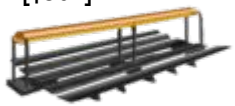
Distributed Market Substitution

1. Steel (1.5T), concrete (0.7T), hydrogen (2.4T), PV silicon (0.1T), wood (2T), plastic (.6T), housing ($16T) and food ($13T) - there is potential for redistribution of ⅓ of the global economy.
2. This means the next economy, of distribution.
3. How can OSE contribute? Maximum growth potential is substantiated by purpose, of freedom. Of financial independence, applying to households and countries alike.
4. Maximum hiring rate? Average is 40 per year.
    a. Growth in number of people is not an issue.
    b. Callout for meaning - ideas - are the key.

Universal Solar Microfactory for Steel, Concrete, and Plastic

1. **G Language** - for GVCS.
2. Shredder feeds induction furnace feeds 3" billet for machining and alloying. System consists of 8 power cubes, 8 Universal Rotors, 8 UR Attachments. Total of about $79k infrastructure cost for liberation.
3. Capacity: CNC multimachine/grinder, truck, tractor, backhoe, trencher, cement mixer, 3D printer, UPS, induction furnace, solar power, rebar production, billet production, hydraulic motor production, and electric motor production. 3D printing filament, cement production, truck, dozer, trailer.

[$30k]



Concrete

$5k

[$5k] BBB or Arduino UPS

[20 tons] $20k

[8] at $8k

Rebar

Solar steel + ZA Alloy

[8] + 8 heads at $16k

50 kW Solar welder

CNC Machining + Grinding + Induction Work Softening + Hardening

Immediate Proof of Concept

1. **Open Documentation** - in nominal 60/60/60 model of materials/subs/profit - we save about $40k on labor by allowing construction generalists to perform specialist tasks. Proof of concept of open documentation, but it is not developed collaboratively. Thus, open source is a business concept for distribution and service, with lifetime design being a derivative value proposition.
2. **Under $200k house** - for a 60/60/60 model house, OSE paradigm can capture 40 of part 2 and 60 of part 3, for a total of $100k revenue after labor is paid for.
3. **OS as Distribution/Marketing/Service model** - not R&D model. R&D indirectly, in that 10x better enterprise gets us R&D revenue for Distributed Market Substitution.

OSE Enterprise Growth Ecology - Tactical

1. Take the case of the **Seed Eco-Home**
2. Do 10x improvement in enterprise - $2M vs $200k
   a. 10x speed improvement
   b. 2x cost improvement per instance, 10x revenue improvement as an enterprise by fast turnover
   c. 2x lifetime energy requirement improvement
   d. 2x embodied energy improvement
3. **Product Ecology** - house construction, open source machines, 3D printing, open source materials production (concrete, lumber, steel, hydrogen)
4. Transition from **Vertical Integration to Technological Recursion** - ie, eliminate competitive waste of proprietary information to allow for unleashed integration
5. **Machines Example** - winch, man lift, forks, power ladder, boom, small tractor on back of large tractor, backhoe, truck, posthole auger, lime burner appliance, 4' lumber sawmill attachment, shredder for plastic, 3D printer, etruder, Power Cube scalability, forks, CNC multimachine for small tool parts, Universal Controller, Universal Power Supply, Universal Rotor, Solar Construction Trailer + Silicon Refiner. Wire Draw + plastic for wires. Taking $60k materials to $30k materials, independent of supply chain.
   a. Machine Time savings: foundation - grading + backhoe - $800. backhoe 3 days (water, sewer, power) - $600, bobcat, 6 days - $1200, power ladder 1 week $200. Compactor - $340. Landscaping - 7 days - $1000. Trencher (water) - $200. **$4340 total** per.

OSE Enterprise Growth Ecology - Proof Points

1. Demonstrate that open collaboration is a reason for the success of new economic models. Capitalism has not achieved this (win-lose), and open source software has not achieved this (people are paid to develop). Voluntary transformative work is not commonplace, and global collaborative literacy has not yet been delivered.
    a. Proof point is an important industry transformed via open collaboration. Economic transformation must be on the trillion dollar scale to matter
2. One proof point is that the efficiency of Open Source Ecology (modular, Construction Set Approach, Product Ecologies, Distributive Enterprise, Lifetime Design) results in 10x improvement, and thus to Distributed Market Substitution. This paves a practical route to an ecosystem of production where people collaborate freely.
    a. Greed must be shown to motivate the collaboration, until the point where individuals are transformed into a mindset of collaboration where they comprehend that they are part of a greater whole. Philosophers claim this, no economic paradigm has been developed to date that shows this in practice.
3. Minimum viable product ecology must be shown (about $1B scale) which becomes vertically integrated sufficiently to deliver post-scarcity economics (enterprise models that do not rely on artificial scarcity) as a thriving microcosm within the current economy, for example in the form of a ‘Network State’ or a special economic zone such as ‘Regenerative City’, or ‘OSE Campus’, etc.
4. ‘Special Economic Zones’ may be one approach, until the dream of open source ecology is normalized.

OSE Enterprise Growth Ecology - Requirements

1. Approach, tactically, must focus on sublimation or transformation of existing enterprise tactics and principles - as a foundation for material security. Minus the negative human/environmental costs.
2. Approach is based on Economic Sublimation of existing enterprises, so that we are building upon prior art and not reinventing the wheel. Ie, we assume high industrial productivity as a prerequisite for evolving to open collaboration (according to a Maslow Hierarchy of Needs model) based on first principle possibilities implied in the Kardashev Scale. However, this industrial productivity must be Distributive and Regenerative - two critical qualities that are missing in the current economy.
3. Approach focuses on abolition of Artificial Scarcity as an underlying solution to Self-Determination
4. Economic Transformation relies on Distributive Enterprise which addresses the yet-unresolved issue of the distribution of resources
5.
6. Approach must be practical and executable, on reasonable time and space scales - such as 1-2 decades for thorough sublimation
7. Assumption is that change is made through the economic system, ie, system of global housekeeping in the broadest sense. What people do for a living matters.
8. Assumption: people do not have time for sublime thoughts when they have a pressure of survival. Thus, the core enterprise of humanity should be eradicating the pressure of survival, replacing it with the Art of Possibility.
9. Until above Self-Determination is achieved, business as usual with degradation of natural life support systems will continue.
10. Anything is possible at any time.

Growth Ecology - $27.49M budget

1. Machines Track $20M.
2. Does not include solar concrete - another $1M
3. Hydrogen infrastructure - another $5M
4. Campus Infrastructure - 10k sf Solar Workshop with PV
    a. $1.5/sf concrete, $1.5/sf steel ½" rebar truss, $1.5/sf solar. $1.5/sf balance of system (bracing, electrical wire, PVC)
    b. $6/sf base cost for concrete slab air frame with PV.
    c. 50% in labor, or $90k total
5. Instructionals infrastructure - $1.4M
    a. Rapid design infrastructure that includes wall module designers

Wall Module Designer

Functionality:

1. Selects type of lumber - 2x4 or 2x6
2. Select on-center spacing
3. Add studs of any length, at certain distance along bottom plate
4. Add horizontals of any length, at any height
5. Add blocking - horizontal - any length, at any height
6. Add blocking - vertical - any length, at any distance along bottom plate
7. Remove any member
8. Add headers - 2x12, at any height, at front or back of module
9. Add exterior sheathing - any size and cutouts included
10. Add interior sheathing - any size and cutouts included

User Interface:

1. Icon selection:
    a. Size lumber
    b. Frame
    c. Horizontal members
    d. Vertical members
    e. Studs
    f. Jacks
    g. Header
    h. Blocking - horiz
    i. Blocking - vert

Advanced:

1. Add sharkbite
2. Add PVC
3. Add component - vent fan, fan, heat pump, etc
4. Add box - electrical - single, multiple, outdoor, disconnect, outdoor/indoor, doorbell, etc.
5. Add electrical service - meter base, disconnect, main load center, transfer switch, subpanel for PV, inverter, PV combiner.
6. Add device - light, smoke alarm, vanity, motion light,

Rapid Growth - 10x is Easier than 2x
100x is as hard as 10x.
1000x is a different ballpark than 100x.

1. Investment mechanism is sought for ethical cap tables
2. Investment is lifestyle investment into living a full life based on purpose - small core of program
    a. This is an earned opportunity
3. **Builder Track** - tech school and building the world around us 10x more effectively
4. **Machines Track** - cross-subsidized by Builder Track
5. **Leadership Track** - management and leading crews
6. **Enterprise Track** - for those who want to venture on their own. While growing a collaborative resource pool which the entrepreneurs feed back into

Growth Numbers

1. $27.49M requirement - for next 3 years
2. Revenue:
    a. May 1 Apprenticeship - producing housing
        i. ½ the crew is in production, ½ is in learning.
            1. Production crew is paid $25/hr starting.
            2. Training crew is paying, with $32.80 after 6 months
        ii. Phase in production first, no on-site infrastructure required
        iii. Learning phase - pay to play