Hydrogen Transportation

Board of Directors
Santa Barbara County
Air Pollution Control District

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Overview

- Background
- State, National, and International Action
- Status Update
- Next Steps

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Background

- On-road vehicles emit 18% of smog-forming pollutants in the county
- Cleaner air depends on reductions of on-road emissions
- Hydrogen fuel cell vehicles have almost zero tailpipe emissions
- Fuel cell vehicles are available now in California and more are on their way

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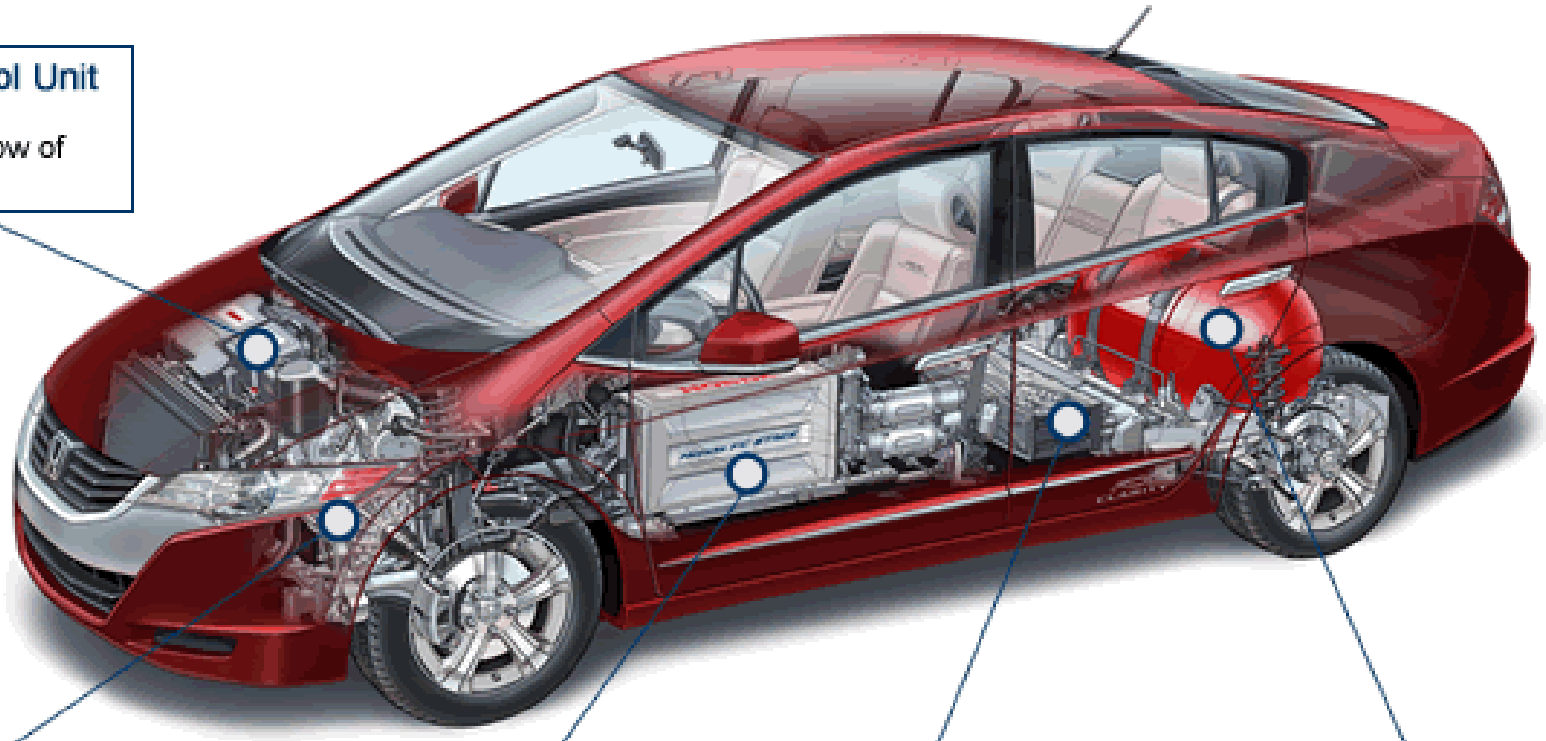

Power Control Unit

Governs the flow of electricity

Electric Motor

Propels the vehicle more quietly, smoothly, and efficiently than an internal combustion engine and requires less maintenance

Fuel Cell Stack

Converts hydrogen gas and oxygen into electricity to power the electric motor

High-Output Battery

Stores energy generated from regenerative braking and provides supplemental power to the electric motor

Hydrogen Storage Tank

Stores hydrogen gas compressed at extremely high pressure to increase driving range

Photo courtesy of American Honda Motor Corp.

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California Action

- ZEV Action Plan - 1.5 M vehicles by 2025
  - Infrastructure and Planning
  - Consumer Awareness
  - Transform Fleets
  - Grow Jobs and Private Investment
- AB 8 - $20 M per year until 100 stations in State
- ZEV Standards – Increasing Production Requirements

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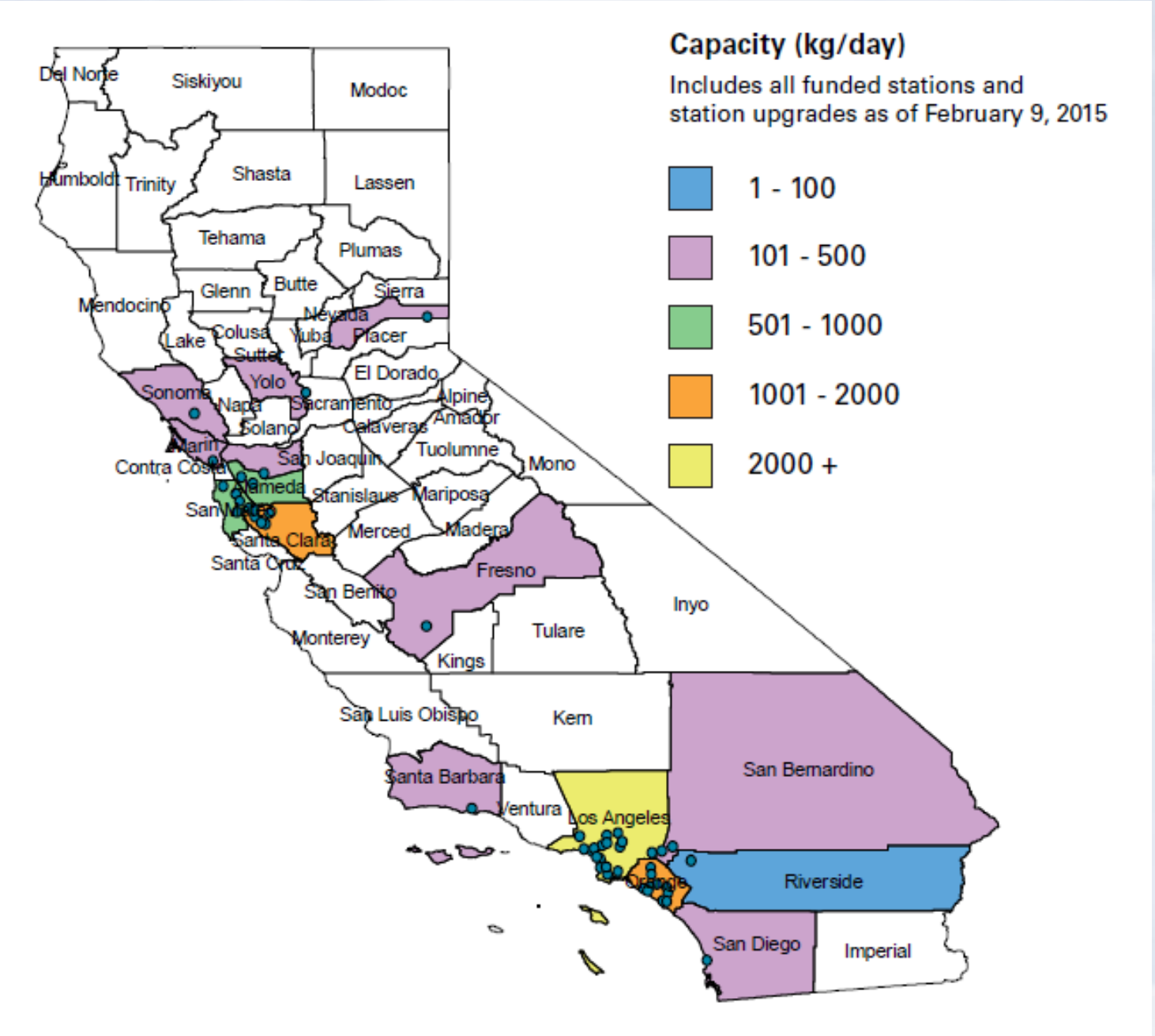

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National and International Action

- California, Oregon + Northeast – 3.3 M ZEV by 2025
- Tokyo
  - 2020 Olympics: 6,000 vehicles, 35 stations
  - 2025: 100,000 vehicles, 100 buses, 80 stations
- Germany: 50 stations now, 400 by 2023
- UK: 15 stations now, 65 by 2020

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Tri-County Hydrogen Readiness Plan

- $242,872 Grant from Energy Commission
- Regional plan: identify infrastructure needs, potential sites
- Create permitting toolkit
- Community outreach
- First responder outreach
- Assess fleet potential

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Project So Far

- Establish Work Plan and Schedule
- Sign sub-contracts
- Model fleet and private vehicle adoption
- Draft infrastructure plan
- Assess planning department needs
- Assess fire department needs

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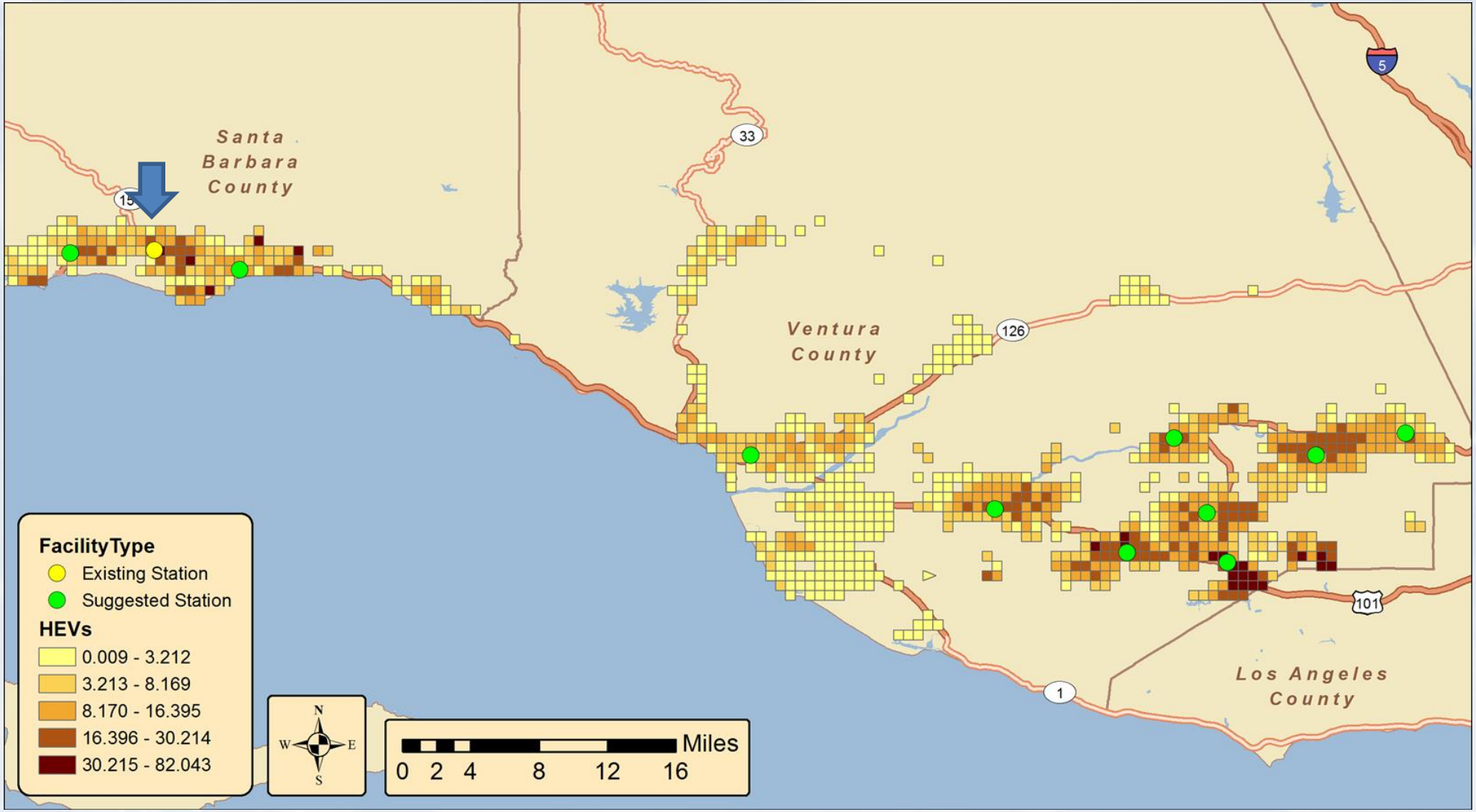

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Completing the Project

- On-the ground reality check
- Finalize infrastructure plan
- Community outreach
- Training for permitting agencies
- Training for first responders
- Assessment of public fleet opportunities

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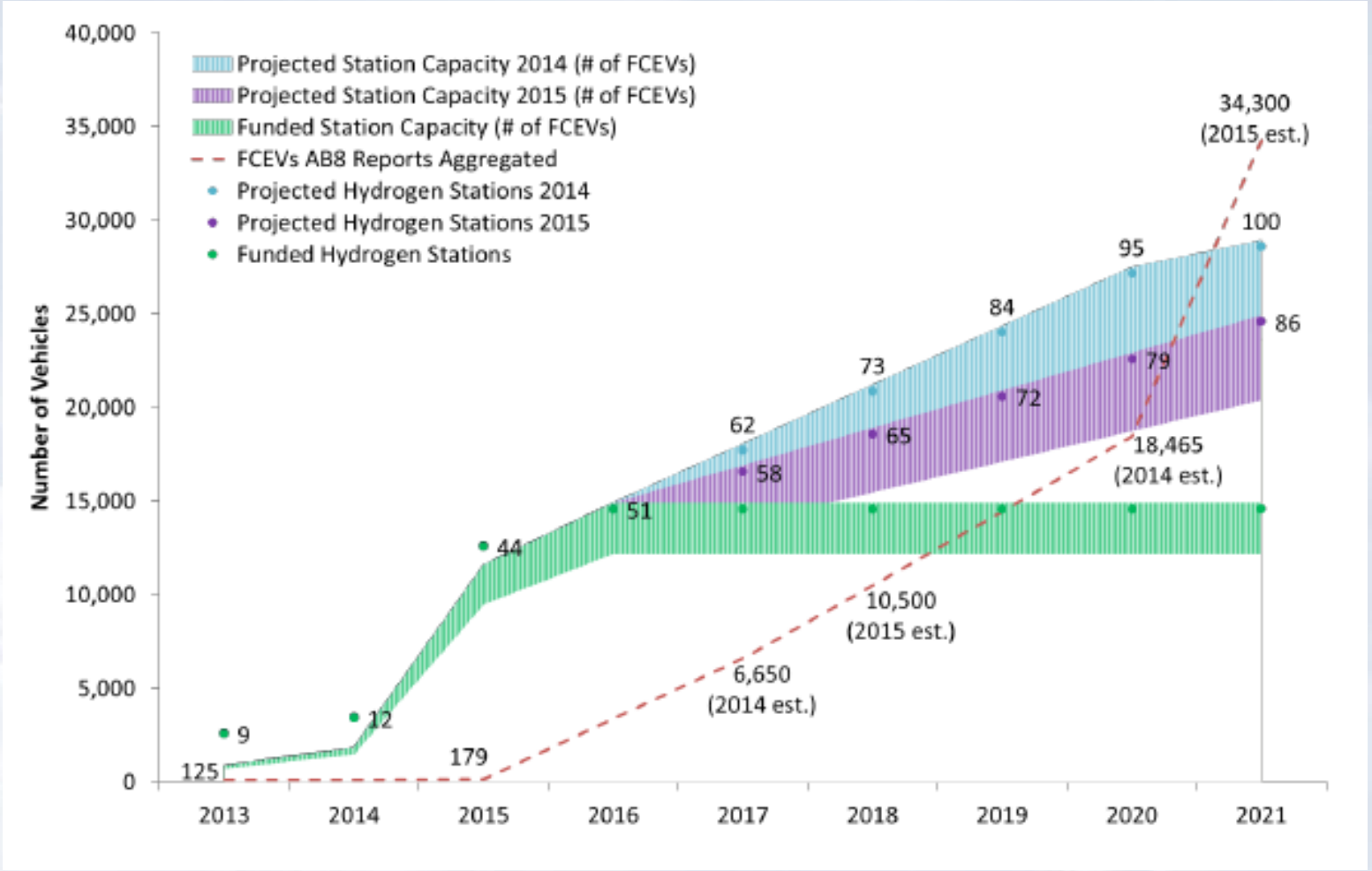
After the Project

- Public investment
- Private developers
- Public fleets
- Private fleets
- State funding
- Local funding



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Questions

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