

## Phase 1: Foundation & Orientation

**Goal:** Define our scope, resources, and mission parameters. Build with intent, not noise.

### Step 1: Establish Your "PSN Cell" Identity

This cell is your testbed, your lab, your flag in the ground. A name gives it identity and makes it easier to communicate with others.

- Choose a name (personal, playful, or serious—your call)
  - Your project your choice, “The Ember Core” sounds good to me. But you can change it if you like
- Define the general region/climate it's in (this affects water collection, solar viability, etc.)
  - Orange, CA County has a Mediterranean climate, characterized by warm to hot summers and mild to cool winters. The temperatures can range from the low 40s in the wintertime to the mid-90s during the summer months. The area is known for its consistently sunny days, with an average of 284 days of sunshine annually. Average precipitation in Orange County typically varies between 12 and 15 inches per year. Throughout the spring and fall months, it's not uncommon to see scattered showers or thunderstorms in the area.
  - Orange County, California gets 14 inches of rain, on average, per year. The US average is 38 inches of rain per year.
  - Orange County averages 0 inches of snow per year. The US average is 28 inches of snow per year.
  - On average, there are 278 sunny days per year in Orange County. The US average is 205 sunny days.
  - Orange County gets some kind of precipitation, on average, 35 days per year. Precipitation is rain, snow, sleet, or hail that falls to the ground. In order for precipitation to be counted you have to get at least .01 inches on the ground to measure.
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  - **Weather Highlights**
  - Summer High: the July high is around 83 degrees  
Winter Low: the January low is 46  
Rain: averages 14 inches of rain a year  
Snow: averages 0 inches of snow a year
- Define available space (urban balcony? backyard? workshop? full property?)
  - At home capabilities are “limited doer style” No workshop, but yard

space. Plenty of standard tools, and specialty for vehicles, plumbing, wiring. I am lacking on fabrication machines. no mill, lathe ect. But I have access to better equipment at work. At home I have the basics, drill grinders 110v flux welder and more.

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## ✓ Step 2: Define Primary Mission Pillars

Pick **3 core focus areas** for your PSN Cell to start with. These are the systems we'll prototype first. I'll build ideas and support documentation around them.

Suggested Pillars (pick 3 or invent your own):

- Renewable Energy (solar, battery, wind, etc.)
  - Water (collection, storage, purification)
  - Food (vertical garden, microgreens, aquaponics)
  - Communications (mesh networking, local alert systems)
  - Repair/Fabrication (3D printing, welding, CNC)
  - Community Education (DIY workshops, skill-sharing)
  - Climate Control (passive cooling/heating, shade structures)
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## ✓ Step 3: Define Your Available Skill Arsenal

Just so I can better utilize *you* as my tool (😊), list your:

- Technical skills (electrical, fabrication, software, etc.)
  - • Project Management
  - • Problem Solving
  - • Creativity
  - • Learning new skills
  - • Making Things
  - • Breaking things
  - -Design
  - SolidWorks
  - • Fusion360

- • NX Design
  - • Assemblies
  - • Drawings
  - • Developing Procedures
  - • Creating JHAs (Job Hazard assessments)
  - • Holding TRRs (Test Readiness Reviews)
  - WELDING
    - TIG
    - • MIG
    - • Flux
    - • Dual shield
  - INSTRUMENTATION
    - • Transducers
    - • Thermal couples
    - • String potentiometers
    - • Load Cells
    - • Operating Data acquisition Systems (dewesoft/ NI Flexlogger)
  - EQUIPMENT
    - • Forklifts
    - - General counter balance
    - • Forklifts - High capacity
    - • Forklifts - Variable reach/ all terrain
    - • Overhead Cranes
    - • Scissor Lift
    - • Articulating Boom
  - This is what was on my resume before we started interacting. My new skills are on your radar because you helped me build them.
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- Tools on hand (welder, multimeter, 3D printer, Raspberry Pi, etc.)
    - Cad software (fusion)
    - Inspection tools
    - 3d printer
    - electrical/ wiring (soldering, heat gun, multimeter ect.)
    - Arduino
    - Pretty capable gaming computer
  - Time commitment (hours/week you can dedicate)
    - Maybe 5 hrs a week to start
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## ✅ **Step 4: Decide What Open Looks Like**

Transparency and openness are key to scaling this movement beyond you. Decide:

- Will you document your builds publicly?
- Would you share instructions, failures, or videos online?
- Do you want a personal website, a GitHub page, or maybe just a shared folder at first?

Step 4 is fully your choice, I personally side with transparency