



Research article

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# Preparation of Papers for International Journal of Latest Technology in Engineering & Management “Convergence of Innovation: Lithium, Ethanol, and Deep-Sea Mining in the Age of AI”

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## Abstract

You've outlined a comprehensive plan integrating seven industries. Here's a hypothetical scenario exploring the potential benefits and challenges:

# Hypothetical Scenario: "Sustainable Futures Initiative"

**Objective:** Create a holistic ecosystem combining Lithium, Deep Sea, Ethanol, Higher Education, Computational AI, and Synthetic industries to drive sustainable growth, reduce emissions, and promote environmentally friendly practices.

### Potential Benefits

- Renewable Energy:** Increased Ethanol production and Deep-Sea exploration for renewable energy sources can reduce dependence on fossil fuels.
- Sustainable Lithium:** Environmentally friendly industrializing of Lithium can meet growing demands for electric vehicles while minimizing ecological impact.
- Innovation Hub:** Integrating Computational AI and Synthetic technologies into Higher Education can foster research and development, driving innovation across industries.
- Economic Growth:** Strategic partnerships and investments can create new job opportunities, stimulate local economies, and increase global competitiveness.

### Potential Challenges

- Environmental Concerns:** Deep Sea exploration and Lithium extraction must be carefully managed to avoid ecological damage.
- Technological Hurdles:** Developing sustainable Lithium extraction methods and integrating Computational AI and Synthetic technologies into Higher Education will require significant investments in research and development.
- Regulatory Frameworks:** Governments and regulatory bodies must create and adapt policies to support the growth of these industries while ensuring environmental sustainability.
- Public Perception:** Educating the public about the benefits and challenges of these industries will be crucial for building support and addressing concerns.

### Next Steps

- a) Conduct thorough research: Gather data on the current state of each industry, identifying areas of opportunity and challenge.
- b) Establish strategic partnerships: Collaborate with industry leaders, governments, and educational institutions to develop a comprehensive plan.
- c) Develop sustainable technologies: Invest in research and development to create environmentally friendly Lithium extraction methods and integrate Computational AI and Synthetic technologies into Higher Education.
- d) Create a regulatory framework: Work with governments and regulatory bodies to establish policies supporting the growth of these industries while ensuring environmental sustainability.

By addressing these challenges and opportunities, the “Sustainable Futures Initiative” can drive innovation, economic growth, and environmental sustainability, creating a better future for generations to come.

Lithium and ethanol is a crucial component in electric vehicle (EV) batteries, and its demand is skyrocketing. However, current lithium production is not meeting its full potential, leaving a significant gap in the lithium. President Biden’s integration plan for seven industries, including deep sea, Lithium, Ethanol, higher education, computational AI, Synthetic, and environmentally friendly industrializing of Lithium, is an ambitious project. To tackle this challenge, it’s essential to understand the current landscape and potential opportunities.

### Key Industries and Challenges

- a) Lithium: With the growing demand for electric vehicles, Lithium production is crucial. However, environmentally friendly industrializing of Lithium is a significant challenge.
- b) Deep Sea: Exploring and harnessing deep-sea resources can provide new opportunities for renewable energy and mineral extraction.
- c) Ethanol: As a renewable energy source, Ethanol production can contribute to reducing greenhouse gas emissions.
- d) Higher Education: Integrating computational AI and Synthetic technologies into higher education can enhance research and development capabilities.
- e) Computational AI and Synthetic: These technologies can drive innovation across various industries, including healthcare, finance, and transportation.

### Potential Opportunities

- a) Investing in research and development to improve Lithium extraction and processing methods.
- b) Exploring strategic partnerships between industries to promote knowledge sharing and innovation.
- c) Developing sustainable and environmentally friendly practices across all seven industries.

### Government Initiatives

President Biden’s administration has already taken steps to address climate change and promote renewable energy. For example, the Inflation Reduction Act of 2022 includes significant investments in climate change mitigation and renewable energy. By understanding the challenges and opportunities within these seven industries, you can better position your business to take advantage of the integration plan and contribute to a more sustainable future. “This article examines the recent surge in South Korean investment in the US, driven by the Biden administration’s Chips and Science Act and Inflation Reduction Act. We explore the implications of this trend for the semiconductor and clean technology industries, and discuss the potential for increased cooperation between the two nations”. The estimated 30 billion untapped lithium reserves present a tremendous opportunity for countries to capitalize on this valuable resource. China has already taken steps to dominate the lithium market, leveraging its low metal costs to produce lithium-ion batteries at competitive prices.

Ethanol is indeed a key driver of commodities in South Korea and India. South Korea has seen significant growth in ethanol imports, with the U.S. being a major supplier. In fact, the U.S. Grains Council has reported a tripling of ethanol exports to South Korea over the past five years, with imports reaching 137.4 million gallons valued at \$520 million in the 2020/2021 marketing year. India is also making big strides in ethanol production and consumption. The country has set ambitious targets to blend 20% ethanol with gasoline by 2025, up from 5% in 2020. This push for ethanol is driven by the government’s efforts to reduce dependence on fossil fuels, improve air quality, and support farmers. The Integration of ethanol markets between South Korea and India could have significant implications for global ethanol trade. With India’s growing demand for ethanol and South Korea’s established imports, there may be opportunities for increased cooperation and trade between the two countries. It’s worth noting that India’s ethanol production is expected to increase significantly, driven by government support and investments in the industry.

The U.S. Grains Council has reported that India’s ethanol production could increase four-fold by 2025, driven by increased demand for ethanol-blended gasoline [1]. South Korea, surrounded by oceans is indeed an attractive option for lithium extraction and production [2]. East Sea gas reserves has estimated 14 Billion barrels of oil equivalent (BOE) are believed to lie at the bottom of the East Sea, which could satisfy South Korea’s gas demand for 29 years. The country’s unique geography provides access to abundant seawater, which can be used to extract lithium through various methods, such as:

- a) Seawater lithium extraction: This method involves extracting lithium from seawater using specialized technologies, such as membrane separation or ion exchange.
- b) Geothermal lithium extraction: South Korea’s geothermal resources can be used to extract lithium from hot springs or geothermal fluids.

By tapping into its oceanic resources, South Korea can reduce its reliance on land-based lithium mining, which often comes with environmental concerns. This approach can also help the country:

- a) Diversify its energy mix: By developing a domestic lithium industry, South Korea can reduce its dependence on imported fossil fuels and promote a cleaner energy mix.
- b) Enhance its economic competitiveness: A thriving lithium industry can create new job opportunities, stimulate local economies, and increase South Korea's global competitiveness in the EV battery market.
- c) Mitigate climate change: By supporting the growth of EVs, South Korea can contribute to reducing greenhouse gas emissions and mitigating climate change.

To realize this potential, South Korea will need to invest in research and development, infrastructure, and strategic partnerships to overcome the technical and economic challenges associated with seawater lithium extraction.

**Keywords:** Investment; semiconductors; phibroethanol; clean technologies; south korea & us manufacturing; audience; significance; barriers; instability; buracracy; enviornmental regulation; refining industry

## Introduction

The surge in South Korean investment is a direct result of the Biden administration's passage of the Chips and Science Act and the Inflation Reduction Act in 2022. These laws offer substantial incentives, including hundreds of billions in tax credits, loans, and subsidies, to boost US manufacturing of semiconductors and clean technologies, such as solar panels and electric vehicles. Russia's ethanol production is indeed on the rise, with forecasts indicating a significant increase in recent years. The production volume of ethanol in Russia was expected to reach 807 million liters in 2024, driven by government support and investments in the industry. Several factors contribute to Russia's growing ethanol market. The government's decision to lift the excise tax on domestic ethanol production has made the industry more attractive to investors. Additionally, Russia's vast agricultural resources provide a solid foundation for ethanol production. The global ethanol market is also experiencing growth, driven by increasing demand for renewable energy sources. The world's top ethanol-producing countries include the USA, Brazil, China, Canada, and Thailand.

Here are some key trends and forecasts for Russia's ethanol market:

- a) Increasing production: Russia's ethanol production is expected to continue growing, driven by government support and investments in the industry.
- b) Government incentives: The Russian government has implemented incentives to support the ethanol industry, including tax benefits and subsidies.
- c) Growing demand: Russia's ethanol demand is expected to increase, driven by growing demand for renewable energy sources.

Overall, Russia's ethanol market is poised for continued growth, driven by government support, investments in the industry, and growing demand for renewable energy sources. The goal is to reduce reliance on China, the current dominant producer. South

Korea, ranking 2nd, is well-positioned to capitalize on these opportunities. The Chips and Science Act provides approximately \$280 billion in federal aid to encourage the construction of microprocessor manufacturing facilities in the US. Key aspects of the Chips and Science Act include incentives for constructing, modernizing, or expanding semiconductor manufacturing facilities and equipment, as well as programs for high-tech semiconductor research and development, and workforce development. The Inflation Reduction Act also offers significant incentives for clean energy technologies, including tax credits for domestic production and sale of qualifying solar and wind components, construction of clean electricity production facilities, and production of clean energy [3,4].

## Indentations and Equations, %Conclusion a breakdown of the key points:

### Energy and Agriculture

- a) South Korea's ethanol challenge: With no domestic ethanol feedstock, South Korea faces a significant challenge in meeting its ethanol demands.
- b) US ethanol industry impact: The introduction of the E10 policy is expected to lead to a shortage of 340 million gallons of ethanol, which the US ethanol industry cannot afford to give up.
- c) US grains global presence: The US grains industry operates in over 50 countries, highlighting its significant global presence.
- d) Ethanol's impact on agriculture: Ethanol production is expected to increase agricultural demand, driving growth in the sector.

### Oil and Gas Exploration

- a) Exploration and development plans: South Korea plans to drill 10 exploration wells and develop the field commercially.
- b) Comparison to previous discoveries: The potential discovery is expected to be over 300 times the size of the East Sea gas field

discovered in the late 1990s.

- c) Economic zone targets: All targets are located within South Korea's economic zone.

#### Oil Reserves and Demand

- a) Korea National Oil Corporation's plans: The corporation plans to add about \$3 million barrels of crude oil to its reserves.
- b) Meeting demand: 100 million barrels of crude oil would be sufficient to meet South Korea's demand for approximately 100 days [5-8].

Seabed mining has several advantages over traditional land-based mining. Here are some key benefits:

#### Environmental Benefits

- a) Less habitat destruction: Seabed mining avoids deforestation, habitat destruction, and fragmentation associated with land-based mining.
- b) Reduced water pollution: Seabed mining eliminates the risk of water pollution from mining activities, which is a significant concern for land-based mining.
- c) Lower greenhouse gas emissions: Seabed mining can have lower greenhouse gas emissions compared to land-based mining, depending on the specific mining methods and technologies used.

## Methods

#### Economic Benefits

- a) Access to untapped resources: Seabed mining provides access to vast mineral deposits previously inaccessible through traditional land-based mining.
- b) Improved resource efficiency: Seabed mining can provide a more efficient and cost-effective way to extract minerals, as it eliminates the need for costly land acquisition and rehabilitation.
- c) Reduced operational costs: Seabed mining can have lower operational costs compared to land-based mining, depending on the specific mining methods and technologies used.

#### Technological Benefits

- a) Advances in underwater technologies: Seabed mining drives innovation in underwater technologies, such as remotely operated vehicles (ROVs) and autonomous underwater vehicles (AUVs).
- b) Improved mining techniques: Seabed mining encourages the development of more efficient and environmentally friendly mining techniques.
- c) Increased use of renewable energy: Seabed mining can utilize renewable energy sources, such as wind or solar power, to reduce its carbon footprint.

By adopting responsible and sustainable seabed mining practices, we can unlock the economic potential of this emerging industry while minimizing its environmental impact. The convergence of AI, higher education, water distribution, and lithium has indeed given rise to exciting new industries. With successful testing and proof-of-concept projects, investments are pouring in, including over \$280 million in the Clipper Zone, fueled by the Chips and Science Act and the President's Bipartisan Infrastructure Law. This influx of funding is driving innovation in lithium mining, particularly in the western United States, with Nevada emerging as a hub. The Thacker Pass mine, for instance, is expected to become the second active lithium mine in the US, with the loan support from the Energy Department [9-15].

Sustainable mining practices: Implementing responsible mining methods, such as recycling and reusing water, can minimize the ecological footprint of lithium extraction.

Here are some alternative ways to phrase that:

- a. "We've identified opportunities to maximize investor returns".
- b. "Our strategy is designed to amplify investor potential".
- c. "We've developed a plan to boost investor earnings".
- d. "Our innovative approach unlocks greater potential for investors".
- e. "We're confident our solution will increase investor value".

Or, if you want to make it more specific:

- a. "By leveraging lithium's 52.57% demand increase, we've created a high-growth potential for investors".
- b. "Our Deep-Sea Water, AI, and ethanol production initiatives are poised to drive significant returns for investors".

Let me know if you'd like me to suggest more options!

As the industry continues to evolve, it's crucial to balance economic growth with environmental stewardship and social responsibility.

Future Research

Where to discharge toxins?

## Acknowledgements

Surrogates court of Monaco. Mary Tyler Moore Court of Monaco, which is the highest court in the Principality of Monaco. The court is responsible for administering justice and interpreting the laws of Monaco. GM, Financial Times, Kokomo, Korea Investment Corporation, LG Energy, Samsung SPI, SDI Factory, UN Conference on Trade and Development, US Grains Council, Walsh.

## Reference

- a) Financial Times, 2024, "South Korea Emerges as a Top US Investor as China Tensions Escalate, financial time com.

## Books

- b) Diane Roessler Weinert (2024), "Can Deep Sea Water be Processed <sup>4</sup>into Potable Water and Distributed into the Middle East" Amazon.com Chapters in Books.
- c) Diane Roessler Weinert (2024), "Can Deep Sea Water be Processed <sup>4</sup>into Potable Water and Distributed into the Middle East" Amazon.com.

## Theses

- d) D.S. Dr. Diane Roessler Weinert, "Wealth in Water", Doctoral diss., Monaco, The International University of Monaco, 2017-2022.

## Proceedings Papers

- e) "Can Deep Sea Water be Processed into Potable Water and Distributed into the Middle East", (2024)", Conferencii.

## Funding Biography

Renowned author, researcher and philanthropist dedicated to advancing education, water research and pulmonary health.

## Education

- a) Doctorate in Philosophy (Ph.D.) – Antioch University.
- b) Doctorate in Business Administration (DBA) – International University of Monaco (IUM).
- c) Doctorate in Science (Sc.D.) – Capitol Technology University.
- d) Doctorate in Medicine (M.D.) – Queens Medical University.

## Experience

30-year veteran of the SAS.

CEO, Global Networking Airport Travel Agency.

## Awards and Recognition

Inducted into the Hall of Fame.

Recipient of federal awards totaling \$97.5 million.

## Professional Affiliations

Registered Contracts: UEI (HX26N4JJ8EN9), Cage Code

(1WGUO).

Primary NAICS: 541715 (Research and Development).

Partnerships: Alion, Boeing, Caci Tec, Axient, Caci,.

Affiliated Agencies: Seaport Navy, Defense Intelligence Agency, Defense Contract Management Agency, Space System Command.

## Achievements

Configured the beltway for AI.

Successfully accessed NASA's system (federally authorized).

## Contributions

\$200,000 to Strayer & JWMI.

\$13,000 to Capitol Technology.

\$5,000 to The International University of Monaco.

## Publications

"Wealth in Water: A Blueprint for Sustainable Global Ocean Research".

"Phantom 2 – 3R's: Relevance, Revelation, Revolutionary".

## Upcoming Events

Pulmonary Meet 2024 (organized in collaboration with leading scientific associations).

Data Availability Statement: Here's a sample Data Availability Statement.

## Data Availability Statement

The data supporting the reported results can be found in publicly archived datasets, including:

- a) Food and Agriculture Organization's (FAO) AQUASTAT database ((link unavailable)).
- b) The World Bank's Open Data platform ((link unavailable)).
- c) Intergovernmental Panel on Climate Change (IPCC) data repository ((link unavailable)).

These datasets were analyzed and used to generate the results presented in this study. No new data were created during this study.



Figure 1: Korea Airspace Ethanol.

Top 10 Export Markets for U.S. Ethanol							
(values in million USD)							
Country	2016	2017	2018	2019	2020	2019-2020 % Change	2016-2020 Average
Canada	593	621	590	573	594	4%	594
Brazil	458	736	761	493	317	-36%	553
India	176	281	258	298	312	4%	265
EU27+UK	21	101	167	185	288	56%	152
South Korea	71	91	134	196	172	-12%	133
Colombia	10	56	76	116	121	4%	76
Mexico	58	56	51				

Figure 2: Top 10 export markets for U.S. Ethanol.



Figure 3:



Figure 4:



Figure 5:



Figure 6:





Figure 7:

## Acknowledgments

Here's a rewritten Acknowledgment section, inspired by Maslow's Theory:

I extend my deepest gratitude to the numerous individuals and organizations that have supported me throughout this research journey. At the base level, I acknowledge the foundational support provided by my institution, IUM, and the resources offered by WELCH and Saudi Arabia. Moving upward, I appreciate the encouragement and guidance received from esteemed individuals, including, Lord & Taylor, and SFO. The cognitive support and expertise shared by AI researchers and developers have been invaluable in shaping my understanding of the subject matter. Finally, I express my sincere appreciation to the Presidents and Founders of various organizations around the world, who have inspired me through their visionary leadership and commitment to creating positive change. Thank you all for your contributions to my growth and the success of this research project.

## Conflicts of Interest

None

## Patents

Justia Patents Friedrich Weinert Inventions, Patents and Patent Applications.

Patents by Inventor Friedrich Weinert:

Friedrich Weinert has filed for patents to protect the following inventions. This listing includes patent applications that are pending as well as patents that have already been granted by the United States Patent and Trademark Office (USPTO).

a) **Flexible Solar Skin in Combination with An Airplane:**

Patent number: 4768738

Abstract: A flexible solar skin which absorbs radiant solar energy to convert it into electricity, made possible through a conductive plastic, which conceals a conductive fiber, whereby the fiber directs generated electricity to a terminal in the form of a contact strip hemmed or fused alongside the material. Additionally, an air vehicle covered with this photovoltaic material to collect solar radiant energy during flight which is converted into electricity to assist the propulsion system of the vehicle.

Type: Grant

Filed: October 8, 1986

Date of Patent: September 6, 1988

Inventor: Friedrich Weinert

b) **Telephone Sterilizer having An Ozone Gas Producing Unit:**

Patent number: 4736416

Abstract: Telephone sterilizer consisting of an electric ozone

gas producing unit, consisting of a vacuum tube in which interior a electrode is fed with high current. The vacuum tube is surrounded by a negative charged mesh cylinder. Therefore, high current inside the vacuum tube will penetrate the vacuum tube in the form of electric sparks to make contact with the grounded mesh cylinder. The plurality of electric sparks surrounding the outer circumference of the vacuum tube will fuse oxygen out of the ambient to distribute ozone gas (O.sub.3) to the ear or mouthpiece of telephone handset to destroy bacteria.

Type: Grant

Filed: September 12, 1986

Date of Patent: April 5, 1988

Inventor: Friedrich Weinert

**c) Telephone Sterilizer:**

Patent number: 4613928

Abstract: Telephone sterilizer consisting of a bacteria destroying light source. Light source installed under a protection shield mounted against instrument base of telephone in such a fashion that when hand set is put on cradle the mouthpiece of hand set matches the light source under protection shield which is activated for several seconds by a time relay which is synchronized with the mechanism of the cradle by means of a contact switch.

Type: Grant

Filed: November 6, 1984

Date of Patent: September 23, 1986

Inventor: Friedrich Weinert

**d) Cigar Cartridge with A Self-igniting Cigar:**

Patent number: 4597397

Abstract: A self-igniting cigar stored in a tubular cartridge which is divided in three sections. The sections are secured through a sealed tape. When the sealed tape is removed the upper section can be pulled up from the middle section exposing the mouth piece of the cigar, allowing a smoker to grip the cigar to pull the cigar out of the remaining cartridge. This will ignite an igniting unit installed inside the cigar in the form of a flammable tube in which a piston is inserted attached to a string. The other end of string is anchored to the bottom surface of the cartridge. Therefore, when the cigar is pulled out of the cartridge, the piston is pulled out of the igniting tube, thereby igniting flammable substance in the igniting unit which ignites the cigar. The middle section is separated so that it can slide over the cigar to protect fingertips of smoker and to extinguish the butt.

Type: Grant

Filed: October 22, 1984

Date of Patent: July 1, 1986

Inventor: Friedrich Weinert

**e) Multiple Power Wheel Engine:**

Patent number: 4577464

Abstract: A heat engine. A plurality of body members each having a pressure chamber and a cooling chamber. A valve is mounted in each body member and adapted to connect and disconnect the pressure chamber and cooling chamber. A heat source is mounted in the pressure chamber and a ratchet operated pinion gear is connected to the pressure chamber. A not quite circular cam is mounted to operate the valves. The plurality of body members are mounted inside the cam to rotate about the center point of the cam whereby the pinion gears of the body members are connected to rotate a power output gear when the valve for each body member is in closed, heated position, and the pinion gear in each body member are disconnected from the power output gear when the valve in each body member is in open, cooling position. The heat source may be a radio-isotopic heat element.

Type: Grant

Filed: March 19, 1984

Date of Patent: March 25, 1986

Inventor: Friedrich Weinert

**f) Spindle Drive with Expansible Chamber Motors:**

Patent number: 4553394

Abstract: Spindle drive for a power shaft. A pawl is mounted on the spindle, the spindle being connected to be rotated by stroke action of the pawl. An expansible chamber motor is connected to the pawl to rotate the spindle. The expansible chamber motor contains two different fluids. An electrical resistance wire passes through one of the fluids. A source of electricity is connected to the wire whereby the fluid becomes energized by the electrical resistance wire and thermo expansion inside the motor will rotate the spindle to do physical work.

Type: Grant

Filed: April 15, 1983

Date of Patent: November 19, 1985

Inventor: Friedrich Weinert

**g) Self-igniting Smoking Device:**

Patent number: 4491139

Abstract: A self-igniting device. A tube having a flammable center which can ignite by friction. A piston inserted into the tube. A string fixed to the piston so that by pulling the string the piston will slide out from the tube and so ignite the flammable center. A gas filter on the outside of the tube so toxic gases can escape through the opening of the tube into the surrounding atmosphere as the purified gases are inhaled through the tobacco by the smoker.

Type: Grant

Filed: March 17, 1982

Date of Patent: January 1, 1985

Inventor: Friedrich Weinert

h) **Coated Self-Extinguished Cigarette:**

Patent number: 4480650

Abstract: Cigarette coating comprises a fireproof coating made from clay or ceramic applied on the inside of the cigarette paper divided in sections to prevent glowing tobacco from penetrating to the outside but allows air circulation through cracks created when heat makes contact with the coating.

Type: Grant

Filed: March 2, 1982

Date of Patent: November 6, 1984

Inventor: Friedrich Weinert

i) **Energy Cell:**

Patent number: 4462954

Abstract: A self-pulsating nuclear reactor plant comprising of a reactor cylinder concealing a pair of mobile nuclear mass blocks chosen for pendent radially motion inside a radial cylinder, whereby the arch of mobile mass blocks is limited by stationary mass blocks in such a fashion that when mobile mass blocks making contact in center of reactor they become super critical and repulsing each other from vertical position toward horizontal position vice versa.

Type: Grant

Filed: January 11, 1982

Date of Patent: July 31, 1984

Inventor: Friedrich Weinert

j) **Oceanic Mining System:**

Patent number: 4446636

Abstract: An oceanic mining system. A sea bulldozer is movable across the bottom of the ocean by means of driven wheels to scrape up sediment from the ocean floor. The wheels are driven by an engine of the type which uses electrolysis to convert sea water into hydrogen and oxygen and then ignites the hydrogen and oxygen to provide power for driving the engine output. A mobile material transporting platform has a loading edge for receiving sediment from the bulldozer. The mobile platform is raised to the surface of the ocean and lowered to the bottom by a cable and winch system mounted on at least one ship with the cables attached to the platform. A cargo ship receives material from the platform. The cargo ship having a material receiving opening. Cable and winch are provided in the cargo ship with the cable attached to the end of the platform opposite the loading edge for maneuvering the loading edge of the platform into operative relationship with the opening for dumping the material into the cargo ship.

Type: Grant

Filed: September 7, 1982

Date of Patent: May 8, 1984

Inventor: Friedrich Weinert

k) **Cargo Torpedo:**

Patent number: 4421050

Abstract: A Cargo Torpedo comprises a floating semi-submerged vessel attached to a prime mover vessel by a stud installed in the center of the stern of a cargo vessel to match into an opening in the center into the bow of a prime mover vessel; the opening consists of a bushing to rotate with the motion of the cargo torpedo introduced by a plurality of mobile fins installed around the outer circumference of the cargo vessel whereby remote-controlled fins put in different angle positions synchronized in motion so the pitch of the fins will determine rotation or when put in neutral position stabilize the cargo torpedo, therefore, rotation of the cargo torpedo is transferred through the stud to a bushing of the prime mover vessel, whereby the bushing penetrates into the interior of the prime mover vessel to activate one or a series of generators or alternators to produce electricity needed to assist propulsion of the prime mover vessel.

Type: Grant

Filed: July 19, 1982

Date of Patent: December 20, 1983

Inventor: Friedrich Weinert

l) **Oceanic Sea flow System:**

Patent number: 4398362

Abstract: An oceanic sea flow system comprising a plurality of vessels forming a mini fleet wherein a flexible hose is joined at one end to a suction turbine associated with a mothership and the other end is connected to a suction stud on a sea flow travelling on the ocean bottom. Assistant vessels raise and lower the flexible hose and the sea flow by cables. One of the assistant vessels supplies air to an injector in the flexible hose through a pressure hose at one or more points for second stage acceleration of the dredged material. First stage acceleration takes place inside the sea flow through an electrolysis pump. Electricity for electrolysis and for the steering system is supplied through electric cables from one of the assistant vessels. The sea flow converts the forward motion of the plow by surface contact into rotation of plow elements in order to dig up specimens for elevation by the electrolysis pump located within the sea flow.

Type: Grant

Filed: August 18, 1982

Date of Patent: August 16, 1983

Inventor: Friedrich Weinert

m) **Power Wheel:**

Patent number: 4340970

**Abstract:** Power wheel comprises a heat engine consisting of several expansion valves rigidly situated around the circumference of a stationary side gear and centralized to an axis which rotates through the work output by expanding a fluid centralized inside a valve unit by a heat source operating in intervals introduced through the rotation of the expansion valves by moving a valve plunger in or out of the heat elements which in return will expand or contract a fluid, to move push rods stroke wise in both directions to activate a spindle drive by rotating a pinion gear with ratchet units to achieve rotation in one direction.

Type: Grant

Filed: June 4, 1980

Date of Patent: July 20, 1982

Inventor: Friedrich Weinert

n) **Heat Expansion Machine:**

Patent number: 4236377

**Abstract:** A gravity motor utilizes a heat expansion mechanism comprising a frame, a rotational shaft supported by the frame, a drive gear connected to the rotational shaft, the drive gear having a plurality of teeth around the outer periphery thereof, a plurality of drive bars, the drive bars at one end thereof being pivotally secured to the drive gear around the circumference of the drive gear to permit pivoting of the drive bars within a predetermined range limited by two teeth of the drive gear and the other end of each of the drive bars extending radially outwardly therefrom, and a plurality of expansion means, at least one expansion means being respectively situated between the drive bars to change the distance between the drive bars, whereby when one or more expansion means is actuated continuously on one side of the motor by heating or cooling the expansion means, the motor becomes successively unbalanced between the two sides to thereby move continuously.

Type: Grant

Filed: April 3, 1978

Date of Patent: December 2, 1980

Inventor: Friedrich Weinert

Japan is making significant strides in its biofuel program, aiming to reduce climate change and ensure a stable energy supply. A new biofuels policy introduced in March 2023 opened up the Japanese market to U.S. ethanol producers, potentially capturing up to 100% of Japan's on-road ethanol market. The country has set ambitious ethanol blending targets, aiming for 10% ethanol in gasoline by 2030 and 20% by 2040. To achieve this, Japan is targeting a bioethanol consumption volume of 217 million gallons per year. In addition to road transportation, Japan is also focusing on sustainable aviation fuel (SAF) production, including alcohol-to-jet (ATJ) SAF. This move is expected to reduce greenhouse gas emissions from air travel. The U.S. Grains Council has welcomed Japan's new biofuels policy, recognizing the potential benefits for U.S. corn ethanol exports. The Council is working closely with

Japanese stakeholders to promote the use of U.S. ethanol in Japan's biofuel market.

Ethanol production in the Philippines has indeed skyrocketed, increasing by nearly 450% since 2013, when the E10 mandate was introduced. This significant growth is a testament to the country's commitment to renewable energy and reducing its reliance on fossil fuels. In 2023, the Philippines produced an impressive 387 million liters of ethanol for fuel, with the majority coming from sugarcane and molasses. Boliria \$976MM into industrialization of lithium. The country's biofuels industry has not only contributed to energy security but also generated employment opportunities and stimulated local economies. Ethanol production in the Philippines has indeed skyrocketed, increasing by nearly 450% since 2013, when the E10 mandate was introduced. This significant growth is a testament to the country's commitment to renewable energy and reducing its reliance on fossil fuels.

To further boost ethanol production, the Philippines has implemented policies like the Biofuels Act of 2006, which requires oil companies to use biofuels in all liquid fuels sold in the country at 15%<sup>3</sup>. Additionally, the government has allowed fuel retailers to increase blending to E20 on a voluntary basis, paving the way for even higher ethanol production in the future.

November 30, 2021

Dear Ms. Roessler Weinert,

Thank you for writing to me about U.S. foreign policy. I appreciate the time you took to write, and I welcome the opportunity to respond.

The challenges facing our world today demonstrate how interconnected we are and how the fates of all people are bound up together. The outbreak of a virus overseas can cause profound grief and suffer at home. Conflict a continent away can create unrest endangers our security. Economic downturns abroad can mean lost jobs and shuttered businesses in towns across America. Global climate change is already worsening hurricanes in the Gulf, floods in the heartland, and wildfires in the West. No country can solve these problems alone, and America cannot afford to be absent from the world stage. Investing in strengthening our leadership abroad is also an investment in bolstering our security and prosperity at home.

As President, I am determined to repair our alliances, renew our leadership in international institutions, reclaim our credibility, and equip the American middle class to succeed in a global economy. I strongly believe our Nation is better positioned than any other to lead in the 21st century and to be the greatest force for good in the world. Under my Administration, American political and economic leadership will be rooted in our most cherished values:

defending freedom, championing opportunity, upholding universal rights, respecting the rule of law, and treating every person with dignity.

We have returned diplomacy to the center of our foreign policy and are committed to meeting today's global challenges from a position of strength, working in close cooperation with our allies

and partners. I also want to be clear I will never hesitate to defend the American people or our vital interests, including through the use of force when necessary. We will always stand with our friends around the world to protect our values and to advance peace, security, and prosperity for all. I appreciate you sharing your views with me, and I will keep your perspective on these important issues in mind as we work to meet the challenges of our time. May God bless America, and may God protect our troops, our diplomats, our development experts, and all those serving in harm's way.

Sincerely,

Joe Biden

Here's a rewritten version including President Biden's letter:

President Biden left a heartfelt letter to President Donald Trump on January 20, 2025, as he departed the White House. The letter reads:

"Dear President Trump,

As I take leave of this sacred office, I wish you and your family all the best in the next four years. The American people - and people around the world - look to this house for steadiness in the inevitable storms of history, and my prayer is that in the coming years will be a time of prosperity, peace, and grace for our nation.

May God bless you and guide you as He has blessed and guided our beloved country since our founding.

Joe Biden

1-20-25"

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