.0	0.0	0.0	0.0
5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	25.5	44.5	47.3	49.4	50.9	51.1	51.2	50.6	49.9	47.9	43.4	17.5	0.0	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	25.9	42.4	46.0	47.1	45.0	45.1	44.1	43.9	41.7	39.1	32.9	14.8	0.0	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	21.0	37.0	40.4	42.7	40.6	43.7	43.1	41.7	38.4	35.2	30.3	14.6	0.0	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	17.2	37.1	40.4	42.4	43.6	44.1	44.1	43.1	41.6	38.9	36.5	14.1	0.0	0.0	0.0	0.0
9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.7	36.5	39.1	42.1	41.7	40.8	39.9	39.2	35.8	33.3	22.3	1.0	0.0	0.0	0.0	0.0
10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.0	40.9	44.2	44.8	43.9	42.7	42.3	42.5	40.2	38.4	17.0	0.0	0.0	0.0	0.0	0.0
11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.7	33.5	40.9	42.3	42.3	43.7	43.2	43.9	43.9	39.9	12.0	0.0	0.0	0.0	0.0	0.0	0.0
12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	24.7	40.7	41.2	40.0	39.8	40.1	39.6	39.7	38.2	12.1	0.0	0.0	0.0	0.0	0.0	0.0

ESTIMATED POWER



Due Diligence – FINANCIAL

Input

Model Review

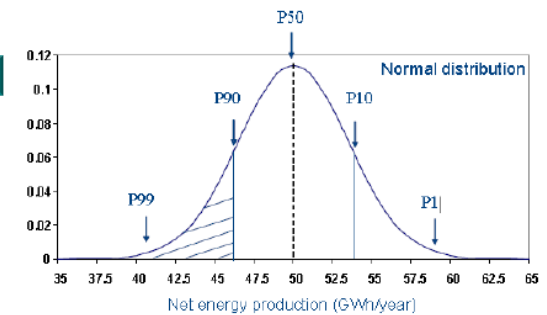
INCOME	30/06/2017	28/02/2018	30/09/2018	30/09/2019	30/09/2020	30/09/2021	30/09/2022
PPA - Energy	0.0	0.0	0.0	8,000.0	6,885.0	7,600.0	7,512.0
PPA - CELS	0.0	0.0	0.0	5,000.0	10,948.4	5,000.0	11,191.6
PPA - Capacity	0.0	0.0	0.0	300.0	418.3	300.0	429.2
Hourly Adjustment Applied	0.0	0.0	0.0	15.7	49.2	8.7	5.5
Total revenues	0.0	0.0	3,306.8	16,304.0	20,961.4	15,486.0	21,669.9
O&M		0.0	0.0	1,000.0	2,500.0	7,000.0	15,000.0
Insurance		0.0	0.0	200.0	600.0	1,500.0	200.0
Land lease		0.0	0.0	0.0	0.0	0.0	0.0
Management & General Expenses		0.0	0.0	300.0	500.0	1,000.0	1,000.0
Usufruct		0.0	0.0	5.1	5.2	5.3	5.4
Asset financial management		0.0	0.0	0.0	0.0	0.0	0.0
LC cost		0.0	0.0	(180.6)	(185.2)	(179.0)	(178.7)
Total OpEx	0.0	0.0	(2,343.2)	1,059.7	3,164.9	9,075.0	15,782.3
EBITDA	0.0	0.0	963.6	17,363.7	24,126.2	24,561.0	37,452.3

Sensibility:

P50

P90

P99



Tax Impact

Benchmark:

Contingencies

IRR

CAPEX
Revenues/Costs

Inconsistencies

Delays

Penalties

Leverage

Hedge (Rates)

Tenor

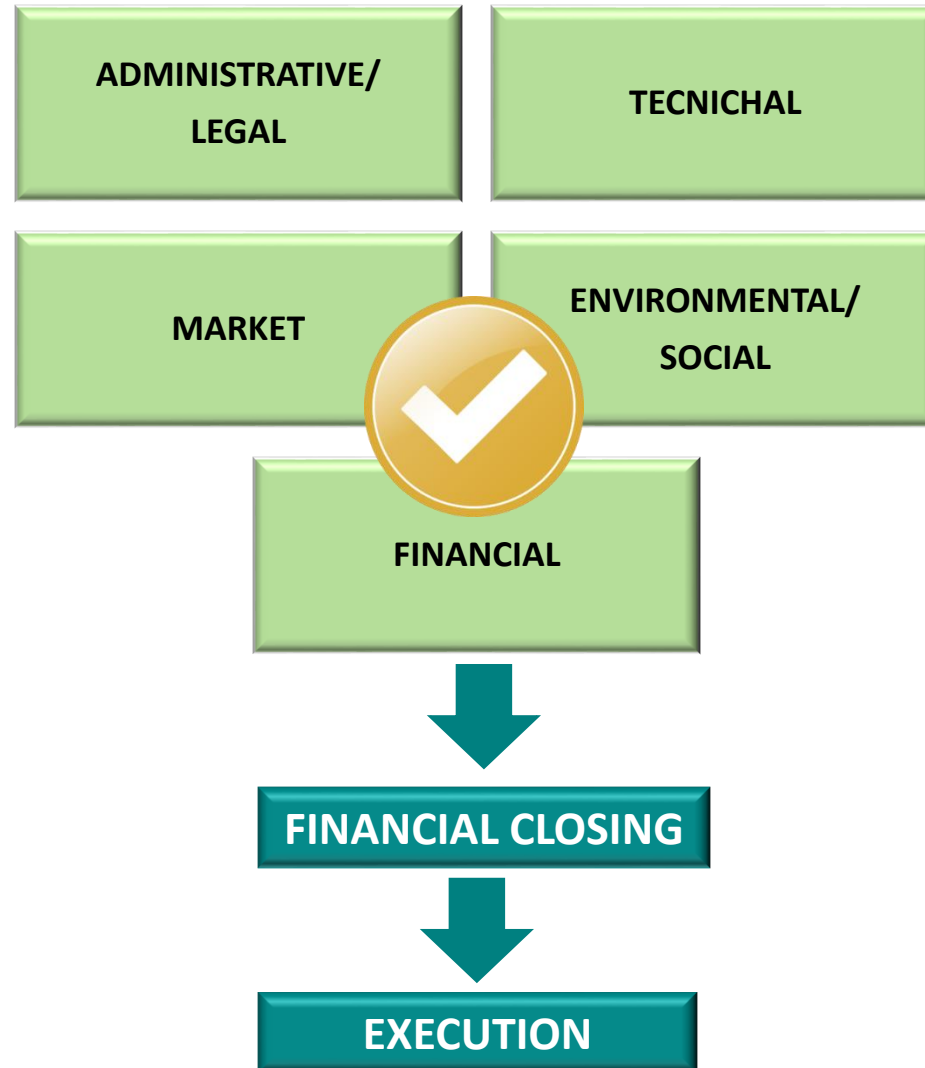
Reserve
Accounts

DSCR

Cash Sweep
Mechanism



Project Finance





Credit Process



- **Budget**
- **Milestone**
 - Site Preparation
 - Road Constructions
 - Equipment Delivery
 - Facility Construction
- **Technical Performance**
- **E&S**

- **Technical & Production Output**
- **O&M Review**
- **Annual Budget (OPEX y CAPEX)**
- **Compliance**
 - Ratios
 - Covenants
- **Dividend Test**
- **E&S**

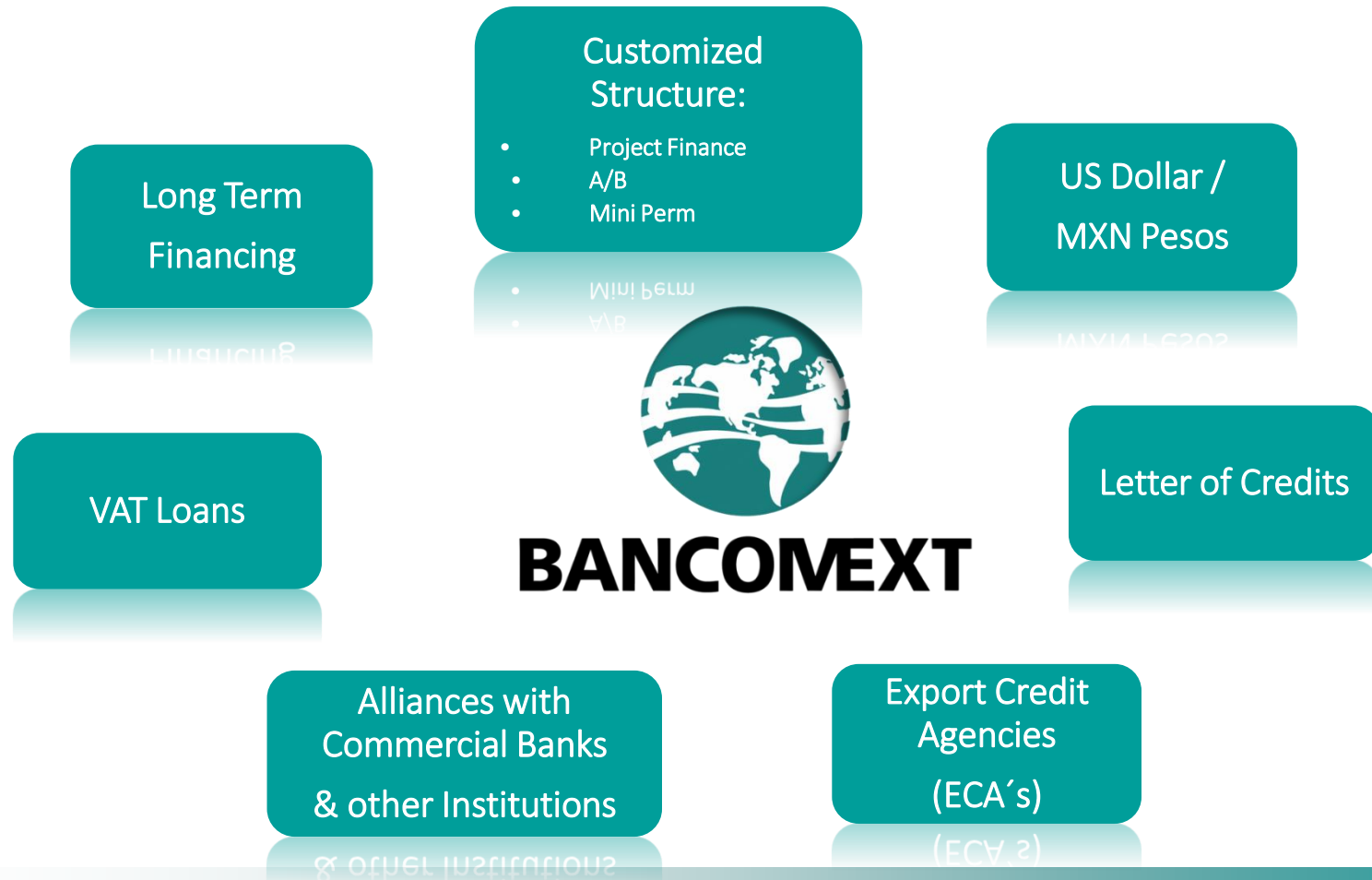
- **Payment**
- **Refinancing**
- **Project Termination**
- **E&S**





BANCOMEXT

Bancomext, a Mexican Development Bank has become an important player on the financing of energy projects, providing:





BANCOMEXT

Banco Nacional
de Comercio Exterior, S.N.C.
Banca de Desarrollo



THANKS!



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<http://www.bancomext.com/en/>