



Andrii Zvorygin

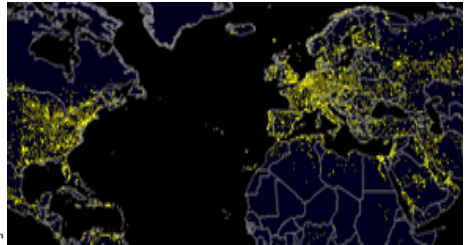
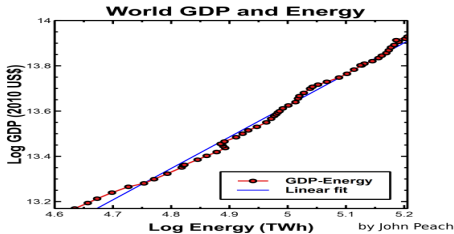
Lyis Forestry

September 16, 2024

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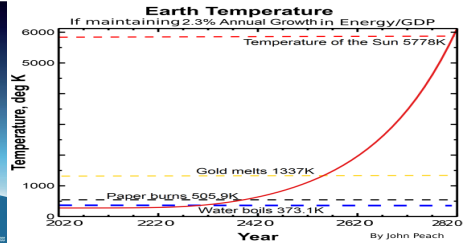
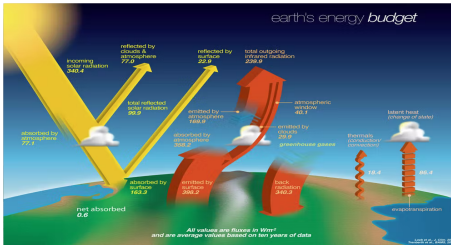
- 1 Global Energy Context
- 2 Timelines
- 3 Planning a good future
- 4 Celestial Alignment
- 5 Potential Customers
- 6 Discussion

GDP/Energy Growth Dangers



GDP growth depends on energy.

Energy produces heat.



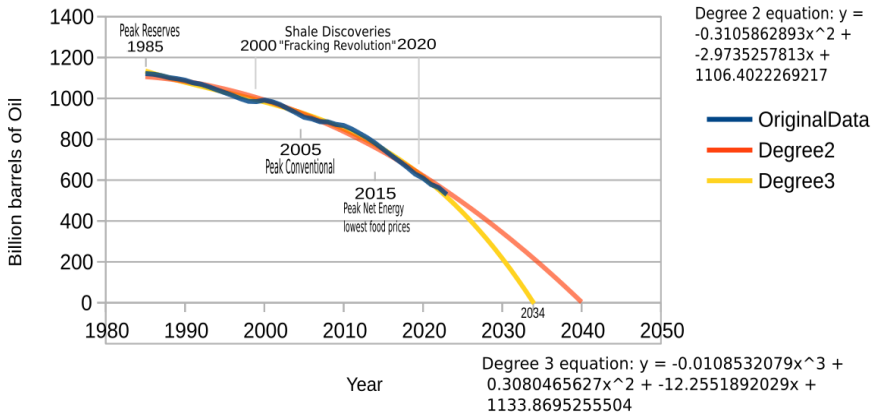
Heat radiance to space limited

If growth maintained oceans boil.

The Urgency of Global Oil Depletion

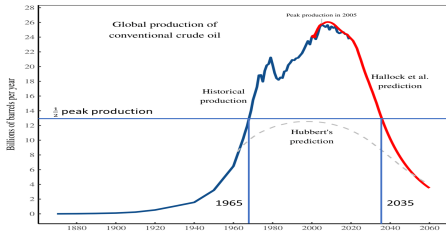
Oil Reserves (Discoveries-Production) 1985-2040

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

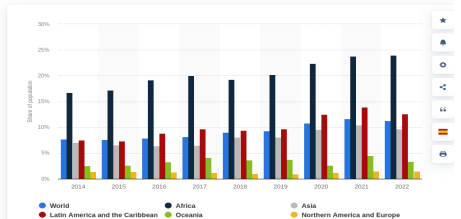


10-16 years global oil reserves remain.

Consistent with Earlier Predictions

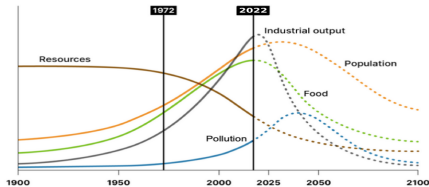


Prevalence of severe food insecurity worldwide from 2014 to 2022

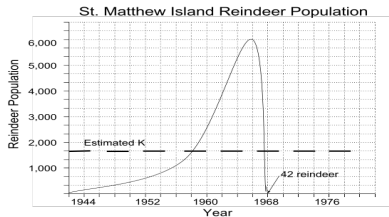


Hubbert Hallock

Lowest global food prices in 2015



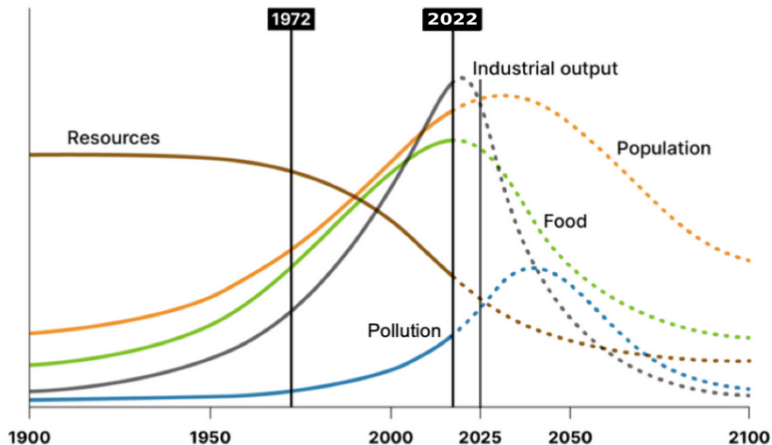
This figure shows the BAU 1 scenario which had tended to follow the data relatively well. Source: Meadows et al (1972), Earth4all



Limits to growth study

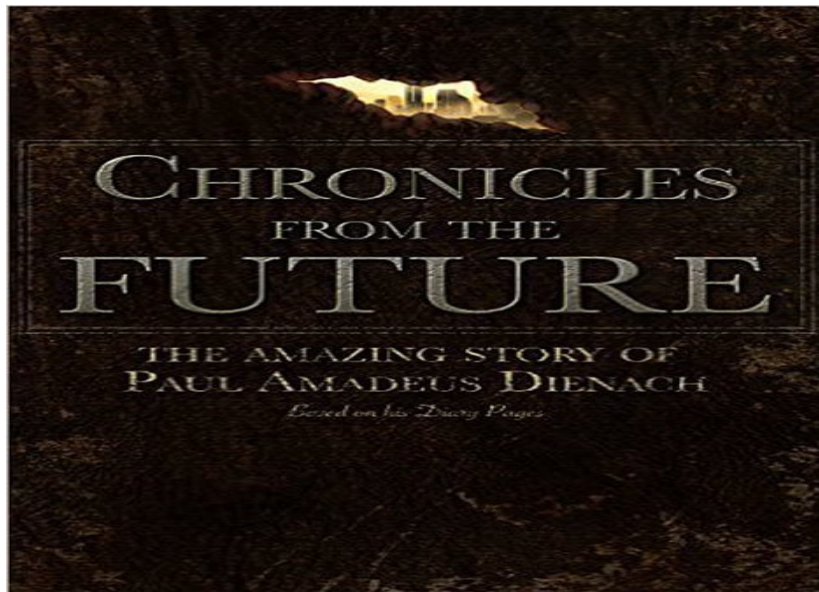
Seneca Cliff more Probable

Limits To Growth

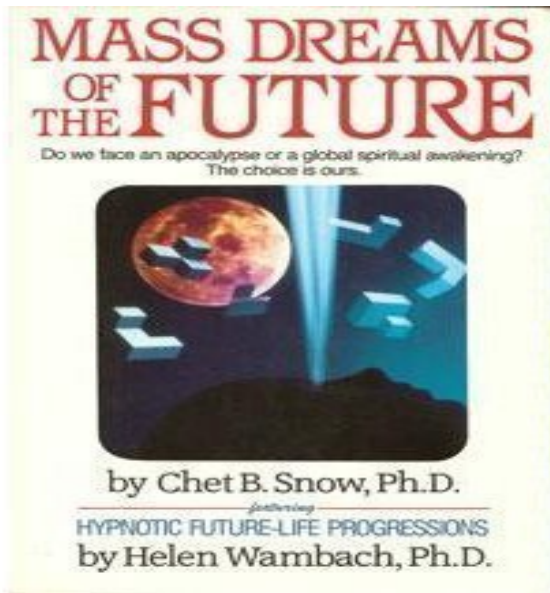


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Chronicles From the Future by Paul Dienach



Mass Dreams of the Future Cover



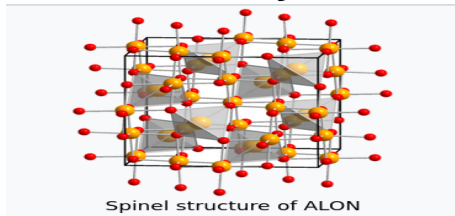
Mass Dreams of the Future Table

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

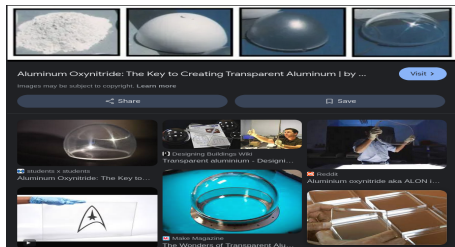
ALON, Aluminum Oxynitride, Transparent Aluminum

Aluminium oxynitride



ALON Molecule

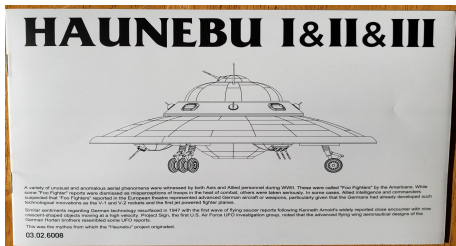
ALON Dome



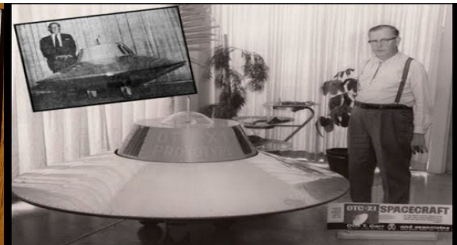
ALON Collage

ALON Star Trek

Electrogravitics Propulsion



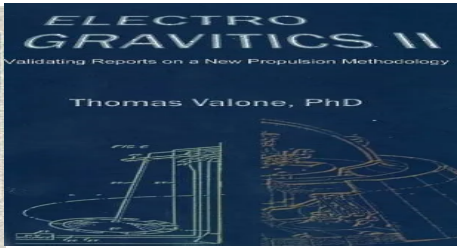
Nazi Craft



Tesla's Otis Carr's Craft

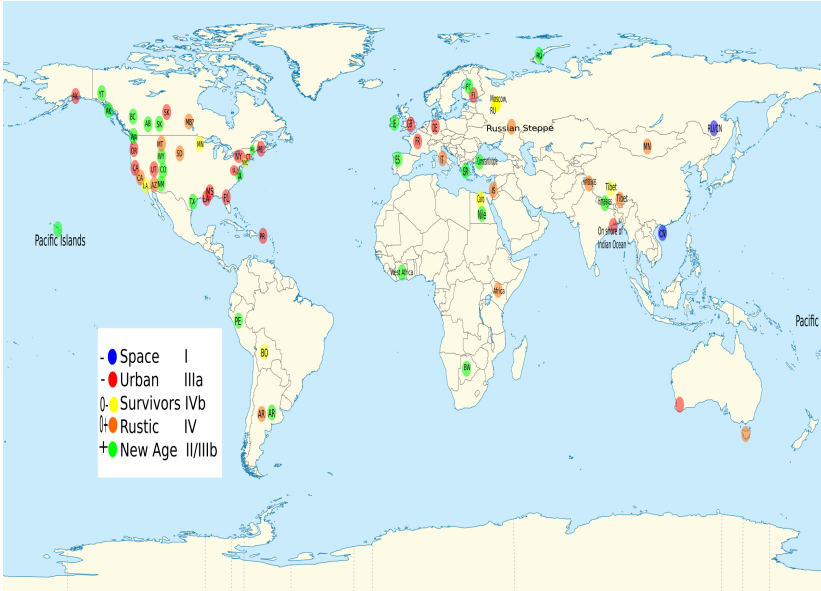


US Craft



Electrogravitics 2

Mass Dreams of the Future Map



Most Probable Future Lifestyles: Mass Dreams Study



Urban Salvage Economy



Rustic Amish annual agriculture



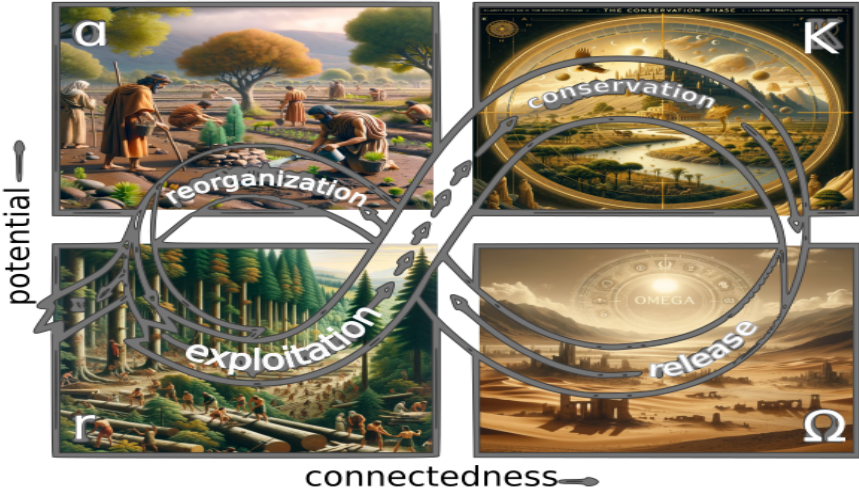
Indigenous hunter gatherers



Food forest communities

Resilience Theory: Bronze Age Example

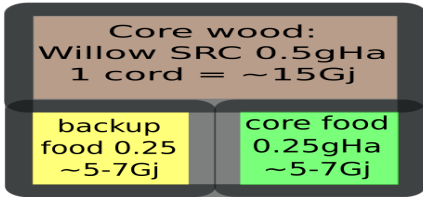
Collapse, Resilience, and Transformation in Complex Societies



Civilizations that Remember to plant trees and manage energy survive.

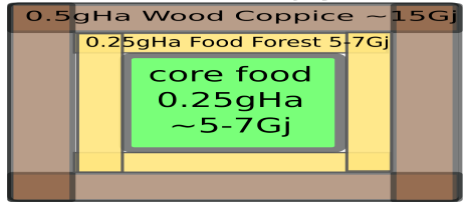
Understanding Carrying Capacity: For Basic Essentials

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



Carrying Capacity Breakdown

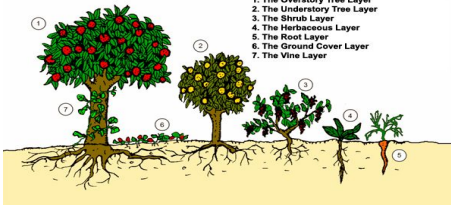
Active 75kg human
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Concentric Example

The Seven Layers of Every Forest

1. The Overstory Tree Layer
2. The Understory Tree Layer
3. The Shrub Layer
4. The Herbaceous Layer
5. The Root Layer
6. The Ground Cover Layer
7. The Vine Layer



Forest food production



Short Rotation Coppice Firewood

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)

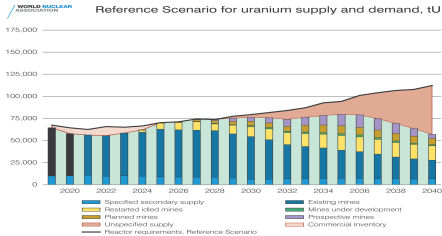
Confederation of Planets (STO: 49-0% Service-To-Self, 51-100%+ Service-To-Others):



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

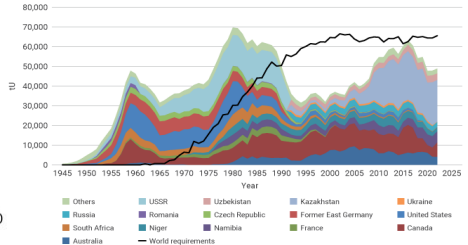
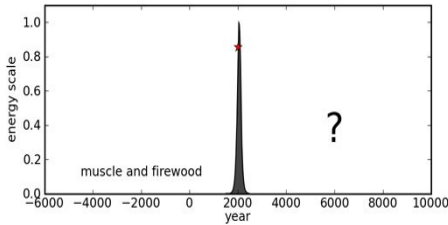
- spiritual evolution of all beings.
- **Aligned Leaders:** Jesus, Abraham Lincoln, Mahatma Gandhi, Franklin D. Roosevelt, Nelson Mandela.
- **Relevant Quote:** "We of the Confederation of Planets have come to tell a very simple story... It is a story of the power of absolute and unconditional love."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

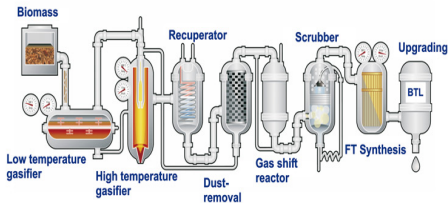
Sustainable Energy: 10-20x less Total Energy than Oil Age



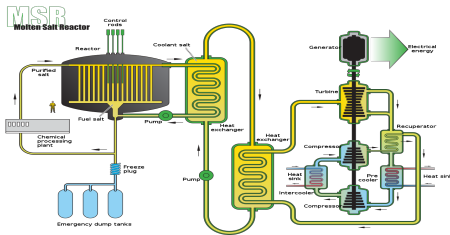
Solar/Wind for Residence/Hamlet



Bio-CNG for Village from waste



FT BioGasoline for Neighbourhood



Thorium Nuclear at Municipal

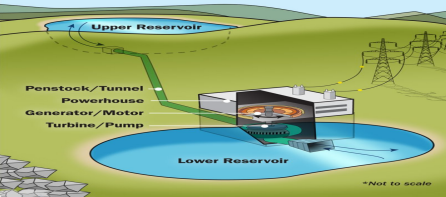
Sustainable Energy Storage

A quick guide to
Deep Cycle Batteries

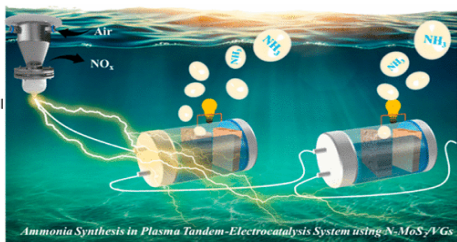
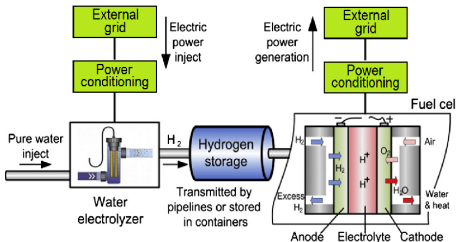


Battery

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



Pumped Storage



Hydrogen 4.6-6.6 MJ per mole of H Ammonia is viable 2.4 MJ molNH₃-1

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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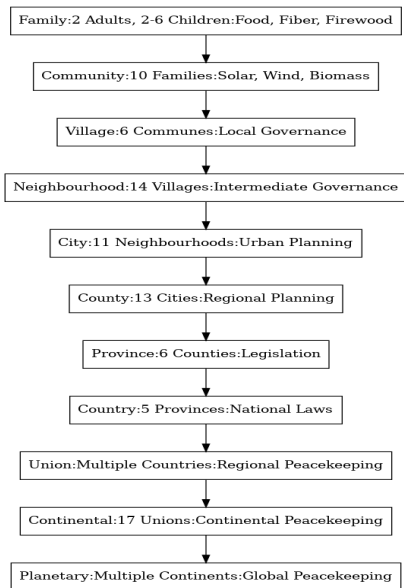
Firewood, Ammonia, CNG and Biodiesel seem good.

Rural Hamlet Village Settlement Example: Irish Block 24



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

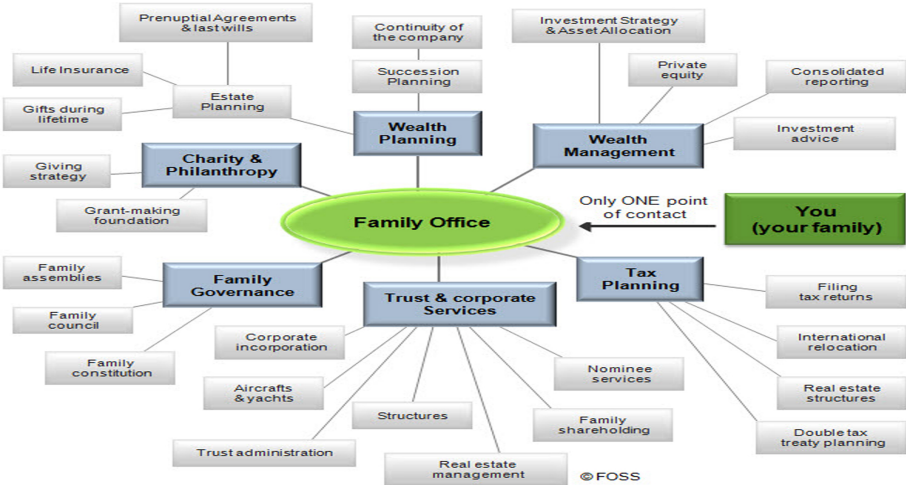
Subsidiarity Hierarchy



Subsidiarity Process:

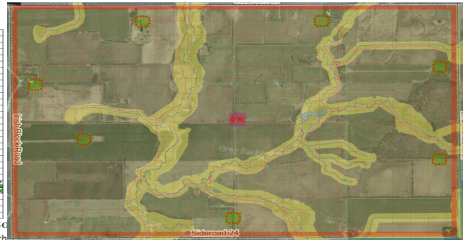
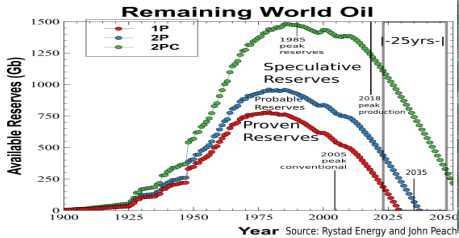
- The hierarchy starts with the family and extends to the planetary level.
- Lower levels have autonomy within their jurisdiction.
- Each level selects leader who represent them at the next higher level.
- Higher levels provide services to lower levels and recommendations.
- A planetary leader only needs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

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