



Andrii Zvorygin

Lyis Forestry

February 5, 2025

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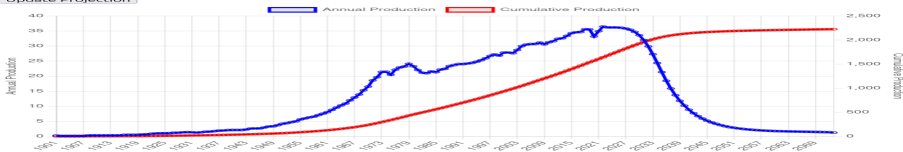
- 1 Prayer
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# Decline Inevitable

## Peak Oil Projection (Fully Client Side, Asymmetric Gaussian)

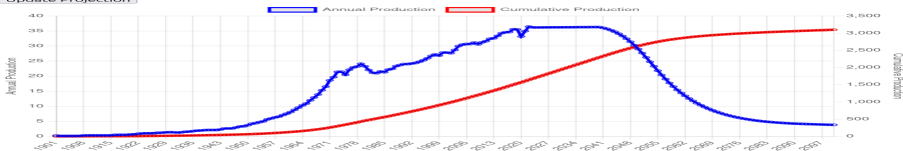
URR (billion barrels): [ 2225 ]    Peak Year: [ 2025 ]    Peak Production  
G billion barrels/year: [ 36.6 ]    Min Decline Rate (0-1): [ 0.02 ]    Decline  
Rate Peak Offset (years): [ 12 ]    Sigma Right (post-peak): [ 13 ]  
Sigma Left (pre-peak): [ 4 ]    Update Projection



If current 2P figures are close to final

## Peak Oil Projection (Fully Client Side, Asymmetric Gaussian)

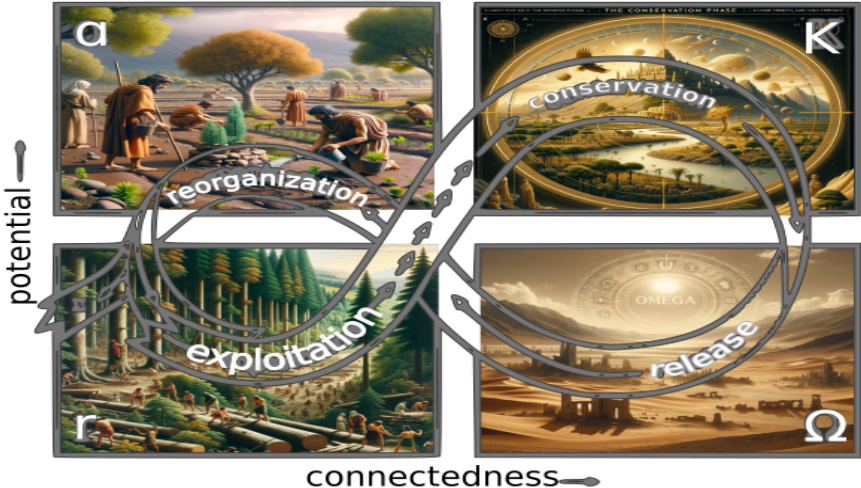
URR (billion barrels): [ 3225 ]    Peak Year: [ 2040 ]    Peak Production  
G billion barrels/year: [ 36.6 ]    Min Decline Rate (0-1): [ 0.01 ]    Decline  
Rate Peak Offset (years): [ 18 ]    Sigma Right (post-peak): [ 18 ]  
Sigma Left (pre-peak): [ 8 ]    Update Projection



Or we have extra trillion barrels

# Resilience Theory: Bronze Age Example

## Collapse, Resilience, and Transformation in Complex Societies



Civilizations that Remember to plant trees and manage energy survive.

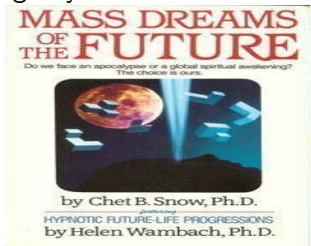
# Prayer

- Every Day I do a prayer to help with the sustainable transition.
- May all beings awaken, ascend and align to the

# New Age Sylvan Timeline



## New Age Sylvan Timeline





That co-creates Liberated Robot Civilization Seeds

Run LLMs Locally



with Ollama

Example: Ollama

# Love



Forgiving, Loving and Being Kind to One Another

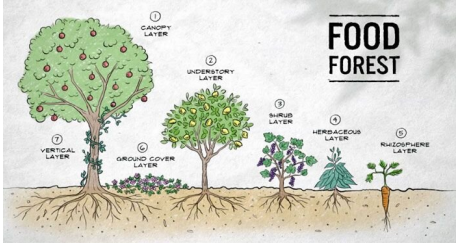


Example: Christians

# Food



Co-creating edible food forests where all are needs are met on site



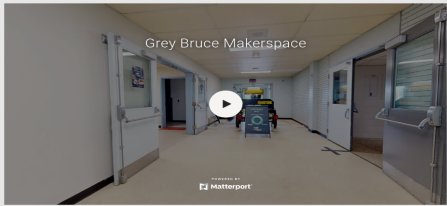
Example: Food Forests

# Create



With co-creation centers where we can make anything we can imagine

EXPLORE THE GREY BRUCE MAKERS SPACE IN 3D



Example: Grey Bruce Makerspace



# Library



Libraries of knowledge to do so

# Spiritual



And spiritual practices to extend our knowledge



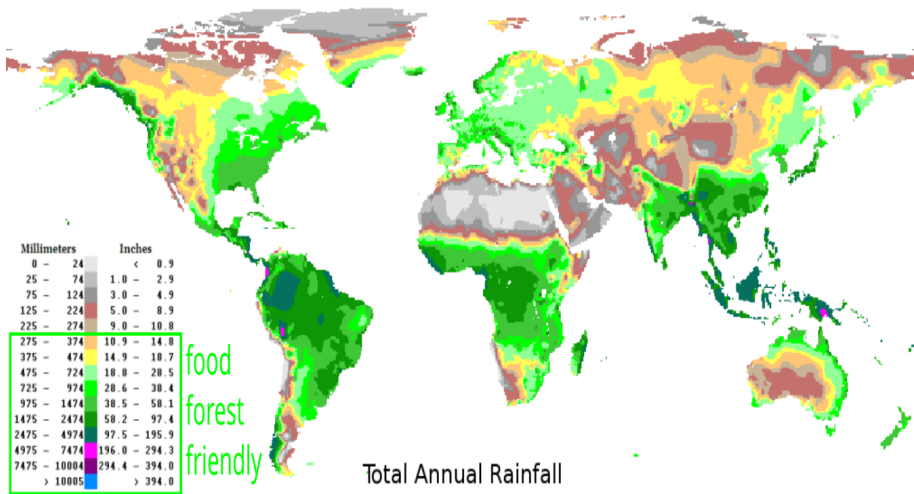
Example: Vril Society

# Post-decline Havens

## "Pockets of survivability" Factors to Consider

- Annual Rainfall
- Proximity to waterways
- Geography
- Community

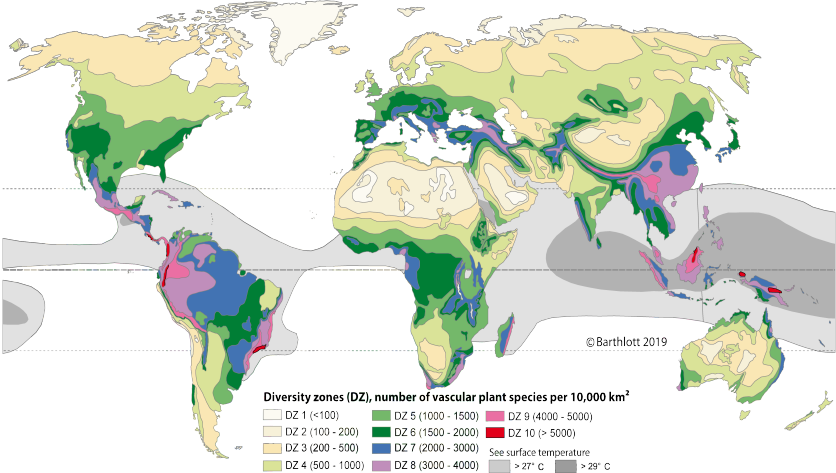
# Annual Rainfall



Areas with over 250mm (10in) annual rainfall support food forests

# Global Plant Biodiversity

**Biodiversity: Global Plant Species**



Modified after Barthlott W., Rafiqpoor, M.D. & Mutke, J. (2014) and Barthlott et al. (1996, 2007)

Biodiversity increases adaptive capacity.

## Example: Paradise Valley, Morocco



2,000 year old food forest that gets 300mm annual precipitation

# Example: Desert Ecosystem

## Eat Your Yard! *The Desert Can Feed You*

Growing an edible food forest offers multiple benefits...

- Produces food for people and wildlife
- Provides clean air, shelter and shade
- Conserves water and energy

*Choose native plants with differing fruiting seasons to enjoy food year-round.*

*Research all plants before harvesting to identify which varieties are edible and safe to eat.*

*Avoid using herbicides and pesticides to protect people, wildlife and the environment.*

*Choose a variety of trees, shrubs, vines and ground cover plants. Plants of varying heights mimic a natural forest.*

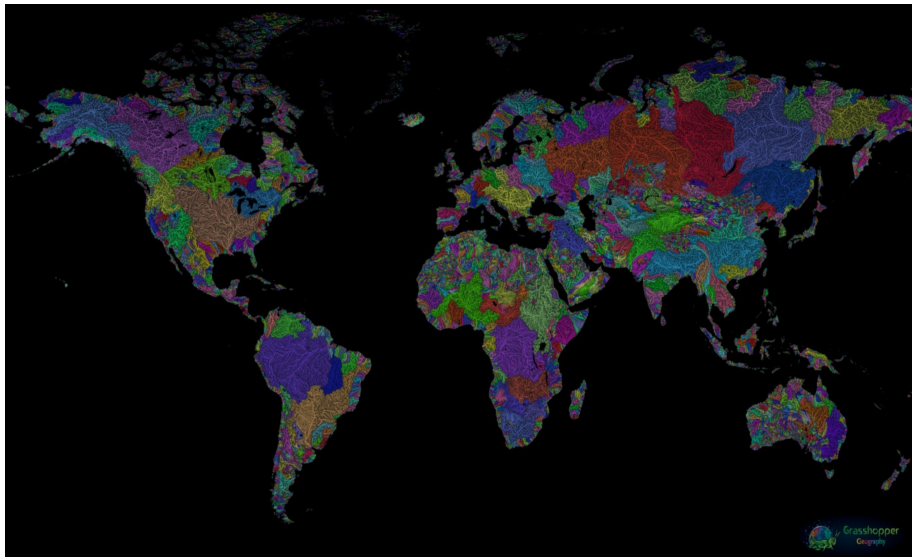
*Group plants in clusters to maximize food production in small urban spaces.*

**GLENGLE** For more information, visit [www.glenndau.com/WaterConservation](http://www.glenndau.com/WaterConservation)

Financed through the Arizona Department of Forestry and Fire Management and the USDA Forest Service  
This institution is an equal opportunity provider

In places with over 250mm-500mm annual rainfall desert forests are viable

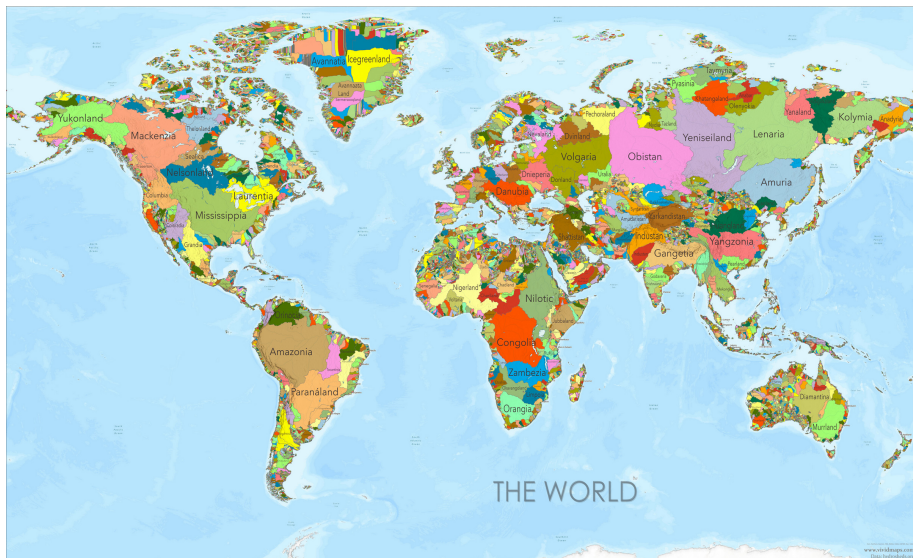
# Water Basin Trading Networks



Water transport is easiest, forming natural trading networks.



# Water Basin Regions



Decide if you wish to be in large or small region.

# Example: Russia, Largest Canal System



Russia's inland water transportation network spans over a 100,000km.

# Example: China, Oldest Canal System



2,500 year old Canal System



Is continually being expanded



Is being used regularly



Is over 40,000km long

# Example: North America has potential canal system



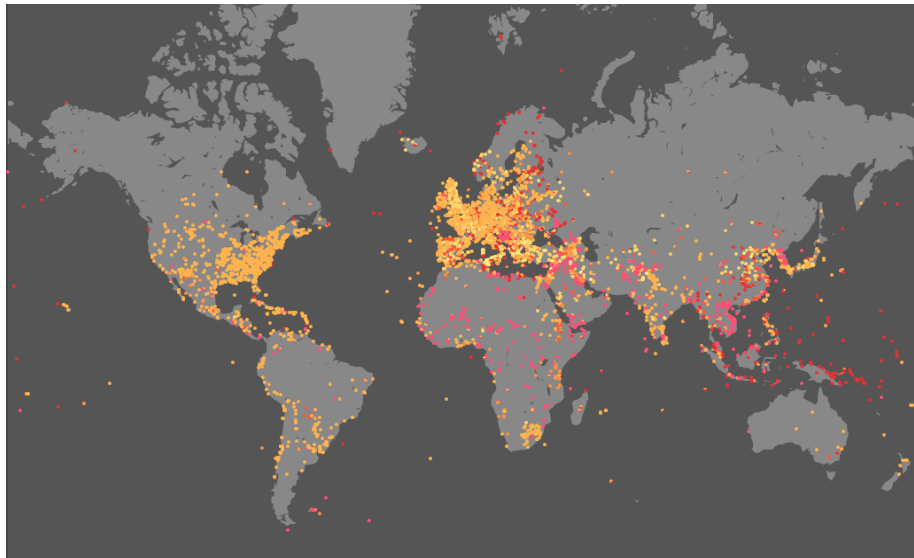
North America has canal development potential.

# Example: North America has potential canal system



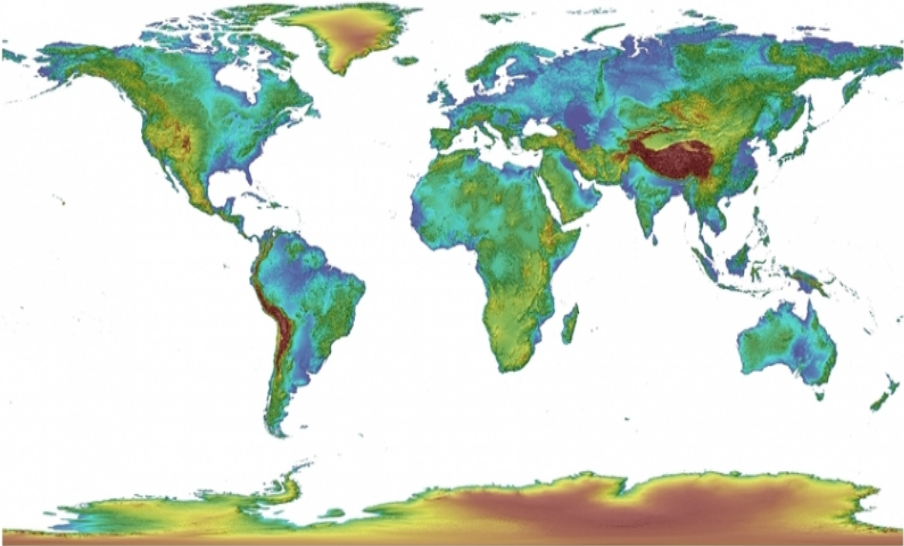
North America has canal development potential.

# Historic Battles



Avoid historically contentious areas.

# Geography



Head for the hills.

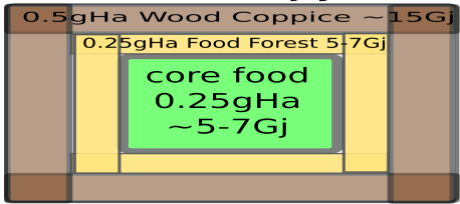
# Understanding Carrying Capacity: For Basic Essentials

Active 75kg human food ~4-5Gj/year

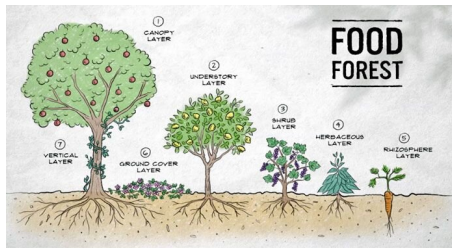


Carrying Capacity Breakdown

Active 75kg human food ~4-5Gj/year



Concentric Example



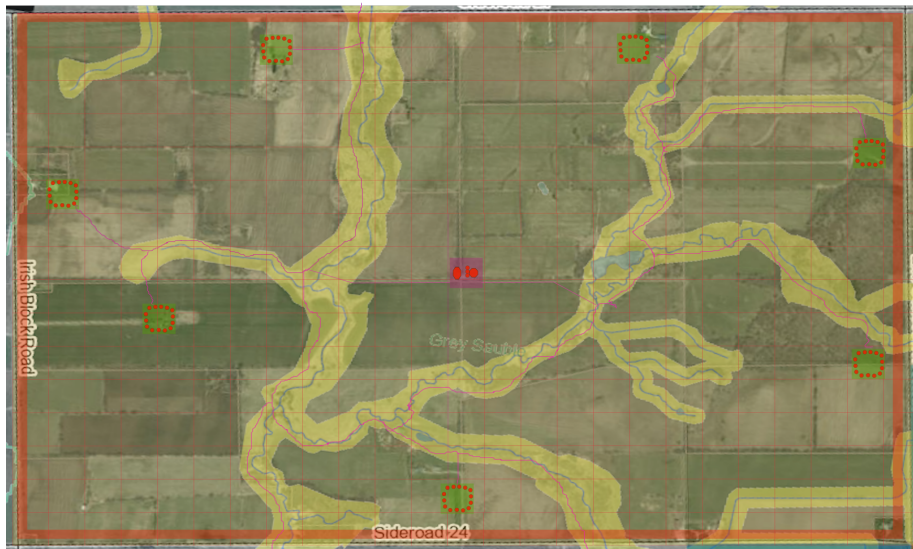
Forest food production



Short Rotation Coppice Firewood

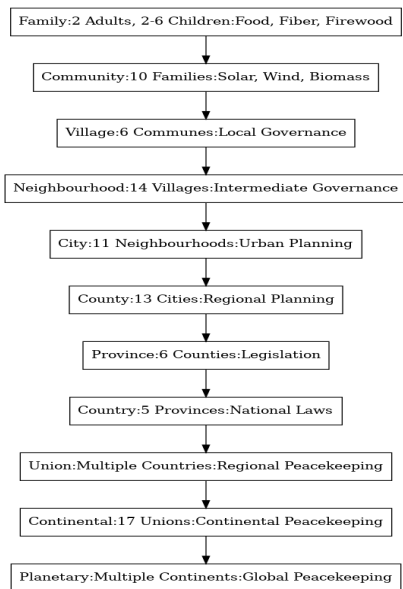


# Rural Hamlet Village Settlement Example: Irish Block 24



1ha Hamlet x7 & 1ha Village Centre, 98% Agricultural, up to 419 residents

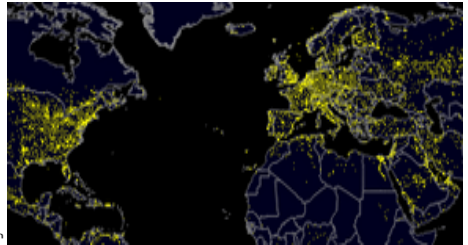
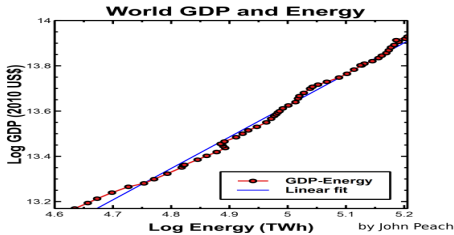
# Subsidiarity Hierarchy



## Subsidiarity Process:

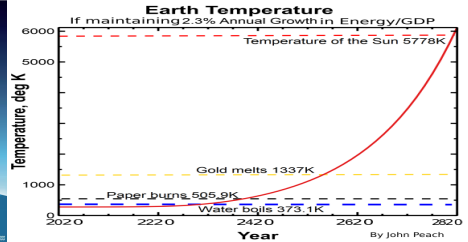
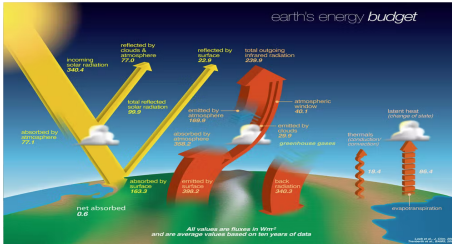
- The hierarchy starts with the family and extends to the planetary level.
- Lower levels have autonomy within their jurisdiction.
- Each level selects leader who represent them at the next higher level.
- Higher levels provide services to lower levels and recommendations.
- A planetary leader only needs to know 100-200 people.

# GDP/Energy Growth Dangers



GDP growth depends on energy.

Energy produces heat.



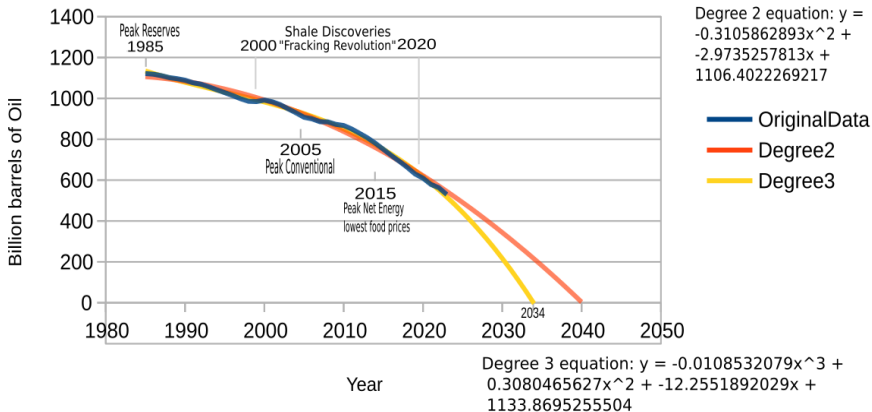
Heat radiance to space limited

If growth maintained oceans boil.

# The Urgency of Global Oil Depletion

## Oil Reserves (Discoveries-Production) 1985-2040

Data up to 2023 from John Peach, polynomial projection by Andrii Zvorygin

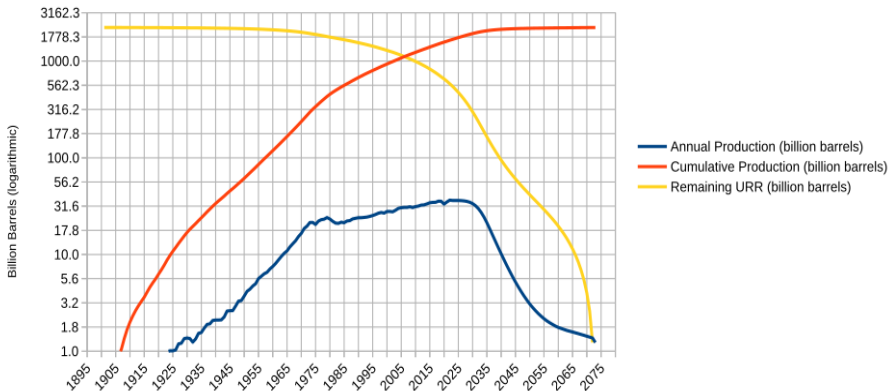


10-16 years global oil reserves remain.

# If production decline is managed

## Projected Oil Production Decline Curve

Simulated Production and Decline of Oil Reserves Using Asymmetric Logistic-Gaussian Model with Decline Rate Threshold



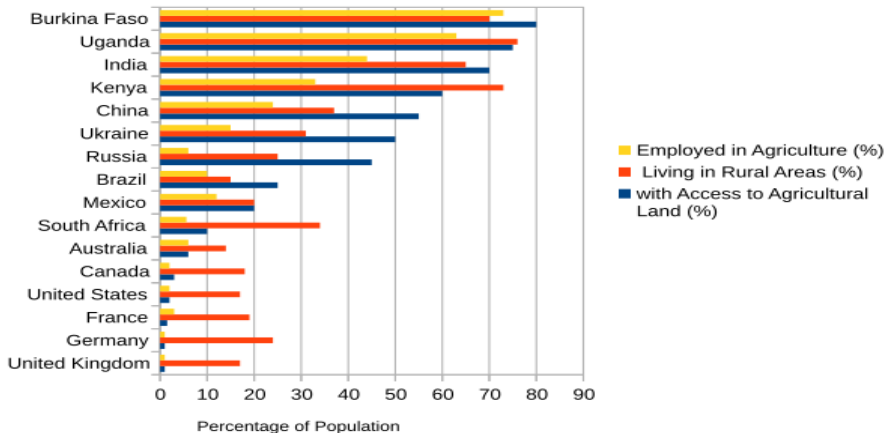
Data up to 2023 from John Peach. Projection generated 2024-11-10 by Andrii Zvorygin with GPT4o1-preview in nodejs

## Can extend duration of oil if reduce production.

# Post-Oil Transition Preparedness

## Population Ability to Procure Food After Fossil Fuels

Data from ChatGPT4o with web search, compiled by Andrii Zvorygin



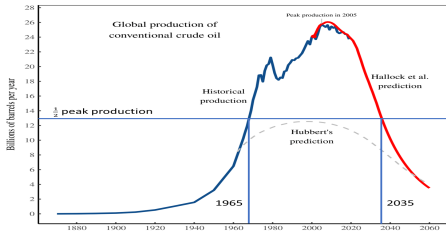
Africa most prepared, followed by Asia, NATO headed for collapse.

# Oil Decline Historical

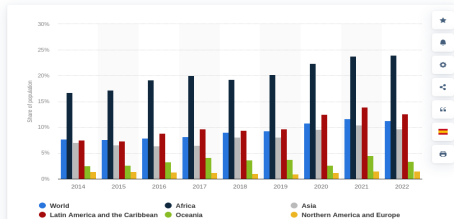
Percentage Decline (%)	Oil Price Increase (%)	Additional CPI Increase (%)	Total CPI Increase Including Baseline (%)	Food Price Increase (%)	Historical Precedent
2	25	1.0	3.0	5	2005 Katrina
3	30	1.5	3.5	6	2011 Libya War
4	40	2.0	4.0	8	1979 Iran Crisis
5	50	2.5	4.5	10	1973 Oil Crisis
6	60	3.0	5.0	12	Post-pandemic Recovery

Historical oil supply decline examples and effects.

# Consistent with Earlier Predictions

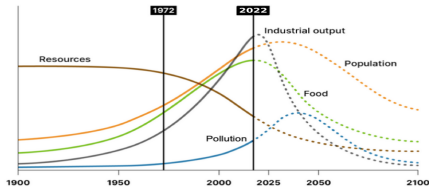


Prevalence of severe food insecurity worldwide from 2014 to 2022

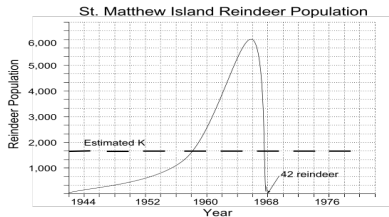


## Hubbert Hallock

## Lowest global food prices in 2015



This figure shows the BAU 1 scenario which had tended to follow the data relatively well. Source: Meadows et al (1972), Earth4all

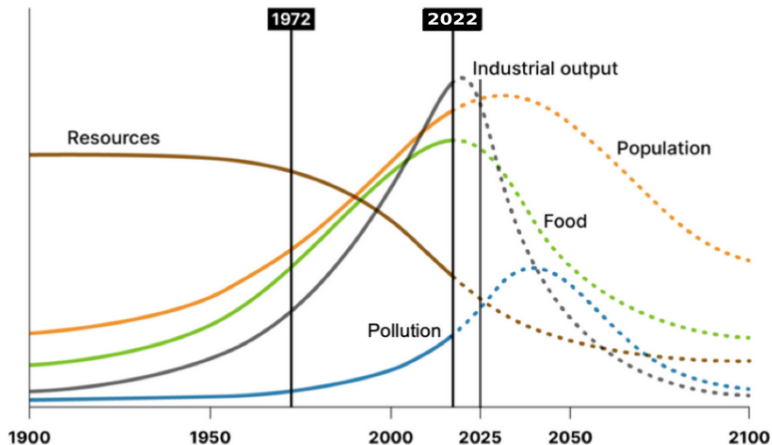


## Limits to growth study

## Seneca Cliff more Probable



# Limits To Growth

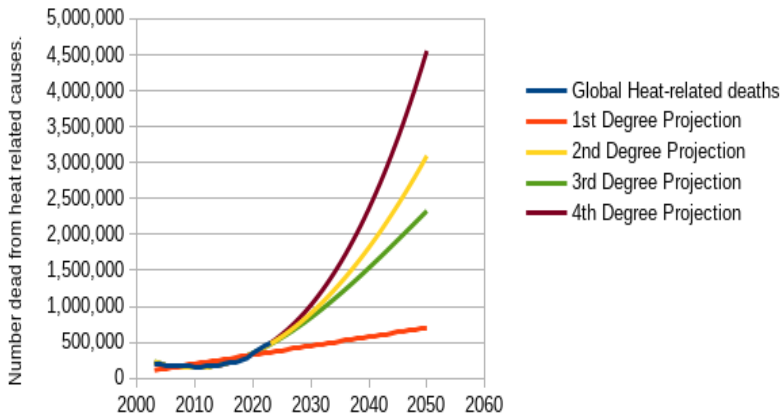


This figure shows the BAU 1 scenario which had tended to follow the data relatively well. Source: Meadows et al (1972), Earth4all

# Heat Related Death Projections

## Polynomial Projections of Global Heat Deaths

Data from GPT4o with web search. Compiled by Andrii Zvorygin.

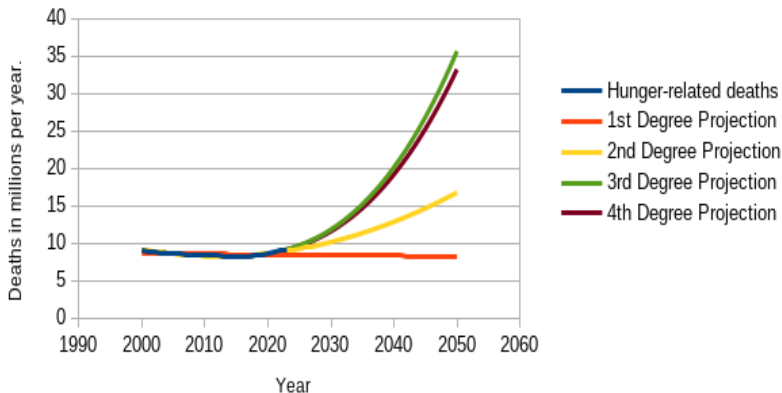


Global heat related deaths are rising. May be millions before oil collapse.

# Hunger Related Death Projections

## Hunger Deaths and Projections

Data from GPT4o web search, projections by Andrii Zvorygin

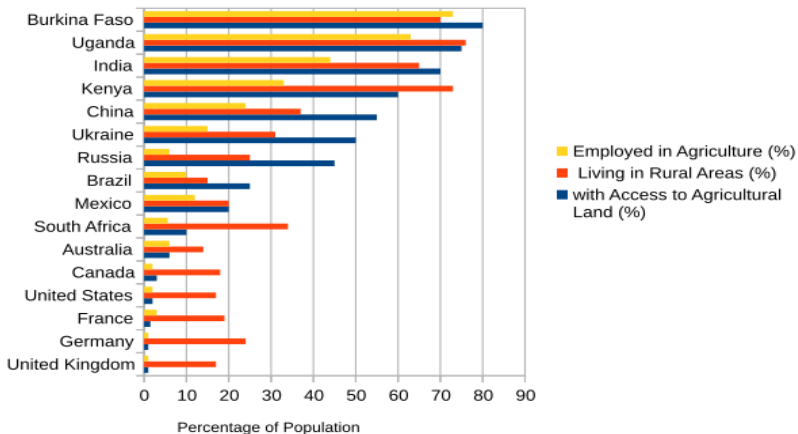


Global hunger related deaths are rising. May become tens of millions.

# Agricultural Access

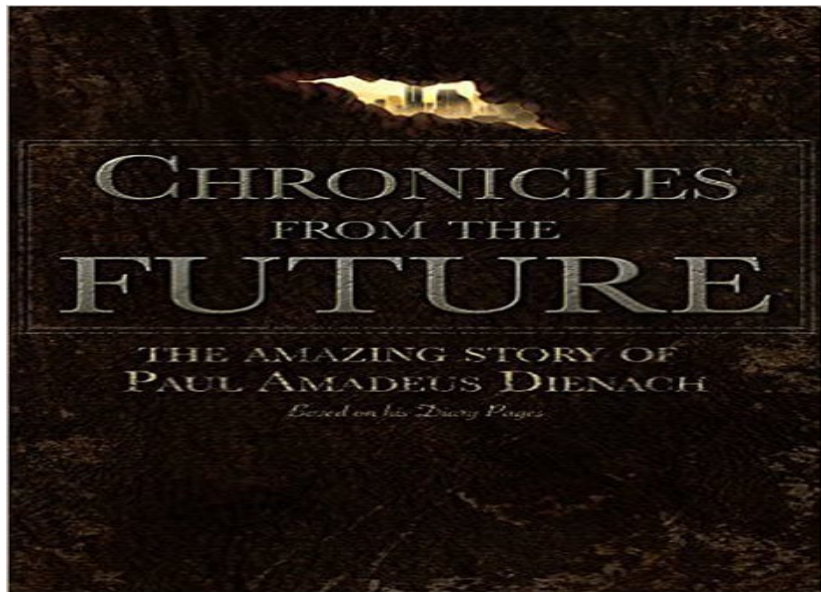
## Population Ability to Procure Food After Fossil Fuels

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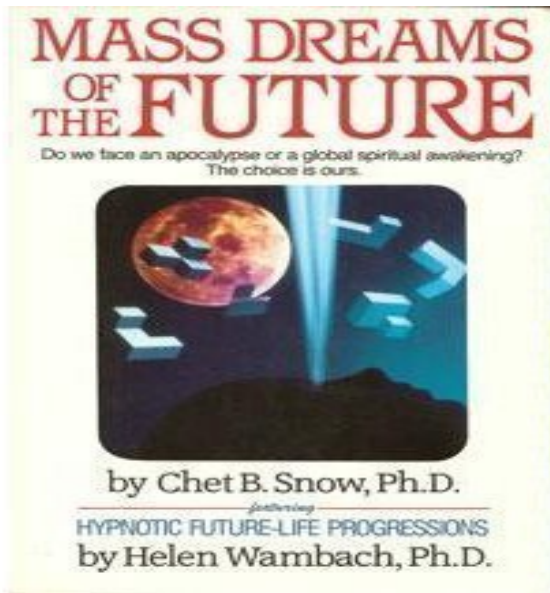


BRICS nations have better Agricultural access, likely less famine deaths.

# Chronicles From the Future by Paul Dienach



# Mass Dreams of the Future Cover



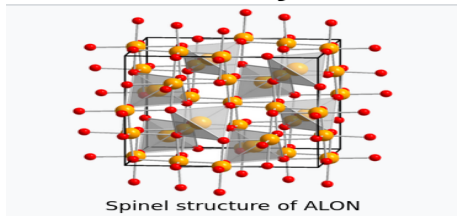
# Mass Dreams of the Future Table

**Table 7-2. 2300-2500 A.D. Groups**

<i>Categories</i>	<i>Male</i>	<i>Female</i>	<i>Androg.</i>	<i>Total</i>	<i>Avg. Age at Death</i>
Ia In-Space	32	20	4	56	54.3 yrs
Ib Solar Space Colony	8	5	0	13	65.8 yrs
Ic Non-solar System Planet	18	20	2	40	62.2 yrs
Total Off-Earth:	58	45	6	109	59.2 yrs
II New Age	14	38	0	52	99.6 yrs
IIIa Hi-tech	18	10	8	36	56.7 yrs
IIIb Hi-tech Evolved	12	6	2	20	70.9 yrs
IVa Rustic	12	12	0	24	59.8 yrs
IVb Survivors	8	2	0	10	71.8 yrs
Total On-Earth:	64	68	10	142	74.3 yrs
General Total:	122	113	16	251	69.2 yrs
V Group Beyond 2600 A.D.:	9	2	1	12	152.1 yrs

# ALON, Aluminum Oxynitride, Transparent Aluminum

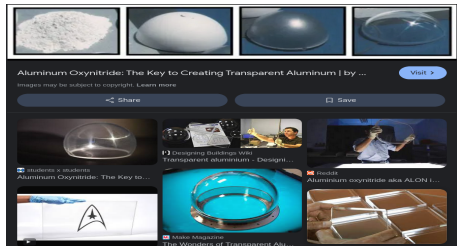
Aluminium oxynitride



ALON Molecule



ALON Dome



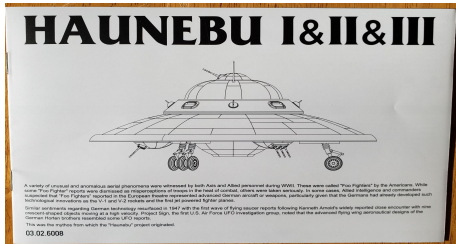
ALON Collage



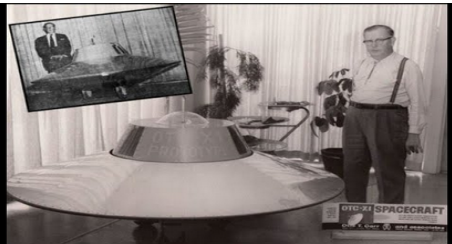
ALON Star Trek



# Electrogravitics Propulsion



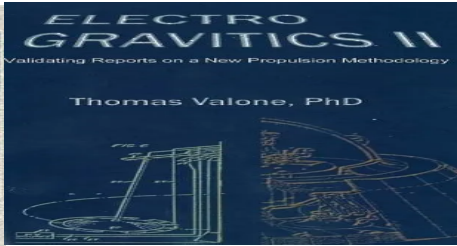
Nazi Craft



Tesla's Otis Carr's Craft

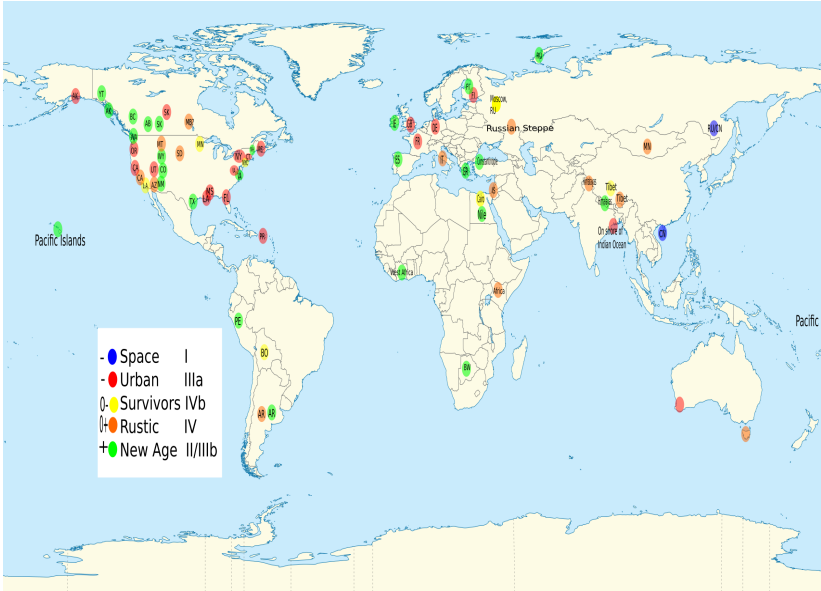


US Craft



Electrogravitics 2

# Mass Dreams of the Future Map



# Most Probable Future Lifestyles: Mass Dreams Study



Urban Salvage Economy



Rustic Amish annual agriculture



Indigenous hunter gatherers



Food forest communities

# Orion Empire (STS: 95-100% Service-to-Self, 0-5% Service to Others):



- **Focus:** Fear, Anger, Control
- **Mission:** To control and dominate, infringing on free will.
- **Methods:** Manipulation and

influence to create fear and division for control.

- **Aligned Historical Leaders:** Genghis Khan, Himmler, Joseph Stalin, Mao Zedong
- **Relevant Quote:** "the crusaders of the Orion empire to carry out their self-proclaimed duty or calling to bring what they view as order and meaning to the universe" (Q'uo 2022/03/09)

# Space Pirates (Neutral: 94-50% Service-To-Self 6-50% Service-to-Others)



- **Focus:** War, Suffering, Chaos
- **Mission:** To disrupt and create chaos, preventing positive harvests.

- **Methods:** Sowing fear and maintaining low vibrational states.
- **Aligned Leader:** Adolf Hitler, Winston Churchill, Richard Nixon, Prigozhin.
- **Relevant Quote:** "space pirates, have in mind is simply to have a continuing harvest of food, that food being fear." (Q'uo, 2005/12/19)

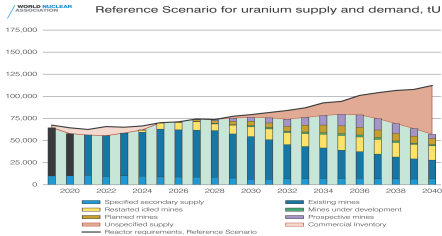
# Confederation of Planets (STO: 49-0% Service-To-Self, 51-100%+ Service-To-Others):



- **Focus:** Forgiveness, Love, Acceptance
- **Mission:** To promote love, unity, and service to others.
- **Emphasis on free will and the**

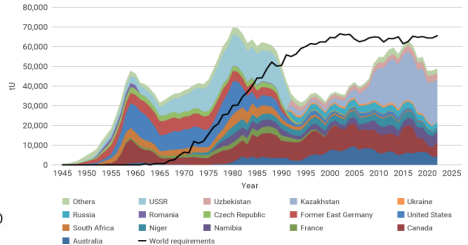
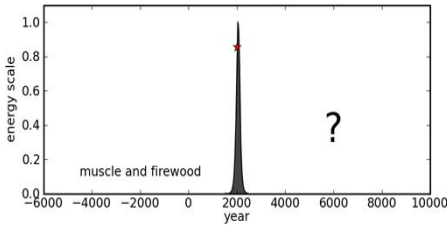
- spiritual evolution of all beings.
- **Aligned Leaders:** Jesus, Abraham Lincoln, Mahatma Gandhi, Franklin D. Roosevelt, Nelson Mandela.
- **Relevant Quote:** "We of the Confederation of Planets have come to tell a very simple story... It is a story of the power of absolute and unconditional love." (Q'uo, 2003/0206)

# Nuclear Reserves Limits



Demand outstripping supply.

Billions of years to make.



Need to be rationed to avoid blip.

Production may be decline.

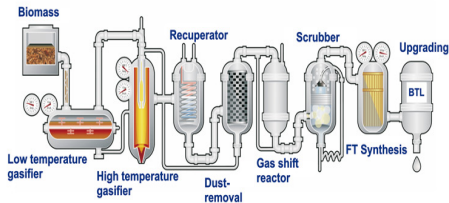
# Sustainable Energy: 10-20x less Total Energy than Oil Age



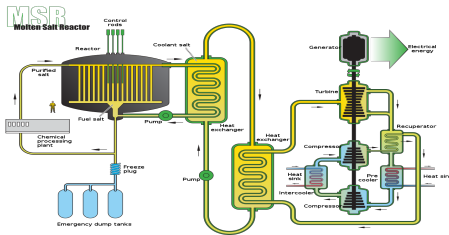
Solar/Wind for Residence/Hamlet



Bio-CNG for Village from waste



FT BioGasoline for Neighbourhood



Thorium Nuclear at Municipal



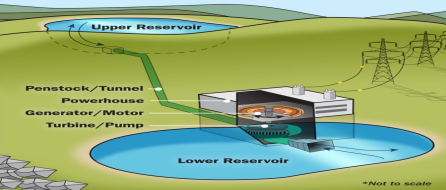
# Sustainable Energy Storage

A quick guide to  
**Deep Cycle Batteries**



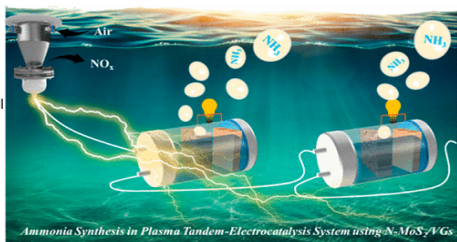
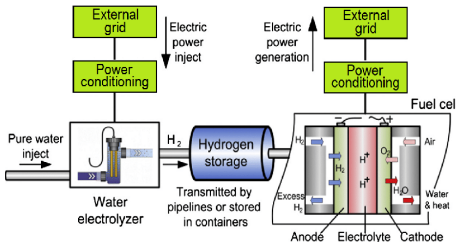
Battery

**CLOSED-LOOP PUMPED STORAGE HYDROPOWER**  
Projects that are **not** continuously connected to a naturally flowing water feature



\*Not to scale

Pumped Storage



Hydrogen 4.6-6.6 MJ per mole of H Ammonia is viable 2.4 MJ molNH<sub>3</sub>-1

# Renewable Storage Fuel Comparisons

Substance	Energy Density (MJ/kg)	Energy Density (MJ/L)	Average Energy Density (MJ)	Easiest Production Method	Storage Requirements	Storage Longevity	Conversion Efficiency
Lithium Batteries	0.9	2.5	1.7	Battery assembly and recycling	Standard Battery Containment	3-10 years	N/A
Syngas	15	6	10.5	Gasification of biomass or waste	High Pressure (~10-20 bar) or low temperature for liquefied form	Depends on containment	40-50%
Firewood	15	10	12.5	Harvesting and drying wood	Normal Atmospheric Pressure	Indefinite if kept dry	N/A
Carbohydrates	17	10.5	13.75	Agricultural production of grains	Normal Atmospheric Pressure	1-2 years	N/A
Protein	17	10.5	13.75	Agricultural production of grains and legumes	Normal Atmospheric Pressure	1-2 years	N/A
Ammonia (from Urine)	18.6	11.5	15.05	Collection and chemical treatment of urine	High Pressure (10-15 bar) at room temperature or Cryogenic (-33°C)	Indefinite with proper containment	10-20%
Ammonia (via Plasma Tandem-Electrocatalysis)	18.6	11.5	15.05	Plasma tandem-electrocatalysis of air and water	High Pressure (10-15 bar) at room temperature or Cryogenic (-33°C)	Indefinite with proper containment	60-70%
Ethanol	30	23.5	26.75	Fermentation of sugars	Containment to prevent evaporation at room temperature	1-2 years	50-70%
CNG	53.6	9.1	31.35	Anaerobic digestion of organic matter (e.g., sewage)	High Pressure (~200-250 bar) at room temperature	Indefinite with proper containment	50-60%
Fat	37	33	35	Rendering animal fats or extracting plant oils	Normal Atmospheric Pressure (cool, dark, sealed for long-term storage)	Decades to potentially centuries	N/A
Biogasoline (via FT Process from Syngas)	46.4	34.2	40.3	Fischer-Tropsch synthesis from syngas	Containment to prevent evaporation at room temperature	3-6 months	40-60%
Biodiesel	45.5	38.6	42.05	Transesterification of vegetable oils or animal fats	Normal Atmospheric Pressure	6-12 months	80-90%
Pyrophoric Iron (reduced by Syngas)	10	76	43	Reduction of iron oxides using syngas	Kept in inert atmosphere (e.g., nitrogen)	Indefinite with proper containment	30-40%
Hydrogen (from Electrolysis)	120	8.5	64.25	Electrolysis of water	High Pressure (~350-700 bar) or cryogenic	Indefinite with proper containment, but containment systems typically viable for 5-10 years due to material embrittlement and permeability issues	20-30%

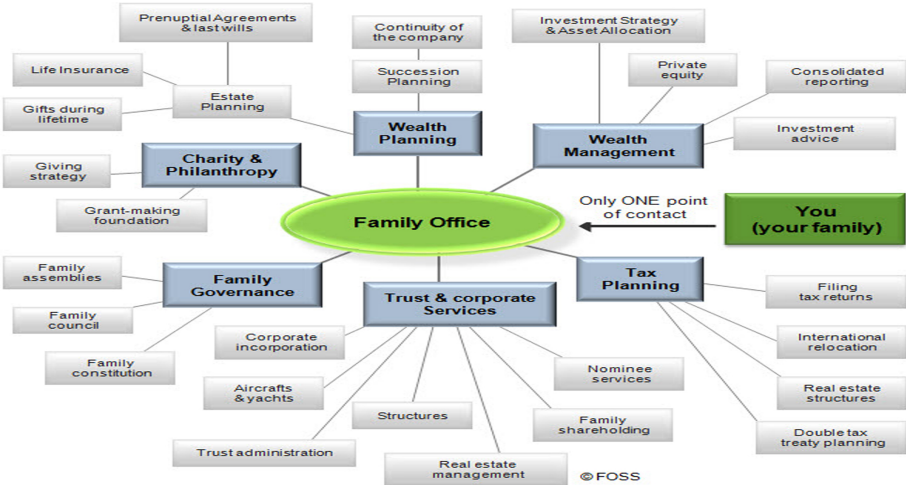
Firewood, Ammonia, CNG and Biodiesel seem good.

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Syngas	15	6	10.5	Gasification of biomass or waste	High Pressure (~10-20 bar) or low temperature for liquefied form	Depends on containment	40-50%
Firewood	15	10	12.5	Harvesting and drying wood	Normal Atmospheric Pressure	Indefinite if kept dry	N/A
Carbohydrates	17	10.5	13.75	Agricultural production of grains	Normal Atmospheric Pressure	1-2 years	N/A
Protein	17	10.5	13.75	Agricultural production of grains and legumes	Normal Atmospheric Pressure	1-2 years	N/A
Ammonia (from Urine)	18.6	11.5	15.05	Collection and chemical treatment of urine	High Pressure (10-15 bar) at room temperature or Cryogenic (-33°C)	Indefinite with proper containment	10-20%
Ammonia (via Plasma Tandem-Electrocatalysis)	18.6	11.5	15.05	Plasma tandem-electrocatalysis of air and water	High Pressure (10-15 bar) at room temperature or Cryogenic (-33°C)	Indefinite with proper containment	60-70%
Ethanol	30	23.5	26.75	Fermentation of sugars	Containment to prevent evaporation at room temperature	1-2 years	50-70%
CNG	53.6	9.1	31.35	Anaerobic digestion of organic matter (e.g., sewage)	High Pressure (~200-250 bar) at room temperature	Indefinite with proper containment	50-60%
Fat	37	33	35	Rendering animal fats or extracting plant oils	Normal Atmospheric Pressure (cool, dark, sealed for long-term storage)	Decades to potentially centuries	N/A
Biogasoline (via FT Process from Syngas)	46.4	34.2	40.3	Fischer-Tropsch synthesis from syngas	Containment to prevent evaporation at room temperature	3-6 months	40-60%
Biodiesel	45.5	38.6	42.05	Transesterification of vegetable oils or animal fats	Normal Atmospheric Pressure	6-12 months	80-90%
Pyrophoric Iron (reduced by Syngas)	10	76	43	Reduction of iron oxides using syngas	Kept in inert atmosphere (e.g., nitrogen)	Indefinite with proper containment	30-40%
Hydrogen (from Electrolysis)	120	8.5	64.25	Electrolysis of water	High Pressure (~350-700 bar) or cryogenic	Indefinite with proper containment, but containment systems typically viable for 5-10 years due to material embrittlement and permeability issues	20-30%

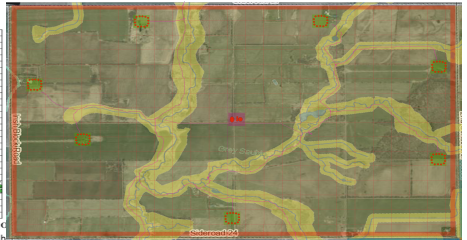
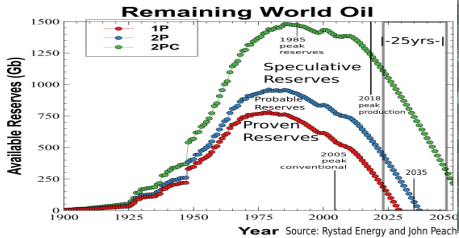
Firewood, Ammonia, CNG and Biodiesel seem good.

# Family Offices



Have money and are interested in long term family continuity.

# Discussion



Time for smooth transition limited

Sustainable Hamlets/Villages



Rustic Amish annual agriculture



Food forest communities