

# Intentional Playground and Fitness Design, Maintenance and Management



## LEARNING OBJECTIVES:

- Identify **maintenance strategies** for playground and outdoor fitness sites
- Identify ways to reduce hazards on playgrounds and outdoor fitness spaces with **regular inspections and risk management principles**
- Identify ways to get the most out of their community investment in outdoor play and fitness spaces by designing not only for maintenance and low risk but also **maximum enjoyment for persons of all abilities**

Coming in 2023 – Whispering Pines Inclusive Playground and Fitness Area

Mike Kendrick, CPSI, CPRP, BAS  
Deputy Director – Parks  
City of Port St. Lucie, Parks & Recreation Department

- Certified Parks & Recreation Professional (CPRP)
- Certified Playground Safety Inspector (CPSI)
- Certified International Society of Arboriculture (ISA)
- Project Management
- Short- and Long-Range Strategic Planning and Budget Creation
- Department Emergency Management Coordinator
- High Performance Public Space Team Member (HPPS)
- Departments Grants Team Member



# Suzanne Quinn, PhD

## KOMPAN Play Institute

- Trained researchers
- Monitor trends & scientific research on playground play
- Informs design and innovation
- Work closely with children in development and test
- Publish articles and webinars on findings
- Consultants & partners in active outdoor play
- Continuing Education Provider for AIA and LA CES HSW



Mike's slides (9 slides)



Learning Objective 1: Maintenance Strategies for Playground and Outdoor Fitness Sites

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# MAINTENANCE - BEGINS WITH INTENTIONAL DESIGN & PLANNING AHEAD

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- **DESIGN**- The purpose of design is much more closely linked to strategy than aesthetics. Design is the process of intentionally creating something while simultaneously considering its objective (purpose), function, economics, sociocultural factors, AND aesthetics.
- **PLANNING** - the act or process of making or carrying out plans. specifically : the establishment of goals, policies, and procedures for a social or economic unit.



# MAINTENANCE - BEGINS WITH INTENTIONAL DESIGN & PLANNING AHEAD

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- **Departments Strategic Goals and Objectives-** Are you following your Departments Mission, Vision and Values
- **Short- & Long-Range Planning for Capital Improvements/Grants** – Are there be opportunities for shared costs to construct? i.e., (N.I.C.E., CDGB, FRDAP, Recycling Revenues). What is the age of the equipment and the end-of-life cycle?
- **Public Stakeholders Input** – Have you spoken to the stakeholders within your community through public engagement meetings? What are their likes and dislikes of the existing design? How would they like to see funding spent on the redesign to make it better for **all** users?
- **Location, Location, Location** – Is the playground /Fitness area in the right location or does it need to be relocated? Are there current obstacles such as proximity to Busy streets, entrances, sports fields, near bodies of water/canals? Are restrooms/water fountains nearby, available shade, gathering spaces, accessible routes, drainage issues, poor lighting or overhead power lines?

# INTENTIONAL DESIGN MEANS PLANNING AHEAD

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- **Conduct site inspections** – Provide an evaluation of existing conditions and past maintenance issues. How can we improve our new design and remove/reduce maintenance costs. Are there any drainage or soggy conditions?
- **Underground Utilities** - Are there buried underground utilities, irrigation lines within your project site that may be problematic or need relocated?
- **Hire a professional surveyor** - plot out all existing site elevations, tree locations and shade canopy from trees, establish setbacks from trees, existing sidewalks to remain to re-route, fencing locations, landscaping, seating/picnic areas.



# INTENTIONAL DESIGN MEANS PLANNING AHEAD

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- **Coastal Environment** – What types of materials are best suited for your location?
- **Color Selections** – some colors fade faster than others
- **Materials**- Powder Coating and hot dipped galvanized metal, wooden or recycled plastic – What is the best for your environment/location
- **End Users – Toddlers, Age groups 2-5, 5-12 (Infamous Man Child)** What is the geographic location around your facility, i.e., between schools?
- **Bring the Community Together**- Plan for gathering spaces for adults and families.
- **Lighting** – What are the hours of operation? Should lights be considered?

# INTENTIONAL DESIGN MEANS PLANNING AHEAD

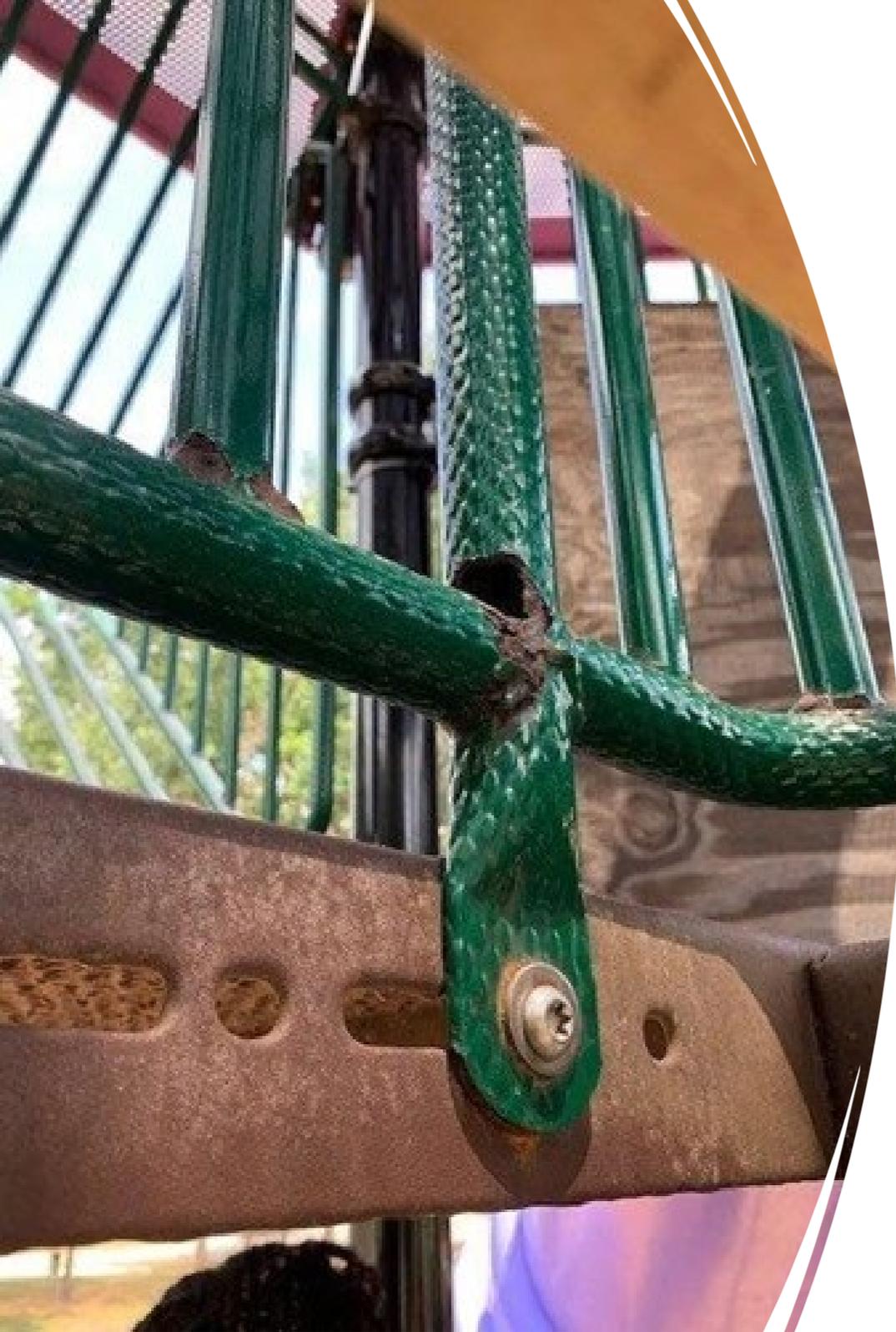
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- **Shade Structures/shade trees** – Shade will provide for more users and for longer periods of time. Choice of colors made fade faster than others.
- **Design Standards-** How does my design meet the ADA Standards and promote Inclusive Play. (Have Vendor provide and ADA Report to include as Best Practice in design.)
- **Types of surfacing-** Engineered Wood Fiber (EWF), Sand, Synthetic Turf with shock pad, PIP, Rubber Exit Mats, Tiles, or Gravel
- **Borders** – Concrete “D” Curbing to DOT standards, Plastic, Fencing, None (How close are you to parking lots, lakes bike paths, or high traffic areas)

# INTENTIONAL DESIGN MEANS PLANNING AHEAD

- **Vendor Selection and product lines** – Service after the sale
- **Project Management** - You must understand the design and installation specifications for your project to ensure that the contractor is adhering to their responsibilities and held accountable.
- **Low Maintenance and High-quality Products-** By having a solid design and maintenance plan in place, you can reduce maintenance and repair costs, extend the life of the equipment to protect your agencies capital investment and ultimately reduce your Risk for injuries.





## LEARNING OBJECTIVE 2: TO REDUCE HAZARDS ON PLAYGROUNDS AND OUTDOOR FITNESS SPACES WITH REGULAR INSPECTIONS AND RISK MANAGEMENT PRINCIPLES

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- **Inspections-** Inspections are important as they allow you to: listen to the concerns of workers and supervisors, gain further understanding of jobs and tasks, but more importantly, they identify existing and potential hazards that can be addressed or designed out when planning for future replacement.
- **Risk Assessment-** Risk assessment is a term used to describe the overall process or method where you: Identify hazards and risk factors that have the potential to cause harm (hazard identification). Analyze and evaluate the risk associated with that hazard (risk analysis, and risk evaluation)

# REGULAR INSPECTIONS AND RISK MANAGEMENT PRINCIPLES

**Certified Playground Safety Inspector (CPSI) It all starts with competent trained staff and a comprehensive inspection report and a good continuing maintenance plan .**

- Inspect for damage and wear patterns from the ground level up the highest point of the playground or fitness equipment to include connecting entrances and borders.
- Damaged metal bolts, springs, bearings, chains, and rubber seats on moving parts
- Rusting, fraying of ropes/cables and chipped paint, delamination, graffiti, vandalism
- Damaged wood, cracks, soft spots below and above ground



# REGULAR INSPECTIONS AND RISK MANAGEMENT PRINCIPLES

- Loose connections and missing hardware
- Surfacing- holes, cracks, uneven areas in surfacing or connecting sidewalks, root intrusion
- Exposed foundations
- Flooding/Drainage issues
- Mold/Mildew
- Sharp objects, Litter, insects, age-appropriate signage



# REGULAR INSPECTIONS AND RISK MANAGEMENT PRINCIPLES

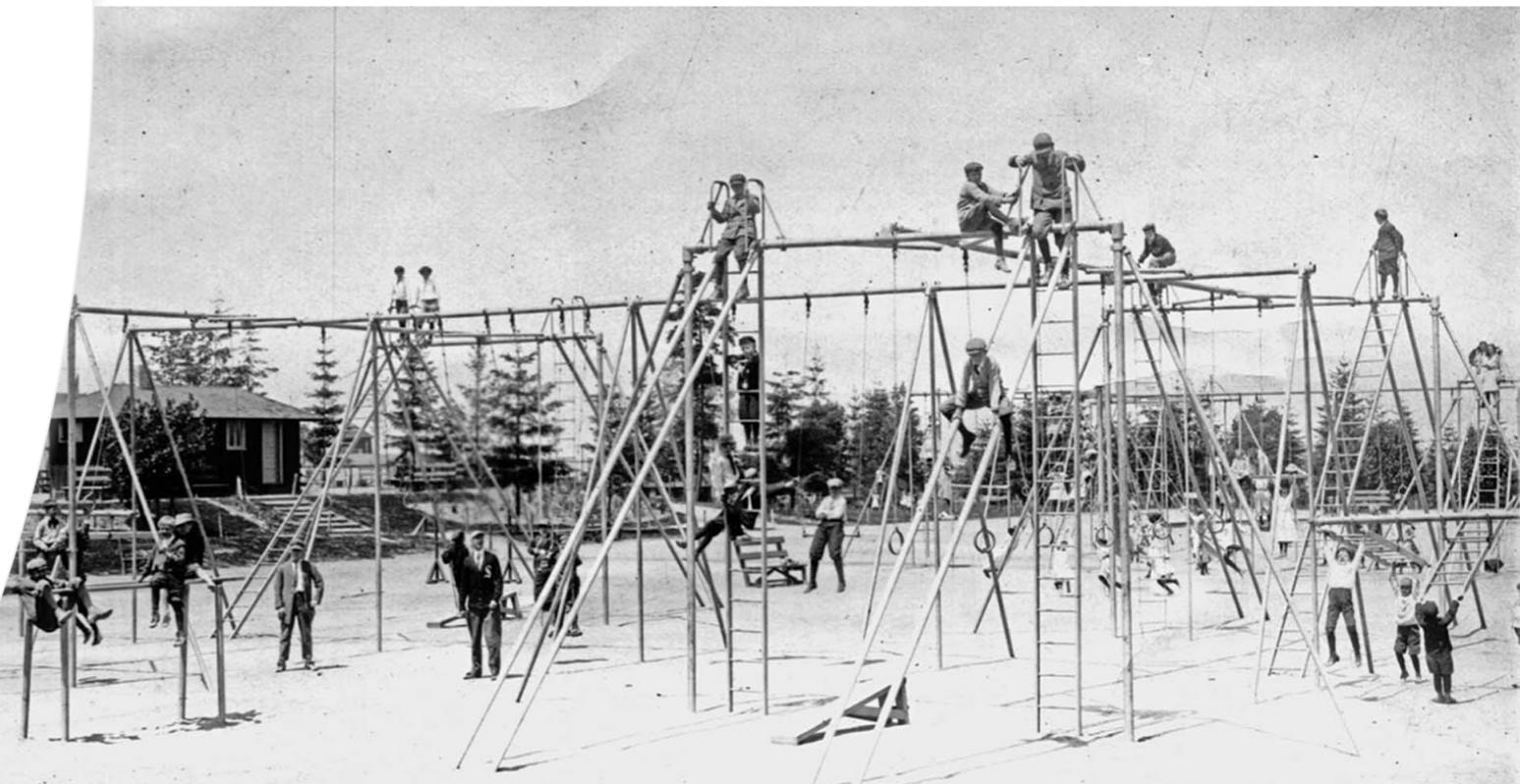
**Incident Documentation – As with any incident that involves injury, property damage, it is imperative that you provide the following:**

- **Incident Report**
- **Inspection Report**
- **Maintenance Records-** good faith efforts
- **Photos/Video** –Affected area, Age-Appropriate signage
- **HIC or G-Max Inspection Report**
- **Copy of replacement Parts (OME Only)**



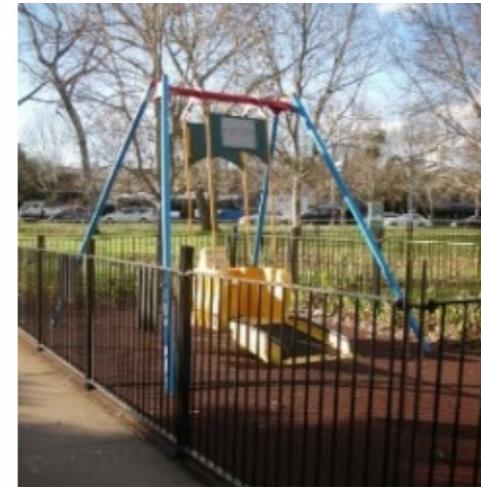
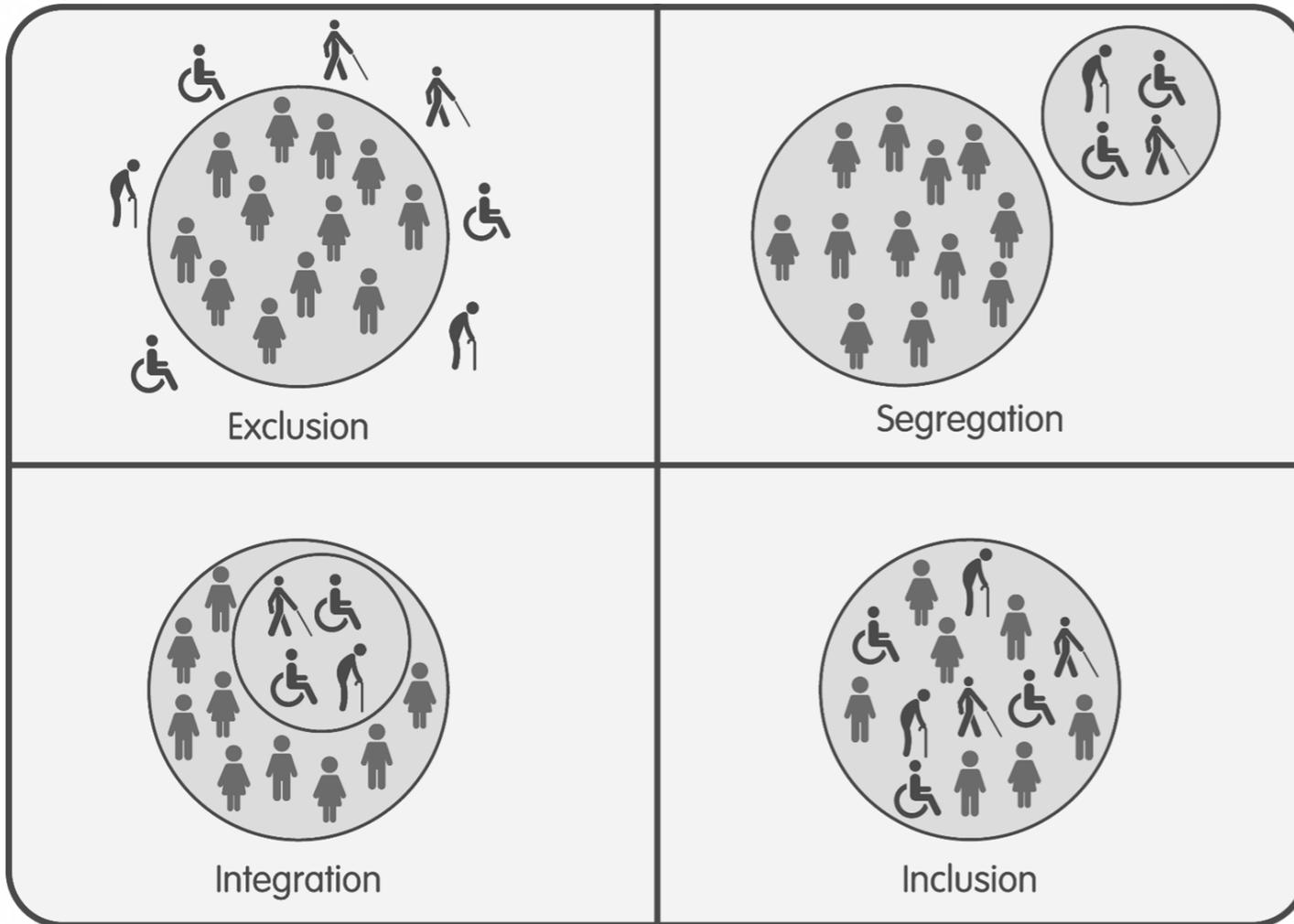
# REGULAR INSPECTIONS AND RISK MANAGEMENT PRINCIPLES

- **Damaged Equipment-** Never discard the damaged equipment if an injury was reported. This equipment will most likely be requested by a Legal Team and discarding them sometimes admits blame. Take photos for additional documentation.
- **Repair Documentation** – Keep track of all repairs and maintenance to any equipment to include the date of repairs. This should also be tracked on the inspection reports.
- **Remember:** A risk assessment is a thorough look at your workplace to identify those things, situations, processes, etc. that may cause harm, particularly to people, property, and the environment.



Suzanne's slides (7 slides)

# Learning Objective 3: Designing for maximum enjoyment for persons of all abilities



**Integration:**  
Playgrounds with special equipment for a targeted user group, fenced off



**Inclusion and Universal Design:**  
Playgrounds with equipment that everyone enjoys and benefits from.

# Play and fitness sites to support individual and community health



## WHAT IS PHYSICAL ACTIVITY?

World Health Organization definition:  
**Active Play**, games, voluntary activity

## HOW MUCH PHYSICAL ACTIVITY IS ENOUGH?

**Under 1 year:** Min. 30 minutes a day

**1 to 2 years:** Min. 180 minutes a day

**3 to 4 years:** Min. 180 minutes a day, at least 60 min.  
Moderate to vigorous

**5 to 18 years:** Min. 60 minutes a day moderate to vigorous

**Adults:** Min. 150 minutes a week should include cardio & weight training

**Aging:** Min. 150 minutes a week should include cardio & weight training as well as balance

## THE ACTIVITIES SHOULD TRAIN:

- **Motor skills;** gross and fine motor skills, coordination, sensory integration, balance
- **Muscle strength** (arm, legs, core)
- **Bone density**
- **Cardio**



# Which playgrounds and equipment inspire more use?

- Each additional play element was associated with about 50% more users and 50% more MVPA.
- Playgrounds should include restrooms, structures that support a wide variety of movements, and elements that also encourage adults to be active.
- Design with a variety of activities for different movements (climbing, swinging, sliding, rocking) as well as socializing, games and make believe, and creativity
- Design for effective fitness activities for a range of users: young adults, middle aged, active aging

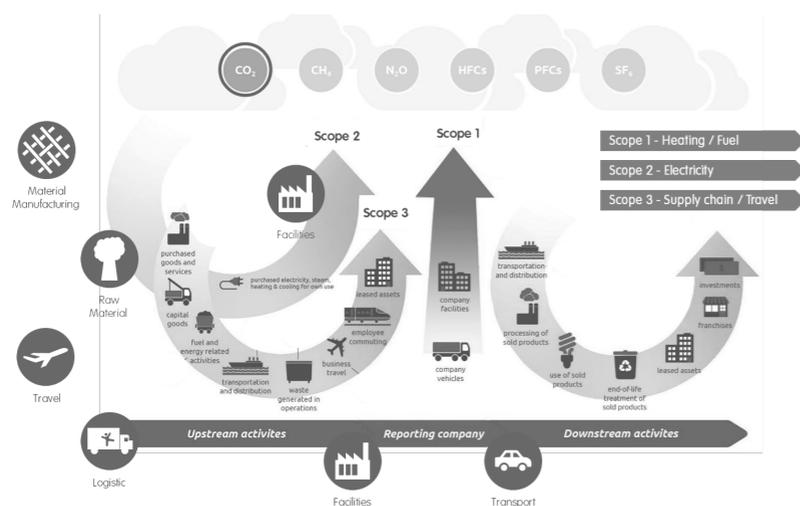


# Design with durable sustainable materials



# Innovations in sustainable materials to reduce CO2e

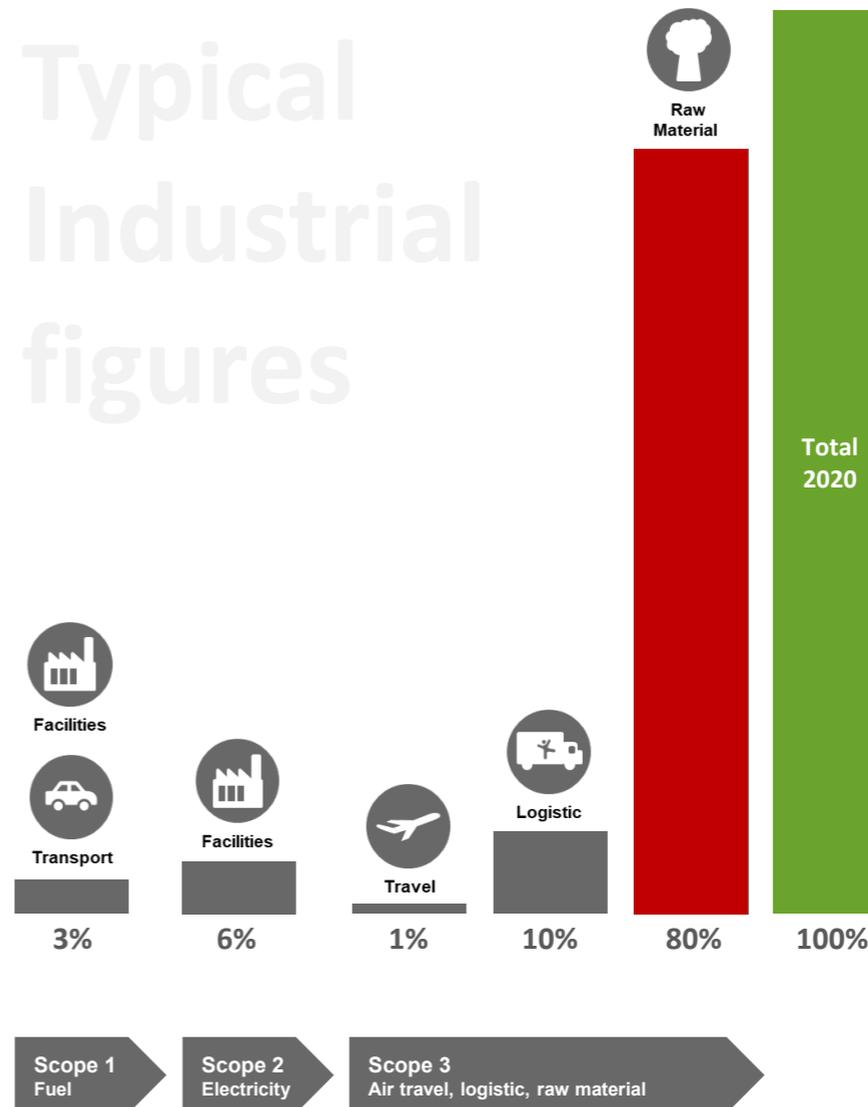
## Greenhouse Gas protocol (GHG)



CEMA**sys**.com  
sustainability management

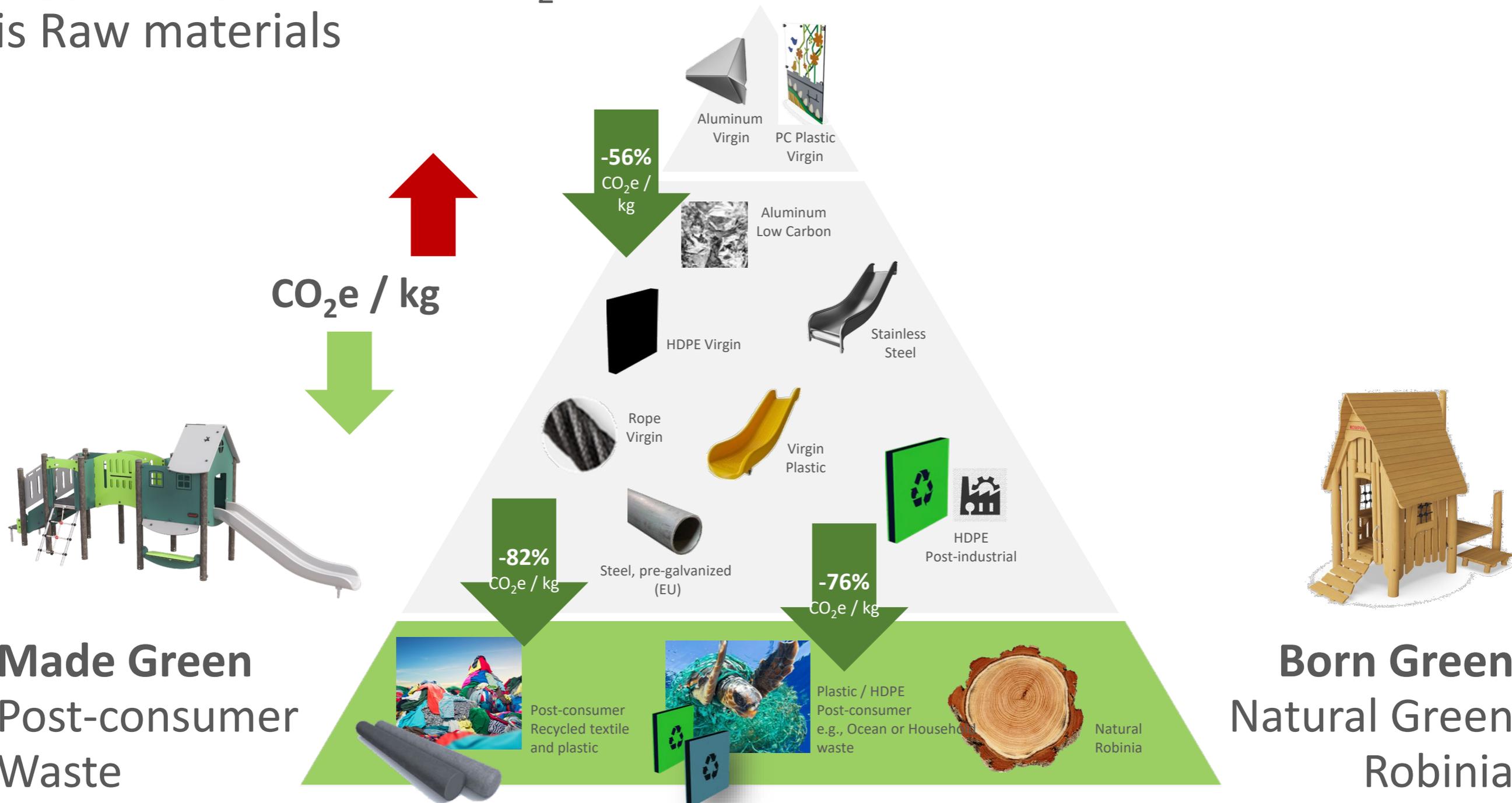
**1.** Quantify CO<sub>2</sub>e

**2.** Actions to reduce CO<sub>2</sub>e



# Biggest impact on our CO<sub>2</sub>e is Raw materials

The Embodied Carbon  
All figures in kg CO<sub>2</sub>e / kg







# CASE EXAMPLE: Existing Whispering Pines (2005)

**WELCOME!**  
HAVE FUN and PLAY SAFELY  
at this MIRACLE® PLAYGROUND!  
**MIRACLE**  
THIS PLAY STRUCTURE IS DESIGNED FOR KIDS AGES 3-12

# CASE EXAMPLE: Whispering Pines

- Learning from the Past and rethinking the future
- Planning- answering the following, Who, What, When, Where, Why, and the How's
- Creating the WOW Factor





CASE EXAMPLE: Whispering Pines Inclusive Playground and Fitness (2023)



## CASE EXAMPLE: Whispering Pines Inclusive Playground and Fitness (2023)

# CASE EXAMPLE: Whispering Pines Inclusive Playground and Fitness

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- **By having a solid design and maintenance plan in place, you can reduce maintenance and repair costs and extend the life of the equipment to protect your agencies capital investment while providing educational opportunities, address mental health, promote health and cognitive skills and problem solving.**





**KOMPAN**<sup>®</sup>  
Let's play

