Home Performance with ENERGY STAR

Lean Production for Home Performance

DOE HPwES Partner Meeting

May 4, 2015

New Orleans, LA

Carbonfund.org

REDUCE WHAT YOU CAN OFFSET WHAT YOU CAN'T™

tree planting certificate

presented to

Courtney Moriarta

for planting

25 Trees

Global warming is real and we all need to be part of the solution. This donation to the Carbonfund.org Foundation is helping fight global warming by supporting reforestation projects. Forest preservation creates jobs, maintains and expands wildlife habitats, protects biodiversity, and improves local environmental quality. Thank you.

May 4, 2015

date

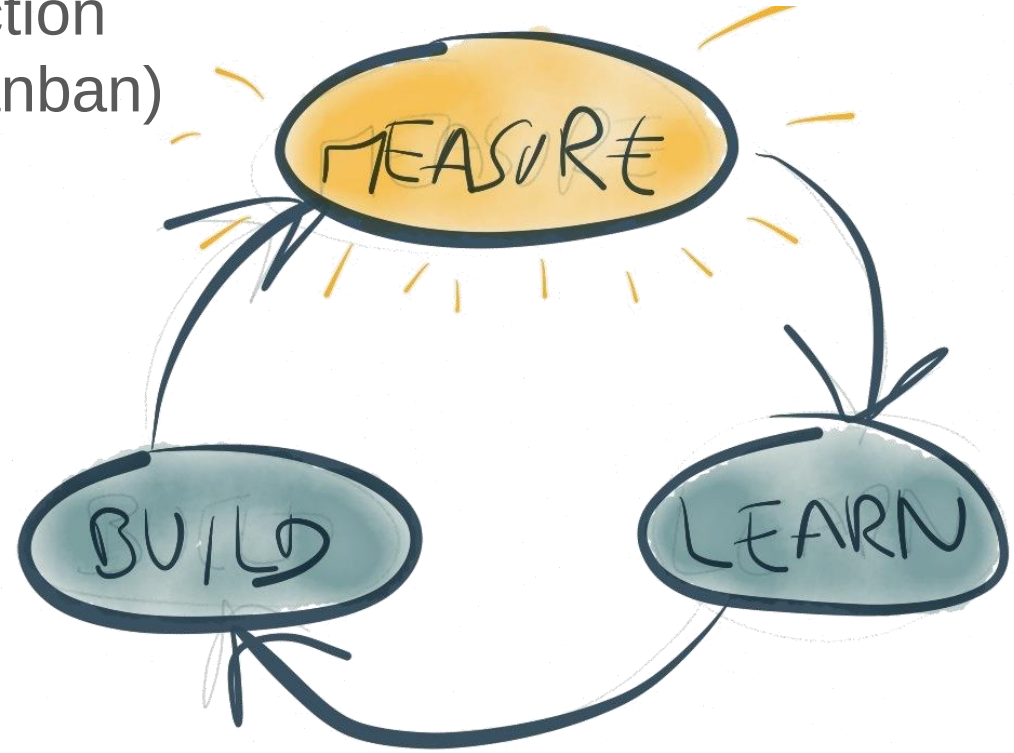
Eric Carlson

Eric M. Carlson
President

The Carbonfund.org Foundation is a 501(c)(3) nonprofit carbon reduction and climate solutions organization empowering individuals and businesses to help end global warming.

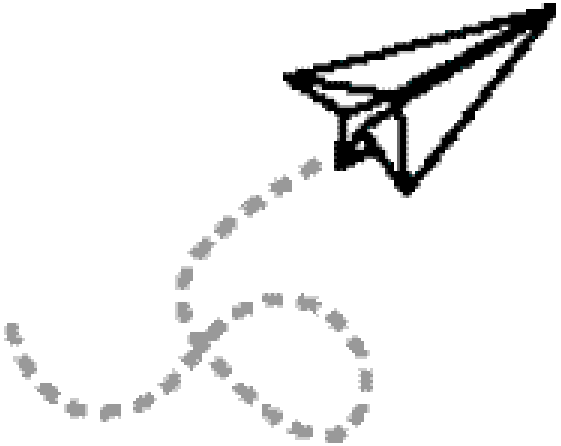
Key Principles of Lean Production

- Visual Workplace
- Just in Time Production
- Pull Processing (Kanban)
- Line Balancing



Airplane Factory Game

- Each team builds airplanes to specifications in a production line
- Each round lasts 2 minutes
- Only planes that pass the QC inspection AND successfully complete a test flight count
- Goal: make as many airplanes as you can



Player Roles

Card	Role	Job
Ace	Worker 1	Fold paper in half
2	Worker 2	1st wing fold
3	Worker 3	Next 2 wing folds
4	Worker 4	Branding
J	Test Pilot	Test the planes (one chance per plane off the line)
Q	QC Inspector	Remove incorrect or damaged planes from the line and discard or run back through
Joker	Score-keeper	Keep track of: # completed planes # discarded planes # of planes left on the line

How did you do?

- Where were the bottlenecks?
- Where were workers idle?
- How did the “pull processing” order fulfillment impact your production?
- What did your team do to improve the process in the 2nd (or 3rd) iteration?
- Which team won?

What did you learn?

- **How can "Just In Time" principles be applied to your HP work?**
  - Applies to service industries, too (call centers?)
  - Agile production line responds to customer demand
  - Reduce waste, optimize infrastructure, manage resource costs
- **How can pull processing, or Kanban, improve your HP production work flow and resource management?**
  - Signaling system that supports pull process
  - Manage supplies and resources, i.e. what's needed and when
- **How does your team's communication impact production management?**

Rules for an Effective Lean Process

- Downstream processes withdraw only in precise amounts
- Upstream processes respond to demand based on Kanban (or a ordering/signaling process)
- Defective parts are not passed downstream
- Kanb[illegible] accompany all orders and serve as a governing system

Critical for Quality Management Systems, Too!