



MEDIO AMBIENTE

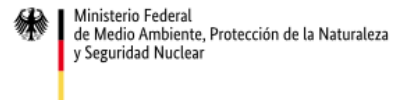
SECRETARÍA DE MEDIO AMBIENTE Y RECURSOS NATURALES

Mexico Auctions Design *Final summary presentation*

August 2020

giz Deutsche Gesellschaft
für Internationale
Zusammenarbeit (GIZ) GmbH

Por encargo de:



de la República Federal de Alemania



- Introduction
- Governance options
- Operationalisation of the auctions
- Questions and discussion

Documento de trabajo SEMARNAT - GIZ

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Introduction

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This work recommends a design of an auction for Mexico's ETS

- Mexico has introduced an Emissions Trading System (ETS) covering emissions from power generation and industry with the **pilot phase starting in 2020**
- Allowances are generally distributed through **auctions or free allocation**, under Mexico's ETS:
 - In 2020 and 2021, **nearly all allowances will be freely allocated**
 - In 2021 a volume of **5% of the cap is expected to be auctioned** in addition to permits freely allocated
 - No legislation or announcement for the distribution of allowances exists from 2022 onwards
- **This work recommends a design of an auction for the Mexican Emissions Trading System in 2021 and beyond**



Key elements of auction design were assessed in Mexico's context

Auction design

type of auction

- single round sealed bid (submit demand curve to auctioneer)
- multiple round clock auctions (bidding at price points)

pricing rules

- uniform pricing
- price-as-bid

market stability measures

- auction reserve prices or alternative designs

Rules and restrictions

frequency and depth

- frequent auctions provide regular market information and access
- deep auctions are more liquid

participation

- open, rules-based entry
- liable entities only

bid restrictions

- maximum bid size
- minimum lot size

Governance

platform

- existing platforms (exchanges)
- bespoke buildout of auctions

monitoring

- independent auction monitor
- monitoring by regulators

revenue use

- general government revenue
- earmarking for specific purposes



Four principles have guided this work

In designing an auction, it is important to balance

- **Efficiency:** allocative efficiency, effective price discovery, and maintaining low transaction costs for participants
- **Simplicity:** reducing the administrative burden for the regulator and participants, avoiding unnecessary complexity, and enabling participation of a wide range of entities
- **Credibility:** operating within a financial regulatory framework that safeguards effectively against market misconduct
- **Compatibility:** compatibility with broader ETS design and objectives, including but not limited to price predictability and future international linking

Summary of recommendations

Overall design

- single round, sealed bid, uniform price design, in line with standard practice

Governance and oversight

- independent monitoring of auctions regardless of platform choice
- utilise the existing infrastructure of securities exchanges if possible

Operationalisation

● Before the auction:

- ◇ publish auction schedules and notices, with quarterly auctions most appropriate
- ◇ approval, pre-registration and provision of collateral for participants, including liable entities and finance sector
- ◇ platform to ensure appropriate maintenance, access to training, and a help desk

● During the auction:

- ◇ maximum & minimum bid sizes will apply, with lot size equal to minimum bid size
- ◇ bidding windows, treatment of unsold units and tied bids
- ◇ rules for cancelling or rescheduling auctions
- ◇ auctions may be used to give effect to market stability measures

● After the auction:

- ◇ bidders are notified as soon as results are validated
- ◇ payments and settlements are processed automatically where possible
- ◇ annual report provides in-depth information on functioning and price trends
- ◇ government decides on use of revenues

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Governance options

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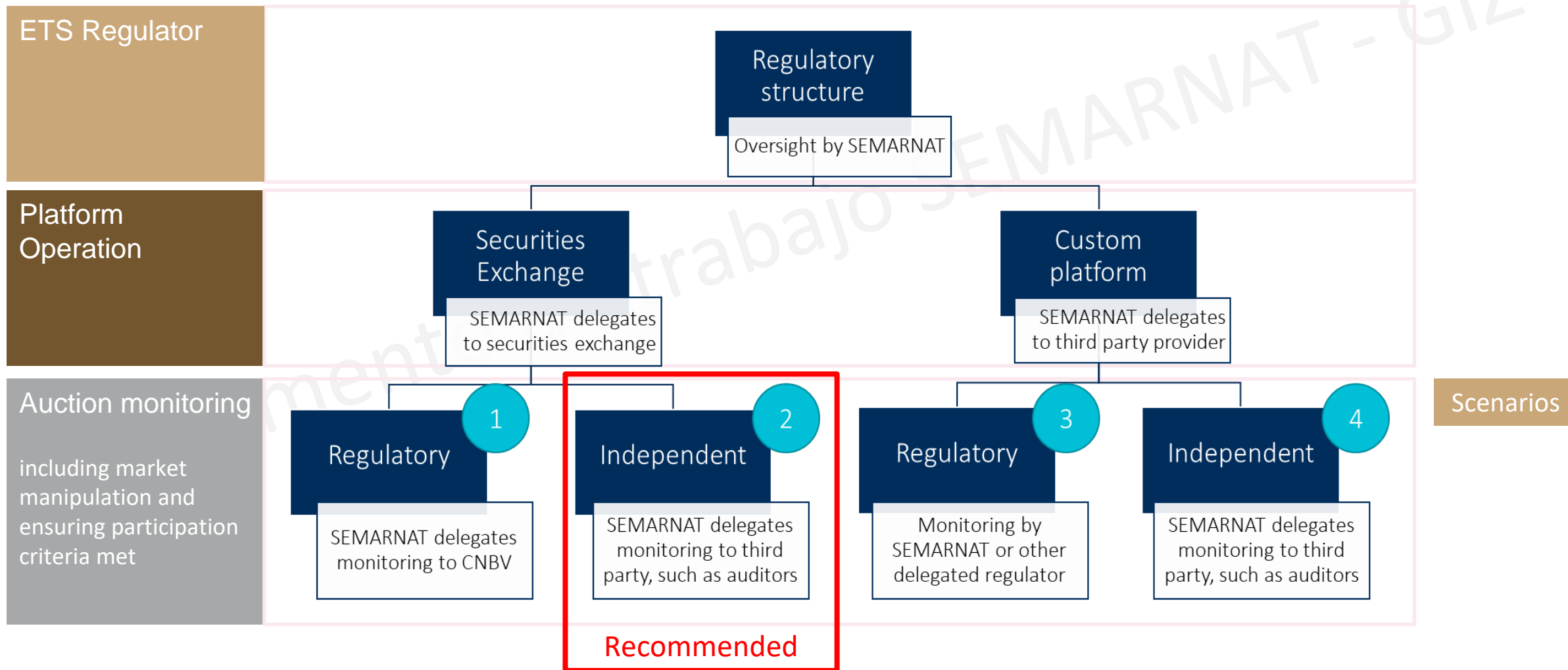
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4 scenarios for the choice of auction platform and design of regulations are presented on the following pages



Scenarios 1 & 2: exchange-based auction platform

An exchange-based platform with regulatory monitoring has the advantage of using existing infrastructure, which can increase efficiency and simplicity.

	Scenario 1: regulatory monitoring	Scenario 2: independent monitoring
Similarities	<ul style="list-style-type: none"> – One of Mexico’s securities exchanges provides the auction platform – Requires that allowances be considered financial instruments and be subject to financial regulation OR that platform rules and financial regulation be updated to allow for non-financial instruments to be traded on an exchange 	
Differences	<ul style="list-style-type: none"> – CNBV is responsible for monitoring 	<ul style="list-style-type: none"> – Monitoring is conducted by an independent third party,
Advantages	<ul style="list-style-type: none"> – Ability to use existing processes and infrastructure to run the ETS auction – Easier financial market participation could improve liquidity 	
		<ul style="list-style-type: none"> – Additional credibility – Lower capacity building costs
Disadvantages	<ul style="list-style-type: none"> – Coordination between SEMARNAT and CNBV to run the auctions. – Adjustments to platform rules or financial regulation 	
		<ul style="list-style-type: none"> – Risk of inefficiencies if monitoring activities replicate existing regulator duties

• Note: only selected advantages and disadvantages listed. See the main report for a full assessment.

Scenarios 3 & 4: customized platform

A custom-built platform could have the benefit of greater government control over the auction process, but is more complex to execute and requires more capacity building for the government.

	Scenario 3: regulatory monitoring	Scenario 4: independent monitoring
Similarities	<ul style="list-style-type: none"> – Use of a customized platform adapted especially for the Mexican ETS market, using a procurement process – Allowances can be classified as either financial instruments or administrative instruments – Careful design of regulation to clarify the delegation of responsibilities 	
Differences	<ul style="list-style-type: none"> – SEMARNAT or a delegate is responsible for monitoring 	<ul style="list-style-type: none"> – Monitoring is conducted by an independent third party
Advantages	<ul style="list-style-type: none"> – High amount of control for SEMARNAT over running auctions – The platform can be designed to meet the specific needs of the auctions market – Could be designed to link up well with other carbon markets 	
		<ul style="list-style-type: none"> – Additional credibility – Lower capacity building costs
Disadvantages	<ul style="list-style-type: none"> – Higher level of complexity and costs related to designing and running a new auction platform – May be more difficult to link with existing financial markets, depending on its compatibility with financial market regulation 	

- Note: only selected advantages and disadvantages listed. See the main report for a full assessment.

A criteria-based assessment favors Scenario 2, with Scenario 4 as a back-up depending on the results of a more detailed legal & regulatory analysis

- Scenario 2 uses independent monitoring and an established securities platform
- While it meets the criteria being assessed, uncertainties remain, including the legal status of allowances, the platform rules, the jurisdiction of CNBV and SEMARNAT in regulating auctions, and costs.

	Scenario 1	Scenario 2 (recommended)	Scenario 3	Scenario 4
Efficiency	Yellow	Dark Green	Dark Green	Dark Green
Simplicity	Yellow	Dark Green	Red	Red
Credibility	Dark Green	Dark Green	Yellow	Dark Green
Compatibility	Yellow	Dark Green	Yellow	Yellow

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Estimated cost

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Key drivers of costs for each scenario

Category	Scenario 1	Scenario 2	Scenario 3	Scenario 4
Description	<i>Exchange-based</i>		<i>Custom platform</i>	
	<i>Regulatory monitoring</i>	<i>Independent monitoring</i>	<i>Regulatory monitoring</i>	<i>Independent monitoring</i>
Procurement costs	Auctioning functionality, data ownership	Auctioning functionality, data ownership, independent monitor	Platform development, data ownership, auction service provider	Platform development, data ownership, auction service provider, independent monitor
In-house staff (per year)	Platform oversight, monitoring Estimate: US\$ 425k	Platform oversight Estimate: US\$ 100k	Platform oversight, monitoring Estimate: US\$ 425 – 620k	Platform oversight Estimate: US\$ 100 – 195k
Platform development	Auction functionality Estimate: unknown	Auction functionality Estimate: unknown	Platform customization Estimate: US\$ 550k – 1M	Platform customization Estimate: US\$ 550k – 1M
Independent monitor (per year)	N/A	Estimate: US\$ 80k	N/A	Estimate: US\$ 80k
Auction service provider (per year)	Annual fees to exchange Estimate: unknown	Annual fees to exchange Estimate: unknown	Estimate: US\$ 340k	Estimate: US\$ 340k

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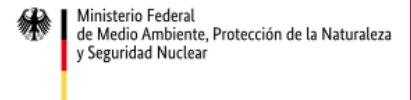


Operationalisation

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Technical decisions ensure smooth operation before, during and after auctions

Before

Auction schedule

Auction notification

Approval/ pre-registration

Training

Platform maintenance

Collateral

Help desk

During Auction

Bid process

Auction volumes

Cancelling auctions

Bidding windows

Determining the price

Unsold units & tied bids

After

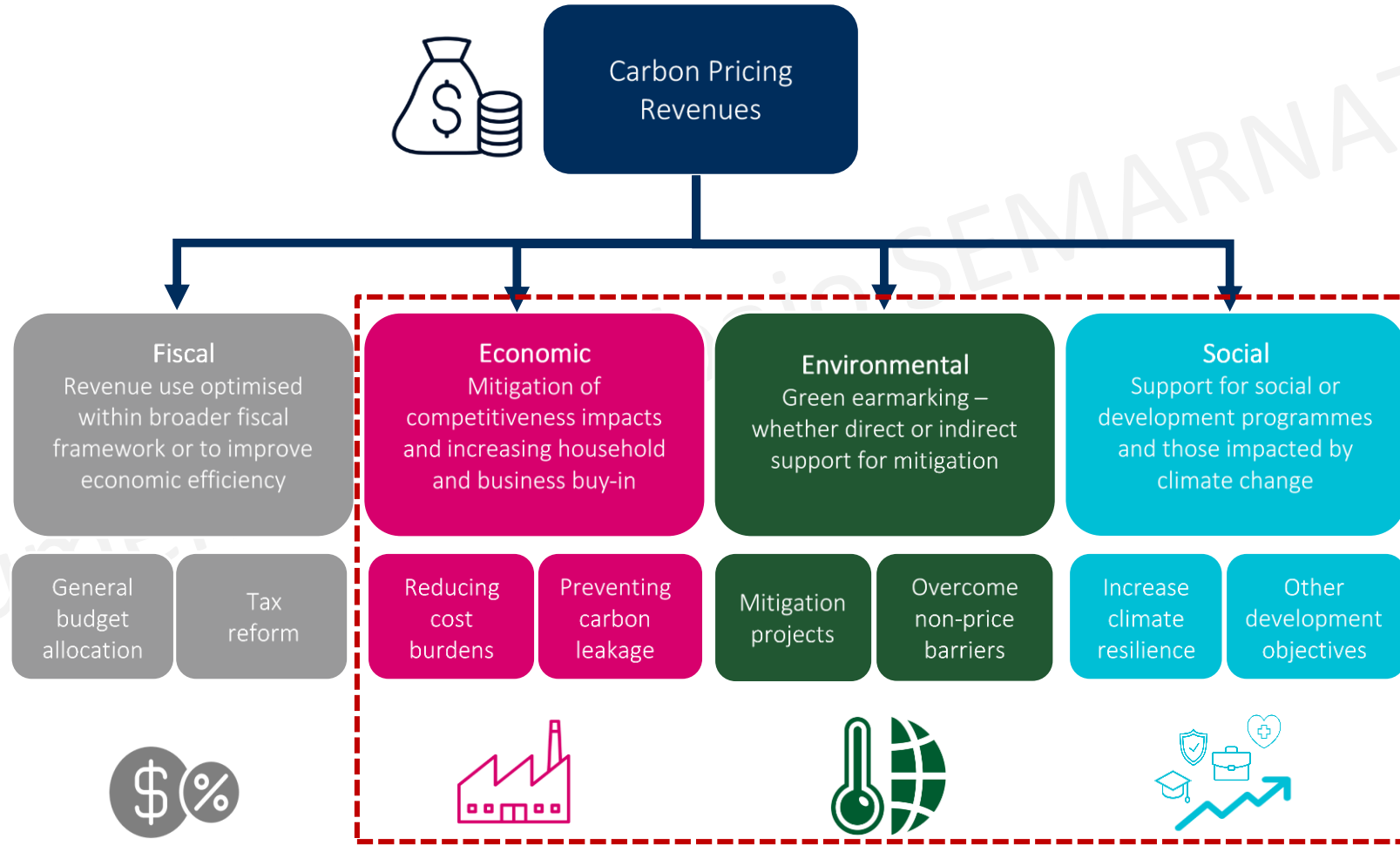
Auction reports

Notification to bidders

Payment & Settlement

Use of revenues

Carbon pricing revenues can be treated as part of the general budget but is often earmarked to meet climate and other policy objectives



Next steps include assessment of gaps in capacity and division of responsibilities



Assess capacity gaps within SEMARNAT and other institutions involved in running the auction

Plan



Clearly define responsibilities between SEMARNAT, other ministries, and third-party service providers based on this assessment, including any legislative or regulatory updates needed

Procure



Run procurement processes for third-party service providers, such as an auction platform developer and service provider, and an auction monitor

Prepare



Organize capacity building activities for both government staff and auction participants well before the auction is operationalized and hire new staff as necessary



Continue to seek support from other jurisdictions, like California, Québec and RGGI, which will provide valuable insights as Mexico moves to the implementation stage of its auction design process

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Questions and discussion

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Para mayor información:

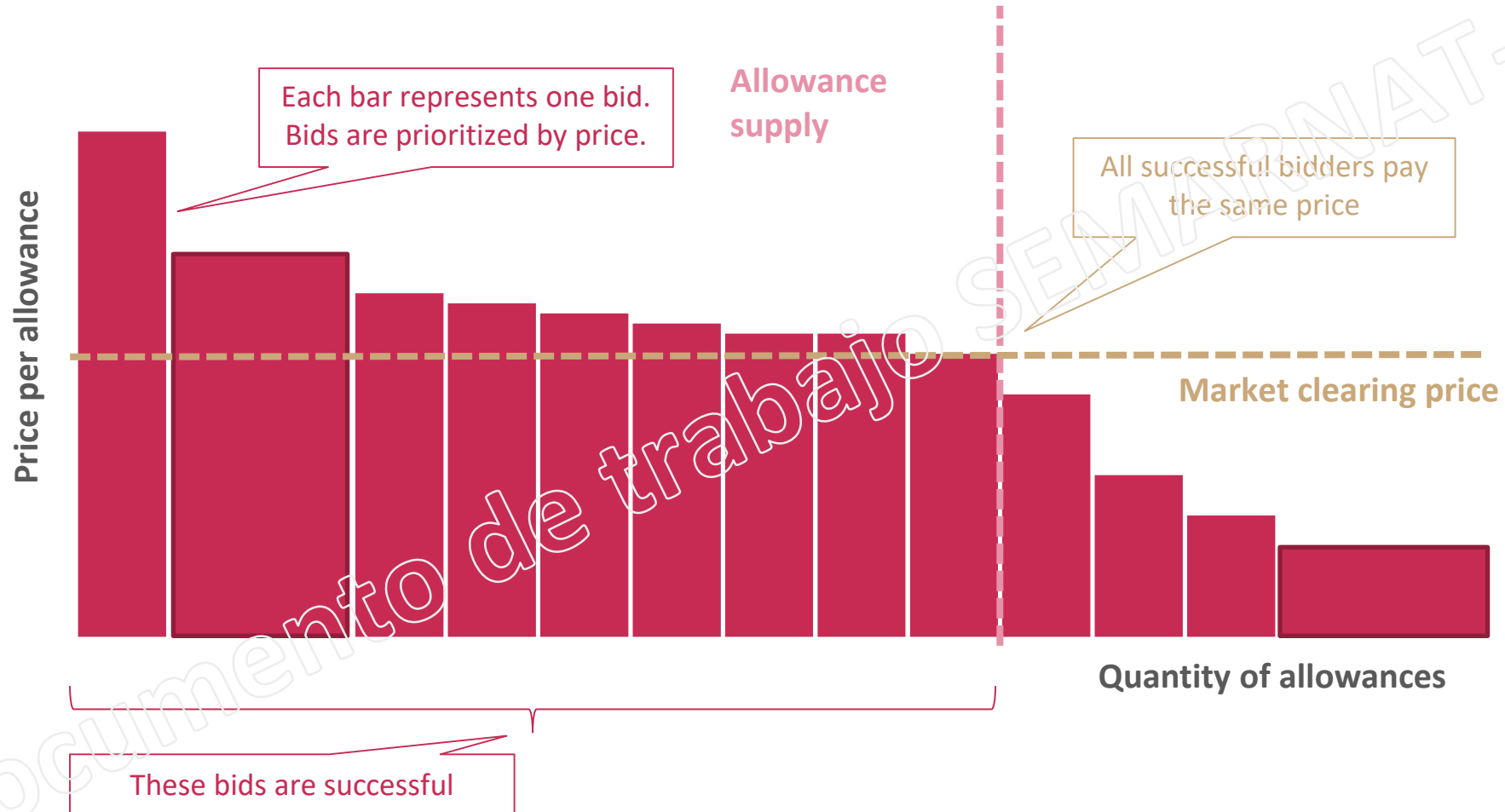
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In the recommended single round, sealed bid, uniform price design, all bidders pay the same price



Before the auction: Communication, registration platform maintenance and training

- **Auction notification**
 - Early publication to facilitate planning of all actors
 - Flexible design to enable response to unforeseen circumstances
- **Eligibility and registration**
 - Approving eligible new auction participants
 - Pre-registering existing auction participants for the auction
 - Regulatory eligibility rules aim to reduce the risk of criminal activity or fraud
- **Platform maintenance**
 - Ensure regular maintenance between auctions, announce emergency maintenance when needed and communicate all updates
- **Other actions**
 - Collateral requirements are aimed to reduce the risk of default
 - Provision of training and help desk infrastructure may be provided by the platform or regulator and should be available throughout auction operation



Before the auction – detailed recommendations

Activity	Description	Recommendation
Auction Schedule	The auction schedule provides information on planned auction dates ahead of each year	Publish an auction schedule at the end of each year, at least 3 months ahead of the first auction in the following year. The auction schedule should account for public holidays and other times when market disruption is expected, but should allow for flexibility, with the finalized dates confirmed in the auction notice.
Participant approval	The approval process includes registration with the emissions registry (RENE), auction eligibility, and Know-Your-Customer checks.	As part of the approval process, perform thorough checks on identity and incorporation documentation, as well as financial information. Applications should be available online for ease of tracking and should be linked to the RENE system registration process. Participants must be approved in order to be eligible for pre-registration.
Training	Training includes how an emissions auction works as well as step-by-step instructions on each step of the process.	Make materials available online that provide clear training on all topics related to auctions, from conceptual training to operational training. Regular opportunities should be given to regulated entities to participate in webinars or in-person workshops to ask questions. Training materials should be updated regularly to respond to frequently asked questions or participant feedback.
Platform maintenance	Platform maintenance includes software updates, security updates, and changes related to functionality.	Regular platform maintenance should be part of the responsibilities of the auction platform. Maintenance should be scheduled to occur well outside of scheduled auctions. Emergency maintenance during auction times is a valid reason to postpone or cancel a scheduled auction.

Before the auction – detailed recommendations

Activity	Description	Recommendation
Auction notice	The auction notice includes information for pre-registering and preparing for each auction, including training/instructions.	Send out an auction notice to all regulated entities with enough time for pre-registration and the submission of collateral. Two months is recommended to start, with final timing to be determined based on expected participation levels and resources available.
Pre-registration	In pre-registration, participants confirm or update information submitted during the approval process, and submit an intention to bid for the upcoming auction.	Put in place a process for checking for changes in entity circumstances that require updated documentation, and otherwise ensure that entities can meet their obligations based on their intention to bid in each auction. A process like California's, which requires pre-registration online for each auction, attestations to declare whether any material circumstances have changed, and information on collateral, could work well in Mexico.
Collateral	Collateral is used to reduce the risk that a winning bidder fails to meet payment obligations and can be made in the form of cash, bank guarantees, or securities.	If using an existing platform, conform collateral requirements to those that exist for other types of securities where possible. Collateral should be submitted with plenty of time to conduct checks prior to the auction. Collateral should be sufficient to cover the full cost of emissions allowances, with a buffer for market value movements in the case of securities. Cash collateral should be used to meet payment obligations automatically to reduce administrative burdens. Excess or unused collateral should be returned to unsuccessful bidders immediately after the auction, and to winning bidders once payment obligations are met.
Help desk	A help desk allows participants to ask questions throughout.	The help desk should be fully staffed, especially during key times, such as when pre-registration applications are due, when collateral is due, around the bidding window, and during settlement.

During the auction: Regular and irregular bidding procedures

- **Bidding rules reduce complexity and improve auction outcomes**
 - ◇ **Auction volume** should be spread evenly throughout the year, except for the auction held in the period before
 - ◇ **A technical reserve price** can be used to increase certainty regarding the relationship between the auction and secondary markets
 - ◇ **Market stability measures**, such as auction reserve prices and/or cost containment reserves, may be implemented via the auction
- **The bidding process should be easy to understand and implement**
 - ◇ **Length of the bidding window** should be short enough to be administratively feasible, while allowing for multiple time zones
 - ◇ **Prices are determined** based on the price for the last unit under the cap, with all winning bidders paying the same price
 - ◇ **Ties** should be broken using a random or a pro-rata approach
 - ◇ **Unsold units** may be shifted to future periods

During Auction

Bid process

Auction volumes

Cancelling auctions

Bidding windows

Determining the price

Unsold units & tied bids

During the auction – detailed recommendations

Activity	Description	Recommendation
Minimum bid size	Imposing a minimum bid size reduces the administrative complexity of running an auction.	Impose a minimum bid size of 500 allowances, aligned with the lot size, and in line with international best practice.
Lot size	Defining lot sizes also makes running an auction less complex.	A lot size of 500 allowances, based on the expected volume per auction participant in each auction.
Maximum bid size	Maximum bid sizes reduce the risk of one participant dominating the auction.	Maximum bid limits of 25% to 40% of auction volumes should be used to reduce the risk of price manipulation.
Auction volume	The amount being auctions each year can be distributed evenly or weighted.	Use weighted volumes, with 1/5 of total annual auction volumes available for all auctions except the auction before the allowance surrender date, at which 2/5 of the annual volume will be offered.

During the auction – detailed recommendations

Activity	Description	Recommendation
Cancelling or Rescheduling Auctions	Reasons for cancelling or rescheduling auctions include insufficient participation, technical difficulties, market disruption, or indications of fraud.	Develop clear rules for how to manage cases of, technical difficulties, market disruption, or indications of fraud, and should first consider rescheduling an auction while addressing the problems, and only cancel as a last resort. In the case of insufficient participation (less than 3 participants), an auction can be cancelled with volumes shifted to later auctions, unless the auction is the final auction before the deadline for surrendering allowances. If an auction cannot be completed due to a failure to meet a technical reserve price, the auction should be rescheduled.
Bidding window	The bidding window determines when participants are allowed to submit, change, or cancel bids.	Hold auctions in the morning, with a bidding window of three hours, ensuring that the bidding window encompasses time zones across the country. Bidders should be allowed to submit, change, or cancel bids only during this window, with plenty of support to reduce the risk of bidding errors.
Unsold units	If the demand is less than the supply of allowances during an auction, some allowances may be unsold.	Shift unsold allowances to the following 2 auctions.
Tied bids	In the case of tied bids at the market-clearing price, a first-come, first-serve, pro-rata, or random approach can be used.	Make use of either a random number generator or a pro-rata methodology to determine who wins in case of tied bids at the market-clearing price.

After the auction: Reporting, transactions and revenue use

- Reporting

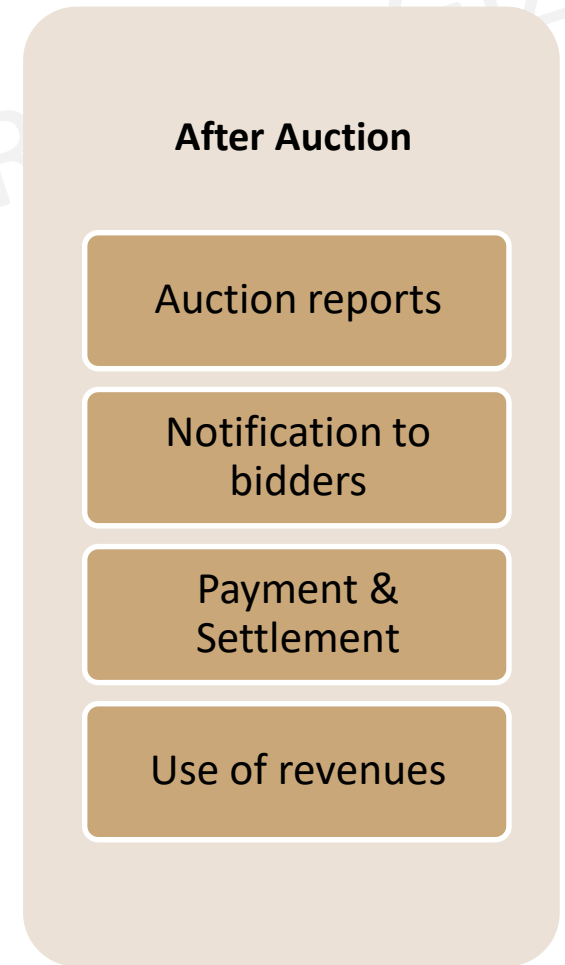
- ◇ **The preliminary auction report** includes information on prices, volumes, and the market monitor's evaluation
- ◇ **Bidder notifications** inform bidders of whether their bids were successful, and next steps including settlement instructions
- ◇ **An annual auction summary report** can add in-depth insight on auction functioning and price trends

- Transactions

- ◇ **Payment** can occur before releasing allowances, or simultaneously through a clearinghouse
- ◇ **Allowances and collateral are released** after payment clears

- Revenue use

- ◇ **If allocated to the general budget**, the government has discretion as to how revenues are used
- ◇ **If earmarked for specific purposes**, spending objectives are predefined



After the auction – detailed recommendations

Activity	Description	Recommendation
Preliminary auction report	The preliminary report includes information on prices, volumes, and the market monitor's evaluation.	Publish a preliminary report of auction results 8 days after the auction, in line with California & Québec's timing. The report should include the clearing price, volume offered and bid, the average bid and number of bids, the number of bidders and successful bidders, and the number of unsold units.
Notification to bidders	Bidders receive a notification of whether their bids were successful, and next steps.	Bidders should receive notification and settlement instructions as soon as possible after the preliminary report is published.
Auction summary report	An auction summary report can be an annual in-depth report on auction functioning and price trends.	Release an annual auction summary report that include pricing trends and an opinion by an independent party on the functioning of the market.
Payment	Payment can occur before receiving allowances, or through a clearinghouse.	Automatically apply cash collateral to pay for allowances. In the case of non-cash collateral, payment should be made within one week of the notification to successful bidders.
Settlement	Allowances and collateral are released after payment clears.	Once payment clears, allowances should be released to bidders. If using a clearinghouse, allowances should be held in escrow until payment clears. If not using a clearinghouse, allowances should be transferred unto winning bidders' registry account within one week of the payment due date. Collateral should be released once payment clears.