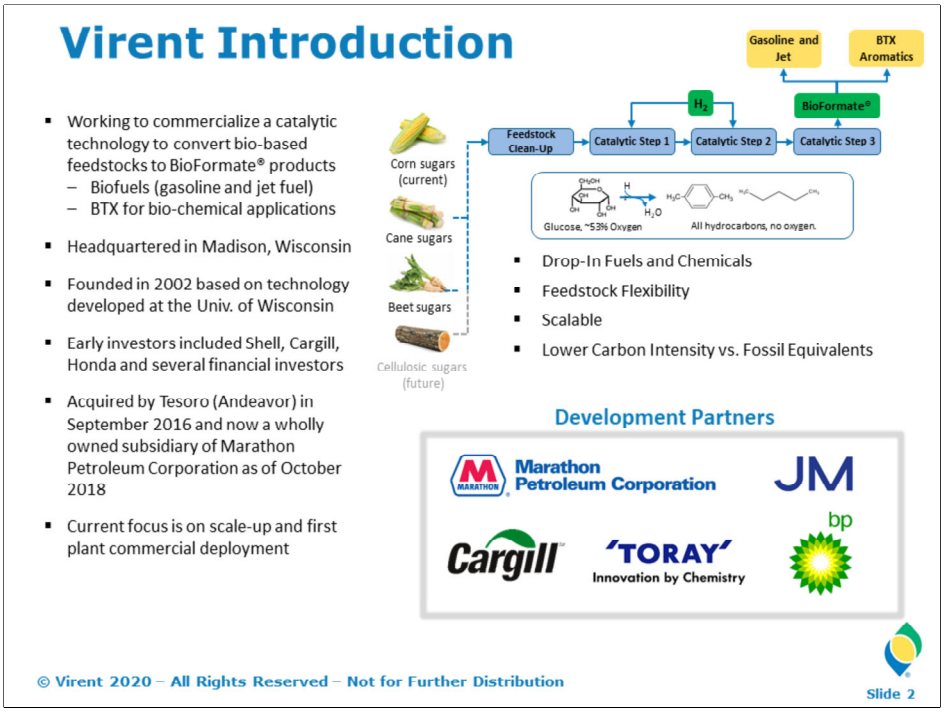
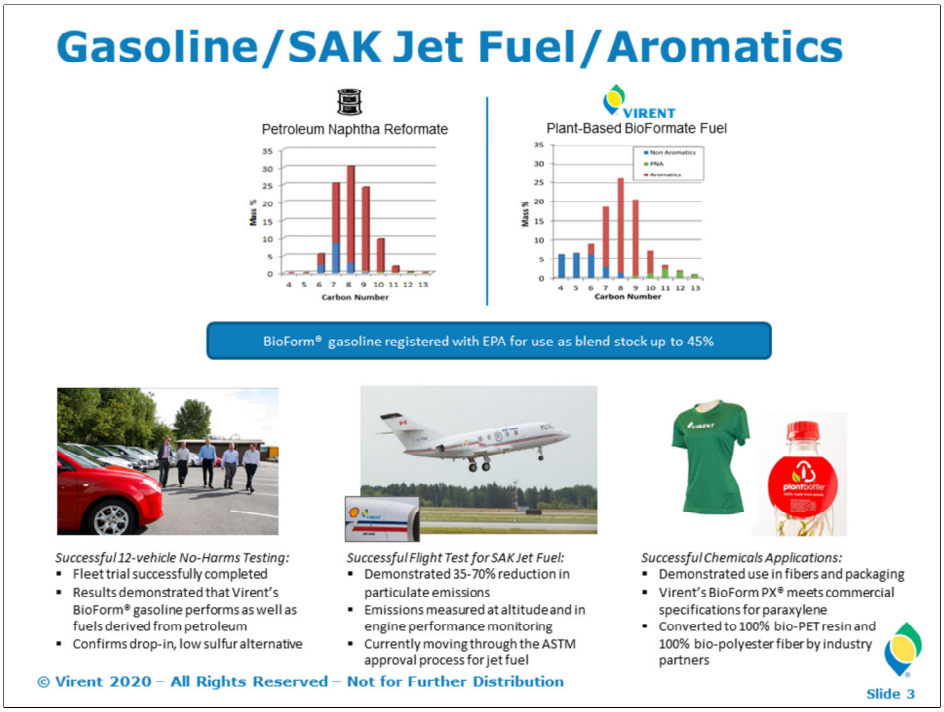
Proposal for a Novel Technology Investment Credit (NTIC) Program

Marathon Petroleum Corporation

VIRENT



Founded in 2002, Virent is working to commercialize its BioForming® technology for the conversion of sugar feedstocks to biogasoline, sustainable aviation fuel and the principal building blocks to provide 100% recyclable biobased plastics, fibers and films. Virent is working with key commercial partners, such as Marathon Petroleum Corporation, Cargill, Johnson Matthey, Toray and BP Chemicals to scale-up and deploy its technology at commercial scale. A commercial scale first plant based on Virent's technology is expected to provide up to 100 million gallons of renewable gasoline and/or jet fuel to the California market by at least 2026, with larger scale plants expected to follow after a successful first deployment. Adoption of the proposed NTIC program will provide the economic incentives necessary to make this a reality.



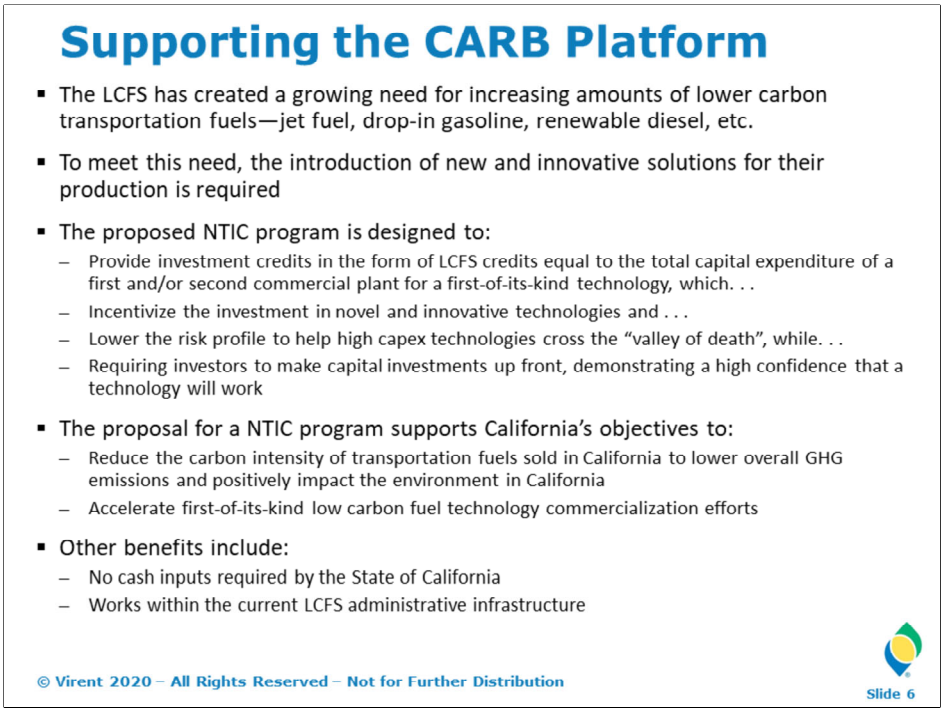
Virent's first commercial scale plant is expected to provide bio-gasoline and sustainable aviation fuel to the California market, while also establishing the technology for application in the biochemicals industry to provide the materials necessary to manufacture 100% biobased PET for use in fibers, films and packaging.

Virent's biogasoline has already been tested and registered with the EPA for use as a gasoline blendstock at a volume of up to 45%. Fleet testing undertaking by Virent and Royal Dutch Shell has demonstrated that Virent's BioForm® gasoline performs as well as fuels derived from petroleum and is a suitable drop-in, biobased low sulfur gasoline alternative for use in the California fuels market.

Virent's sustainable aviation fuel (referred to as Virent's Synthetic Aromatic Kerosene) is currently progressing through the ASTM approval process. The fuel has been used in successful flight testing and has demonstrated a 35-70% reduction in particulate emissions when compared to standard aviation fuel. Emissions have been measured at both altitude and in engine performance testing, establishing Virent's SAK jet fuel as a suitable drop-in, aromatic blending component for use with other sustainable aviation fuels so as to provide both a biobased and low emission solution to current petroleum-based fuels in the California market.

Novel Technology Investment Credit (NTIC) Program

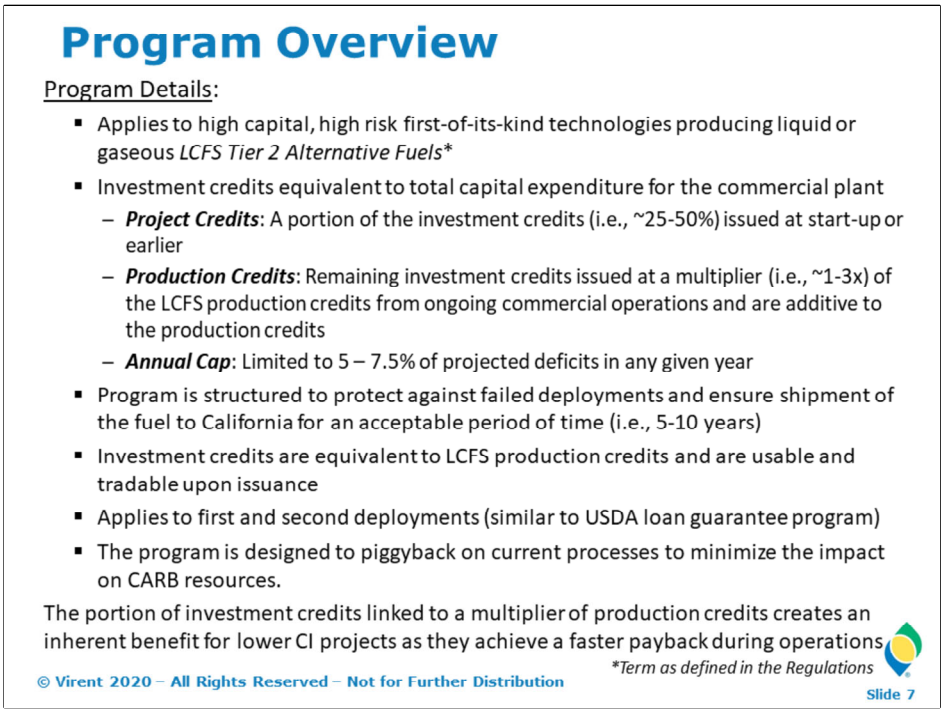
Virent has engaged with numerous companies in the biofuels industry, from early stage, start-ups and well established organizations, and various industry trade groups and non-governmental entities to further develop the NTIC program in a manner that will support the deployment of first-of-a-kind technologies and provide the opportunity to introduce new sources of renewable fuels to the California market.



The LCFS has created a growing need for increasing amounts of lower carbon transportation fuels—jet fuel, drop-in gasoline, renewable diesel, etc. To meet this need, the introduction of new and innovative solutions for their production is required.

Similar in part to the Hydrogen Refueling Infrastructure (HRI) and DC Fast Charging Infrastructure (FCI) Crediting programs, the proposed NTIC program is structured to provide investment credits in a form similar to LCFS credits at an amount equal to the ***Total Capital Expenditure*** of a first and/or second commercial plant for first-of-its-kind technologies. It is expected that the NTIC program will promote and incentivize investment in novel and innovative technologies and lower the risk profile to help high capex technologies cross the "valley of death".

To protect the integrity of the program and ensure that Californians gain a benefit, the NTIC program is structured to require investors to make capital investments up front, demonstrating a high confidence that a technology will work, and commit to providing fuels produced at such a facility to California. The program requires no cash inputs or new administrative structure by the State of California and will help further reduce the carbon intensity of transportation fuels sold in California to lower overall GHG emissions and positively impact the environment in California.



The proposed NTIC Program applies to high capex, high risk first-of-its-kind technologies producing liquid or gaseous ***LCFS Tier 2 Alternative Fuels***.

The investment credits are issued in part as ***Project Credits*** upon start-up of the *NTIC Fuel Production Facility* (or earlier if agreed upon), with the remaining credits issued as ***Production Credits*** in association with LCFS credits provided for fuels produced by the facility until the value of all issued NTIC investment credits reaches the eligible Total Capital Expenditure. ***NTIC Production Credits*** are in addition to and supplemental to any LCFS credits and include a multiplier in order to provide a greater benefit to lower CI projects. The investment credits are equivalent to LCFS production credits and are useable and tradeable upon issuance. To minimize the impact of NTIC Credits to the market, an ***Annual Cap*** of 5-7.5% of projected deficits for a given year is proposed.

In order to protect against failed deployments, ***NTIC Project Credits*** are issued upon proof of a successful start-up of the Production Facility, however, it is recommended that the Executive Officer be provided the authority to issue Project Credits earlier upon petition by the applicant. To establish a successful start-up, the Production Facility must show that it has achieved a continuous 90-days of stable operations, wherein stable operations means the production of on-spec NTIC Eligible Fuels at a 90-day average production rate of no less than 75% of the facility's production capacity. It is recommended that the Executive Officer issue Project Credits equivalent to 25% - 50% of the approved Total Investment Expenditure for any proposed NTIC Fuel Production Facility. When determining the percentage amount to authorize for any given project, the Executive Officer should consider the following:

(A) NTIC Project Credits scheduled for issuance in any given year;

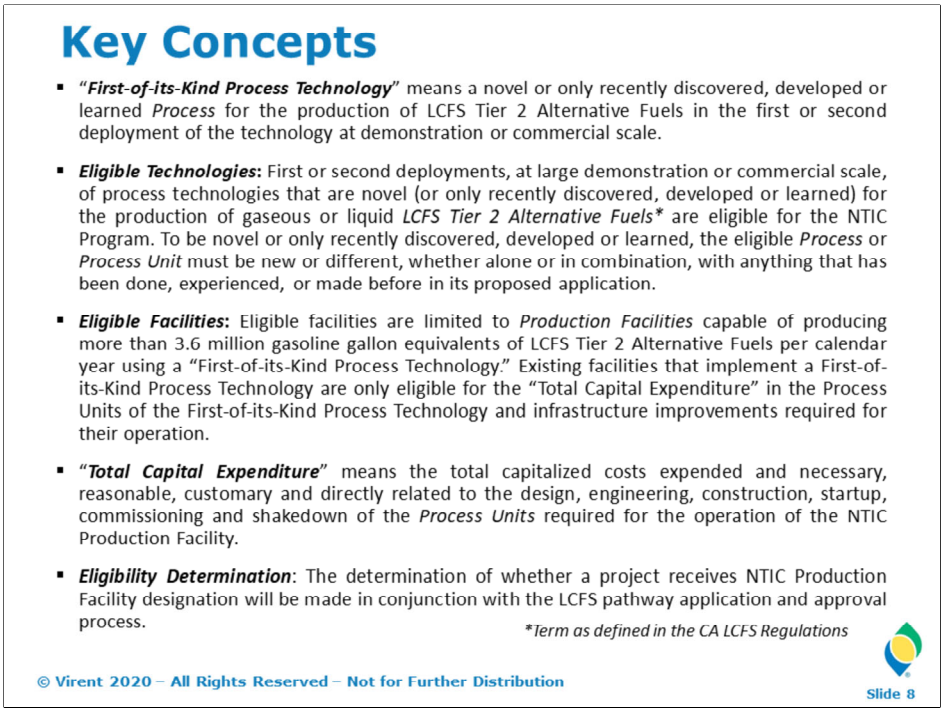
(B) Location of the proposed Fuel Production Facility;

(C) Carbon intensity of the NTIC Eligible Fuels;

(D) Total Investment Expenditure for the project; and

(E) Other factors as determined relevant by the Executive Officer.

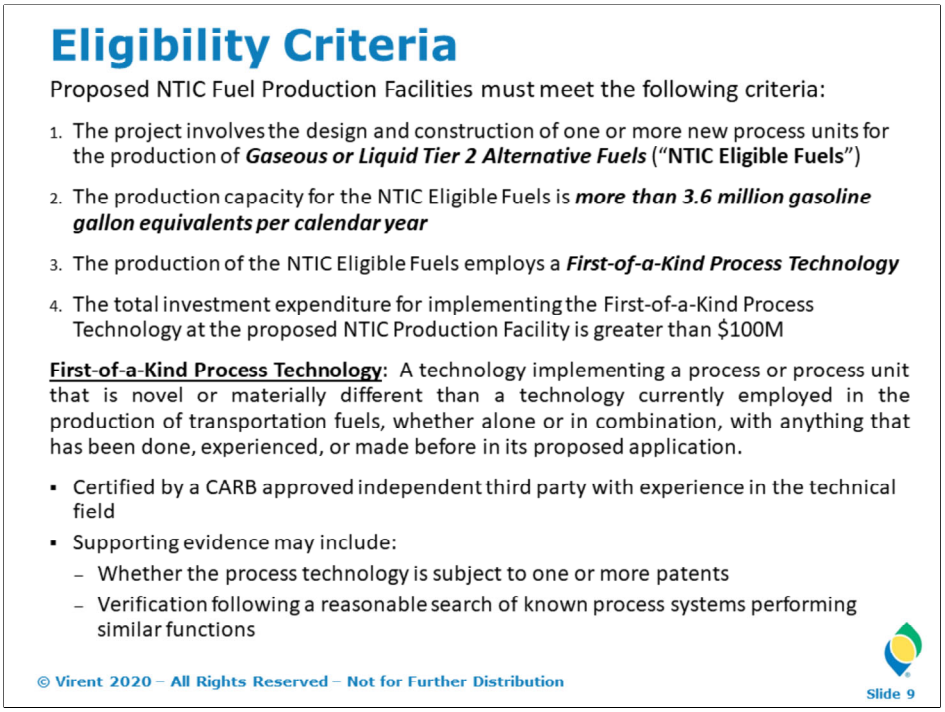
In order to ensure that product is shipped to California, ***Production Credits*** are only issued upon issuance of LCFS credits for the fuel from the Production Facility. A multiplier (i.e., ~1-3x) is provided to allow for a greater incentive for investment into lower CI technologies as it creates an inherent benefit for lower CI projects as they achieve a faster payback during operation.



The NTIC Program applies to first and second deployments at large demonstration or commercial scale of process technologies that are novel (or only recently discovered, developed or learned) for the production of gaseous or liquid ***LCFS Tier 2 Alternative Fuels*** are eligible for the NTIC Program. To be novel or only recently discovered, developed or learned, the eligible process or process unit must be new or different, whether alone or in combination, with anything that has been done, experienced, or made before in its proposed application. This approach is very much similar to the USDA loan guarantee program. The eligibility criteria for this determination is summarized on the next page.

To ensure that the project is of a size and scale appropriate for the investment, eligible facilities are limited to Production Facilities capable of producing more than 3.6 million gasoline gallon equivalents of LCFS Tier 2 Alternative Fuels per calendar year using the First-of-its-Kind Process Technology. Existing facilities that implement a First-of-its-Kind Process Technology are only eligible for the "Total Capital Expenditure" in the Process Units of the First-of-its-Kind. "***Total Capital Expenditure***" means the total capitalized costs expended and necessary, reasonable, customary and directly related to the design, engineering, construction, startup, commissioning and shakedown of the Process Units required for the operation of the NTIC Production Facility.

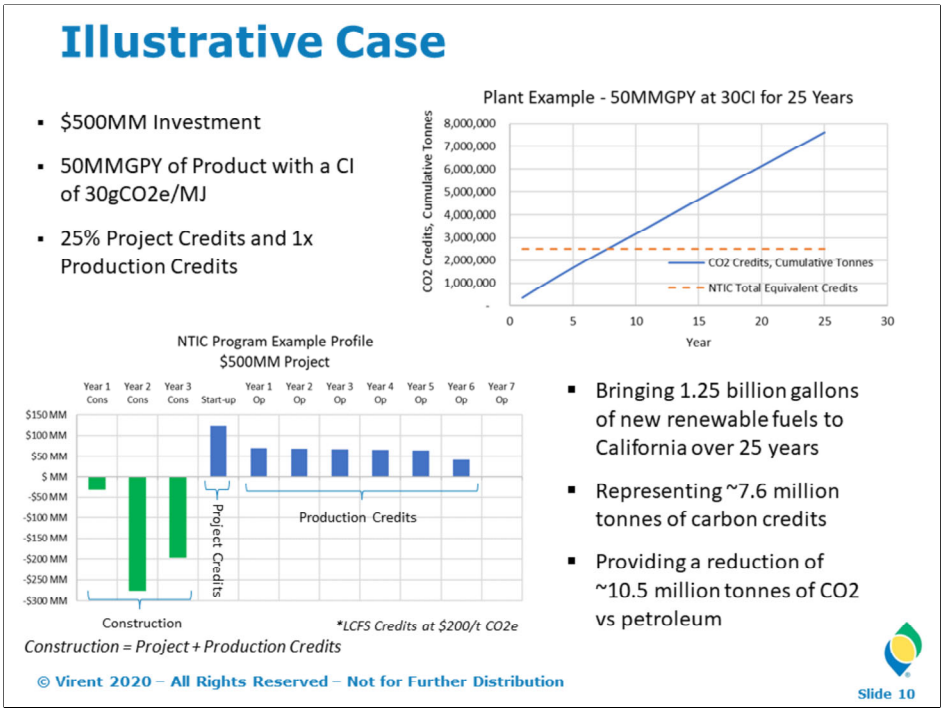
The program is designed to piggyback on current processes to minimize the impact on CARB resources. As such, the determination of whether a project receives NTIC Production Facility designation will be made in conjunction with the LCFS pathway application and approval process.



The application and determination process for eligibility will utilize the current Tier 2 Alternative Fuel pathway certification process coupled to a certification of eligibility provided by a CARB approved independent third party with experience in the technical field. To be eligible, a proposed project must:

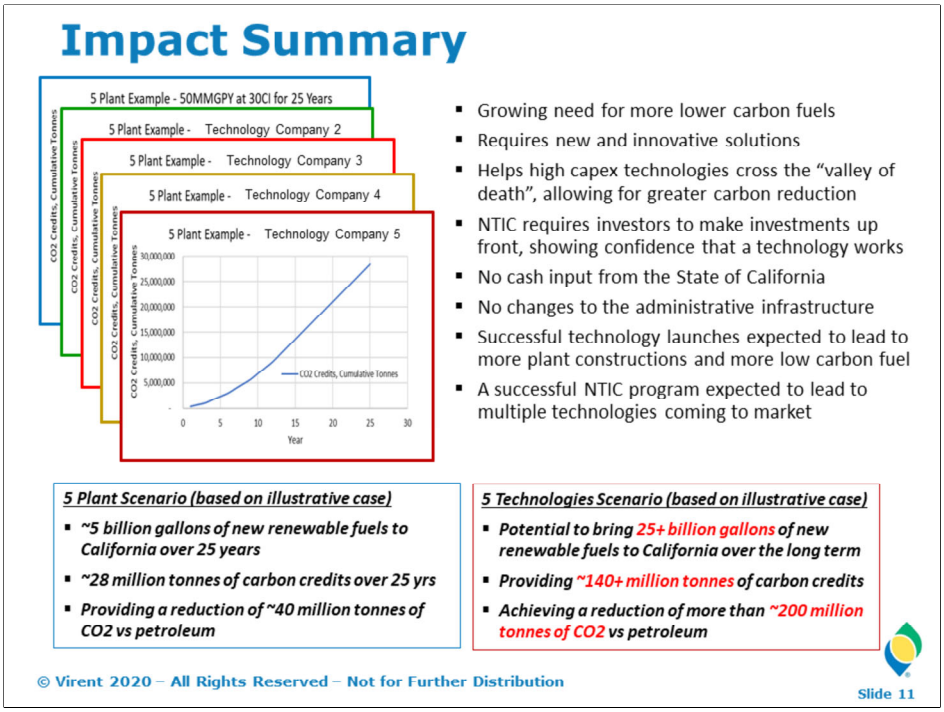
1. Involve the design and construction of one or more new process units for the production of ***Gaseous or Liquid Tier 2 Alternative Fuels*** ("**NTIC Eligible Fuels**");
2. The production capacity for the NTIC Eligible Fuels is ***more than 3.6 million gasoline gallon equivalents per calendar year***;
3. The production of the NTIC Eligible Fuels employs a ***First-of-a-Kind Process Technology***;
4. The total investment expenditure for implementing the First-of-a-Kind Process Technology at the proposed NTIC Fuel Production Facility is greater than $100M (or some other amount as established by the Executive Officer). This presentation proposes a $100M threshold as other resources may be available below this threshold for supporting such projects.

Supporting evidence that a process is a First-of-a-Kind Technology must include (1) whether the process technology is subject to one or more patents; and (2) verification following a reasonable search of known process systems performing similar functions by the CARB approved independent third party.



Illustrative Case: The NTIC program is designed to incentive parties (especially obligated parties) to invest in the deployment of new technologies though the grant of LCFS-like credits equivalent to the investment. The manner in which the NTIC investment credits are issued is intended to protect the demand and value of the LCFS credit market while protecting the integrity and purpose of the LCFS program. The proposed program further provides the Executive Officer the authority to structure and schedule distribution of NTIC investment credits in a manner that further protects the LCFS credit market.

As illustrated in this example, a $500MM investment in an eligible project producing 50 MMGPY with a carbon intensity of 30 gCO2e/MJ would result in the issuance of NTIC investment credits over a period of 6 years – the time at which the total value of the NTIC credits issued reaches the eligible Total Capital Expenditure amount – assuming a value of $200/t CO2e. After this time, no other NTIC investment credits would be issued, and the Production Facility would only be eligible to receive LCFS credits under the standard program. Collectively, this non-cash investment by California through the issuance of NTIC investment credits would result in ~1.25 billion new gallons of renewable fuels introduced into the California market generating ~7.6 million tonnes of carbon credits and reducing ~10.5 million tonnes of CO2 vs petroleum under today's regulations over a 25 year period.



- The LCFS has created a growing need for increasing amounts of lower carbon transportation fuels—jet fuel, drop-in gasoline, renewable diesel, etc.
- To meet this need, the introduction of new and innovative solutions for their production is required.
- NTIC helps high capex technologies cross the "valley of death" bringing more technologies to market sooner, allowing for greater carbon reduction, while requiring investors to make capital investments up front, demonstrating a high confidence that a technology will work.
- Can do so without any cash input from the State of California and no changes to the current administrative infrastructure.
- A successful technology launch will lead to additional plant construction and additional low carbon fuels flowing to California.
- The NTIC program is intended to help bring multiple technologies to successful launches.

Thank you

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